

**PROJECT MANUAL**

**FOR**

**Brandywine High School - SITE IMPROVEMENTS  
Wilmington, Delaware**

**BRANDYWINE SCHOOL DISTRICT**  
1311 BRANDYWINE BOULEVARD  
WILMINGTON, DELAWARE 19809

**OWNER**

**ABHA ARCHITECTS**  
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**ARCHITECTS**

**VANDEMARK & LYNCH**  
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**CIVIL ENGINEERS**

**BSD Contract no. BSD17010-SITE\_IMPROVEMENTS**

**DATE March 6 2017**



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**SECTION 001150**  
**ADVERTISEMENT FOR BIDS**  
**BRANDYWINE HIGH SCHOOL - SITE IMPROVEMENTS**  
**CONTRACT BSD17010-SITE\_IMPROVEMENTS**

**RECEIPT OF BIDS**

Sealed bids for Brandywine High School Chiller Replacement, will be received by the Brandywine School District in the Gym Lobby of Brandywine High School, 1400 Foulk Road Wilmington DE 19803 until 2:00PM local time on Thursday, April 20, 2017, at which time they will be publicly opened and read aloud. Bidder bears the risk of late delivery. Any bids received after the stated time will be returned unopened.

Sealed bids shall be addressed to [Carol Riddle] . The outer envelope should clearly indicate: "SEALED BID - DO NOT OPEN."

**SCOPE AND SCHEDULE**

Project involves demolitoin of existing chiller and insatllation of new chiller  
Attention is called to construction schedule as detailed in the Bid Documents.

**MANDATORY PRE-BID**

A MANDATORY Pre-Bid Meeting will be held at 2:00 PM on Wednesday March 22, 2017, in the Gym Lobby at the Brandywine High School for the purpose of establishing the listing of subcontractors and to answer questions. ATTENDANCE OF THIS MEETING IS A PREREQUISITE FOR BIDDING ON THIS CONTRACT.  
Representatives of each party to any Joint Venture must attend this meeting.

**BID DOCUMENTS**

Contract documents may viewed and downloaded at ABHA's FTP site on or after March 20 2017. Bidders may request username and password by contacting the office of ABHA Architects at 302-658-6426 and providing company name, contact name, email address, phone number and mailing address. Bid Documents may be examined at the offices of ABHA Architects, 1621 N. Lincoln St Wilmington DE 19806, or at the State of Delaware Online Bid Solicitation Directory at <http://bids.delaware.gov>. Email questions to Carl Krienen at [ckrienen@abha.com](mailto:ckrienen@abha.com)

**BID SECURITY**

Each bid must be accompanied by a bid security equivalent to ten percent (10%) of the bid amount and all additive alternates. The successful bidder must post a performance bond and payment bond in a sum equal to 100 percent (100%) of the contract price upon execution of the contract.

The Owner reserves the right to reject any or all bids and to waive any informalities therein. The Owner may extend the time and place for the opening of the bids from that described in the advertisement, with not less than two calendar days notice by facsimile machine or other electronic means to those bidders who have requested access to the ABHA FTP site.

Pursuant to the Office of Management and Budget (OMB) “4104 Regulations for the Drug Testing of Contractor and Subcontractor Employees Working on Large Public Works Projects” requires that Contractors and Subcontractors who work on Large Public Works Contracts funded all or in part with public funds implement a Mandatory Drug Testing Program. The regulation can be downloaded from the following website:

<http://regulations.delaware.gov/AdminCode/title19/4000/4100/index.shtml#TopOfPage> <<http://regulations.delaware.gov/AdminCode/title19/4000/4100/index.shtml>>

**END OF SECTION**

**SECTION 002110**  
**INSTRUCTIONS TO BIDDERS**

**TABLE OF ARTICLES**

1.01 ARTICLE 1:GENERAL

A. DEFINITIONS

1. Whenever the following terms are used, their intent and meaning shall be interpreted as follows:

STATE: The State of Delaware.

AGENCY: Contracting State Agency as noted on cover sheet.

DESIGNATED OFFICIAL: The agent authorized to act for the Agency.

ARCHITECT:

ABHA Architects  
1621 N Lincoln St  
Wilmington, DE 19806

BIDDING DOCUMENTS: Bidding Documents include the Bidding Requirements and the proposed Contract Documents. The Bidding Requirements consist of the Advertisement for Bid, Invitation to Bid, Instructions to Bidders, Supplementary Instructions to Bidders (if any), General Conditions, Supplementary General Conditions, General Requirements, Special Provisions (if any), the Bid Form (including the Non-collusion Statement), and other sample bidding and contract forms. The proposed Contract Documents consist of the form of Agreement between the Owner and Contractor, as well as the Drawings, Specifications (Project Manual) and all Addenda issued prior to execution of the Contract.

CONTRACT DOCUMENTS: The Contract Documents consist of the, Instructions to Bidders, Supplementary Instructions to Bidders (if any), General Conditions, Supplementary General Conditions, General Requirements, Special Provisions (if any), the form of agreement between the Owner and the Contractor, Drawings (if any), Specifications (Project Manual), and all addenda.

AGREEMENT: The form of the Agreement shall be AIA Document A101, Standard Form of Agreement between Owner and Contractor where the basis of payment is a STIPULATED SUM. In the case of conflict between the instructions contained therein and the General Requirements herein, these General Requirements shall prevail.

GENERAL REQUIREMENTS (or CONDITIONS): General Requirements (or conditions) are instructions pertaining to the Bidding Documents and to contracts in general. They contain, in summary, requirements of laws of the State; policies of the Agency and instructions to bidders.

SPECIAL PROVISIONS: Special Provisions are specific conditions or requirements peculiar to the bidding documents and to the contract under consideration and are supplemental to the General Requirements. Should the Special Provisions conflict with the General Requirements, the Special Provisions shall prevail.

ADDENDA: Written or graphic instruments issued by the Owner/Architect prior to the execution of the contract which modify or interpret the Bidding Documents by additions, deletions, clarifications or corrections.

**BIDDER OR VENDOR:** A person or entity who formally submits a Bid for the material or Work contemplated, acting directly or through a duly authorized representative who meets the requirements set forth in the Bidding Documents.

**SUB-BIDDER:** A person or entity who submits a Bid to a Bidder for materials or labor, or both for a portion of the Work.

**BID:** A complete and properly executed proposal to do the Work for the sums stipulated therein, submitted in accordance with the Bidding Documents.

**BASE BID:** The sum stated in the Bid for which the Bidder offers to perform the Work described in the Bidding Documents as the base, to which Work may be added or from which Work may be deleted for sums stated in Alternate Bids (if any are required to be stated in the bid).

**ALTERNATE BID (or ALTERNATE):** An amount stated in the Bid, where applicable, to be added to or deducted from the amount of the Base Bid if the corresponding change in the Work, as described in the Bidding Documents is accepted.

**UNIT PRICE:** An amount stated in the Bid, where applicable, as a price per unit of measurement for materials, equipment or services or a portion of the Work as described in the Bidding Documents.

**SURETY:** The corporate body which is bound with and for the Contract, or which is liable, and which engages to be responsible for the Contractor's payments of all debts pertaining to and for his acceptable performance of the Work for which he has contracted.

**BIDDER'S DEPOSIT:** The security designated in the Bid to be furnished by the Bidder as a guaranty of good faith to enter into a contract with the Agency if the Work to be performed or the material or equipment to be furnished is awarded to him.

**CONTRACT:** The written agreement covering the furnishing and delivery of material or work to be performed.

**CONTRACTOR:** Any individual, firm or corporation with whom a contract is made by the Agency.

**SUBCONTRACTOR:** An individual, partnership or corporation which has a direct contract with a contractor to furnish labor and materials at the job site, or to perform construction labor and furnish material in connection with such labor at the job site.

**CONTRACT BOND:** The approved form of security furnished by the contractor and his surety as a guaranty of good faith on the part of the contractor to execute the work in accordance with the terms of the contract.

## 1.02 ARTICLE 2: BIDDER'S REPRESENTATIONS

### A. PRE-BID MEETING

1. A pre-bid meeting for this project will be held at the time and place designated. Attendance at this meeting is a pre-requisite for submitting a Bid, unless this requirement is specifically waived elsewhere in the Bid Documents.
2. By submitting a Bid, the Bidder represents that:
3. The Bidder has read and understands the Bidding Documents and that the Bid is made in accordance therewith.
4. The Bidder has visited the site, become familiar with existing conditions under which the Work is to be performed, and has correlated the Bidder's his personal observations with the requirements of the proposed Contract Documents.

5. The Bid is based upon the materials, equipment, and systems required by the Bidding Documents without exception.

**B. JOINT VENTURE REQUIREMENTS**

1. For Public Works Contracts, each Joint Venturer shall be qualified and capable to complete the Work with their own forces.
2. Included with the Bid submission, and as a requirement to bid, a copy of the executed Joint Venture Agreement shall be submitted and signed by all Joint Venturers involved.
3. All required Bid Bonds, Performance Bonds, Material and Labor Payment Bonds must be executed by both Joint Venturers and be placed in both of their names.
4. All required insurance certificates shall name both Joint Venturers.
5. Both Joint Venturers shall sign the Bid Form and shall submit a copy of a valid Delaware Business License with their Bid.
6. Both Joint Venturers shall include their Federal E.I. Number with the Bid.
7. In the event of a mandatory Pre-bid Meeting, each Joint Venturer shall have a representative in attendance.
8. Due to exceptional circumstances and for good cause shown, one or more of these provisions may be waived at the discretion of the State.

**C. ASSIGNMENT OF ANTITRUST CLAIMS**

1. As consideration for the award and execution by the Owner of this contract, the Contractor hereby grants, conveys, sells, assigns and transfers to the State of Delaware all of its right, title and interests in and to all known or unknown causes of action it presently has or may now or hereafter acquire under the antitrust laws of the United States and the State of Delaware, relating to the particular goods or services purchased or acquired by the Owner pursuant to this contract.

**1.03 ARTICLE 3: BIDDING DOCUMENTS**

**A. COPIES OF BID DOCUMENTS**

1. Refer to Advertisement (or Invitation) for Bids for information concerning locations where Bidding Documents may be seen or obtained and under what conditions.
2. Bidders shall use complete sets of Bidding Documents for preparation of Bids. The issuing Agency nor the Architect assumes no responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.
3. Any errors, inconsistencies or omissions discovered shall be reported to the Architect immediately.
4. The Agency and Architect may make copies of the Bidding Documents available on the above terms for the purpose of obtaining Bids on the Work. No license or grant of use is conferred by issuance of copies of the Bidding Documents.

**B. INTERPRETATION OR CORRECTION OF BIDDING DOCUMENTS**

1. The Bidder shall carefully study and compare the Bidding Documents with each other, and with other work being bid concurrently or presently under construction to the extent that it relates to the Work for which the Bid is submitted, shall examine the site and local conditions, and shall report any errors, inconsistencies, or ambiguities discovered to the Architect.
2. Bidders or Sub-bidders requiring clarification or interpretation of the Bidding Documents shall make a written request to the Architect at least seven days prior to the date for receipt of Bids. Interpretations, corrections and changes to the Bidding

Documents will be made by written Addendum. Interpretations, corrections, or changes to the Bidding Documents made in any other manner shall not be binding.

3. The apparent silence of the specifications as to any detail, or the apparent omission from it of detailed description concerning any point, shall be regarded as meaning that only the best commercial practice is to prevail and only material and workmanship of the first quality are to be used. Proof of specification compliance will be the responsibility of the Bidder.
4. Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for all permits, labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for the proper execution and completion of the Work.
5. The Owner will bear the costs for all impact and user fees associated with the project.

#### C. SUBSTITUTIONS

1. The materials, products and equipment described in the Bidding Documents establish a standard of quality, required function, dimension, and appearance to be met by any proposed substitution. The specification of a particular manufacturer or model number is not intended to be proprietary in any way. Substitutions of products for those named will be considered, providing that the Bidder certifies that the function, quality, and performance characteristics of the material offered is equal or superior to that specified. It shall be the Bidder's responsibility to assure that the proposed substitution will not affect the intent of the design, and to make any installation modifications required to accommodate the substitution.
2. Requests for substitutions shall be made in writing to the Architect at least ten days prior to the date of the Bid Opening. Such requests shall include a complete description of the proposed substitution, drawings, performance and test data, explanation of required installation modifications due the substitution, and any other information necessary for an evaluation. The burden of proof of the merit of the proposed substitution is upon the proposer. The Architect's decision of approval or disapproval shall be final. The Architect is to notify Owner prior to any approvals.
3. If the Architect approves a substitution prior to the receipt of Bids, such approval shall be set forth in an Addendum. Approvals made in any other manner shall not be binding.
4. The Architect shall have no obligation to consider any substitutions after the Contract award.
5. Bidders shall conform to requirements in Section 01600 MATERIAL AND EQUIPMENT.

#### D. ADDENDA

1. Addenda will be mailed or delivered to all who are known by the Architect to have received a complete set of the Bidding Documents.
2. Copies of Addenda will be made available for inspection wherever Bidding Documents are on file for that purpose.
3. No Addenda will be issued later than 4 days prior to the date for receipt of Bids except an Addendum withdrawing the request for Bids or one which extends the time or changes the location for the opening of bids.
4. Each bidder shall ascertain prior to submitting his Bid that they have received all Addenda issued, and shall acknowledge their receipt in their Bid in the appropriate

space. Not acknowledging an issued Addenda could be grounds for determining a bid to be non-responsive.

#### 1.04 ARTICLE 4: BIDDING PROCEDURES

##### A. PREPARATION OF BIDS

1. Submit the bids on the Bid Forms included with the Bidding Documents.
2. Submit the original Bid Form for each bid. Bid Forms may be removed from the project manual for this purpose.
3. Execute all blanks on the Bid Form in a non-erasable medium (typewriter or manually in ink).
4. Where so indicated by the makeup on the Bid Form, express sums in both words and figures, in case of discrepancy between the two, the written amount shall govern.
5. Interlineations, alterations or erasures must be initialed by the signer of the Bid.
6. BID ALL REQUESTED ALTERNATES AND UNIT PRICES, IF ANY. If there is no change in the Base Bid for an Alternate, enter "No Change". The Contractor is responsible for verifying that they have received all addenda issued during the bidding period. Work required by Addenda shall automatically become part of the Contract.
7. Make no additional stipulations on the Bid Form and do not qualify the Bid in any other manner.
8. Each copy of the Bid shall include the legal name of the Bidder and a statement whether the Bidder is a sole proprietor, a partnership, a corporation, or any legal entity, and each copy shall be signed by the person or persons legally authorized to bind the Bidder to a contract. A Bid by a corporation shall further give the state of incorporation and have the corporate seal affixed. A Bid submitted by an agent shall have a current Power of Attorney attached, certifying agent's authority to bind the Bidder.
9. Bidder shall complete the Non-Collusion Statement form included with the Bid Forms and include it with their Bid.
10. In the construction of all Public Works projects for the State of Delaware or any agency thereof, preference in employment of laborers, workers 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.
11. Each bidder shall include in their bid a copy of a valid Delaware Business License.
12. Each bidder shall include signed Affidavit(s) for the Bidder and each listed Subcontractor certifying compliance with OMB Regulation 4104- "Regulations for the Drug Testing of Contractor and Subcontractor Employees Working on "Large Public Works Projects." "Large Public Works" is based upon the current threshold required for bidding Public Works as set by the Purchasing and Contracting Advisory Council.

##### B. BID SECURITY

1. All bids shall be accompanied by a deposit of either a good and sufficient bond to the agency for the benefit of the agency, with corporate surety authorized to do business in this State, the form of the bond and the surety to be approved by the agency, or a security of the bidder assigned to the agency, for a sum equal to at least 10% of the bid plus all add alternates, or in lieu of the bid bond a security deposit in the form of

a certified check, bank treasurer's check, cashier's check, money order, or other prior

approved secured deposit assigned to the State. The bid bond need not be for a specific sum, but may be stated to be for a sum equal to 10% of the bid plus all add alternates to which it relates and not to exceed a certain stated sum, if said sum is equal to at least 10% of the bid. The Bid Bond form used shall be the standard OMB form (attached).

2. The Agency has the right to retain the bid security of Bidders to whom an award is being considered until either a formal contract has been executed and bonds have been furnished or the specified time has elapsed so the Bids may be withdrawn or all Bids have been rejected.
3. In the event of any successful Bidder refusing or neglecting to execute a formal contract and bond within 20 days of the awarding of the contract, the bid bond or security deposited by the successful bidder shall be forfeited.

C. SUBCONTRACTOR LIST

1. As required by Delaware Code, Title 29, section 6962(d)(10)b, each Bidder shall submit with their Bid a completed List of Sub-Contractors included with the Bid Form. NAME ONLY ONE SUBCONTRACTOR FOR EACH TRADE. A Bid will be considered non-responsive unless the completed list is included.
2. Provide the Name and Address for each listed subcontractor. Addresses by City, Town or Locality, plus State, will be acceptable.
3. It is the responsibility of the Contractor to ensure that their Subcontractors are in compliance with the provisions of this law. Also, if a Contractor elects to list themselves as a Subcontractor for any category, they must specifically name themselves on the Bid Form and be able to document their capability to act as Subcontractor in that category in accordance with this law.

D. EQUALITY OF EMPLOYMENT OPPORTUNITY ON PUBLIC WORKS

1. During the performance of this contract, the contractor agrees as follows:
  - a. The Contractor will not discriminate against any employee or applicant for employment because of race, creed, sex, color, sexual orientation, gender identity or national origin. The Contractor will take affirmative action to ensure the applicants are employed, and that employees are treated during employment, without regard to their race, creed, sex, color, 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.
  - b. 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, sex, color, sexual orientation, gender identity or national origin.

E. PREVAILING WAGE REQUIREMENT

1. Wage Provisions: For renovation and new construction projects whose costs exceed the thresholds contained in Delaware Code, Title 29, Section 6960, the minimum

wage rates for various classes of laborers and mechanics shall be as determined by the Department of Labor, Division of Industrial Affairs of the State of Delaware

2. The employer shall pay all mechanics and labors employed directly upon the site of 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.
3. The scale of the wages to be paid shall be posted by the employer in a prominent and easily accessible place at the site of the work.
4. 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.
5. Wage Rates applicable to this project are attached after this section.

F. SUBMISSION OF BIDS

1. Enclose the Bid, the Bid Security, and any other documents required to be submitted with the Bid in a sealed opaque envelope. Address the envelope to the party receiving the Bids. Identify with the project name, project number, and the Bidder's name and address. If the Bid is sent by mail, enclose the sealed envelope in a separate mailing envelope with the notation "BID ENCLOSED" on the face thereof. The State is not responsible for the opening of bids prior to bid opening date and time that are not properly marked.
2. Deposit Bids at the designated location prior to the time and date for receipt of bids indicated in the Advertisement for Bids. Bids received after the time and date for receipt of bids will be marked "LATE BID" and returned.
3. Bidder assumes full responsibility for timely delivery at location designated for receipt of bids.
4. Oral, telephonic or telegraphic bids are invalid and will not receive consideration.
5. Withdrawn Bids may be resubmitted up to the date and time designated for the receipt of Bids, provided that they are then fully in compliance with these Instructions to Bidders.

G. MODIFICATION OR WITHDRAW OF BIDS

1. Prior to the closing date for receipt of Bids, a Bidder may withdraw a Bid by personal request and by showing proper identification to the Architect. A request for withdraw by letter or fax, if the Architect is notified in writing prior to receipt of fax, is acceptable. A fax directing a modification in the bid price will render the Bid informal, causing it to be ineligible for consideration of award. Telephone directives for modification of the bid price shall not be permitted and will have no bearing on the submitted proposal in any manner.
2. Bidders submitting Bids that are late shall be notified as soon as practicable and the bid shall be returned.
3. A Bid may not be modified, withdrawn or canceled by the Bidder during a thirty (30) day period following the time and date designated for the receipt and opening of Bids, and Bidder so agrees in submitting their Bid. Bids shall be binding for 30 days after the date of the Bid opening.

## 1.05 ARTICLE 5: CONSIDERATION OF BIDS

### A. OPENING/REJECTION OF BIDS

1. Unless otherwise stated, Bids received on time will be publicly opened and will be read aloud. An abstract of the Bids will be made available to Bidders.
2. The Agency shall have the right to reject any and all Bids. A Bid not accompanied by a required Bid Security or by other data required by the Bidding Documents, or a Bid which is in any way incomplete or irregular is subject to rejection.
3. If the Bids are rejected, it will be done within thirty (30) calendar day of the Bid opening.

### B. COMPARISON OF BIDS

1. After the Bids have been opened and read, the bid prices will be compared and the result of such comparisons will be made available to the public. Comparisons of the Bids may be based on the Base Bid plus desired Alternates. The Agency shall have the right to accept Alternates in any order or combination.
2. The Agency reserves the right to waive technicalities, to reject any or all Bids, or any portion thereof, to advertise for new Bids, to proceed to do the Work otherwise, or to abandon the Work, if in the judgment of the Agency or its agent(s), it is in the best interest of the State.
3. An increase or decrease in the quantity for any item is not sufficient grounds for an increase or decrease in the Unit Price.
4. The prices quoted are to be those for which the material will be furnished F.O.B. Job Site and include all charges that may be imposed during the period of the Contract.
5. No qualifying letter or statements in or attached to the Bid, or separate discounts will be considered in determining the low Bid except as may be otherwise herein noted. Cash or separate discounts should be computed and incorporated into Unit Bid Price(s).

### C. DISQUALIFICATION OF BIDDERS

1. An agency shall determine that each Bidder on any Public Works Contract is responsible before awarding the Contract. Factors to be considered in determining the responsibility of a Bidder include:
  - a. The Bidder's financial, physical, personnel or other resources including Subcontracts;
  - b. The Bidder's record of performance on past public or private construction projects, including, but not limited to, defaults and/or final adjudication or admission of violations of the Prevailing Wage Laws in Delaware or any other state;
  - c. The Bidder's written safety plan;
  - d. Whether the Bidder is qualified legally to contract with the State;
  - e. Whether the Bidder supplied all necessary information concerning its responsibility; and,
  - f. Any other specific criteria for a particular procurement, which an agency may establish; provided however, that, the criteria be set forth in the Invitation to Bid and is otherwise in conformity with State and/or Federal law.
2. If an agency determines that a Bidder is nonresponsive and/or nonresponsible, the determination shall be in writing and set forth the basis for the determination. A

copy of the determination shall be sent to the affected Bidder within five (5) working days of said determination.

3. In addition, any one or more of the following causes may be considered as sufficient for the disqualification of a Bidder and the rejection of their Bid or Bids.
  - a. More than one Bid for the same Contract from an individual, firm or corporation under the same or different names.
  - b. Evidence of collusion among Bidders.
  - c. Unsatisfactory performance record as evidenced by past experience.
  - d. If the Unit Prices are obviously unbalanced either in excess or below reasonable cost analysis values.
  - e. If there are any unauthorized additions, interlineation, conditional or alternate bids or irregularities of any kind which may tend to make the Bid incomplete, indefinite or ambiguous as to its meaning.
  - f. If the Bid is not accompanied by the required Bid Security and other data required by the Bidding Documents.
  - g. If any exceptions or qualifications of the Bid are noted on the Bid Form.

D. ACCEPTANCE OF BID AND AWARD OF CONTRACT

1. A formal Contract shall be executed with the successful Bidder within twenty (20) calendar days after the award of the Contract.
2. Per Section 6962(d)(13) a., Title 29, Delaware Code, "The contracting agency shall award any public works contract within thirty (30) days of the bid opening to the lowest responsive and responsible Bidder, unless the Agency elects to award on the basis of best value, in which case the election to award on the basis of best value shall be stated in the Invitation To Bid."
3. Each Bid on any Public Works Contract must be deemed responsive by the Agency to be considered for award. A responsive Bid shall conform in all material respects to the requirements and criteria set forth in the Contract Documents and specifications.
4. The Agency shall have the right to accept Alternates in any order or combination, and to determine the low Bidder on the basis of the sum of the Base Bid, plus accepted Alternates.
5. The successful Bidder shall execute a formal contract, submit the required Insurance Certificate, and furnish good and sufficient bonds, unless specifically waived in the General Requirements, in accordance with the General Requirement, within twenty (20) days of official notice of contract award. The successful Bidder shall provide two business days prior to contract execution, copies of the Employee Drug Testing Program for the Bidder and all listed Subcontractors. Bonds shall be for the benefit of the Agency with surety in the amount of 100% of the total contract award. Said Bonds shall be conditioned upon the faithful performance of the contract. Bonds shall remain in affect for period of one year after the date of substantial completion.
6. If the successful Bidder fails to execute the required Contract, Bond, and all required information as aforesaid, within twenty (20) calendar days after the date of official Notice of the Award of the Contract, their Bid guaranty shall immediately be taken and become the property of the State for the benefit of the Agency as liquidated damages, and not as a forfeiture or as a penalty. Award will then be made to the next lowest qualified Bidder of the Work or readvertised, as the Agency may decide.

7. Each bidder shall supply with its bid its taxpayer identification number (i.e., federal employer identification number or social security number) and a copy of its Delaware business license, and should the vendor be awarded a contract, such vendor shall provide to the agency the taxpayer identification license numbers of such subcontractors. Such numbers shall be provided on the later of the date on which such subcontractor is required to be identified or the time the contract is executed. The successful Bidder shall provide to the agency to which it is contracting, within 30 days of entering into such public works contract, copies of all Delaware 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 Bidder entered the public works contract the Delaware Business license of such subcontractor or independent contractor shall be provided to the agency within 10 days of being contracted or hired.
8. The Bid Security shall be returned to the successful Bidder upon the execution of the formal contract. The Bid Securities of unsuccessful bidders shall be returned within thirty (30) calendar days after the opening of the Bids.

#### 1.06 ARTICLE 6: POST-BID INFORMATION

##### A. CONTRACTOR'S QUALIFICATION STATEMENT

1. Bidders to whom award of a Contract is under consideration shall, if requested by the Agency, submit a properly executed AIA Document A305, Contractor's Qualification Statement, unless such a statement has been previously required and submitted.

##### B. BUSINESS DESIGNATION FORM

1. Successful bidder shall be required to accurately complete an Office of Management and Budget Business Designation Form for Subcontractors.

#### 1.07 ARTICLE 7: PERFORMANCE BOND AND PAYMENT BOND

##### A. BOND REQUIREMENTS

1. The cost of furnishing the required Bonds, that are stipulated in the Bidding Documents, shall be included in the Bid.
2. If the Bidder is required by the Agency to secure a bond from other than the Bidder's usual sources, changes in cost will be adjusted as provide in the Contract Documents.
3. The Performance and Payment Bond forms used shall be the standard OMB forms (attached).

##### B. TIME OF DELIVERY AND FORM OF BONDS

1. The bonds shall be dated on or after the date of the Contract.
2. The Bidder shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix a certified and current copy of the power of attorney.

#### 1.08 ARTICLE 8: FORM OF AGREEMENT BETWEEN AGENCY AND CONTRACTOR

- A. Unless otherwise required in the Bidding Documents, the Agreement for the Work will be written on AIA Document A101, Standard Form of Agreement Between Owner and Contractor Where the Basis of Payment is a Stipulated Sum.

### **END OF INSTRUCTIONS TO BIDDERS**

**STATE OF DELAWARE CERTIFIED WAGE RATE TABLE**

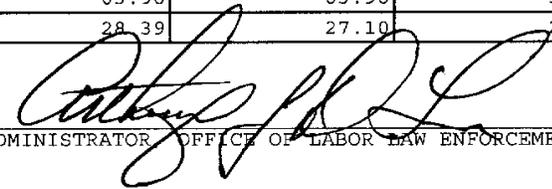
STATE OF DELAWARE  
 DEPARTMENT OF LABOR  
 DIVISION OF INDUSTRIAL AFFAIRS  
 OFFICE OF LABOR LAW ENFORCEMENT  
 PHONE: (302) 451-3423

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

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

PREVAILING WAGES FOR **BUILDING CONSTRUCTION** EFFECTIVE MARCH 15, 2016

CLASSIFICATION	NEW CASTLE	KENT	SUSSEX
ASBESTOS WORKERS	22.58	27.81	40.47
BOILERMAKERS	67.59	34.29	50.41
BRICKLAYERS	50.49	50.49	50.49
CARPENTERS	52.81	52.81	41.97
CEMENT FINISHERS	70.82	30.05	21.89
ELECTRICAL LINE WORKERS	44.90	38.50	29.36
ELECTRICIANS	65.10	65.10	65.10
ELEVATOR CONSTRUCTORS	83.06	63.69	31.54
GLAZIERS	69.30	69.30	55.95
INSULATORS	54.38	54.38	54.38
IRON WORKERS	61.20	61.20	61.20
LABORERS	43.60	43.60	43.60
MILLWRIGHTS	66.83	66.83	53.40
PAINTERS	46.72	46.72	46.72
PILEDRIVERS	72.97	38.86	31.43
PLASTERERS	29.47	29.47	21.84
PLUMBERS/PIPEFITTERS/STEAMFITTERS	65.95	50.85	55.34
POWER EQUIPMENT OPERATORS	61.36	61.36	43.28
ROOFERS-COMPOSITION	23.49	23.40	20.87
ROOFERS-SHINGLE/SLATE/TILE	18.16	18.07	16.98
SHEET METAL WORKERS	65.14	65.14	65.14
SOFT FLOOR LAYERS	49.77	49.77	49.77
SPRINKLER FITTERS	54.57	54.57	54.57
TERRAZZO/MARBLE/TILE FNRS	55.72	55.72	46.92
TERRAZZO/MARBLE/TILE STRS	63.98	63.98	54.33
TRUCK DRIVERS	28.39	27.10	20.68

CERTIFIED: 1/13/17 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:** Brandywine High School Renovations , New Castle County

Full DOL Certification letter is available for  
reference on ABHA FTP site.

**SECTION 004113**  
**BID FORM**

FOR BIDS DUE: \_\_\_\_\_

TO: BRANDYWINE SCHOOL DISTRICT  
1311 BRANDYWINE BLVD.  
WILMINGTON, DE. 19809

FOR: BRANDYWINE HIGH SCHOOL  
1400 FOULK ROAD  
WILMINGTON, DE. 19803

FOR CONTRACT: BSD17010 -SITEIMP (SITE\_IMPROVEMENTS)

NAME OF BIDDER: \_\_\_\_\_

DELAWARE BUSINESS LICENSE NO.: \_\_\_\_\_

(A copy of Bidder's Delaware Business License must be attached to this form.)

TAXPAYER ID NO.: \_\_\_\_\_

(OTHER LICENSE NOS.): \_\_\_\_\_

PHONE NO.: ( ) \_\_\_\_\_ FAX NO.: ( ) \_\_\_\_\_

EMAIL ADDRESS: \_\_\_\_\_

The undersigned, representing that he has read and understands the Bidding Documents, including the complete Project Manual and the Drawings as listed in the Table of Contents, all dated \_\_\_\_\_, 2017, and that this bid is made in accordance therewith, that he has visited the site and has familiarized himself with the local conditions under which the Work is to be performed, and that his bid is based upon the materials, systems and equipment described in the Bidding Documents without exception, hereby proposes and agrees to provide all labor, materials, plant, equipment, supplies, transport and other facilities required to execute the work described by the aforesaid documents for the lump sum itemized below:

BASE BID:

\_\_\_\_\_  
(expressed in words)

(\$ \_\_\_\_\_)  
(expressed in figures)

**BID FORM**

ALLOWANCE NO. 1 [PROVIDE PRICE FOR A TOTAL OF 2,500 SY ADDITIONAL PAVEMENT PATCHING AT MULTIPLE LOCATIONS TO BE USED AT OWNER'S DISCRETION]

\_\_\_\_\_ (EXPRESSED IN WORDS)

\$ \_\_\_\_\_ (EXPRESSED IN FIGURES)

**ALTERNATES**

Alternate prices conform to applicable project specification section. Refer to specifications for a complete description of the following Alternates. An "ADD" or "DEDUCT" amount is indicated by the crossed out part that does not apply.

ALTERNATE NO. 1: CLEAN, REPAIR AND RE-SURFACE EXISTING TENNIS COURT. INSTALL TWO NEW NETS AND POSTS

Add/Deduct: \_\_\_\_\_  
(expressed in words)

(\$ \_\_\_\_\_ )  
(expressed in figures)

**BID FORM**

**SIGNATURE FORM**

I / We acknowledge Addendas Numbered \_\_\_\_\_ and the price(s) submitted include any cost / schedule impact they may have.

This bid shall remain valid and cannot be withdrawn for 30 days from the date of opening of bids (60 days for School Districts and Department of Education), and the undersigned shall abide by the Bid Security forfeiture provisions. Bid Security is attached to this Bid.

The Owner shall have the right to reject any or all bids, and to waive any informality or irregularity in any bid received.

This bid is based upon work being accomplished by the Sub-Contractors named on the list attached to this bid.

Should I/We be awarded this contract, I/We pledge to achieve substantial completion of all the work within \_\_\_\_\_ calendar days of the Notice to Proceed.

The undersigned represents and warrants that he has complied and shall comply with all requirements of local, state, and national laws; that no legal requirement has been or shall be violated in making or accepting this bid, in awarding the contract to him or in the prosecution of the work required; that the bid is legal and firm; that he has not, directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken action in restraint of free competitive bidding.

Upon receipt of written notice of the acceptance of this Bid, the Bidder shall, within twenty (20) calendar days, execute the agreement in the required form and deliver the Contract Bonds, and Insurance Certificates, required by the Contract Documents.

I am / We are an Individual / a Partnership / a Corporation

By: \_\_\_\_\_ Trading as: \_\_\_\_\_

(Individual's / General Partner's / Corporate Name)

\_\_\_\_\_  
(State of Corporation)

Business Address: \_\_\_\_\_

Witness: \_\_\_\_\_ By: \_\_\_\_\_

(Authorized Signature )

( SEAL )

\_\_\_\_\_  
(Title)

Date: \_\_\_\_\_

Attachments:

- Sub-Contractor List.
- Non-Collusion Statement.
- Affidavit(s) of Employee Drug Testing Program
- Bid Security.

**BID FORM  
 SUBCONTRACTOR LIST**

In accordance with Title 29, Chapter 6962 (d)(10)b Delaware Code, the following sub-contractor listing must accompany the bid submittal. The name and address of the sub-contractor must be listed for each category where the bidder intends to use a sub-contractor to perform that category of work. In order to provide full disclosure and acceptance of the bid by the Owner, it is required that bidders list themselves as being the sub-contractor for all categories where he/she is qualified and intends to perform such work. This form must be filled out completely with no additions or deletions. Note that all subcontractors listed below must have a signed Affidavit of Employee Drug Testing Program included with this bid.

SUBCONTRACTOR CATEGORY	SUBCONTRACTOR	ADDRESS (City & State)	SUBCONTRACTOR Taxpayer ID # or DE Business License #
Electrical			

**BID FORM**  
NON-COLLUSION STATEMENT

This is to certify that the undersigned bidder has neither directly nor indirectly, entered into any agreement, participated in any collusion or otherwise taken any action in restraint of free competitive bidding in connection with this proposal submitted this date.

All the terms and conditions of this Contract have been thoroughly examined and are understood.

NAME OF BIDDER: \_\_\_\_\_

AUTHORIZED REPRESENTATIVE  
(TYPED): \_\_\_\_\_

AUTHORIZED REPRESENTATIVE  
(SIGNATURE): \_\_\_\_\_

TITLE: \_\_\_\_\_

ADDRESS OF BIDDER: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

PHONE NUMBER: \_\_\_\_\_

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.

**BID FORM**  
**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 that complies with this regulation:

CONTRACTOR/SUBCONTRACTOR

NAME: \_\_\_\_\_

CONTRACTOR/SUBCONTRACTOR

ADDRESS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

AUTHORIZED REPRESENTATIVE

(TYPED): \_\_\_\_\_

AUTHORIZED REPRESENTATIVE

(SIGNATURE): \_\_\_\_\_

Sworn to and Subscribed before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_

My Commission expires : \_\_\_\_\_ NOTARY PUBLIC \_\_\_\_\_

END OF DOCUMENT

**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 unto the **State** in the sum of \_\_\_\_\_  
\_\_\_\_\_ Dollars (\$\_\_\_\_\_), or \_\_\_\_\_ percent not to exceed \_\_\_\_\_  
\_\_\_\_\_ Dollars (\$\_\_\_\_\_)  
of amount of bid on Contract No. \_\_\_\_\_, to be paid to the **State** for the use and  
benefit of \_\_\_\_\_ (*insert State agency name*) 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 bonded **Principal**  
who has submitted to the \_\_\_\_\_ (*insert State agency name*) a  
certain proposal to enter into this contract for the furnishing of certain material 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 \_\_\_\_\_  
\_\_\_\_\_ (*insert State agency name*) 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

END OF SECTION

**SECTION 005000**  
**CONTRACTING FORMS AND SUPPLEMENTS**

**PART 1 GENERAL**

1.01 LICENSES

- A. Contractor is responsible for obtaining a valid license to use all copyrighted documents specified but not included in the Project Manual.

1.02 AGREEMENT AND CONDITIONS OF THE CONTRACT

- A. See Section 007200 - General Conditions for the General Conditions.
- B. See Section 007300 - Supplementary Conditions for the Supplementary Conditions.
- C. The Agreement form is AIA A101.
- D. The General Conditions are based on AIA A201.

1.03 FORMS

- A. Use the following forms for the specified purposes unless otherwise indicated elsewhere in the Contract Documents.
- B. Bond Forms:
  - 1. Performance and Payment Bond Form: Conform to those approved by the State of Delaware Office of Management and Budget.
- C. Post-Award Certificates and Other Forms:
  - 1. Application for Payment Forms: AIA G702 with AIA G703 (for Contractors).
- D. Clarification and Modification Forms:
  - 1. Change Order Form: AIA G701.
- E. Closeout Forms:
  - 1. Certificate of Substantial Completion Form: AIA G704.
  - 2. Affidavit of Payment of Debts and Claims Form: AIA G706.
  - 3. Affidavit of Release of Liens Form: AIA G706a.
  - 4. Consent of Surety to Final Payment Form: AIA G707.

1.04 REFERENCE STANDARDS

- A. AIA A101 - Standard Form of Agreement Between Owner and Contractor where the basis of Payment is a Stipulated Sum; 2007.
- B. AIA A201 - General Conditions of the Contract for Construction; 2007.
- C. AIA G701 - Change Order; 2001.
- D. AIA G702 - Application and Certificate for Payment; 1992.
- E. AIA G703 - Continuation Sheet; 1992.
- F. AIA G704 - Certificate of Substantial Completion; 2000.

**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION - NOT USED**

**END OF SECTION**

Intentionally blank

**SECTION 007310**  
**SUPPLEMENTARY GENERAL CONDITIONS A201-2007**

THE FOLLOWING SUPPLEMENTS MODIFY THE AIA DOCUMENT A201-2007, GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION. WHERE A PORTION OF THE GENERAL CONDITIONS IS MODIFIED OR DELETED BY THE SUPPLEMENTARY CONDITIONS, THE UNALTERED PORTIONS OF THE GENERAL CONDITIONS SHALL REMAIN IN EFFECT.

**ARTICLE 1: GENERAL PROVISIONS**

1.1 BASIC DEFINITIONS

1.1.1 THE CONTRACT DOCUMENTS

Delete the last sentence in its entirety and replace with the following:

"The Contract Documents also include Advertisement for Bid, Instructions to Bidder, sample forms, the Bid Form, the Contractor's completed Bid and the Award Letter."

Add the following Paragraph:

1.1.2 In the event of conflict or discrepancies among the Contract Documents, the Documents prepared by the State of Delaware, Division of Facilities Management shall take precedence over all other documents.

1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

Add the following Paragraphs:

1.2.4 In the case of an inconsistency between the Drawings and the Specifications, or within either document not clarified by addendum, the better quality or greater quantity of work shall be provided in accordance with the Architect's interpretation.

1.2.5 The word "PROVIDE" as used in the Contract Documents shall mean "FURNISH AND INSTALL" and shall include, without limitation, all labor, materials, equipment, transportation, services and other items required to complete the Work.

1.2.6 The word "PRODUCT" as used in the Contract Documents means all materials, systems and equipment.

1.5 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE

Delete Paragraph 1.5.1 in its entirety and replace with the following:

"All pre-design studies, drawings, specifications and other documents, including those in electronic form, prepared by the Architect under this Agreement are, and shall remain, the property of the Owner whether the Project for which they are made is executed or not. Such documents may be used by the Owner to construct one or more like Projects without the approval of, or additional compensation to, the Architect. The Contractor, Subcontractors, Sub-subcontractors and Material or Equipment Suppliers are authorized to use and reproduce applicable portions of the Drawings, Specifications and other documents prepared by the Architect and the Architect's consultants appropriate to and for use in the execution of their Work under the Contract Documents. They are not to be used by the Contractor or any Subcontractor, Sub-subcontractor or Material and Equipment Supplier on other

Projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and Architect's consultants.

The Architect shall not be liable for injury or damage resulting from the re-use of drawings and specifications if the Architect is not involved in the re-use Project.

Prior to re-use of construction documents for a Project in which the Architect is not also involved, the Owner will remove from such documents all identification of the original Architect, including name, address and professional seal or stamp."

Delete Paragraph 1.5.2 in its entirety.

## **ARTICLE 2: OWNER**

### **2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER**

To Subparagraph 2.2.3 - Add the following sentence:

"The Contractor, at their expense shall bear the costs to accurately identify the location of all underground utilities in the area of their excavation and shall bear all cost for any repairs required, out of failure to accurately identify said utilities."

Delete Subparagraph 2.2.5 in its entirety and substitute the following:

2.2.5 The Contractor shall be furnished free of charge up to five (5) sets of the Drawings and Project Manuals. Additional sets will be furnished at the cost of reproduction, postage and handling.

## **ARTICLE 3: CONTRACTOR**

### **3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR**

Amend Paragraph 3.2.2 to state that any errors, inconsistencies or omissions discovered shall be reported to the Architect and Owner immediately.

Delete the third sentence in Paragraph 3.2.4.

### **3.3 SUPERVISION AND CONSTRUCTION PROCEDURES**

Add the following Paragraphs:

3.3.2.1 The Contractor shall immediately remove from the Work, whenever requested to do so by the Owner, any person who is considered by the Owner or Architect to be incompetent or disposed to be so disorderly, or who for any reason is not satisfactory to the Owner, and that person shall not again be employed on the Work without the consent of the Owner or the Architect.

3.3.4 The Contractor must provide suitable storage facilities at the Site for the proper protection and safe storage of their materials. Consult the Owner and the Architect before storing any materials.

3.3.5 When any room is used as a shop, storeroom, office, etc., by the Contractor or Subcontractor(s) during the construction of the Work, the Contractor making use of these areas will be held responsible for any repairs, patching or cleaning arising from such use.

### **3.4 LABOR AND MATERIALS**

Add the Following Paragraphs:

3.4.4 Before starting the Work, each Contractor shall carefully examine all preparatory Work that has been executed to receive their Work. Check carefully, by whatever means are required, to insure that its Work and adjacent, related Work, will finish to proper contours, planes and levels. Promptly notify the General

Contractor/Construction Manager of any defects or imperfections in preparatory Work which will in any way affect satisfactory completion of its Work. Absence of such notification will be construed as an acceptance of preparatory Work and later claims of defects will not be recognized.

3.4.5 Under no circumstances shall the Contractor's Work proceed prior to preparatory Work proceeding prior to preparatory Work having been completely cured, dried and/or otherwise made satisfactory to receive this Work. Responsibility for timely installation of all materials rests solely with the Contractor responsible for that Work, who shall maintain coordination at all times.

### 3.5 WARRANTY

Add the following Paragraphs:

3.5.1 The Contractor will guarantee all materials and workmanship against original defects, except injury from proper and usual wear when used for the purpose intended, for two years after Acceptance by the Owner, and will maintain all items in perfect condition during the period of guarantee.

3.5.2 Defects appearing during the period of guarantee will be made good by the Contractor at his expense upon demand of the Owner, it being required that all work will be in perfect condition when the period of guarantee will have elapsed.

3.5.3 In addition to the General Guarantee there are other guarantees required for certain items for different periods of time than the two years as above, and are particularly so stated in that part of the specifications referring to same. The said guarantees will commence at the same time as the General Guarantee.

3.5.4 If the Contractor fails to remedy any failure, defect or damage within a reasonable time after receipt of notice, the Owner will have the right to replace, repair, or otherwise remedy the failure, defect or damage at the Contractor's expense.

### 3.11 DOCUMENTS AND SAMPLES AT THE SITE

Add the following Paragraphs:

3.11.1 During the course of the Work, the Contractor shall maintain a record set of drawings on which the Contractor shall mark the actual physical location of all piping, valves, equipment, conduit, outlets, access panels, controls, actuators, including all appurtenances that will be concealed once construction is complete, etc., including all invert elevations.

3.11.2 At the completion of the project, the Contractor shall obtain a set of reproducible drawings from the Architect, and neatly transfer all information outlined in 3.11.1 to provide a complete record of the as-built conditions.

3.11.3 The Contractor shall provide two (2) prints of the as-built conditions, along with the reproducible drawings themselves, to the Owner and one (1) set to the Architect. In addition, attach one complete set to each of the Operating and Maintenance Instructions/Manuals.

### 3.17 ROYALTIES, PATENTS AND COPYRIGHTS

In the second sentence of the paragraph, insert "indemnify and" between "shall" and "hold".

## **ARTICLE 4: ADMINISTRATION OF THE CONTRACT**

### 4.2 ADMINISTRATION OF THE CONTRACT

Delete the first sentence of Paragraph 4.2.7 and replace with the following:

The Architect will review and approve or take other appropriate action upon the Contractor's submittals such as Shop Drawings, Product Data and Samples for the purpose of checking for conformance with the Contract Documents.

Delete the second sentence of Paragraph 4.2.7 and replace with the following:

The Architect's action will be taken with such reasonable promptness as to cause no delay in the Work in the activities of the Owner, Contractor or separate Contractors, while allowing sufficient time in the Owner's professional judgment to permit adequate review.

Add the following Subparagraph:

4.2.10.1 There will be no full-time project representative provided by the Owner or Architect on this project.

Add the following to the end of Paragraph 4.2.13:

“and in compliance with all local requirements.”

#### **ARTICLE 5: SUBCONTRACTORS**

##### **5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK**

Delete Paragraph 5.2.3 in its entirety and replace with the following:

5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection, subject to the statutory requirements of 29 Delaware Code § 6962(d)(10)b.3 and 4.

#### **ARTICLE 6: CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS**

##### **6.1 OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS**

Delete Paragraph 6.1.4 in its entirety.

##### **6.2 MUTUAL RESPONSIBILITY**

6.2.3 In the second sentence, strike the word “shall” and insert the word “may”.

#### **ARTICLE 7: CHANGES IN THE WORK**

(SEE ARTICLE 7: CHANGES IN WORK IN THE GENERAL REQUIREMENTS)

#### **ARTICLE 8: TIME**

##### **8.2 PROGRESS AND COMPLETION**

Add the following Paragraphs:

8.2.1.1 Refer to Specification Section SUMMARY OF WORK for Contract time requirements.

8.2.4 If the Work falls behind the Progress Schedule as submitted by the Contractor, the Contractor shall employ additional labor and/or equipment necessary to bring the Work into compliance with the Progress Schedule at no additional cost to the Owner.

##### **8.3 DELAYS AND EXTENSION OF TIME**

8.3.1 Strike “arbitration” and insert “remedies at law or in equity”.

Add the following Paragraph:

8.3.2.1 The Contractor shall update the status of the suspension, delay, or interruption of the Work with each Application for Payment. (The Contractor shall

report the termination of such cause immediately upon the termination thereof.) Failure to comply with this procedure shall constitute a waiver for any claim for adjustment of time or price based upon said cause.

Delete Paragraph 8.3.3 in its entirety and replace with the following:

8.3.3 Except in the case of a suspension of the Work directed by the Owner, an extension of time under the provisions of Paragraph 8.3.1 shall be the Contractor's sole remedy in the progress of the Work and there shall be no payment or compensation to the Contractor for any expense or damage resulting from the delay.

Add the following Paragraph:

8.3.4 By permitting the Contractor to work after the expired time for completion of the project, the Owner does not waive their rights under the Contract.

## **ARTICLE 9: PAYMENTS AND COMPLETION**

### **9.2 SCHEDULE OF VALUES**

Add the following Paragraphs:

9.2.1 The Schedule of Values shall be submitted using AIA Document G702, Continuation Sheet to G703.

9.2.2 The Schedule of Values is to include a line item for Project Closeout Document Submittal. The value of this item is to be no less than 1% of the initial contract amount.

### **9.3 APPLICATIONS FOR PAYMENT**

Add the following Paragraph:

9.3.1.3 Application for Payment shall be submitted on AIA Document G702 "Application and Certificate for Payment", supported by AIA Document G703 "Continuation Sheet". Said Applications shall be fully executed and notarized.

Add the following Paragraphs:

9.3.4 Until Closeout Documents have been received and outstanding items completed the Owner will pay 95% (ninety-five percent) of the amount due the Contractor on account of progress payments.

9.3.5 The Contractor shall provide a current and updated Progress Schedule to the Architect with each Application for Payment. Failure to provide Schedule will be just cause for rejection of Application for Payment.

### **9.5 DECISIONS TO WITHHOLD CERTIFICATION**

Add the following to 9.5.1:

.8failure to provide a current Progress Schedule;

.9a lien or attachment is filed;

.10failure to comply with mandatory requirements for maintaining Record Documents.

### **9.6 PROGRESS PAYMENTS**

Delete Paragraph 9.6.1 in its entirety and replace with the following:

9.6.1 After the Architect has approved and issued a Certificate for Payment, payment shall be made by the Owner within 30 days after Owner's receipt of the Certificate for Payment.

### **9.7 FAILURE OF PAYMENT**

F.In first sentence, strike "seven" and insert "thirty (30)".

Also strike "binding dispute resolution" and insert "remedies at law or in equity".

#### 9.8 SUBSTANTIAL COMPLETION

To Subparagraph 9.8.3- Add the following sentence:

"If the Architect is required to make more than 2 inspections of the same portion of work, the Contractor shall be responsible for all costs associated with subsequent inspections, including but not limited to any Architect's fees."

9.8.5 In the second sentence, strike "shall" and insert "may".

### **ARTICLE 10: PROTECTION OF PERSONS AND PROPERTY**

#### 10.1 SAFETY PRECAUTIONS AND PROGRAMS

Add the following Paragraphs:

10.1.1 Each Contractor shall develop a safety program in accordance with the Occupational Safety and Health Act of 1970. A copy of said plan shall be furnished to the Owner and Architect prior to the commencement of that Contractor's Work.

10.1.2 Each Contractor shall appoint a Safety Representative. Safety Representatives shall be someone who is on site on a full time basis. If deemed necessary by the Owner or Architect, Contractor Safety meetings will be scheduled. The attendance of all Safety Representatives will be required. Minutes will be recorded of said meetings by the Contractor and will be distributed to all parties as well as posted in all job offices/trailers etc.

#### 10.2 SAFETY OF PERSONS AND PROPERTY

Add the following Paragraph:

10.2.4.1 As required in the Hazardous Chemical Act of June 1984, all vendors supplying any material that may be defined as hazardous must provide Material Safety Data Sheets for those products. Any chemical product should be considered hazardous if it has a caution warning on the label relating to a potential physical or health hazard, if it is known to be present in the work place, and if employees may be exposed under normal conditions or in foreseeable emergency situations. Material Safety Data Sheets shall be provided directly to the Owner, along with the shipping slips that include those products.

#### 10.3 HAZARDOUS MATERIALS

Delete Paragraph 10.3.3 in its entirety.

Delete Paragraphs 10.3.6 in its entirety.

### **ARTICLE 11: INSURANCE AND BONDS**

#### 11.1 CONTRACTOR'S LIABILITY INSURANCE

11.1.4 Strike "the Owner" immediately following "(1)" and strike "and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations."

#### 11.2 OWNER'S LIABILITY INSURANCE

Delete Paragraph 11.2 in its entirety.

#### 11.3 PROPERTY INSURANCE

Delete Paragraph 11.3 in its entirety and replace with the following:

11.3 The State will not provide Builder's All Risk Insurance for the Project. The Contractor and all Subcontractors shall provide property coverage for their tools and equipment, as necessary. Any mandatory deductible required by the Contractor's Insurance shall be the responsibility of the Contractor.

11.4 PERFORMANCE BOND AND PAYMENT BOND

Add the following sentence: "The bonds will conform to those forms approved by the Office of Management and Budget."

**ARTICLE 12: UNCOVERING AND CORRECTION OF WORK**

12.2.2 AFTER SUBSTANTIAL COMPLETION

Add the following Paragraph:

12.2.2.1.1 At any time during the progress of the Work, or in any case where the nature of the defects will be such that it is not expedient to have corrected, the Owner, at its option, will have the right to deduct such sum, or sums, of money from the amount of the Contract as it considers justified to adjust the difference in value between the defective work and that required under contract including any damage to the structure.

12.2.2.1 Strike "one" and insert "two".

12.2.2.2 Strike "one" and insert "two".

12.2.2.3 Strike "one" and insert "two".

12.2.5 In second sentence, strike "one" and insert "two".

**ARTICLE 13: MISCELLANEOUS PROVISIONS**

13.1 GOVERNING LAW

Strike "except that, if the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4" .

13.6 INTEREST

Strike "the date payment is due at such rate as the parties may agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located." Insert "30 days of presentment of the authorized Certificate of Payment at the annual rate of 12% or 1% per month.

13.7 TIME LIMITS ON CLAIMS

Strike the last sentence.

ADD THE FOLLOWING PARAGRAPH:

13.8 CONFLICTS WITH FEDERAL STATUTES OR REGULATIONS

13.8.1 If any provision, specifications or requirement of the Contract Documents conflict or is inconsistent with any statute, law or regulation of the government of the United State of America, the Contractor shall notify the Architect and Owner immediately upon discovery.

**ARTICLE 14: TERMINATION OR SUSPENSION OF THE CONTRACT**

14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

Delete Paragraph 14.4.3 in its entirety and replace with the following:

14.4.3 In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for Work executed, and cost incurred by reason of such termination along with reasonable overhead.

**ARTICLE 15: CLAIMS AND DISPUTES**

15.1.2 THROUGHOUT THE PARAGRAPH STRIKE "21" AND INSERT "45."

15.1.6 CLAIMS FOR CONSEQUENTIAL DAMAGES

Delete Paragraph 15.1.6 in its entirety.

15.2 INITIAL DECISION

Delete Paragraph 15.2.5 in its entirety and replace with the following:

15.2.5 The Architect will approve or reject Claims by written decision, which shall state the reasons therefore and shall notify the parties of any change in the Contract Sum or Contract Time or both. The approval or rejection of a Claim by the Architect shall be subject to mediation and other remedies at law or in equity.

Delete Paragraph 15.2.6 and its subparagraphs in their entirety.

15.3 MEDIATION

15.3.1 Strike "binding dispute resolution" and insert "any or all remedies at law or in equity."

15.3.2 In the first sentence, delete "administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedure in effect on the date of the Agreement," Strike "binding dispute resolution" and insert "remedies at law and in equity".

15.4 ARBITRATION

Delete Paragraph 15.4 and its sub-sections in its entirety.

**END OF SUPPLEMENTARY GENERAL CONDITIONS**

**SECTION 007313**  
**SUPPLEMENTARY CONDITIONS**

**PART 1 - GENERAL**

1.01 GENERAL CONDITIONS

- A. The General Conditions of the Contract for Construction, AIA Document A201, 2007 edition, Articles 1 through 15 inclusive, is a part of this contract and is bound herewith.
- B. References to Articles herein are to Articles in A201.

1.02 SUPPLEMENTARY CONDITIONS

- A. The following provisions modify, change, delete from or add to AIA Document A201. Where any article of the General Conditions is modified or any paragraph, subparagraph or clause thereof is modified or deleted by these provisions, the unaltered provisions of that article, paragraph, sub-paragraph or clause shall remain in effect.

1.03 REFERENCE TO DIVISION 1 - GENERAL REQUIREMENTS

- A. Certain provisions of Division 1 GENERAL REQUIREMENTS supplement the administrative and work-related provisions of the GENERAL CONDITIONS.
- B. Articles affected are cross referenced in the various Sections of Division 1.

**ARTICLE 1 - GENERAL PROVISIONS**

1.1 BASIC DEFINITIONS

Delete last paragraph of 1.1.1. Add to 1.1.1 the following clause:

1.1.1.1 The Invitation to Bid, the bid forms, the contractor's completed bid and all addenda related to bidding requirements are expressly enumerated as contract documents.

Add to 1.1 the following Subparagraphs:

1.1.9 PROVIDE

1.1.9.1 The term "Provide" as used in the Contract Documents shall mean "FURNISH AND INSTALL" and shall include, without limitation, all labor, materials, equipment, transportation, services and other items required to complete the Work.

1.1.10 PRODUCT

1.1.10.1 The term "PRODUCT" as used in the Contract Documents means all materials, systems and equipment.

1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

Add to 1.2.4. the following Subparagraph:

1.2.4 In the case of an inconsistency between the Drawings and the Specifications, or within either document not clarified by addendum, the better quality or greater quantity of work shall be provided in accordance with the Architect's interpretation.

**ARTICLE 2 - OWNER**

2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

To Subparagraph 2.2.3 - Add the following sentence:

"The Contractor, at their expense shall bear the costs to accurately identify the location of all underground utilities in the area of their excavation and shall bear all cost for any repairs required, out of failure to accurately identify said utilities."

Delete Subparagraph 2.2.5 in its entirety and substitute the following:

2.2.5 The Contractor will obtain Drawings and Project Manuals as described in the Invitation to Bid.

#### ARTICLE 3 - CONTRACTOR

##### 3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

Amend Paragraph 3.2.2 to state that any errors, inconsistencies or omissions discovered shall be reported to the Architect and Owner immediately.

Delete the third sentence in Paragraph 3.2.4.

#### ARTICLE 4 - ADMINISTRATION OF THE CONTRACT

##### 4.2 ADMINISTRATION OF THE CONTRACT

Add the following clause:

4.2.10.1 There will be no full-time project representative provided by the Owner or Architect on this project.

#### ARTICLE 6 - CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

##### 6.1 OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS

Delete Paragraph 6.1.4 in its entirety.

##### 6.2 MUTUAL RESPONSIBILITY

6.2.3 In the second sentence, strike the word "shall" and insert the word "may".

#### ARTICLE 7 - CHANGES IN THE WORK

Add a new Subparagraph 7.1.4 to read as follows:

7.1.4 The additional cost, or credit to the Owner resulting from a change in the work shall be by mutual agreement of the Owner, Contractor and the Architect. In all cases, this cost or credit shall be based on the 'DPE' wages required and the "invoice price" of the materials/equipment needed.

7.1.4.1 "DPE" shall be defined to mean "direct personnel expense". Direct payroll expense includes direct salary plus customary fringe benefits (prevailing wage rates) and documented statutory costs such as workman's compensation insurance, Social Security/Medicare, and unemployment insurance (a maximum multiplier of 1.27 times DPE).

7.1.4.2 "Invoice price" of materials/equipment shall be defined to mean the actual cost of materials and/or equipment that is paid by the Contractor, (or subcontractor), to a material distributor, direct factory vendor, store, material provider, or equipment leasing entity. Rates for equipment that is leased and/or owned by the Contractor or subcontractor(s) shall not exceed those listed in the latest version of the "Means Building Construction Cost Data" publication.

7.1.4.3 In addition to the above, the General Contractor is allowed a fifteen percent (15%) markup for overhead and profit for additional work performed by the General Contractor's own forces. For additional subcontractor work, the Subcontractor is

allowed a fifteen percent overhead and profit on change order work above and beyond the direct costs stated previously. To this amount, the General Contractor will be allowed a mark-up not exceeding five percent (5%) on the subcontractors work. These mark-ups shall include all costs including, but not limited to: overhead, profit, bonds, insurance, supervision, etc. There will be no other costs associated with the change order."

## ARTICLE 8 - TIME

### 8.2 PROGRESS AND COMPLETION

Add the following subparagraph:

8.2.1.1 Refer to Section 011000 Summary of Work for contract time requirements.

Add the following subparagraph:

8.2.4 If the Work falls behind the Progress Schedule as submitted by the Contractor, the Contractor shall employ additional labor and/or equipment necessary to bring the Work into compliance with the Progress Schedule at no additional cost to the Owner.

## ARTICLE 9 - PAYMENTS AND COMPLETION

### 9.2 SCHEDULE OF VALUES

Add the following Paragraphs:

9.2.1 The Schedule of Values shall be submitted using AIA Document G702, Continuation Sheet to G703.

9.2.2 The Schedule of Values is to include a line item for Project Closeout Document Submittal. The value of this item is to be no less than 1% of the initial contract amount.

### 9.3 APPLICATIONS FOR PAYMENT

Add the following Paragraph:

9.3.1.3 Application for Payment shall be submitted on AIA Document G702 "Application and Certificate for Payment", supported by AIA Document G703 "Continuation Sheet". Said Applications shall be fully executed and notarized.

Add the following Paragraphs:

9.3.4 Until Closeout Documents have been received and outstanding items completed the Owner will pay 95% (ninety-five percent) of the amount due the Contractor on account of progress payments.

### 9.5 DECISIONS TO WITHHOLD CERTIFICATION

Add the following to 9.5.1:

.8 a lien or attachment is filed;

.9 failure to comply with mandatory requirements for maintaining Record Documents.

Add the following subparagraphs:

9.5.4 The Contractor shall have the obligation to remove any liens filed against the Project or any part thereof, and shall bear all costs connected with said removal prior to the Owner being obligated to make the next monthly progress payment.

9.5.5 No payment of monies nor any partial or entire use of occupancy of the Project by the Owner shall constitute an acceptance of any Work not in accordance with the Contract Documents.

#### 9.6 PROGRESS PAYMENTS

Delete Paragraph 9.6.1 in its entirety and replace with the following:

9.6.1 After the Architect has approved and issued a Certificate for Payment, payment shall be made by the Owner within 30 days after Owner's receipt of the Certificate for Payment.

#### 9.8 SUBSTANTIAL COMPLETION

To Subparagraph 9.8.3- Add the following sentence:

"If the Architect is required to make more than 2 inspections of the same portion of work, the Contractor shall be responsible for all costs associated with subsequent inspections, including but not limited to any Architect's fees."

9.8.5 In the second sentence, strike "shall" and insert "may".

### ARTICLE 10 - PROTECTION OF PERSONS AND PROPERTY

#### 10.1 SAFETY PRECAUTIONS AND PROGRAMS

Add the following Paragraphs:

10.1.1 Each Contractor shall develop a safety program in accordance with the Occupational Safety and Health Act of 1970. A copy of said plan shall be furnished to the Owner and Architect prior to the commencement of that Contractor's Work.

10.1.2 Each Contractor shall appoint a Safety Representative. Safety Representatives shall be someone who is on site on a full time basis. If deemed necessary by the Owner or Architect, Contractor Safety meetings will be scheduled. The attendance of all Safety Representatives will be required. Minutes will be recorded of said meetings by the Contractor and will be distributed to all parties as well as posted in all job offices/trailers etc.

#### 10.2 SAFETY OF PERSONS AND PROPERTY

Add the following Paragraph:

10.2.4.1 As required in the Hazardous Chemical Act of June 1984, all vendors supplying any material that may be defined as hazardous must provide Material Safety Data Sheets for those products. Any chemical product should be considered hazardous if it has a caution warning on the label relating to a potential physical or health hazard, if it is known to be present in the work place, and if employees may be exposed under normal conditions or in foreseeable emergency situations. Material Safety Data Sheets shall be provided directly to the Owner, along with the shipping slips that include those products.

Add the following subparagraph:

10.2.8 The Contractor shall certify to the Owner that materials incorporated into the work are free of all asbestos. This certification may be in the form of Material Safety Data Sheets (MSDS) provided by the product manufacturer for the materials used in construction by the Contractor.

#### 10.3 HAZARDOUS MATERIALS

Delete Paragraph 10.3.3 in its entirety.

Delete Paragraphs 10.3.6 in its entirety.

ARTICLE 11 - INSURANCE

11.1 CONTRACTOR'S LIABILITY INSURANCE

Add the following Clause 11.1.2.1 to 11.1.2:

11.1.2.1 The insurance required by Subparagraph 11.1.1 shall be written for not less than the following, or greater if required by law:

Workmen's Compensation:

State: Statutory

Applicable Federal (e.g., Longshoremen's): Statutory

Employer's Liability

\$ 100,000

Comprehensive General Liability (including Premises Operations;  
Independent Contractors' Protective; Products and Completed Operations;  
Broad Form Property Damage):

Bodily Injury

\$ 500,000 Each Person

\$ 1,000,000 Each Occurrence

\$ 1,000,000 Annual Aggregate

Property Damage

\$ 500,000 Each Occurrence

\$ 500,000 Annual Aggregate

Products and Completed Operations to be maintained for 2 years after  
final payment.

Property Damage Liability Insurance will provide X, C, or U coverage  
as applicable.

Contractual Liability:

Bodily Injury

\$ 500,000 Each Person

\$1,000,000 Each Occurrence

\$1,000,000 Annual Aggregate

Property Damage:

\$ 500,000 Each Occurrence

\$1,000,000 Annual Aggregate

Personal Injury, with Employment Exclusion deleted:

\$ 500,000 Each Occurrence

Comprehensive Automobile Liability:

Bodily Injury:

\$1,000,000 Each Person

\$1,000,000 Each Occurrence

Property Damage:

\$ 500,000 Each Occurrence

Subcontractor's policies shall include contingent and contractual liability  
coverage in the same minimum amounts as 3, above.

Add the following Clauses 11.1.3.1 and 11.1.3.2 to 11.1.3:

11.1.3.1 The Contractor shall furnish one copy each of Certificates of Insurance  
herein required for each copy of the Agreement which shall specifically set forth

evidence of all coverage required by Subparagraph 11.1.2. The form of the Certificate shall be AIA Document G705 or insurance carrier's standard form, which presents required information. The Contractor shall furnish to the Owner copies of any endorsements that are subsequently issued amending coverage or limits.

11.1.3.2 Certificates of insurance filed with the Owner shall guarantee fifteen (15) days prior notice of cancellation, non-renewal or any change in coverage and limits of liability shown as included on certificates.

Add the following Subparagraphs 11.1.5 through 11.1.8:

11.1.5 The Contractor shall carry all insurance required by law, such as Unemployment Insurance, etc. He shall carry such insurance coverage as he desires on his own property such as his field office, storage sheds or other structures erected upon the project site that belong to him and for his own use. The Subcontractors involved with this project shall carry whatever insurance protection they consider necessary to cover the loss of any of their personal property, etc.

11.1.6 Bodily Injury Liability and Property Damage Liability Insurance shall, in addition to the coverage included herein, include coverage for injury to or destruction of any property arising out of the collapse of or structural injury to any building or structure due to demolition work and evidence of these coverage shall be filed with and approved by the Owner.

11.1.7 The Contractor's Property Damage Liability Insurance shall, in addition to the coverage noted herein, include coverage on all real and personal property in their care, custody and control damaged in any way by him or his Subcontractors during the entire construction period on this project.

11.1.8 Builders Risk (including Standard Extended Coverage Insurance) on the existing building during the entire construction period, shall not be provided by the Contractor under this contract. The Owner shall insure the existing building and all of its contents and all this new alteration work under this contract during entire construction period for the full insurable value of the entire work at the site. Note, however, that the Contractor and his Subcontractors shall be responsible for insuring building materials (installed and stored) and their tools and equipment whenever in use on the project, against fire damage, theft, vandalism, etc.

#### 11.2 OWNER'S LIABILITY INSURANCE

Delete Paragraph 11.2 and its subparagraphs in their entirety.

Delete Paragraph 11.3 and its subparagraphs in their entirety and replace with the following:

#### 11.3 PROPERTY INSURANCE

11.3.1 The Owner will not provide Builder's All Risk Insurance for the Project. The Contractor and all Subcontractors shall provide property coverage for their tools and equipment, as necessary.

#### 11.4 PERFORMANCE BOND AND PAYMENT BOND

Add the following subparagraphs:

11.4.3 Performance and Payment Bond: Simultaneously with delivery of the executed contract, the contractor must deliver to the Owner an executed performance bond in the amount of 100% of the accepted bid as security for the faithful performance of his contract including the required Warranty and Guaranties; and an executed labor

and material payment bond in the amount of 100% of the accepted bid as security for the payment of all persons performing labor or furnishing materials in connection therewith and conditioned that the contractor shall well and faithfully pay all daily labor employed by him for this contract in full once each week. Performance and payment bond may be in a combined form. The bonding company's standard forms are acceptable provided all coverage requirements are included. The bonds shall be maintained in full force for a period of not less than twelve (12) months after the date of the Certificate for Substantial Completion.

11.4.4 Bonds are to be in favor of the Owner and shall be paid for by the contractor and furnished by a surety company licensed in the State that the project is located. The Owner has the right to demand proof that the parties signing the bonds are duly authorized to do so.

#### ARTICLE 13: MISCELLANEOUS PROVISIONS

##### 13.6 INTEREST

Strike “the date payment is due at such rate as the parties may agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.” Insert “30 days of presentment of the authorized Certificate of Payment at the annual rate of 6% or 0.5% per month.

#### ARTICLE 14 - TERMINATION OR SUSPENSION OF THE CONTRACT

##### 14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

Delete Subparagraph 14.4.3 in its entirety and replace with the following:

14.4.3 In case of such termination for Owner’s convenience, the Contractor shall be entitled to receive payment for work executed, materials purchased and reasonable overhead.

#### ADD ARTICLE 16- CONTRACTOR RESPONSIBILITIES

16.1 The Contractor shall enforce strict discipline and good order among the Contractor’s employees and other persons carrying out the Contract. The Contractor shall not permit employment of unfit persons or persons not skilled in tasks assigned to them.

16.2 The Contractor warrants to the Owner that materials and equipment furnished will be new and of good quality, unless otherwise permitted, and that the work will be free from defects and in conformance with the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved, may be considered defective. If required by the Owner, the Contractor shall furnish evidence as to the kind and quality of materials and equipment provided.

16.3 Unless otherwise provided, the Contractor shall pay all sales, consumer, use and other similar taxes, and shall secure and pay for required permits, fees, licenses, and inspections necessary for proper execution of the Work.

16.4 The Contractor shall comply with and give notices required by laws, ordinances, rules, regulations, and lawful orders of public authorities bearing on performance of the work. The Contractor shall promptly notify the Owner if the Drawings and Specifications are observed to be at variance therewith.

16.5 The Contractor shall be responsible to the Owner for the acts and omissions of the Contractor’s employees, Subcontractors and their agents and employees, and other persons performing portions of the Work under contract with the Contractor.

16.6 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract.

16.6.1 At completion of the Work the Contractor shall remove from and about the Project all waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials. The Contractor shall be responsible for returning all damaged areas to their original conditions.

16.7 To the fullest extent permitted by law, the Contractor shall indemnify and otherwise hold harmless the Owner, its agents and employees, and the Architect, his agents and employees, from any and all liability, suits, actions or claims, together with all costs, expenses or attorneys' fees, arising out of their performance of work or supplying materials and services in connection with this contract. This agreement to indemnify and hold harmless shall cover all suits, actions, claims or liabilities asserted against the Owner, its agents and employees, and the Architect, his agents and employees, to the extent caused in whole or part by negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate or abridge other rights or obligations of indemnity which would otherwise exist.

**PART 2 - PRODUCTS - NOT USED**

**PART 3 - EXECUTION - NOT USED**

**END OF SECTION**

**SECTION 009000**

**DE STATE GENERAL REQUIREMENTS**

**ARTICLE 1: GENERAL**

**1.01 CONTRACT DOCUMENTS**

- A. The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary and what is required by one shall be as binding as if required by all. Performance by the Contractor shall be required to an extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the intended results.
- B. Work including material purchases shall not begin until the Contractor is in receipt of a bonafide State of Delaware Purchase Order. Any work performed or material purchases prior to the issuance of the Purchase Order is done at the Contractor's own risk and cost.

**1.02 EQUALITY OF EMPLOYMENT OPPORTUNITY ON PUBLIC WORKS**

- A. For Public Works Projects financed in whole or in part by state appropriation the Contractor agrees that during the performance of this contract:
  - 1. The Contractor will not discriminate against any employee or applicant for employment because of race, creed, sex, color, 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, sex, color, 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, sex, color, sexual orientation, gender identity or national origin.”

**ARTICLE 2: OWNER**

(NO ADDITIONAL GENERAL REQUIREMENTS - SEE SUPPLEMENTARY GENERAL CONDITIONS)

**ARTICLE 3: CONTRACTOR**

**3.01 SCHEDULE OF VALUES**

- A. The successful Bidder shall within twenty (20) days after receiving notice to proceed with the work, furnish to the Owner a complete schedule of values on the various items comprising the work.

**3.02 SUBCONTRACTS**

- A. Upon approval of Subcontractors, the Contractor shall award their Subcontracts as soon as possible after the signing of their own contract and see that all material, their own and

- those of their Subcontractors, are promptly ordered so that the work will not be delayed by failure of materials to arrive on time.
- B. Before commencing any work or construction, the General Contractor is to consult with the Owner as to matters in connection with access to the site and the allocation of Ground Areas for the various features of hauling, storage, etc.
  - C. The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions.
  - D. The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Contract. The Contractor shall not permit employment of unfit persons or persons not skilled in tasks assigned to them.
  - E. The Contractor warrants to the Owner that materials and equipment furnished will be new and of good quality, unless otherwise permitted, and that the work will be free from defects and in conformance with the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved, may be considered defective. If required by the Owner, the Contractor shall furnish evidence as to the kind and quality of materials and equipment provided.
  - F. Unless otherwise provided, the Contractor shall pay all sales, consumer, use and other similar taxes, and shall secure and pay for required permits, fees, licenses, and inspections necessary for proper execution of the Work.
  - G. The Contractor shall comply with and give notices required by laws, ordinances, rules, regulations, and lawful orders of public authorities bearing on performance of the Work. The Contractor shall promptly notify the Owner if the Drawings and Specifications are observed to be at variance therewith.
  - H. The Contractor shall be responsible to the Owner for the acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons performing portions of the Work under contract with the Contractor.
  - I. The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work the Contractor shall remove from and about the Project all waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials. The Contractor shall be responsible for returning all damaged areas to their original conditions.

### 3.03 STATE LICENSE AND TAX REQUIREMENTS

- A. Each Contractor and Subcontractor shall be licensed to do business in the State of Delaware and shall pay all fees and taxes due under State laws. In conformance with Section 2503, Chapter 25, Title 30, Delaware Code, "the Contractor shall furnish the State Tax Department within ten (10) days after award of the Contract, a statement of the total values of each contract and Subcontract, together with the names and addresses of the contracting parties .... "

### 3.04 LARGE PUBLIC WORKS CONTRACT PROCEDURES

- A. The Contractor shall comply with all requirements set forth in Section 6962, Chapter 69, Title 29 of the Delaware Code.
- B. During the contract Work, the Contractor and each listed Subcontractor, shall implement an Employee Drug Testing Program in accordance with OMB Regulation 4104-“Regulations for the Drug Testing of Contractor and Subcontractor Employees Working on “Large Public Works Projects”. “Large Public Works” is based upon the current threshold required for bidding Public Works as set by the Purchasing and Contracting Advisory Council.

## **ARTICLE 4: ADMINISTRATION OF THE CONTRACT**

### 4.01 CONTRACT SURETY

- A. Performance Bond And Labor And Material Payment Bond
  - 1. All bonds will be required as follows unless specifically waived elsewhere in the Bidding Documents.
  - 2. Contents of Performance Bonds - The bond shall be conditioned upon the faithful compliance and performance by the successful bidder of each and every term and condition of the contract and the proposal, plans, specifications, and bid documents thereof. Each term and condition shall be met at the time and in the manner prescribed by the Contract, Bid documents and the specifications, including the payment in full to every person furnishing materiel or performing labor in the performance of the Contract, of all sums of money due the person for such labor and materiel. (The bond shall also contain the successful bidder's guarantee to indemnify and save harmless the State and the agency from all costs, damages and expenses growing out of or by reason of the Contract in accordance with the Contract.)
  - 3. Invoking a Performance Bond - The agency may, when it considers that the interest of the State so require, cause judgement to be confessed upon the bond.
  - 4. Within twenty (20) days after the date of notice of award of contract, the Bidder to whom the award is made shall furnish a Performance Bond and Labor and Material Payment Bond, each equal to the full amount of the Contract price to guarantee the faithful performance of all terms, covenants and conditions of the same. The bonds are to be issued by an acceptable Bonding Company licensed to do business in the State of Delaware and shall be issued in duplicate.
  - 5. Performance and Payment Bonds shall be maintained in full force (warranty bond) for a period of two (2) years after the date of the Certificate for Final Payment. The Performance Bond shall guarantee the satisfactory completion of the Project and that the Contractor will make good any faults or defects in his work which may develop during the period of said guarantees as a result of improper or defective workmanship, material or apparatus, whether furnished by themselves or their Sub-Contractors. The Payment Bond shall guarantee that the Contractor shall pay in full all persons, firms or corporations who furnish labor or material or both labor and material for, or on account of, the work included herein. The bonds shall be paid for by this Contractor. The Owner shall have the right to demand that the proof parties signing the bonds are duly authorized to do so.

#### 4.02 FAILURE TO COMPLY WITH CONTRACT

- A. If any firm entering into a contract with the State, or Agency that neglects or refuses to perform or fails to comply with the terms thereof, the Agency which signed the Contract may terminate the Contract and proceed to award a new contract in accordance with this Chapter 69, Title 29 of the Delaware Code or may require the Surety on the Performance Bond to complete the Contract in accordance with the terms of the Performance Bond. Nothing herein shall preclude the Agency from pursuing additional remedies as otherwise provided by law.

#### 4.03 CONTRACT INSURANCE AND CONTRACT LIABILITY

- A. In addition to the bond requirements stated in the Bid Documents, each successful Bidder shall purchase adequate insurance for the performance of the Contract and, by submission of a Bid, agrees to indemnify and save harmless and to defend all legal or equitable actions brought against the State, any Agency, officer and/or employee of the State, for and from all claims of liability which is or may be the result of the successful Bidder's actions during the performance of the Contract.
- B. The purchase or nonpurchase of such insurance or the involvement of the successful Bidder in any legal or equitable defense of any action brought against the successful Bidder based upon work performed pursuant to the Contract will not waive any defense which the State, its agencies and their respective officers, employees and agents might otherwise have against such claims, specifically including the defense of sovereign immunity, where applicable, and by the terms of this section, the State and all agencies, officers and employees thereof shall not be financially responsible for the consequences of work performed, pursuant to said contract.

#### 4.04 RIGHT TO AUDIT RECORDS

- A. The Owner shall have the right to audit the books and records of a Contractor or any Subcontractor under any Contract or Subcontract to the extent that the books and records relate to the performance of the Contract or Subcontract.
- B. Said books and records shall be maintained by the Contractor for a period of seven (7) years from the date of final payment under the Prime Contract and by the Subcontractor for a period of seven (7) years from the date of final payment under the Subcontract.

### **ARTICLE 5: SUBCONTRACTORS**

#### 5.01 SUBCONTRACTING REQUIREMENTS

- A. All contracts for the construction, reconstruction, alteration or repair of any public building (not a road, street or highway) shall be subject to the following provisions:
  - 1. A contract shall be awarded only to a Bidder whose Bid is accompanied by a statement containing, for each Subcontractor category, the name and address (city or town and State only - street number and P.O. Box addresses not required) of the subcontractor whose services the Bidder intends to use in performing the Work and providing the material for such Subcontractor category.
  - 2. A Bid will not be accepted nor will an award of any Contract be made to any Bidder which, as the Prime Contractor, has listed itself as the Subcontractor for any Subcontractor unless:

- a. It has been established to the satisfaction of the awarding Agency that the Bidder has customarily performed the specialty work of such Subcontractor category by artisans regularly employed by the Bidder's firm;
  - b. That the Bidder is duly licensed by the State to engage in such specialty work, if the State requires licenses; and
  - c. That the Bidder is recognized in the industry as a bona fide Subcontractor or Contractor in such specialty work and Subcontractor category.
- B. The decision of the awarding Agency as to whether a Bidder who list itself as the Subcontractor for a Subcontractor category shall be final and binding upon all Bidders, and no action of any nature shall lie against any awarding agency or its employees or officers because of its decision in this regard.
- C. After such a Contract has been awarded, the successful Bidder shall not substitute another Subcontractor for any Subcontractor whose name was set forth in the statement which accompanied the Bid without the written consent of the awarding Agency.
- D. No Agency shall consent to any substitution of Subcontractors unless the Agency is satisfied that the Subcontractor whose name is on the Bidders accompanying statement:
1. Is unqualified to perform the work required;
  2. Has failed to execute a timely reasonable Subcontract;
  3. Has defaulted in the performance on the portion of the work covered by the Subcontract; or
  4. Is no longer engaged in such business.
- E. Should a Bidder be awarded a contract, such successful Bidder shall provide to the agency the taxpayer identification license numbers of such subcontractors. Such numbers shall be provided on the later of the date on which such subcontractor is required to be identified or the time the contract is executed. The successful Bidder shall provide to the agency to which it is contracting, within 30 days of entering into such public works contract, copies of all Delaware 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 Bidder entered the public works contract the Delaware Business license of such subcontractor or independent contractor shall be provided to the agency within 10 days of being contracted or hired.

#### 5.02 PENALTY FOR SUBSTITUTION OF SUBCONTRACTORS

- A. Should the Contractor fail to utilize any or all of the Subcontractors in the Contractor's Bid statement in the performance of the Work on the public bidding, the Contractor shall be penalized in the amount of one (1) percent of Contract amount not to exceed \$10,000. The Agency may determine to deduct payments of the penalty from the Contractor or have the amount paid directly to the Agency. Any penalty amount assessed against the Contractor may be remitted or refunded, in whole or in part, by the Agency awarding the Contract, only if it is established to the satisfaction of the Agency that the Subcontractor in question has defaulted or is no longer engaged in such business. No claim for the remission or refund of any penalty shall be granted unless an application is filed within one year after the liability of the successful Bidder accrues. All penalty amounts assessed and not refunded or remitted to the contractor shall be reverted to the State.

5.03 ASBESTOS ABATEMENT

- A. The selection of any Contractor to perform asbestos abatement for State-funded projects shall be approved by the Office of Management and Budget/Division of Facilities Management pursuant to Chapter 78 of Title 16.

5.04 STANDARDS OF CONSTRUCTION FOR THE PROTECTION OF THE PHYSICALLY HANDICAPPED

- A. All Contracts shall conform with the standard established by the Delaware Architectural Accessibility Board unless otherwise exempted by the Board.

5.05 CONTRACT PERFORMANCE

- A. Any firm entering into a Public Works Contract that neglects or refuses to perform or fails to comply with its terms, the Agency may terminate the Contract and proceed to award a new Contract or may require the Surety on the Performance Bond to complete the Contract in accordance with the terms of the performance Bond.

**ARTICLE 6: CONSTRUCTION BY OWNER OR SEPARATE CONTRACTORS**

6.01 CONSTRUCTION BY OWNER OR SEPARATE CONTRACTORS

- A. The Owner reserves the right to simultaneously perform other construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other Projects at the same site.
- B. The Contractor shall afford the Owner and other Contractors reasonable opportunity for access and storage of materials and equipment, and for the performance of their activities, and shall connect and coordinate their activities with other forces as required by the Contract Documents.

**ARTICLE 7: CHANGES IN THE WORK**

7.01 CHANGES IN THE WORK

- A. The Owner, without invalidating the Contract, may order changes in the Work consisting of Additions, Deletions, Modifications or Substitutions, with the Contract Sum and Contract completion date being adjusted accordingly. Such changes in the Work shall be authorized by written Change Order signed by the Professional, as the duly authorized agent, the Contractor and the Owner.
- B. The Contract Sum and Contract Completion Date shall be adjusted only by a fully executed Change Order.
- C. The additional cost, or credit to the Owner resulting from a change in the Work shall be by mutual agreement of the Owner, Contractor and the Architect. In all cases, this cost or credit shall be based on the 'DPE' wages required and the "invoice price" of the materials/equipment needed.
  - 1. "DPE" shall be defined to mean "direct personnel expense". Direct payroll expense includes direct salary plus customary fringe benefits (prevailing wage rates) and documented statutory costs such as workman's compensation insurance, Social Security/Medicare, and unemployment insurance (a maximum multiplier of 1.35 times DPE).
  - 2. "Invoice price" of materials/equipment shall be defined to mean the actual cost of materials and/or equipment that is paid by the Contractor, (or subcontractor), to a material distributor, direct factory vendor, store, material provider, or equipment

- leasing entity. Rates for equipment that is leased and/or owned by the Contractor or subcontractor(s) shall not exceed those listed in the latest version of the "Means Building Construction Cost Data" publication.
3. In addition to the above, the General Contractor is allowed a fifteen percent (15%) markup for overhead and profit for additional work performed by the General Contractor's own forces. For additional subcontractor work, the Subcontractor is allowed a fifteen percent overhead and profit on change order work above and beyond the direct costs stated previously. To this amount, the General Contractor will be allowed a mark-up not exceeding seven point five percent (7.5%) on the subcontractors work. These mark-ups shall include all costs including, but not limited to: overhead, profit, bonds, insurance, supervision, etc. No markup is permitted on the work of a Sub-subcontractor. No additional costs shall be allowed for changes related to the Contractor's onsite superintendent/staff, or project manager, unless a change in the work changes the project duration and is identified by the CPM schedule. There will be no other costs associated with the change order.

## **ARTICLE 8: TIME**

### **8.01 TIME**

- A. Time limits, if any, are as stated in the Project Manual. By executing the Agreement, the Contractor confirms that the stipulated limits are reasonable, and that the Work will be completed within the anticipated time frame.
- B. If progress of the Work is delayed at any time by changes ordered by the Owner, by labor disputes, fire, unusual delay in deliveries, abnormal adverse weather conditions, unavoidable casualties or other causes beyond the Contractor's control, the Contract Time shall be extended for such reasonable time as the Owner may determine.
- C. Any extension of time beyond the date fixed for completion of the construction and acceptance of any part of the Work called for by the Contract, or the occupancy of the building by the Owner, in whole or in part, previous to the completion shall not be deemed a waiver by the Owner of his right to annul or terminate the Contract for abandonment or delay in the matter provided for, nor relieve the Contractor of full responsibility.

### **8.02 SUSPENSION AND DEBARMENT**

- A. Per Section 6962(d)(14), Title 29, Delaware Code, "Any Contractor who fails to perform a public works contract or complete a public works project within the time schedule established by the Agency in the Invitation To Bid, may be subject to Suspension or Debarment for one or more of the following reasons: 1) failure to supply the adequate labor supply ratio for the project; 2) inadequate financial resources; or, 3) poor performance on the Project."
- B. "Upon such failure for any of the above stated reasons, the Agency that contracted for the public works project may petition the Director of the Office of Management and Budget for Suspension or Debarment of the Contractor. The Agency shall send a copy of the petition to the Contractor within three (3) working days of filing with the Director. If the Director concludes that the petition has merit, the Director shall schedule and hold a hearing to determine whether to suspend the Contractor, debar the Contractor or deny the petition. The Agency shall have the burden of proving, by a preponderance of the evidence, that the Contractor failed to perform or complete the public works project

within the time schedule established by the Agency and failed to do so for one or more of the following reasons: 1) failure to supply the adequate labor supply ratio for the project; 2) inadequate financial resources; or, 3) poor performance on the project. Upon a finding in favor of the Agency, the Director may suspend a Contractor from Bidding on any project funded, in whole or in part, with public funds for up to 1 year for a first offense, up to 3 years for a second offense and permanently debar the Contractor for a third offense. The Director shall issue a written decision and shall send a copy to the Contractor and the Agency. Such decision may be appealed to the Superior Court within thirty (30) days for a review on the record."

### 8.03 RETAINAGE

- A. Per Section 6962(d)(5) a., Title 29, Delaware Code: The Agency may at the beginning of each public works project establish a time schedule for the completion of the project. If the project is delayed beyond the completion date due to the Contractor's failure to meet their responsibilities, the Agency may hold permanently, at its discretion, all or part of the Contractor's retainage.
- B. This forfeiture of retainage also applies to the timely completion of the punchlist. A punchlist will only be prepared upon the mutual agreement of the Owner, Architect and Contractor. Once the punchlist is prepared, all three parties will by mutual agreement, establish a schedule for its completion. Should completion of the punchlist be delayed beyond the established date due to the Contractor's failure to meet their responsibilities, the Agency may hold permanently, at its discretion, all or part of the Contractor's retainage.

## ARTICLE 9: PAYMENTS AND COMPLETION

### 9.01 APPLICATION FOR PAYMENT

- A. Applications for payment shall be made upon AIA Document G702. There will be a five percent (5%) retainage on all Contractor's monthly invoices until completion of the project. This retainage will become payable upon receipt of all required closeout documentation, provided all other requirements of the Contract Documents have been met.
- B. A date will be fixed for the taking of the monthly account of work done. Upon receipt of Contractor's itemized application for payment, such application will be audited, modified, if found necessary, and approved for the amount. Statement shall be submitted to the Owner.
- C. Article 6516, Chapter 65, Title 29 of the Delaware Code stipulates annualized interest not to exceed 12% per annum beginning thirty (30) days after the "presentment" (as opposed to the date) of the invoice."

### 9.02 PARTIAL PAYMENTS

- A. Any public works Contract executed by any Agency may provide for partial payments at the option of the Owner with respect to materials placed along or upon the sites or stored at secured locations, which are suitable for use in the performance of the contract.
- B. When approved by the agency, partial payment may include the values of tested and acceptable materials of a nonperishable or noncontaminative nature which have been produced or furnished for incorporation as a permanent part of the work yet to be completed, provided acceptable provisions have been made for storage.

1. Any allowance made for materials on hand will not exceed the delivered cost of the materials as verified by invoices furnished by the Contractor, nor will it exceed the contract bid price for the material complete in place.
- C. If requested by the Agency, receipted bills from all Contractors, Subcontractors, and material, men, etc., for the previous payment must accompany each application for payment. Following such a request, no payment will be made until these receipted bills have been received by the Owner.

#### 9.03 SUBSTANTIAL COMPLETION

- A. When the building has been made suitable for occupancy, but still requires small items of miscellaneous work, the Owner will determine the date when the project has been substantially completed.
- B. If, after the Work has been substantially completed, full completion thereof is materially delayed through no fault of the Contractor, and without terminating the Contract, the Owner may make payment of the balance due for the portion of the Work fully completed and accepted. Such payment shall be made under the terms and conditions governing final payment that it shall not constitute a waiver of claims.
- C. On projects where commissioning is included, the commissioning work as defined in the specifications must be complete prior to the issuance of substantial completion.

#### 9.04 FINAL PAYMENT

- A. Final payment, including the five percent (5%) retainage, shall be made within thirty (30) days after the Work is fully completed and the Contract fully performed and provided that the Contractor has submitted the following closeout documentation (in addition to any other documentation required elsewhere in the Contract Documents):
  1. Evidence satisfactory to the Owner that all payrolls, material bills, and other indebtedness connected with the work have been paid,
  2. An acceptable RELEASE OF LIENS,
  3. Copies of all applicable warranties,
  4. As-built drawings,
  5. Operations and Maintenance Manuals,
  6. Instruction Manuals,
  7. Consent of Surety to final payment.
  8. The Owner reserves the right to retain payments, or parts thereof, for its protection until the foregoing conditions have been complied with, defective work corrected and all unsatisfactory conditions remedied.

### **ARTICLE 10: PROTECTION OF PERSONS AND PROPERTY**

#### 10.01 PROTECTION OF PERSONS AND PROPERTY

- A. The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract. The Contractor shall take all reasonable precautions to prevent damage, injury or loss to: workers, persons nearby who may be affected, the Work, materials and equipment to be incorporated, and existing property at the site or adjacent thereto. The Contractor shall give notices and comply with applicable laws ordinances, rules regulations, and lawful orders of public authorities bearing on the safety of persons and property and their protection from injury, damage, or loss. The Contractor shall promptly remedy damage

- and loss to property at the site caused in whole or in part by the Contractor, a Subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable.
- B. The Contractor shall notify the Owner in the event any existing hazardous material such as lead, PCBs, asbestos, etc. is encountered on the project. The Owner will arrange with a qualified specialist for the identification, testing, removal, handling and protection against exposure or environmental pollution, to comply with applicable regulation laws and ordinances. The Contractor and Architect will not be required to participate in or to perform this operation. Upon completion of this work, the Owner will notify the Contractor and Architect in writing the area has been cleared and approved by the authorities in order for the work to proceed. The Contractor shall attach documentation from the authorities of said approval.
  - C. As required in the Hazardous Chemical Information Act of June 1984, all vendors supplying any materials that may be defined as hazardous, must provide Material Safety Data Sheets for those products. Any chemical product should be considered hazardous if it has a warning caution on the label relating to a potential physical or health hazard, if it is known to be present in the work place, and if employees may be exposed under normal conditions or in any foreseeable emergency situation. Material Safety Data Sheets must be provided directly to the Owner along with the shipping slips that include those products.
  - D. The Contractor shall certify to the Owner that materials incorporated into the Work are free of all asbestos. This certification may be in the form of Material Safety Data Sheet (MSDS) provided by the product manufacturer for the materials used in construction, as specified or as provided by the Contractor.

## **ARTICLE 11: INSURANCE AND BONDS**

### **11.01 INSURANCE AND BONDS**

- A. The Contractor shall carry all insurance required by law, such as Unemployment Insurance, etc. The Contractor shall carry such insurance coverage as they desire on their own property such as a field office, storage sheds or other structures erected upon the project site that belong to them and for their own use. The Subcontractors involved with this project shall carry whatever insurance protection they consider necessary to cover the loss of any of their personal property, etc.
- B. Upon being awarded the Contract, the Contractor shall obtain a minimum of two (2) copies of all required insurance certificates called for herein, and submit one (1) copy of each certificate, to the Owner, within 20 days of contract award.
- C. Bodily Injury Liability and Property Damage Liability Insurance shall, in addition to the coverage included herein, include coverage for injury to or destruction of any property arising out of the collapse of or structural injury to any building or structure due to demolition work and evidence of these coverages shall be filed with and approved by the Owner.
- D. The Contractor's Property Damage Liability Insurance shall, in addition to the coverage noted herein, include coverage on all real and personal property in their care, custody and control damaged in any way by the Contractor or their Subcontractors during the entire construction period on this project.

- E. Builders Risk (including Standard Extended Coverage Insurance) on the existing building during the entire construction period, shall not be provided by the Contractor under this contract. The Owner shall insure the existing building and all of its contents and all this new alteration work under this contract during entire construction period for the full insurable value of the entire work at the site. Note, however, that the Contractor and their Subcontractors shall be responsible for insuring building materials (installed and stored) and their tools and equipment whenever in use on the project, against fire damage, theft, vandalism, etc.
- F. Certificates of the insurance company or companies stating the amount and type of coverage, terms of policies, etc., shall be furnished to the Owner, within 20 days of contract award.
- G. The Contractor shall, at their own expense, (in addition to the above) carry the following forms of insurance:
1. Contractor's Contractual Liability Insurance  
Minimum coverage to be:
    - Bodily Injury\$ 500,000for each person
    - \$1,000,000for each occurrence
    - \$1,000,000aggregate
    - Property Damage\$ 500,000for each occurrence
    - \$1,000,000aggregate
  2. Contractor's Protective Liability Insurance  
Minimum coverage to be:
    - Bodily Injury\$ 500,000for each person
    - \$1,000,000for each occurrence
    - \$1,000,000aggregate
    - Property Damage\$ 500,000for each occurrence
    - \$ 500,000aggregate
  3. Automobile Liability Insurance  
Minimum coverage to be:
    - Bodily Injury\$ 1,000,000for each person
    - \$ 1,000,000for each occurrence
    - Property Damage\$ 500,000per accident
  4. Prime Contractor's and Subcontractors' policies shall include contingent and contractual liability coverage in the same minimum amounts as 11.7.1 above.
  5. Workmen's Compensation (including Employer's Liability):
    - a. Minimum Limit on employer's liability to be as required by law.
    - b. Minimum Limit for all employees working at one site.
  6. Certificates of Insurance must be filed with the Owner guaranteeing fifteen (15) days prior notice of cancellation, non-renewal, or any change in coverages and limits of liability shown as included on certificates.
  7. Social Security Liability
    - a. With respect to all persons at any time employed by or on the payroll of the Contractor or performing any work for or on their behalf, or in connection with or arising out of the Contractor's business, the Contractor shall accept full and exclusive liability for the payment of any and all contributions or taxes or unemployment insurance, or old age retirement benefits, pensions or annuities

now or hereafter imposed by the Government of the United States and the State or political subdivision thereof, whether the same be measured by wages, salaries or other remuneration paid to such persons or otherwise.

- b. Upon request, the Contractor shall furnish Owner such information on payrolls or employment records as may be necessary to enable it to fully comply with the law imposing the aforesaid contributions or taxes.
- c. If the Owner is required by law to and does pay any and/or all of the aforesaid contributions or taxes, the Contractor shall forthwith reimburse the Owner for the entire amount so paid by the Owner.

## **ARTICLE 12: UNCOVERING AND CORRECTION OF WORK**

### 12.01 UNCOVERING AND CORRECTION OF WORK

- A. The Contractor shall promptly correct Work rejected by the Owner or failing to conform to the requirements of the Contract Documents, whether observed before or after Substantial Completion and whether or not fabricated, installed or completed, and shall correct any Work found to be not in accordance with the requirements of the Contract Documents within a period of two years from the date of Substantial Completion, or by terms of an applicable special warranty required by the Contract Documents. The provisions of this Article apply to work done by Subcontractors as well as to Work done by direct employees of the Contractor.
- B. At any time during the progress of the work, or in any case where the nature of the defects shall be such that it is not expedient to have them corrected, the Owner, at their option, shall have the right to deduct such sum, or sums, of money from the amount of the contract as they consider justified to adjust the difference in value between the defective work and that required under contract including any damage to the structure.

## **ARTICLE 13: MISCELLANEOUS PROVISIONS**

### 13.01 CUTTING AND PATCHING

- A. The Contractor shall be responsible for all cutting and patching. The Contractor shall coordinate the work of the various trades involved.

### 13.02 DIMENSIONS

- A. All dimensions shown shall be verified by the Contractor by actual measurements at the project site. Any discrepancies between the drawings and specifications and the existing conditions shall be referred to the Owner for adjustment before any work affected thereby has been performed.

### 13.03 LABORATORY TESTS

- A. Any specified laboratory tests of material and finished articles to be incorporated in the work shall be made by bureaus, laboratories or agencies approved by the Owner and reports of such tests shall be submitted to the Owner. The cost of the testing shall be paid for by the Contractor.
- B. The Contractor shall furnish all sample materials required for these tests and shall deliver same without charge to the testing laboratory or other designated agency when and where directed by the Owner.

#### 13.04 ARCHAEOLOGICAL EVIDENCE

- A. Whenever, in the course of construction, any archaeological evidence is encountered on the surface or below the surface of the ground, the Contractor shall notify the authorities of the Delaware Archaeological Board and suspend work in the immediate area for a reasonable time to permit those authorities, or persons designated by them, to examine the area and ensure the proper removal of the archaeological evidence for suitable preservation in the State Museum.

#### 13.05 GLASS REPLACEMENT AND CLEANING

- A. The General Contractor shall replace without expense to the Owner all glass broken during the construction of the project. If job conditions warrant, at completion of the job the General Contractor shall have all glass cleaned and polished.

#### 13.06 WARRANTY

- A. For a period of two (2) years from the date of Substantial Completion, as evidenced by the date of final acceptance of the work, the contractor warrants that work performed under this contract conforms to the contract requirements and is free of any defect of equipment, material or workmanship performed by the contractor or any of his subcontractors or suppliers. However, manufacturer's warranties and guarantees, if for a period longer than two (2) years, shall take precedence over the above warranties. The contractor shall remedy, at his own expense, any such failure to conform or any such defect. The protection of this warranty shall be included in the Contractor's Performance Bond.

### **ARTICLE 14: TERMINATION OF CONTRACT**

#### 14.01 TERMINATION OF CONTRACT

- A. If the Contractor defaults or persistently fails or neglects to carry out the Work in accordance with the Contract Documents or fails to perform a provision of the Contract, the Owner, after seven days written notice to the Contractor, may make good such deficiencies and may deduct the cost thereof from the payment then or thereafter due the Contractor. Alternatively, at the Owner's option, and the Owner may terminate the Contract and take possession of the site and of all materials, equipment, tools, and machinery thereon owned by the Contractor and may finish the Work by whatever method the Owner may deem expedient. If the costs of finishing the Work exceed any unpaid compensation due the Contractor, the Contractor shall pay the difference to the Owner.
- B. "If the continuation of this Agreement is contingent upon the appropriation of adequate state, or federal funds, this Agreement may be terminated on the date beginning on the first fiscal year for which funds are not appropriated or at the exhaustion of the appropriation. The Owner may terminate this Agreement by providing written notice to the parties of such non-appropriation. All payment obligations of the Owner will cease upon the date of termination. Notwithstanding the foregoing, the Owner agrees that it will use its best efforts to obtain approval of necessary funds to continue the Agreement by taking appropriate action to request adequate funds to continue the Agreement."

**END OF GENERAL REQUIREMENTS**

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**SECTION 009500**  
**GENERAL AND SPECIAL INSTRUCTIONS**

**PART 1 - GENERAL**

**1.01 GENERAL INSTRUCTIONS TO BIDDERS**

- A. The general rules and conditions which follow apply to all purchases and become a part of each contract or purchase order
  - 1. Before submitting its bid, the bidder must review all instructions and specifications.
  - 2. A bidder's misinterpretation or ignorance of such instructions or specifications will not excuse the bidder from complying with the instructions and specifications.
  - 3. The bidder must also review applicable state laws. If these instructions or the bid specifications are inconsistent with state law, state law shall control.

**1.02 DEFINITIONS:**

- A. "District" refers to the Brandywine School District.

**1.03 BID PROPOSALS**

- A. Use the enclosed Proposal Form in submitting a Bid Proposal. The Bid Proposal must be dated and signed by an authorized representative of the bidder.
- B. Refer to Section 001000, INSTRUCTIONS TO BIDDERS, for additional information.

**1.04 "RFP" - REQUESTS FOR PROPOSALS: N/A**

**1.05 PRE-BID MEETINGS: REQUIRED**

**1.06 DELIVERY OF BID PROPOSALS**

- A. Sealed Bid Proposal must be received at the address listed in the Advertisement for Bid notice, prior to the time set for the Bid Opening. It is the responsibility of the Bidder to make certain that the Bid Proposal is in the location designated above prior to the time set for the Bid Opening. The District accepts no responsibility for any bid entrusted to the United States Postal Service, or any other delivery service or company. Bid Proposals not received in the designated location by the time set for the Bid Opening will not be considered.

**1.07 BID OPENING**

- A. Bids will be publicly opened at the designated location at the time designated on the Proposal Form, and in the Advertisement for Bids. The purpose of the opening is to reveal the names of those bidders submitting proposals. The opening is not to serve as a forum for determining the responsiveness of each bid, or the apparent low bidder. The aggregate amount of each bid shall be disclosed. Additional information shall be disclosed at the discretion of the District.

**1.08 POLICY AND PROCEDURE FOR THE EXAMINATION AND COPYING OF PUBLIC RECORDS**

- A. Title 29 § 10003 Delaware Code Freedom of Information Act
  - 1. All public records shall be open to inspection and copying by any citizen of the State during regular business hours by the custodian of the records for the appropriate public body. Reasonable access to and reasonable facilities for copying of these records shall not be denied to any citizen. If the record is in active use or in storage and, therefore, not available at the time a citizen requests access, the custodian shall

so inform the citizen and make an appointment for said citizen to examine such records as expediently as they may be made available. Any reasonable expense involved in the copying of such records shall be levied as a charge on the citizen requesting such copy.

2. It shall be the responsibility of the public body to establish rules and regulations regarding access to public records as well as fees charged for copying of such records. (60 Del. Laws, c. 641 § 1.)

B. Examination of Contract File

1. Any citizen of the State or bidder may review the contract file only after making an appointment to do so with the District. Requests to review the records during an unannounced office visit may be denied if department personnel are busy, or if the file is in active use. Trade secrets and commercial or financial information of a privileged or confidential nature shall not be deemed public.

C. Requests for Bid Tabulations

1. Copies of bid tabulation may be obtained from the District either by mail after receipt of a written request and a self-addressed and stamped envelope, or by making an appointment to pick up copies that will be left at the Receptionist's desk. Bid tabulation and/or contract information other than the name of the successful bidder will not be given out over the telephone. Requests for bid tabulations during an unannounced office visit may be denied if work flow of department personnel will be disrupted.

D. Copying Fees

1. The District reserves the right to charge a reasonable fee for the copying of any public record. Such charges must be paid to the District prior to receiving the copies.

#### 1.09 STATUS OF PROPOSALS

A. Unless otherwise stated in the Special Instructions or on the Proposal Form, the Proposal submitted by bidders shall be binding for a period of 60 days from the date the bids are opened. Requests for Proposals shall be binding for a period of 90 days.

B. Bids may be withdrawn up to the time of the bid opening upon request of the bidder. Such a request must be in writing and received by the District prior to the time stated for the bid opening. Timely requests submitted by facsimile or telegram will be honored.

C. Waiver - The District reserves the right to waive any failure to conform to the instructions or specifications if the waiver: (1) does not involve a mandatory statutory requirement; (2) does not provide a competitive advantage to one or more bidders; and (3) is in the best interest of the District.

D. Bidders may take exception to the terms and conditions of the instructions and/or specifications. Exceptions must be submitted prior to the opening of bids. Exceptions that do not conform to State bid law and/or create inequality in the treatment of bidders will be rejected. The bid of a bidder taking exception may be rejected if the District rejects the exception.

#### 1.10 AWARDING OF BIDS

A. The District reserves the right to award the bid to the lowest qualified bidder meeting specifications by item, in total, or any other method, whichever is deemed by the District to be in its best interest.

- B. The District reserves the right to award the bid to 2 or more firms if the advertisement for bids notifies bidders of the right of the District to make such an award and the criteria for such an award.
- C. The District reserves the right to reject any and all bids, in whole or in part, to make partial awards, to waive any irregularity, to reasonably increase or decrease quantities where estimated quantities are shown or where definite quantities are shown, and may reject any bid which indicates any omission, contains alteration of form or additions not requested or imposes conditions, or where the individual bidder should receive a total award of less than \$500.00, or offers alternate items, and make any award which is deemed to be in the best interest of the District.
- D. In the event of tie bids, the District will decide which bidder is to be awarded the contract by any criteria of its choice.
- E. The contract shall be awarded by the District and its Board(s) within 60 days after the opening of bids. Failure to do so shall be cause for rejection of all bids. Responses to Requests for Proposals shall be awarded within 90 days after the opening of Proposals. Failure to do so shall be cause for rejection of all proposals.

1.11 BID DEPOSIT REQUIRED

1.12 FORMAL CONTRACT AND/OR PURCHASE ORDER

- A. The successful bidder shall execute the formal contract, within twenty (20) days after the award of the contract. No bidder or Vendor is to begin any work until it receives a State of Delaware Purchase Order signed by two authorized representatives of the District, properly processed through the State of Delaware Accounting Office. The Purchase Order shall serve as the authorization to proceed with work in accordance with the bid specifications and the special instructions.
- B. The formal contract or purchase order shall incorporate by reference these General Instructions, as well as the Special Instructions and Specifications and the bidder's Proposal.

1.13 PERFORMANCE AND PAYMENT BONDS REQUIRED

1.14 FAILURE TO COMPLY WITH CONTRACT: NEW AWARD: SUPERVISION

- A. If any person entering into a contract under the authority of this chapter neglects or refuses to perform it or fails to comply with the terms thereof, the District will terminate the contract and proceed to award a new contract in accordance with the provisions of Chapter 69, Title 29 of the Delaware Code, or may require the surety on the performance bond to complete the contract in accordance with the terms of the performance bond.
- B. Should a contractor/supplier fail to perform under the conditions of this contract, the District reserves the right to purchase the item or items on the open market and charge to the contractor/supplier or deduct from any monies owed the contractor/supplier, the difference between the bid price and the purchase price. However, no such action will be taken without first notifying the contractor/supplier by certified letter and giving him reasonable time to reply, but in no event longer than 10 days from the mailing of the certified letter. Failure to supply items as bid may be cause for removal of a bidder from our vendor bid list.

#### 1.15 PREFERENCE FOR DELAWARE LABOR: STIPULATION IN CONTRACT

- A. In the construction of all public works for the State or any political subdivision thereof, or by persons 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 ninety days in the State. Any person, company or corporation who violates the provisions of 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. (per Delaware Code, Title 29, Chapter 69, Section 6962, Paragraph (d) Subsection (4)b)

#### 1.16 NON-DISCRIMINATION

- A. In performing this work the successful bidder agrees to the following:
- B. The successful bidder will not discriminate against any employee or application for employment because of race, creed, color, sex, national origin, age or disability. The vendor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, creed, color, sex, national origin, age or disability. Such action shall include, but not be limited to, the following: Employment, upgrading, demotion, or transfer; recruitment; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.
- C. The successful bidder will, in all solicitations or advertisements for employees place by or on behalf of himself, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, sex, national origin, age or disability.

#### 1.17 EQUAL OPPORTUNITY EMPLOYER

- A. The School District is an equal opportunity employer and does not discriminate or deny services on the basis of race, color, creed, national origin, sex, disability, or age.

#### 1.18 INSURANCE - LIABILITY

- A. The successful bidder shall maintain, at its expense, the following insurance:
  - 1. Public Liability and Automobile Liability Insurance
    - a. The policy is to be provided for both the owner and the contractor.
    - b. Minimum coverage for bodily injury shall be \$500,000 for any one individual and \$1,000,000 for any one accident.
    - c. Minimum coverage for property damage shall be \$500,000 for any one accident.
    - d. Policies shall include completed operations, owners and contractors Protective Liability and Contractual Liability coverage, including protection against claims arising out of the activities of subcontractors in the same minimum amounts stated above.
    - e. If the project involves excavations, deep trenching, or blasting, endorsements to the policy should be obtained to cover these hazards.
    - f. Certificates of insurance must be filed with the owner guaranteeing fifteen (15) days' notice prior to cancellation.
  - 2. Builders Risk Policy
    - a. The builders risk policy shall be an all risk coverage policy.
    - b. The policy shall be in the name of the owner and prime contractor, jointly, "as their interests may appear."

- c. On new construction or complete additions, the policy will be carried on a completed value basis.
  - d. On renovation projects, the policy will be covered by either an installation floater or a separate policy of sufficient dollar amount to fully cover the cost of the materials stored.
  - e. If it is your policy to pay for material not stored on the site, either a separate certificate of insurance must be issued or a rider must be added to the existing builders risk policy. The amount of coverage must be sufficient to cover all materials stored off the site.
  - f. Certificates of insurance must be filed with the owner guaranteeing fifteen (15) days' notice prior to cancellation.
3. Worker's Compensation Including Employee's Liability
    - a. Minimum limit on Employee's Liability to be \$100,000 minimum limit for all employees working at one site.
    - b. Certificates of insurance must be filed with the owner guaranteeing fifteen (15) days' notice prior to cancellation.

#### 1.19 LCENSES, FEES, PERMITS, TAXES, AND STATE LAWS AS APPLICABLE

- A. In the performance of this Contract the successful Bidder is required to comply with all applicable Federal, State, and Local laws, ordinances, codes, and regulations. The cost of permits, insurance, taxes, and other relevant costs required in the performance of the Contract shall be borne by the successful Bidder. All Delaware Laws in reference to construction shall be as binding as though quoted in full herein and their application shall be fully adhered to by all parties affected hereby. The vendor shall furnish upon request any or all of the referenced items.

#### 1.20 WAGE SCALE - PREVAILING WAGE RATE

#### 1.21 PATENTS, TRADEMARKS, AND COPYRIGHTS

- A. The supplier shall hold free of any liability, the School District and the officers and employees, of any costs or expenses arising from patent, trademark or copyright infringement incurred by use of any item supplied or process used in performance of this Contract.

#### 1.22 COVENANT AGAINST CONTINGENT FEES

- A. The bidder warrants that no person or selling agency has been employed or retained to solicit or secure the Contract upon an agreement of understanding for a commission or percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the bidder for the purpose of securing business. For breach or violation of this warrantee the School District shall have the right to annul the Contract without liability or at its discretion to deduct from the contract price or otherwise recover the full amount of such commission, percentage, brokerage or contingent fees.

#### 1.23 TAXES - EXEMPT

- A. Since the School District is exempt, prices quoted shall not include Federal taxes or State of Local taxes. Tax Exemption number is (Available from Owner).

#### 1.24 TRADE DISCOUNTS

- A. All prices offered must be lowest net price after trade discounts have been considered.

- B. Bids offering a percentage off list prices will not be accepted unless;
  - 1. Specifically requested in that manner;
  - 2. A copy of the referenced price list accompanies the bid.

#### 1.25 COMMERCIAL WARRANTEE AND GUARANTEE CERTIFICATE

- A. The supplier agrees that the supplies or services furnished under the Contract shall be covered by the most favorable commercial warranties the supplier gives to any customer for such supplies or services and that the rights and remedies provided herein are in addition to and do not limit any rights afforded to the District by any other clauses of the Contract. A final payment for performance shall not relieve the successful bidder of responsibility for faulty materials or workmanship.

#### 1.26 INTERPRETATION OF SPECIFICATIONS

- A. Should any bidder be in doubt as to the intention and meaning of the specifications, he may make inquiry to the Architect. Questions received less than three working days before the opening of bids may not be considered. All questions in order to be considered must be submitted in writing.

#### 1.27 EXAMINATION OF SITE AND OTHER CONDITIONS BEARING ON THIS WORK

- A. Before submitting proposal, bidders shall fully inform themselves of the nature of the work by personal examination of the site and by such means as they consider necessary, as to matters, conditions, or considerations bearing on or in any way affecting the preparation of their proposal.
  - 1. A bidder shall not at any time after the submission of his proposal claim that there is any misunderstanding in regard to the location, extent, or nature of the work to be performed.
  - 2. No claims for any extra will be allowed because of alleged impossibilities in the production of the results specified, or because of inadequate or improper plans or specifications, and whenever a result is required, the successful bidder shall furnish any and all extras and make any changes needed to produce, to the satisfaction of the District, the required results at no expense to the District.
- B. Failure of the bidder to thoroughly understand all aspects of the solicitation before submitting their bid shall not be sufficient cause to permit withdrawal of its bid nor secure relief on pleas of error, after the contract is awarded.

#### 1.28 BRAND NAMES AND APPROVED EQUAL

- A. Where a particular manufacturer or several manufacturers, brands or models are referenced, it is to be interpreted as indicating the type or quality of material, and shall be interpreted to include an "approved equal". Bids may be considered on models or brands or products of manufacturers other than those specified if the items being substituted were approved by the designee of the District.
- B. Where a manufacturer, brand, or model is referenced in the bid specifications, the absence of a reference to a different manufacturer, brand, or model in the bidder's proposal shall be interpreted as a bid on the manufacturer, brand, or model specified.
- C. Where several manufacturers or models are referenced as being equally acceptable and the bidder does not indicate what particular model or brand they are offering, the Designee of the District shall have the right to select any brand or model referenced.

- D. Only one bid per item will be considered. If a vendor submits more than one bid on an item, none of the vendor's bids on that item will be considered.
- E. The Board of Education of the District shall be the sole judge as to whether or not items submitted meet specifications or whether or not items being bid are equal. Any attempt to "resell" or disqualify other supplies while the proposals are being analyzed may be reason for your bid to be disqualified.
- F. All items furnished under the Contract must be new and unused, latest models (unless otherwise specified) and free from all defects. The foregoing exempts exchange, normal "rebuilt" items, where specified.

#### 1.29 SAMPLES AND DESCRIPTIVE LITERATURE

- A. When requesting approval to bid models, brands or products of manufacturers other than those specified, such a request must be accompanied by catalog cuts and/or detailed specifications. The District may also request bidders to submit samples for examination and appraisal.
- B. Requested samples shall be submitted at no cost to the District and may be required by the District either prior to, at the time of the bid opening, or within ten calendar days following the request. Time of submission of samples shall be specified in the specifications. Samples shall be specified in the specifications. Samples not provided as requested, will be reason to reject the bid for that item. All such samples shall be identified as to the supplier, model number, bid item number and other information that may be required; these samples will be returned after evaluation. Suppliers shall have the responsibility of picking up their samples within two weeks after notification. Samples not removed after two weeks will automatically become the property of the District at no charge.

#### 1.30 RESPONSIBILITY FOR DAMAGE AND CARE OF SCHOOL PROPERTY

- A. The Supplier in the performance of this Contract will be held financially responsible for any damage to the grounds, buildings, or equipment caused by him, his subcontractors or employees, or other persons engaged in the performance of the Contract.
- B. Every reasonable effort shall be made by workmen to proceed with the work as described in these specifications in a manner accepted in trade circles as the highest level of workmanship. The successful bidder for this work shall be responsible for all damage to other work caused by his workmen or through the neglect of his workmen on the site.
- C. Workmanlike care shall be expected at all times in performing the work. It shall be the responsibility of the successful bidder to repair or replace all damaged property, the damage for which he or anyone working under his direction is responsible.

#### 1.31 SUPPLIER CLEAN-UP

- A. All debris resulting from the supplier's delivery and installation shall be disposed of entirely by the supplier in an efficient and expeditious manner as required and directed by the District Designee. The successful bidder shall at all times keep the premises free from accumulation of waste materials or rubbish caused by his employees or work.  
District-owned trash receptacles are not to be used by the vendor without prior approval.

#### 1.32 STORAGE OF MATERIALS

- A. Every effort shall be made by the successful bidder to schedule delivery of materials so that a minimum of storage space is required. The successful bidder shall not encumber

the premises with his materials and shall store all materials in a place designated by the District or its representative. The District will not be responsible for any damage to or theft of tools or materials used in this work.

#### 1.33 UNPACKING AND ASSEMBLING

- A. All work described in the specifications regarding unpacking, assembling, and placement of all movable furniture and/or equipment must be completed within five (5) days after furniture and/or equipment is received on the site unless prior approval is received.
- B. Any bidder failing to unpack and assemble knockdown equipment and furniture will be charged (deduction will be made from billing) a fee to cover the District's cost of unpacking and assembling.

#### 1.34 SERVICE

- A. Each bidder may be required to submit a signed statement to the effect he can furnish service by factory trained personnel Monday to Friday during the hours of 8:00 a.m. - 4:00 p.m.

#### 1.35 SCHEDULE FOR PERFORMANCE OF WORK

- A. All work described in these specifications must be completed with reasonable promptness. The District shall be the sole judge of what is "reasonably prompt" under the circumstances. If the successful bidder does not begin the work in a reasonable amount of time, it will be notified that if it fails to initiate the work promptly, the contract may be terminated and the District will forthwith proceed to collect for nonperformance of the work.

#### 1.36 ORDERING

- A. All items or services to be furnished under the Contract will be ordered by the issuance of a Purchase Order signed by two authorized representatives of the District. This document must be in the hands of the successful bidder prior to any work commencing on the Contract.

#### 1.37 DELIVERY, INSPECTION, ACCEPTANCE, AND PACKAGING

- A. All supplies, materials, equipment, goods, and services are to be delivered postpaid to the location or locations indicated on the Proposal Form, Specifications, or Purchase Order. No labor will be provided to help unload any product under Contract.
- B. The delivery of goods or items furnished under the terms of the Contract shall not be considered as acceptance thereof until the goods are inspected. The District shall have a reasonable opportunity to inspect. If, for example, goods are delivered on August 1, the District may not have a reasonable opportunity to inspect such goods until September or October. In all events, shipping invoices or other documents sent with goods shall not be controlling with respect to the timing of inspection. The inspection and test by the District of any supplies or lots thereof does not relieve the supplier from any responsibility regarding defects or other failure to meet the Contract requirements, which may be discovered subsequent to delivery. Except as otherwise provided in the Contract, acceptance shall be conclusive except as regards to patent defects, fraud, or such gross mistakes as amount to fraud.
- C. Any item to be supplied as a result of this Contract shall be subject to inspection and test by the Ordering Office, to the extent practicable, at all times and places including the period of manufacture and in any event prior to acceptance.

- D. In case any item or lots of items are found to be defective in material or workmanship or otherwise not in conformity with the requirements of the Contract, the Ordering Office shall have the right to either reject them (with or without instructions as to their disposition) or to require their correction. Items or lots of items which have been rejected or required to be corrected shall be removed or, if required by the Ordering Office as they may deem appropriate, corrected in place by and at the expense of the supplier promptly after notice, and shall not thereafter be tendered for acceptance unless the former rejection or requirement of correction is disclosed. If the supplier fails to promptly remove such items or lots of items which are required to be removed, or promptly to replace or correct such items or lots of items, the District either (1) may re-contract or otherwise, replace or correct such items and charge the supplier the cost occasioned the District thereby, or (2) may terminate the Contract for default as provided in the clause of the Contract entitled "Failure to comply with Contract".
- E. Acceptance or rejection of any items shall be made as promptly as practicable after delivery, except as otherwise provided in the Contract; but failure to inspect and accept or reject items shall neither relieve the supplier from responsibility for such items as are not in accordance with the Contract requirements nor impose liability on the District therefore.
- F. Neither the School District nor other Ordering Office will assume responsibility for damage to any rejected delivery caused by weather, improper warehousing, or mishandling.
- G. All outer packs of items delivered under the Contract (except subsistence items delivered to cafeterias) must be marked with the Purchase Order/Contract number and item identification.
  - 1. Failure to provide adequate identifying markings may result in refusal of the delivery.
- H. Unless otherwise stated, all prices include delivery and placement within the ship-to-address in that area specified in the Contract or Purchase Order.
- I. Collect shipments will not be accepted.
- J. All shipments shall be F.O.B. point of destination as indicated in the Proposal or on the Purchase Order.

#### 1.38 INVOICES

- A. Invoices must be completely identifiable, supported by delivery receipts where specified, and contain the following minimum information:
  - 1. Purchase Order/Contract number.
  - 2. Delivery destination as it appears on the Purchase Order.
  - 3. Contract item number, quantity and description of item billed.
  - 4. Unit price and extended price of each item.
  - 5. Total amount of invoice.
  - 6. Any prompt payment discount offered.

#### 1.39 INDEMNIFICATION

- A. By submitting a bid, all bidders agree that in the event they are awarded a contract, they will indemnify and otherwise hold harmless the District, its agents and employees from any and all liability, suits, actions or claims, together with all costs, expenses or attorneys'

fees, arising out of their performance of work or supplying materials and services in connection with the contract. This agreement to indemnify and hold harmless shall cover all suits, actions, claims or liabilities asserted against the District, its agents and employees, regardless of whether such suits, actions, claims or liabilities are based upon acts or failures to act attributable to the District or its employees or agents, to the extent that it shall be also determined that the acts, or failure to act are attributable, in whole or in part, to such bidders or its employees or agents.

#### 1.40 ASSIGNMENT OF ANTITRUST CLAIMS

A. As consideration for the award and execution by the Board(s) of this contract, the successful bidder hereby grants, conveys, sells, assigns, and transfers to the State of Delaware all of its right, title and interest in and to all known or unknown causes of action it presently has or may now or hereafter acquire under the antitrust laws of the United States and the State of Delaware, relating to the particular goods or services purchased or acquired by the Board(s) pursuant to this contract.

#### 1.41 HAZARDOUS MATERIALS

A. As required in the Hazardous Chemical Information Act of June, 1984, all vendors supplying any materials that may be defined as hazardous must provide Material Safety Data Sheets for those products. Any chemical product should be considered hazardous if it is known to be present in the work place, and if employees may be exposed under normal conditions or in any foreseeable emergency situation.

B. Material Safety Data Sheets must be provided directly to each School along with the shipping slips that includes those products.

#### 1.42 CONTRACT DOCUMENTS

A. These General Instructions and any Special Instructions, Bid Specifications, Requests for Bid, Bid Proposal Form, Purchase Order, and Contract shall be a part of and constitute the contract entered into by the District and any successful bidder. In the event there is any discrepancy between any of the foregoing contract documents, the following order of documents governs so that the former prevails over the latter: Contract, Purchase Order, Bid Specifications, Special Instructions, General Instructions, Requests for Bid and Bid Proposal Form.

#### 1.43 THE CONTRACT

A. This Contract shall be governed by Delaware law, and any dispute concerning the interpretation or application of this Contract, and any documents incorporated by reference into this Contract, or any materials supplied or work performed under this Contract must be heard in Delaware.

#### 1.44 TRANSFER OF BIDS

A. The District named in this bid and the successful bidder may reach an agreement to make available to any agency or school district in the State the bid prices submitted for this contract. Where such an agreement exists, the District named shall have access to purchase under the contract.

#### 1.45 CONTRACT REQUIREMENTS:

A. This contract will be issued to cover the General requirements for multiple locations of the District, as noted in this project manual \_\_\_\_\_.

1.46 CONTRACT PERIOD:

- A. Each vendor's contract shall be valid for a period from Authorization to Proceed through completion.

1.47 PRICES

- A. Prices will remain firm for the term of the contract.

1.48 MANDATORY INSURANCE REQUIREMENTS

- A. Before any work is done hereunder, the Certificate of Insurance and/or copies of the insurance policies, referencing the contract number stated herein, shall be filed with the State. The certificate holder is as follows:

As required in Section 009000

1.49 BASIS OF AWARD:

- A. The Owner shall award this contract to the lowest responsible and responsive bidder(s) who best meets the terms and conditions of the bid. .
- B. The Owner reserves the right to reject any or all bids in whole or in part, to make multiple awards, partial awards, award by types, item by item, or lump sum total, whichever may be most advantageous to the District.

1.50 HOLD HARMLESS:

- A. The successful bidder agrees that it shall indemnify and hold the District and all its agencies harmless from and against any and all claims for injury, loss of life, or damage to or loss of use of property caused or alleged to be caused by acts or omissions of the successful bidder, its employees, and invitees on or about the premises and which arise out of the successful bidder's performance, or failure to perform as specified in the Agreement.

1.51 NON-PERFORMANCE:

- A. In the event the vendor does not fulfill its obligations under the terms and conditions of this contract, the ordering agency may purchase equivalent product on the open market any difference in cost between the contract prices herein and the price of open market product shall be the responsibility of the vendor. Under no circumstances shall monies be due the vendor in the event open market products can be obtained below contract cost. Any monies charged to the vendor may be deducted from an open invoice.

1.52 PAYMENT:

- A. The agencies or school districts involved will authorize and process for payment each invoice within thirty (30) days after the date of receipt.

1.53 ALTERNATE BIDS AND SUBSTITUTIONS:

- A. All alternate bids/substitutions must be accompanied with the following information for each item in order to be considered for award.
  1. Completed bid forms
  2. Written list, stating deviations from specified product.
  3. Product literature and manufacturers specifications.
  4. Warranty Information.

- B. All vendors should also be prepared to provide a sample of the exact item bid for evaluation purposes within 48 hours of a request to provide this information. Failure of a

vendor to meet any of these terms will result in an automatic rejection of the vendor's bid for items that do not comply with these requirements.

- C. The District and the Architect reserve sole discretion on the final selections based on any and all criteria and any or all General Conditions, Special Instructions or Supplementary Conditions.

#### 1.54 QUANTITIES:

- A. Quantities listed in this Specification are the anticipated needs for this contract. Except where budget constraints would prohibit ordering those quantities, the quantities stated are, to the best of the District's knowledge, the minimum amounts. The right to increase or decrease quantities is reserved and the unit price quoted on the bid form shall remain as quoted for the contract period.

#### 1.55 PUNCH LIST:

- A. Vendor(s) shall complete punch list items in a timely manner. Final payment will not be issued until punch list items are complete to Owner's satisfaction

**END OF SECTION**

## **SECTION 011000**

### **SUMMARY**

#### **PART 1 GENERAL**

##### **1.01 PROJECT**

- A. Project Name: Brandywine High School- Site Improvements.
- B. Owner's Name: Brandywine School District.
- C. Architect's Name: ABHA Architects .
- D. The project scope includes
  - 1. Mill and overlay main parking lot and driveway
  - 2. Re-stripe parking lot
  - 3. Remove and replace curb
  - 4. Re-construct portions of parking lot where indicated on the plans
  - 5. Remove and replace concrete sidewalks
  - 6. Reconstruct and add curb ramps
  - 7. Construct new sidewalk
  - 8. Site Lighting upgrades

##### **1.02 CONTRACT DESCRIPTION**

- A. Contract Type: A single prime contract based on a Stipulated Price.

##### **1.03 OWNER OCCUPANCY**

- A. Owner intends to continue to occupy adjacent portions of the existing building during the entire period of construction for the conduct of normal operations. .
- B. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.
- C. Construct work to accommodate the Owner's use of the premises during the construction period. Coordinate with the Owner's Representative to minimize inconvenience to faculty, students and parents/guardians.

##### **1.04 TIME OF START AND COMPLETION**

- A. Site is available for start of work on June 12 2017
- B. The Work shall be Substantially Complete within 50 calendar days after issuance of Notice to Proceed (if any) or Date of Contract, whichever is earlier.
  - 1. Provide double shifts and/or overtime if required to meet Substantial Completion date.
  - 2. Work must be completed by August 18 2017
  - 3. Minor work may be permitted after occupancy.

##### **1.05 LIQUIDATED DAMAGES**

- A. There are no Liquidated Damages applying to this Work.

#### **PART 2 PRODUCTS - NOT USED**

#### **PART 3 EXECUTION - NOT USED**

**END OF SECTION**

Intentionally blank

**SECTION 012000**  
**PRICE AND PAYMENT PROCEDURES**

**PART 1 GENERAL**

1.01 SECTION INCLUDES

- A. Procedures for preparation and submittal of applications for progress payments.
- B. Documentation of changes in Contract Sum and Contract Time.
- C. Change procedures.
- D. Correlation of Contractor submittals based on changes.
- E. Procedures for preparation and submittal of application for final payment.

1.02 RELATED REQUIREMENTS

- A. Section 005000 - Contracting Forms and Supplements: Forms to be used.
- B. Document 007300 - Supplementary Conditions: Percentage allowances for Contractor's overhead and profit.
- C. Section 012100 - Allowances: Payment procedures relating to allowances.
- D. Section 012200 - Unit Prices: Monetary values of unit prices, payment and modification procedures relating to unit prices.

1.03 SCHEDULE OF VALUES

- A. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit draft to Architect for approval.
- B. Forms filled out by hand will not be accepted.
- C. Submit Schedule of Values in duplicate within 15 days after date of Owner-Contractor Agreement.
- D. Include in each line item, the amount of Allowances specified in Section 01210. For unit cost Allowances, identify quantities taken from Contract Documents multiplied by the unit cost to achieve the total for the item.

1.04 APPLICATIONS FOR PROGRESS PAYMENTS

- A. Payment Period: Submit at intervals stipulated in the Agreement.
- B. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit sample to Architect for approval.
- C. Forms filled out by hand will not be accepted.
- D. Execute certification by signature of authorized officer.
- E. Use data from approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed and for stored Products.
- F. List each executed Change Order as a separate line item, listing Change Order number and dollar amount as for an original item of Work.
- G. Submit three copies of each Application for Payment.
- H. Include the following with the application:
  - 1. Insurance certificates for off-site stored products.

#### 1.05 MODIFICATION PROCEDURES

- A. Submit name of the individual authorized to receive change documents and who will be responsible for informing others in Contractor's employ or subcontractors of changes to the Contract Documents.
- B. For minor changes not involving an adjustment to the Contract Sum or Contract Time, Architect will issue instructions directly to Contractor.
- C. For other required changes, Architect will issue a document signed by Owner instructing Contractor to proceed with the change, for subsequent inclusion in a Change Order.
  - 1. The document will describe the required changes and will designate method of determining any change in Contract Sum or Contract Time.
  - 2. Promptly execute the change.
- D. For changes for which advance pricing is desired, Architect will issue a Contract Modification Request (CMR) that includes a detailed description of a proposed change with supplementary or revised drawings and specifications, a change in Contract Time for executing the change, with a stipulation of any overtime work required and the period of time during which the requested price will be considered valid. Contractor shall prepare and submit a fixed price quotation, including changes in Contract Time, if necessary, .
  - 1. Such request is for information only, and is not an instruction to execute the changes, nor to stop work in progress.
  - 2. Format for Contract Modification Requests shall be as issued by the Architect at the Pre-Construction meeting.
- E. Contractor may propose a change by submitting a change order request for change to Architect, describing the proposed change and its full effect on the Work, with a statement describing the reason for the change, and the effect on the Contract Sum and Contract Time with full documentation and a statement describing the effect on Work by separate or other contractors.
- F. Computation of Change in Contract Amount: As specified in the Agreement and Conditions of the Contract.
- G. Substantiation of Costs: Provide full information required for evaluation.
  - 1. Provide following data:
    - a. Quantities of products, labor, and equipment.
    - b. Taxes, insurance, and bonds.
    - c. Overhead and profit.
    - d. Justification for any change in Contract Time.
    - e. Credit for deletions from Contract, similarly documented.
  - 2. Support each claim for additional costs, including time and material work, with additional information:
    - a. Origin and date of claim.
    - b. Dates and times work was performed, and by whom.
    - c. Time records and wage rates paid.
    - d. Invoices and receipts for products, equipment, and subcontracts, similarly documented.
  - 3. For Time and Material work, submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract.

- H. When the information in the Contract Modification Request and Change Order Request is complete, it will be submitted to the Architect for review and forwarded to the Owner. If the change is agreed to by the Owner, the Architect will prepare a Change Order and forward it to the Contractor for signature.
- I. Execution of Change Orders: Architect will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.
- J. After execution of Change Order by all parties, promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum.
- K. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.
- L. Promptly enter changes in Project Record Documents.

**1.06 APPLICATION FOR FINAL PAYMENT**

- A. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Sum, previous payments, and sum remaining due.
- B. Application for Final Payment will not be considered until the following have been accomplished:
  - 1. All closeout procedures specified in Section 017000.
  - 2. All Closeout submittals as specified in Section 017800.
  - 3. Submit Affidavit of Payment of Indebtedness: See General Conditions.
  - 4. Submit Consent of Surety to Final Payment: See General Conditions.
  - 5. Submit Releases of Liens: See General Conditions. Release forms shall conform to State law governing mechanics Liens and shall be transmitted with AIA Document G706A. Note that Document G706A is not a release of liens and must be accompanied by actual releases.

**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION - NOT USED**

**END OF SECTION**

Intentionally blank

**SECTION 017800**  
**CLOSEOUT SUBMITTALS**

**PART 1 GENERAL**

1.01 SECTION INCLUDES

- A. Project Record Documents.
- B. Operation and Maintenance Data.
- C. Warranties and bonds.

1.02 RELATED REQUIREMENTS

- A. Section 007200 - General Conditions: Performance bond and labor and material payment bonds, warranty, and correction of work.
- B. Section 013000 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.
- C. Section 017000 - Execution and Closeout Requirements: Contract closeout procedures.
- D. Individual Product Sections: Specific requirements for operation and maintenance data.
- E. Individual Product Sections: Warranties required for specific products or Work.

1.03 SUBMITTALS

- A. Project Record Documents: Submit documents to Architect with claim for final Application for Payment.
- B. Operation and Maintenance Data:
  - 1. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Architect will review draft and return one copy with comments.
  - 2. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed documents within ten days after acceptance.
  - 3. Submit one copy of completed documents 15 days prior to final inspection. This copy will be reviewed and returned , with Architect comments. Revise content of all document sets as required prior to final submission.
  - 4. Submit two sets of revised final documents in final form within 10 days after final inspection.
- C. Warranties and Bonds:
  - 1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.
  - 2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
  - 3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.

**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION**

**3.01 PROJECT RECORD DOCUMENTS**

- A. Maintain on site one set of the following record documents; record actual revisions to the Work:
  - 1. Drawings.
  - 2. Addenda.
  - 3. Change Orders and other modifications to the Contract.
- B. Ensure entries are complete and accurate, enabling future reference by Owner.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress.
- E. Record Drawings : Legibly mark each item to record actual construction including:
  - 1. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
  - 2. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
  - 3. Field changes of dimension and detail.
  - 4. Details not on original Contract drawings.

**3.02 OPERATION AND MAINTENANCE DATA**

- A. Source Data: For each product or system, list names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.
- B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
- C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.
- D. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

**3.03 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES**

- A. For Each Product, Applied Material, and Finish:
  - 1. Product data, with catalog number, size, composition, and color and texture designations.
- B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.
- C. Moisture protection and weather-exposed products: Include product data listing applicable reference standards, chemical composition, and details of installation. Provide recommendations for inspections, maintenance, and repair.
- D. Additional information as specified in individual product specification sections.
- E. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

### 3.04 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS

- A. For Each Item of Equipment and Each System:
  - 1. Description of unit or system, and component parts.
  - 2. Identify function, normal operating characteristics, and limiting conditions.
  - 3. Include performance curves, with engineering data and tests.
  - 4. Complete nomenclature and model number of replaceable parts.
- B. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.
- C. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed.
- D. Include color coded wiring diagrams as installed.
- E. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.
- F. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and trouble shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
- G. Provide servicing and lubrication schedule, and list of lubricants required.
- H. Include manufacturer's printed operation and maintenance instructions.
- I. Include sequence of operation by controls manufacturer.
- J. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- K. Provide control diagrams by controls manufacturer as installed.
- L. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
- M. Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
- N. Additional Requirements: As specified in individual product specification sections.

### 3.05 ASSEMBLY OF OPERATION AND MAINTENANCE MANUALS

- A. Assemble operation and maintenance data into durable manuals for Owner's personnel use, with data arranged in the same sequence as, and identified by, the specification sections.
- B. Where systems involve more than one specification section, provide separate tabbed divider for each system.
- C. Prepare instructions and data by personnel experienced in maintenance and operation of described products.
- D. Prepare data in the form of an instructional manual.
- E. Binders: Commercial quality, 8-1/2 by 11 inch (216 by 280 mm) three D side ring binders with durable plastic covers; 3 inch (\_\_\_\_ mm) maximum ring size. When multiple binders are used, correlate data into related consistent groupings.

- F. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.
- G. Project Directory: Title and address of Project; names, addresses, and telephone numbers of Architect, Consultants, Contractor and subcontractors, with names of responsible parties.
- H. Tables of Contents: List every item separated by a divider, using the same identification as on the divider tab; where multiple volumes are required, include all volumes Tables of Contents in each volume, with the current volume clearly identified.
- I. Dividers: Provide tabbed dividers for each separate product and system; identify the contents on the divider tab; immediately following the divider tab include a description of product and major component parts of equipment.
- J. Text: Manufacturer's printed data, or typewritten data on 24 pound paper.
- K. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
- L. Arrange content by products and systems under section numbers and sequence of Table of Contents of this Project Manual.
  - 1. Operating instructions.
  - 2. Maintenance instructions for equipment and systems.
  - 3. Maintenance instructions for special finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.
- M. Table of Contents: Provide title of Project; names, addresses, and telephone numbers of Architect, Consultants, and Contractor with name of responsible parties; schedule of products and systems, indexed to content of the volume.

### 3.06 WARRANTIES AND BONDS

- A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial completion is determined.
- B. Verify that documents are in proper form, contain full information, and are notarized.
- C. Co-execute submittals when required.
- D. Retain warranties and bonds until time specified for submittal.
- E. Include originals of each in operation and maintenance manuals, indexed separately on Table of Contents.

**END OF SECTION**

## **SECTION 311000**

### **SITE CLEARING**

#### **PART 1 GENERAL**

##### **1.01 DESCRIPTION**

- A. Site Clearing shall consist of clearing of the site within the limits of construction to include the following:
  - 1. Removal and disposal of trees and brush, weeds, roots, and similar materials.
  - 2. Removal and disposal of structures, paving, base course, utilities, concrete sidewalks and aprons, and all other obstructions which are designated on the Plans for removal during construction.
  - 3. Protection of existing utilities and adjacent property, structures, benchmarks, and monuments.

##### **1.02 STANDARDS**

- A. The quality and performance of work specified in this section shall be in accordance with the Delaware Department of Transportation Standard Specifications for Road and Bridge Construction, dated August 2016, latest revision (hereinafter referred to as the "Standard Specifications").
  - 1. Section 201: Clearing and Grubbing
  - 2. Section 211: Removal of Structures and Obstructions and Existing Portland Cement Concrete Pavement, Curb, and Sidewalk

##### **1.03 PHASING**

- A. Clearing, grubbing, and removal shall be performed prior to the grading and stripping operations, within the limits of grading, as indicated on the drawings and as specified herein. Following clearing, topsoil shall be stripped and stored for later use on the site or disposition by the Owner.

##### **1.04 PROTECTION**

- A. The Contractor shall protect all trees, shrubs, ground plants, roads, walks, pavements, structures, civil improvements, and appurtenances not indicated to be cleared from the site. Methods of protection shall be by use of substantial wood or chain link fences, barriers, or other methods, as approved by the Engineer. Any trees, shrubs, ground plants, roads, walks, pavements, structures, or appurtenances indicated to remain that become damaged during construction of the project shall be repaired or replaced by the Contractor, as directed by the Engineer, at no additional cost to the Owner.
- B. The Contractor shall contact all utility companies to mark the location of their facilities. The Contractor shall protect all existing utilities in place and maintain continuous service to the Owner. Any damage to the utilities shall be corrected by the Contractor at his expense. The Contractor shall also be responsible for coordinating and/or relocating any utilities which must be relocated to accommodate the proposed construction.

## **PART 2 PRODUCTS**

### **2.01 MATERIALS**

- A. All materials shall be at the Contractor's option, subject to the approval of the Engineer.

## **PART 3 EXECUTION**

### **3.01 CLEARING AND GRUBBING**

- A. Clearing shall consist of the removal of all trees and shrubs, brush, down timber, rotten wood, heavy growth of grass and weeds, vines, rubbish, walks, roads, curbs, walls and foundations, existing utilities already abandoned, and all objectionable debris. All walls, foundations, slabs, pavements, curbs, and footings shall be removed to their full depth.
- B. Grubbing shall consist of the removal of stumps, roots, root mats, stubs, buried logs, and other debris within the project limits. The Contractor shall remove all stumps and root mats in their entirety and all buried logs and other debris from within building areas and from the limits of proposed drives and walks. Within proposed lawn areas, stumps, roots and debris shall be removed to a minimum depth of one foot below design rough grade.
- C. Construction methods shall be in accordance with Sections 201 and 211 of the Standard Specifications.

### **3.02 DISPOSAL OF REMOVED MATERIALS**

- A. All timber and cleared materials shall become the property of the Contractor, and shall be disposed of by the Contractor. Burning of materials on site is prohibited.
- B. Pavement, base course, concrete, utilities, and other obstructions shall be removed from the site and shall be disposed lawfully. The Contractor shall provide evidence of the lawful disposal when requested by the Owner or the Owner's Representative.

### **3.03 SALVAGED MATERIALS**

- A. Materials listed to be salvaged for reuse shall be stored by the Contractor in such a manner to prevent damage to the material. Salvaged materials which are not reused shall be disposed of lawfully by the Contractor unless the Owner specifically requests to take possession of the material.

### **3.04 SITE DEMOLITION**

- A. Remove walks, roads, curbs, walls and foundations, existing utilities already abandoned, and all objectionable debris. All walls, foundations, slabs, pavements, curbs, and footings shall be removed to their full depth.
- B. Procure all permits required for demolition and disposal. Coordinate utility work with utility companies and subcontractors. All debris shall be removed and disposed lawfully.

- C. Where applicable, brace and shore all portions of the existing structure for safety and to maintain the integrity of the existing building. Provide protection for the general public. Disconnect all utilities prior to demolition in areas where live utilities may be located.

**END OF SECTION**

**SECTION 312000**

**EARTHMOVING**

**PART 1 GENERAL**

1.01 DESCRIPTION

- A. Provide labor, materials, and equipment necessary to complete the work of this Section, including but not limited to the following:
  - 1. Filling and backfilling to attain indicated grades.
  - 2. Excavation, rough and finish grading.
  - 3. Furnishing and installing graded aggregate base course material for pavements, hot-mix patches and other structures.
  - 4. Undercut excavation and furnishing graded aggregate base course for undercut excavation.
  - 5. Furnishing excavation support systems, as required, including shoring and bracing.
  - 6. Excavation for trenches.
  - 7. Preparing topsoil stripped from the site and placing topsoil in locations requiring seeding or sodding.
  
- B. Definitions
  - 1. Excavation: removal and disposal of all material encountered when establishing required grade elevations, including pavements and other obstructions visible on the ground surface, and underground structures and utilities indicated to be demolished and removed, and unsuitable subgrade material.
  - 2. Unauthorized excavation: Removal of materials beyond specified subgrade elevations without approval of Engineer.

1.02 QUALITY ASSURANCE

- A. Requirements of Regulatory Agencies
  - 1. All excavations shall be in compliance with Federal Occupational Safety and Health Act.
  - 2. Excavation work shall be in compliance with application requirements of other governing authorities having jurisdiction.
  
- B. Standards
  - 1. Refer to the following sections in the Delaware Department of Transportation Standard Specifications for Road and Bridge Construction, dated August 2016, latest revision. (Hereinafter referred to as the "Standard Specifications")
    - Section 202: Excavation and Embankment
    - Section 207: Structural Excavation and Backfill
    - Section 209: Borrow
    - Section 301: Graded Aggregate Base Course
    - Section 302: Stone
    - Section 908: Soil Stabilization Practices
    - Section 1001: Borrow

Section 1004: Coarse Aggregate

Section 1005: Graded Aggregate

2. American Society for Testing and Materials (ASTM);
  - D-1556: Density of Soil in Place by the Sand-Cone Method.
  - D-698: Moisture Density Relations of Soils and Soil Aggregate Mixtures
  - D-2049: Relative Density of Cohesionless Soils.
  - D-2166: Unconfined Compressive Strength of Cohesive Soil.
  - D-2922: Density of Soil and Soil Aggregate in Place by Nuclear Methods (Shallow Depth)

### 1.03 SUBMITTALS

#### A. Material Certification and delivery Slips for:

1. Borrow
2. Graded Aggregate Base Course
3. Topsoil and Special Planting Soil

### 1.04 JOB CONDITIONS

#### A. Existing Utilities

1. Should uncharted, or incorrectly charted, piping or other utilities be encountered during excavation, consult the Utility Owner immediately for directions. Cooperate with the Owner and utility companies in keeping respective services and facilities in operation. Repair damaged utilities to satisfaction of utility Owner.
2. Do not interrupt existing utilities serving facilities occupied and used by the Owner.
3. Demolish and completely remove from site existing underground utilities indicated to be removed. Coordinate with utility companies for shut-off of services if lines are active.

#### B. Use of Explosives: The use of explosives is not permitted unless approved by the Engineer.

#### C. Protection of Persons and Property

1. Barricade open excavations occurring as part of this work and post with warning signs as required to protect persons on the site.
2. Protect trees, shrubs, lawns and other features remaining as part of final landscaping.
3. Protect structures, utilities, sidewalks, pavements and other facilities from damage caused by settlement lateral movement undermining, washout and other hazards created by earthwork operations.
4. In the event of damage, immediately make all repairs and replacements to the approval of the Engineer at no cost to the Owner.

#### D. Dust Control

1. Use all means necessary to control dust on and near the work if such dust is caused by the Contractor's operations during performance of the work or if resulting from the conditions in which the Contractor leaves the site.
2. Thoroughly moisten all surfaces as required to prevent dust being a nuisance to the public, neighbors and concurrent performance of other work on the site.

- E. Weather Conditions: Do not place, spread, or roll fill material during freezing, raining, or otherwise unfavorable weather conditions.

## **PART 2 PRODUCTS**

### **2.01 GENERAL**

- A. For approval of borrow materials, at least five (5) working days in advance of intention to import material, designate the proposed borrow area, and provide samples to prove the quality and suitability of the material.

### **2.02 ON-SITE FILL**

- A. All on-site materials used for fill shall be acceptable to the Engineer and shall be minimally subject to the following requirements:
  1. Free from deleterious substances, stumps, brush, weeds, roots, sod, rubbish, garbage and matter that may decay.
  2. Free of large rocks or lumps that may create voids or prevent proper compaction.

### **2.03 BORROW FILL MATERIAL**

- A. Free from deleterious substances, stumps, brush, weeds, roots, sod, rubbish, garbage and matter that may decay, and shall be Borrow Type "C" conforming to Section 1001 of the Standard Specifications.

### **2.04 TRENCH AND CIVIL STRUCTURE BACKFILL MATERIAL**

- A. Backfill for civil structures shall conform to the requirements of Section 209 of the Standard Specifications.
- B. Backfill for trenches shall conform to the requirements of Section 209 of the Standard Specifications.
- C. All trench and civil structure backfill material shall meet the requirements of Section 1001 of the Standard Specifications for Borrow Type C backfill. All suitable excavated material, which meets the requirements of Section 1001 of the Standard Specifications shall be used for structure or trench backfill as far as practicable.

### **2.05 GRADED AGGREGATE BASE COURSE**

- A. Graded Aggregate base course for bituminous and concrete pavements and other structures shall be Type "B" conforming to the requirements for Graded Aggregate in Sections 301 and 1005 of the Standard Specifications.

### **2.06 GEOTEXTILE STABILIZATION FABRIC**

- A. Geotextile stabilization fabric used for undercut excavation shall be a woven polypropylene geotextile designed for base course reinforcement and subgrade stabilization. Geotextile

shall have a minimum tensile strength of 500 lbs, and shall be Mirafi HP565, or approved equal.

## 2.07 TOPSOIL

- A. Topsoil furnished from within or outside the project limits shall conform to Section 908 of the Standard Specifications except as modified by the following requirements.
  - 1. Topsoil shall not contain stones, lumps, roots or other objects larger than one inch in any dimension.
  - 2. Acid-Alkaline Range: pH 6.0 to 7.5.
  - 3. Organic Content not less than 1.5% by weight.
  - 4. Free of pests, pest larvae, and matter toxic to plants.
  - 5. Maximum soluble salts: 500 ppm
  - 6. Free of viable Bermudagrass, quackgrass, Johnsongrass, nutsedge, poison ivy, Canada thistle, and other objectionable grassy or broadleaf weeds.
  
- B. Topsoil Furnished from Outside Project Limits
  - 1. Gradation range:
    - Sand (2.00 mm to 0.05 mm) 40-80 percent
    - Silt (0.050 mm to 0.005 mm) 10-30 percent
    - Clay (0.005 mm and smaller) 10-30 percent
    - a. When one-half of the sand content is larger than 0.500 mm, the maximum sand content shall be seventy-five percent; and maximum clay content shall be fifteen percent.
    - b. Lower limits of silt and clay shall be flexible to extent that soils with minimum combined silt and clay content of twenty percent shall be satisfactory. However, if more than one-half of the sand is larger than 0.50 mm., then minimum clay content shall be fifteen percent, or the minimum combined silt and clay content shall be twenty-five percent.
  - 2. Organic content:
    - a. Minimum of 1.5 percent by weight.
    - b. If necessary, add peat at the rate necessary to attain minimum organic content.

## PART 3 EXECUTION

### 3.01 INSPECTION BY CONTRACTOR

- A. Examine the areas and conditions under which excavating, filling and grading are to be performed. No extra cost or time allowances will be granted for conditions existing and visible at the time of the bid opening.

### 3.02 PREPARATION

- A. Prior to commencement of work, establish location and extent of all utilities in the work areas. Maintain and protect, as required, existing utilities which pass through the work area.
  
- B. Prior to excavation in pavement areas, saw cut existing pavement in accordance with Section 762 of the Standard Specifications.

### 3.03 EXCAVATION

#### A. Unauthorized Excavation

Unauthorized excavation shall not be at the Owner's expense. Under roadways and pipes, fill unauthorized excavation by removing all loosened material and providing select material as required to attain a firm and unyielding subgrade and/or foundation and to attain required grade elevations.

#### B. Rock Excavation

Rock Excavation shall apply to the removal of bedrock and ledgerock which cannot be accomplished without blasting or the use of rippers, and the use or disposal of such material. Excavation of material classified as "rock" shall conform to the requirements of Section 201 of the Standard Specifications.

#### C. Rock Excavation for Structures and Trenches shall apply to the removal, use, or disposal of all boulders or other detached stones having a volume of 1/2 cubic yard or more. Excavation of such material shall conform Section 201 of the Standard Specifications.

#### D. Undercut Excavation

1. If unsuitable bearing materials are encountered at the required subgrade elevations notify the Engineer immediately.
2. Unstable bearing materials shall be removed to a depth of one foot below subgrade. Place geotextile stabilization fabric and one foot of graded aggregate base course, Type B.
3. Base course shall be placed and compacted in six-inch lifts.

#### E. Stability of Excavations

1. Slope sides of excavations to comply with local codes and ordinances having jurisdiction. Shore and brace where sloping is not possible because of space.
2. Maintain sides and slopes of excavations in a safe condition until completion of backfilling.

#### F. Shoring and Bracing

1. Provide materials for shoring and bracing, such as sheet piling, uprights, stringers and cross-braces, in good serviceable condition.
2. Establish requirements for trench shoring and bracing to comply with local codes and authorities having jurisdiction
3. Maintain shoring and bracing in excavations regardless of time period excavations will be open.
4. Brace, sheet, and support trench walls in such a manner that they will be safe and that the ground alongside the excavation will not slide or settle, and that all existing improvements of every kind, whether on public or private property, will be fully protected from damage.
5. In the event of damage to such improvements, immediately make all repairs and replacements necessary at no additional cost to the Owner.

6. Arrange bracing, sheeting and shoring so as to not place stress on any portion of the completed work until the general construction thereof has proceeded far enough to provide sufficient strength.
7. Exercise care in the drawing and removal of sheeting, shoring, bracing and timbering to prevent collapse and caving of excavation faces being supported.

#### G. Dewatering

1. Prevent surface water and subsurface or groundwater from flowing into excavations and from flooding the project site and surrounding area.
2. Do not allow water to accumulate in excavations. Remove water to prevent softening of foundation bottoms, undercutting footings, and soil changes detrimental to the stability of subgrades and foundations. Provide and maintain pumps, well points, sumps, suction and discharge lines, and other dewatering system components necessary to convey water from excavations.
3. Convey water removed from excavations and rainwater to collecting or runoff areas, which are not subject to erosion. Establish and maintain temporary drainage ditches and other diversions outside excavation limits for each structure. Do not use trench excavations as temporary drainage ditches.

#### H. Material Storage

1. Stockpile satisfactory excavated materials where directed until required for use as backfill or fill. Place, grade and shape stockpiles for proper drainage.
2. Locate and retain soil materials away from edge of excavations.
3. Dispose of excess soil material and waste materials as herein specified. Excavated material unsuitable for backfilling shall be kept separate from other materials excavated, and disposed of. Materials suitable for backfilling shall not be disposed of until completion of filling or backfilling operations.

#### I. Excavation for Pavements and Pavement Patches

1. Cut surface under pavements to comply with cross- sections, elevations and grades as shown.

#### J. Excavation for Trenches

1. Dig trenches to the uniform width required for the particular item to be installed sufficiently wide to provide ample working room. Trench width to a point no less than two feet (2') above the outside top of pipe shall be the pipe outer diameter plus twenty-four inches (24").
2. Excavate trenches to the depth indicated or required. Carry the depth of trenches for piping to establish the indicated flow lines and invert elevations. Beyond the building perimeter, keep bottoms of trenches for which elevations are not given sufficiently below finish grade to avoid freeze-ups.
3. Trenches for pipes shall not be opened more than the number of linear feet of pipe that can be placed and backfilled in one (1) day.
4. Grub roots and stumps within six inches (6") of outside surface of pipe bottom and sides to minimum depth of six inches (6") below grade. Backfill trenches with concrete where trench excavations pass within eighteen inches (18") of column or wall footings and which are carried below the bottom of such footings, or which pass under wall footings. Place concrete to the level of the bottom of adjacent footing.

5. Pipe bedding shall be as shown on the Plans.

K. Cold Weather Protection

1. Protect excavation bottoms against freezing when atmospheric temperature is less than thirty-five degrees (35°).

### 3.04 BACKFILL FILL AND COMPACTION

A. General

1. The project Inspector or Engineer shall be notified 24 hours in advance of any fill, backfill or compaction operations.
2. Place acceptable material in 8" lifts to required subgrade elevations.
3. Fills: Use suitable material (per Section 2.02 of this section) obtained from on-site excavation, except use borrow material when suitable on-site material is not available or when specified by the Engineer or shown on the Plans.
4. Backfilling: Use suitable material (per Section 2.02 of this section) obtained from on-site excavation, except use select backfill where indicated on Plans. Backfill to a height of two feet (2') above the top of pipe with earth free from stones, rock fragments, dirt clogs or frozen material greater than two inches (2") in largest dimension.
5. Do not provide additional off-site borrow material until all acceptable excavated materials on the site have been utilized in the work unless approved by the Engineer.
6. Place the various types of materials in the areas as designated on the Plans.

B. Backfill excavation as promptly as work permits, but not until completion of the following:

1. Inspection, testing, approval and recording locations of underground utilities.
2. Removal of concrete formwork.
3. Removal of shoring and bracing, and backfilling of voids satisfactory materials. Cut off temporary sheet piling driven below bottom of structures and remove in manner to prevent settlement of the structure or utilities, or leave in place if required.
4. Removal of trash and debris.
5. Permanent or temporary horizontal bracing is in place on horizontally supported walls.

C. Backfilling Prior to Approvals

1. Should any of the work be so enclosed or covered up before it has been approved, uncover all such work at no additional cost to the Owner.
2. After the work has been completely tested, inspected and approved, make all repairs and replacements necessary to restore the work to the condition in which it was found at the time of uncovering, all at no additional cost to the Owner.

D. Ground Surface Preparation Prior to Filling

1. Remove all vegetation, debris, topsoil, unsatisfactory soil materials, obstructions and deleterious materials from existing ground surface to a depth of not less than four inches (4") and not more than six inches (6") prior to placement of fills. Plow, strip or break-up sloped surfaces steeper than one (1) vertical to four (4) horizontal to a depth of not less than six inches (6") so that fill material will bond with existing surface.

2. When existing ground surface has a density less than that specified under "Compaction," for the particular area classification, break up the ground surface, pulverize, moisture condition to the optimum moisture content, and compact to required depth and percentage of maximum density.

E. Placement and Compaction

1. Place backfill materials in layers not more than eight inches (8") in loose depth.
2. Control soil compaction during construction providing minimum percentage of density specified for each area classification listed below.
3. Pavement areas are defined, for the purpose of this Section, as extending a minimum of five feet (5') beyond the building and/or pavement.
4. Compact soil to not less than the following percentages of maximum dry density for soils which exhibit a well-defined moisture density relationship determined in accordance with ASTM D-1557; and not less than the following percentages of relative density determined in accordance with ASTM D-2049, for soils which will not exhibit a well-defined moisture-density relationship.
  - a. Lawn or Unpaved Areas: Compact top six inches (6") of subgrade and each layer of backfill or fill material at 90 percent (90%) maximum dry density.
  - b. Walkways: Compact top six inches (6") of subgrade and each layer of backfill or full material at 95 percent (95%) maximum dry density or 90 percent (90%) relative dry density.
  - c. Pavement Areas: Compact top twelve inches (12") of subgrade and each layer of backfill or fill material at 95 percent (95%) maximum dry density or 90 percent (90%) relative dry density.
  - d. Base Course Materials: Compact each layer of base course material to 95% percent (95%) of maximum dry density.
  - e. Trench Stabilization Materials: Compact each layer of material to 95 percent (95%) of maximum dry density.
5. Moisture control:
  - a. Where subgrade or layer of soil material must be moisture conditioned before compaction, uniformly apply water to surface of subgrade, or layer of soil material, to prevent free water appearing on surface during or subsequent to compaction operations.
  - b. Remove and replace, or scarify and air dry, soil material that is too wet to permit compaction to specified density.
  - c. Soil material that has been removed because it is too wet to permit compaction may be stockpiled or spread and allowed to dry. Assist drying by discing, harrowing or pulverizing until moisture content is reduced to a satisfactory value.
  - d. Moisture condition fills materials to within 3 percent (3%) of the optimum moisture. Fill that is so wet that it is unstable under compaction equipment shall be dried and re-compacted to achieve a stable fill.
5. Puddling or jetting will not be permitted.
6. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice, or other unsuitable materials.
7. Place backfill and fill material evenly adjacent to structures, to be required elevations. Take care to prevent wedging action of backfill against structures by carrying the material uniformly around structure to approximately same elevation in each lift.

9. Compact backfill to height of two feet (2') above top of pipe using approved flat-faced mechanical tampers.

### 3.05 GRADING

#### A. General

Uniformly grade areas within limits of grading under this section, including adjacent transition areas. Smooth finished surface within specified tolerances, compact with uniform levels or slopes between points where elevations are shown, or between such points and existing grades.

#### B. Grading Outside Building Lines

Grade areas adjacent to building lines to drain away from structures and to prevent ponding. Finish surfaces free from irregular surface changes, and as follows:

1. Lawn or unpaved areas: Finish area to receive topsoil to within not more than 0.10 feet above or below the required subgrade elevations.
2. Walks: Shape surface of areas under walks to line, grade and cross-section, with finish surface not more than 0.10 feet above or below the required subgrade elevation.
3. Pavement: Shape surface of areas under pavement line, grade and cross-section, with finish surface not more than 1/2 inch above or below the required subgrade elevation. All topsoil and other unsuitable material shall be removed and replaced with suitable backfill.

#### C. Compaction

1. After grading, compact subgrade surfaces to the depth and percentage of maximum density for each area classification.

#### D. Treating after Grading

1. After grading is completed, permit no further excavating, filling or grading.
2. Use all means necessary to prevent erosion of freshly graded areas during construction and until such time as permanent drainage and erosion control measures have been installed.

#### E. Subgrade Preparation

1. All subgrade preparation shall be performed in accordance with the applicable Sections of the Delaware Department of Transportation Standard Specifications except as may be modified by this Specification Section.
2. Subgrades for paving shall be firm and unyielding when proof-rolled in accordance with Section 202 of the Standard Specifications.

### 3.06 GRADED AGGREGATE BASE COURSE

#### A. General

1. Base Course consists of placing graded aggregate base course material in layers of specified thickness over subgrade surface to support pavements, pavement patches and structures, as shown on Plans.
2. Provide Base Course in accordance with Section 301 of the Standard Specifications, except as otherwise modified by this Specification Section.

#### B. Grade Control

1. During construction, maintain lines and grades including crown and cross-slope of base course.

#### C. Placing

1. Place base course material on prepared subgrade in layers of uniform thickness, conforming to indicated cross-section and thickness. Maintain optimum moisture content for compacting base course material during placement operations.
2. When a compacted base course is shown to be eight inches (8") or less, place material in a single layer. When shown to be more than eight inches (8") thick, place material in equal layers, except no single layer shall be more than eight inches (8") in thickness when compacted.
3. Spread, shape and compact all base course material deposited on the subgrade during the same day.

### 3.07 FIELD QUALITY CONTROL

- A. Quality control testing during construction. Allow testing service to inspect and approve subgrades and fill layers before further construction work is performed.
- B. If subgrade or fills which have been placed are below specified density, provide additional compaction and testing at no expense to the Owner. This shall include compaction and testing at areas initially tested and at other locations as directed.

### 3.08 MAINTENANCE

#### A. Protection of Graded Areas

1. Protect newly graded areas from traffic and erosion. Keep free of trash and debris.
2. Repair and establish grades in settled, eroded and rutted areas to specified tolerances.

#### B. Reconditioning Compacted Areas

1. Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify surface, reshape and compact to required density prior to further construction.

### 3.09 DISPOSAL OF EXCESS AND WASTE MATERIALS

- A. Remove waste materials, including excess and unacceptable excavated material, trash and debris, and dispose of it off the Owner's property.

### 3.10 TOPSOILING

#### A. Preparation

1. Verify that clearing, earthwork, grading and other preceding work affecting ground surface have been completed and that the area to be topsoiled is cleared, shaped, and dressed.
2. Preparation of Topsoil Subsoil
  - a. Shape and dress area to be topsoiled. This work includes grading to required lines and elevations; removal of all stones, clods, lumps two inches or larger in any dimension; removal of all wires, cables, pieces of concrete, tree roots, and debris or other unsuitable material.
  - b. Do not proceed with installation of topsoil until this work has been approved.

#### B. Installation

1. Place in even layers that will produce the minimum compacted thickness as indicated on the Plans.
2. If quantity of topsoil obtained from stripping is insufficient for the project requirements, provide required topsoil from approved sources located outside project limits.
3. Remove stones, lumps, roots and other objects larger than one inch in any dimension from graded topsoil surface.

#### C. Maintenance

1. Immediately before establishment of ground cover, re-topsoil and regrade areas, which become eroded or otherwise disturbed.
2. Perform all maintenance work in accordance with the Specifications without additional compensation.
3. Maintenance period to extend until installation of ground cover.

#### D. Cleaning

1. Immediately clean spills, soil, and conditioners on paved and finished areas.
2. Haul and dispose of topsoil in excess of the quantity required for the project off site.
3. Dispose of protective barricades and warning signs at termination of maintenance period.

**END OF SECTION**

**SECTION 320523**  
**CONCRETE SIDEWALKS**

**PART 1 GENERAL**

1.01 DESCRIPTION

- A. Remove existing concrete sidewalk as shown on the plan, marked in the field, or as directed by the Engineer.
- B. Provide new concrete sidewalk in areas designated on Plans, marked in the field, or as directed by the Engineer.
- C. Place Graded Aggregate Base Course below proposed concrete sidewalks.
- D. Construct accessible curb ramps with detectable warning surfaces.

1.02 STANDARDS

- A. The quality of materials and performance of work specified in this section shall be in accordance with the Delaware Department of Transportation Standard Specifications for Road and Bridge Construction, dated August 2016 (hereinafter referred to as the "Standard Specifications").

Section 301: Graded Aggregate Base Course

Section 705: P.C.C. Sidewalk, Curb Ramps, and Sidewalk Detectable Warning System

Section 762: Saw Cutting and Butt Joints

Section 1022: Portland Cement Concrete Production

1.03 SUBMITTALS

- A. Certificates: All deliveries of concrete shall be accompanied by delivery slips.

1.04 ENVIRONMENTAL REQUIREMENTS

- A. Allowable Concrete Temperatures
  - 1. Cold weather: 60 degrees Fahrenheit. (18° C) when discharged from the mixer.
  - 2. Hot weather: Maximum concrete temperature is 80 degrees Fahrenheit. (30° C).
- B. Do not place concrete during rain, when atmospheric temperature is at or below 36 degrees Fahrenheit (2° C), or when conditions are otherwise unfavorable.

1.05 PROTECTION

- A. Protect concrete from pedestrian and vehicular traffic until concrete has been sufficiently cured.

**PART 2 PRODUCTS**

## 2.01 SIDEWALK MATERIALS

- A. Concrete
  - 1. Use concrete developing a compressive strength of 3,000 p.s.i. at twenty-eight (28) days.
  - 2. Use air-entrained concrete.
- B. Cement, aggregates, water and air-entrainment methods and materials conforming to Section 1022 of the Standard Specifications for Class B concrete.
- C. Joint filler: Pre-formed expansion joint material, conforming to Section 1042 of the Standard Specifications.
- D. Curing compound: White pigmented liquid, conforming to AASHTO M 148 for Type 2, Class A or B.
- E. Vapor barrier: Where called for on Plans shall be 6 mil. polyethylene.
- F. Spalled areas shall be repaired with a pre-blended, pre-packaged cement based mortar requiring only the addition of potable water. The material shall not contain any chlorides or lime other than the amounts contained within the hydraulic composition. The concrete repair material shall have a minimum strength of 5000 psi after 28 days. Concrete repair material shall be as manufactured by Five Star Products, Inc., or approved equal.
- G. Newly constructed concrete sidewalks shall be sealed with a concrete treating oil. The treating oil shall be a solution of boiled linseed oil and mineral spirits in accordance with ASTM D 260. Concrete treating oil shall be TK-3102, as manufactured by TK Products, or Lin-Seal, as distributed by W.R. Meadows, Inc., or approved equal.

## 2.02 GRADED AGGREGATE BASE COURSE

- A. Graded aggregate base course shall meet the requirements of Section 1005 of the Standard Specifications for Type B graded aggregate base course.

## 2.03 ACCESSIBLE CURB RAMPS

- A. Detectable warning systems shall meet the requirements of Section 705.03.7.E and 705.03.7.F of the Standard Specifications.
- B. Domes sizes and patterns shall be as shown on the Plan.

**PART 3 EXECUTION**

## 3.01 REMOVING EXISTING SIDEWALK

- A. All portions of existing concrete sidewalk to be removed shall be isolated from pavements, curb, or buildings to remain by saw cutting or by the presence of an existing expansion joint. Care shall be exercised by the Contractor to insure that no damage occurs to any elements to remain

and any damage to items to remain shall be replaced or repaired by the Contractor at no additional cost to the Owner.

- B. Concrete shall be broken up by an approved power breaking machine. All concrete removed shall be taken off the project site and disposed of lawfully.

### 3.02 PREPARATION FOR NEW SIDEWALK

- A. Excavate subgrade and set forms so that finished sidewalk conforms to lines and grades shown on Plans.
- B. Prepare sidewalk subgrade as specified in Section 705 of the Standard Specifications.
- C. Verify that earthwork is completed to correct line and grade.
- D. Verify that forms conform to line, grade and dimensions shown on Plans.
- E. Check that subgrade is smooth, compacted and free of excessive moisture.
- F. Do not commence work until conditions are satisfactory.

### 3.03 CONSTRUCTION METHODS

- A. Concrete sidewalks and aprons shall be constructed in accordance with the requirements of Section 705 of the Delaware Department of Transportation Standard Specifications for Road and Bridge Construction.
- B. Use vibration or tamping to consolidate the rapid set concrete patching material. Work material into saw cuts, extending beyond the corners of the repair area. Strike-off and shape the material to match the surrounding concrete.
- C. Concrete treating oil shall be sprayed or rolled onto clean and dry concrete in accordance with the manufacturer's written instructions.
- D. Construct accessible curb ramps in accordance with the details shown on Plans and the requirements of Section 705.3.7 of the Standard Specifications.

**END OF SECTION**

**SECTION 321216**  
**ASPHALT PAVING****PART 1 GENERAL**

## 1.01 DESCRIPTION

- A. Work included: Provide labor, materials, and equipment necessary to complete the work of this Section, including but not limited to the following:
1. Milling existing pavements.
  2. Patching pavement, including removal of existing pavement and installation of bituminous concrete base course patch.
  3. Surface preparation, and installation of bituminous concrete base course (BCBC).
  4. Surface preparation, and installation of Type B, binder course pavement, where applicable.
  5. Installation of Type C, wearing surface course for pavement patching, and for overlay of existing bituminous pavement including patched and repaired areas.
  6. Pavement markings.
- B. Allowances and Unit Prices
1. The Base Bid shall include an allowance for the removal and patching of 2,500 square yards of pavement per the detail on Sheet C-102 and as noted on Sheet C-100. This pavement patching shall be in addition to the patching depicted on the Plans.
  2. Provide a unit price for the removal and patching of pavement per the detail on Sheet C-102. This unit price will be used to increase or decrease the allowance based on actual field conditions. Refer to Part 4 of this section for measurement and payment.

## 1.02 STANDARDS

- A. The quality of materials and performance of work specified in this section shall be in accordance with the Delaware Department of Transportation Standard Specifications for Road and Bridge Construction, dated August 2016, latest revision (hereinafter referred to as the "Standard Specifications").
1. Section 401: Bituminous Pavement
  2. Section 402: Bituminous Paving Materials, Patching
  3. Section 760: Pavement Milling
  4. Section 817: Pavement Marking
  5. Section 1011: Tack Coat
  6. Section 1014: Asphalt Materials Production

## 1.03 DEFINITIONS

- A. Subgrade: Surface upon which pavements will be constructed.
- B. Base Course: That portion of the pavement cross section consisting of graded aggregate base course or bituminous concrete deep lift.

#### 1.04 QUALITY ASSURANCE

- A. Bituminous concrete producer shall be regularly engaged in the production of hot-mix, hot-laid bituminous concrete, and shall be approved by the Delaware Department of Transportation or the Pennsylvania Department of Transportation.

#### 1.05 SUBMITTALS

- A. Job mix formula.
- B. Provide copies of delivery slips at the end of each working day.

### **PART 2 PRODUCTS**

#### 2.01 GENERAL

- A. Materials and mixtures shall comply with the Delaware Department of Transportation Standard Specifications. All bituminous concrete paving shall be obtained from a DelDOT approved plant.

#### 2.02 PAVING MATERIALS AND MIXTURES

- A. Graded Aggregate Base Course
  - 1. Materials: Section 302.
- B. Hot Mix, Hot Laid Bituminous Concrete Pavement
  - 1. Materials: Section 401.
  - 2. Mixture: Section 401
- C. Emulsified Asphalt: Section 811
- D. Course Aggregate: Sections 805, 813
- E. Tack Coat: Meeting the requirements of Section 1011 of the Standard Specifications

#### 2.03 JOB MIX FORMULA REQUIREMENTS

- A. Provide job mix formulas for each required bituminous concrete mixture as specified in Section 401.03 of the Standard Specifications.
- B. Submit for approval prior to beginning paving operations.

#### 2.04 MIX DESIGN AND CONTROL REQUIREMENTS

- A. The design and control requirements for all paving mixtures shall conform to Section 401 of the Standard Specifications.

## 2.05 SAMPLES AND TESTING

- A. Methods and rates of sampling bituminous mixtures shall conform to Section 1014 of the Standard Specifications with the following exceptions:
  - 1. Sampling shall be performed by the producer's quality control technician.
  - 2. For small scale projects where it is possible to attain the minimum lot size specified, a total of five (5) samples shall be taken at random for each type of mix specified, per each day's production.
- B. Testing of bituminous concrete mixtures to determine the quantity of bitumen, gradation of aggregate, and conformance to mix design requirements shall be as specified in Section 1014 of the Standard Specification.
- C. Submit results of tests on forms signed by producer's quality control technician.

## 2.06 PREPARATION OF MIXTURES

- A. The preparation of all bituminous mixtures shall conform to Section 1014 of the Standard Specifications.

## 2.07 PAVEMENT MARKINGS

- A. All paint shall be of materials approved by the Delaware Department of Transportation per Sections 817 and 1071 of the Standard Specifications for Latex or Epoxy Paint. Glass beads will not be required for paint striping in parking lots or private driveways.
- B. Thermoplastic material, where shown on the plan or required by DelDOT, shall meet the requirements of section 817 of the Standard Specifications.

# **PART 3 EXECUTION**

## 3.01 GENERAL

- A. The method of construction including bituminous concrete plant and equipment, bituminous concrete pavers, vehicles for transporting bituminous mixtures, rollers, and all construction methods shall conform to Section 401 of the Standard Specifications except as modified by the Supplemental Requirements below.

## 3.02 PAVEMENT MILLING

- A. Construction methods for pavement milling shall conform to Section 760 of the Standard Specifications.

## 3.03 PAVEMENT PATCHING

- A. Construction methods for patching pavement shall conform to Sections 401 and 402 of the Standard Specifications. A milling machine may be used for pavement and base course removal.

### 3.04 PROOF ROLL

- A. Proof roll subgrade surfaces using heavy, rubber-tired rollers, or loaded dump truck in accordance with Section 202 of the Standard Specifications. Proof roll in the presence of the Owner's Representative.
  - 1. Subgrades shall be firm and unyielding.
  - 2. Compact areas showing deflection and instability.
- B. Notify the Engineer or the Inspector of unsatisfactory conditions.
- C. Do not begin paving work until any such unsatisfactory conditions have been corrected.

### 3.05 SURFACE PREPARATION

- A. Earth and Base Course Surface
  - 1. Remove loose and foreign material from compacted subgrade surface immediately before application as required.
  - 2. Use power broom or blowers and hand brooming as required.
  - 3. Do not displace subgrade material.
- B. Existing Pavement Surfaces
  - 1. Remove loose and foreign material from existing pavement surfaces immediately before application of paving
  - 2. Use self-propelled mechanical sweepers. Supplement with hand brooming as required.
  - 3. Pay particular attention to cleaning of gutter lines and outer edges of pavement areas.
  - 4. Remove all weeds, grass or other vegetative matter growing in pavement areas, particularly along joints and curbs.
- C. Minor Patching
  - 1. Existing pavement surfaces: Fill in depressions, and patch pavement in overlay areas that are not marked out for base repairs.

### 3.06 TACK COAT

- A. Apply to cleaned surfaces of all pavements to be overlaid or slurry seal coated.
- B. Apply to cleaned surfaces of newly constructed base pavement if coated with dust, dirt, foreign materials in sufficient amount to prevent bond with surface course.
- C. Apply to edges of paving where base repairs are to be made.
- D. Apply tack coat material at temperatures, specified in Section 401 of the Standard Specifications.
- E. Apply at a uniform rate of 0.05 to 0.15 gallons per square yard immediately prior to placing pavement.

- F. Apply tack coat by brush to contact surfaces of pavement cold joints, curbs, gutters, manholes, and other structures projecting into or abutting asphalt concrete pavement.
- G. Allow surfaces to dry until material is in a condition of tackiness to receive pavement.
- H. Take precautions to insure tack coat is not applied to exposed surfaces of curbs or other exposed surfaces. Tack coat so applied shall be removed by Contractor at no additional cost to Owner.

### 3.07 GENERAL SURFACE REQUIREMENTS

- A. Test finished surface of each bituminous concrete course for smoothness using a ten (10) foot straightedge.
- B. The straightedge shall have projections on the bottom at each end, either built-in or firmly attached, so that it is supported six (6") inches above the pavement surface at the ends. It shall be free from warp and deflection, and furnished by the Contractor without additional compensation.
- C. Check surfaced areas at intervals and in directions specified.
- D. Check surfaces for pavement smoothness immediately after initial compaction, and correct variations by removing or adding material as may be necessary. Then rolling shall be continued as specified.
- E. Immediately after final rolling and while the pavement is still hot, the smoothness of the course shall be checked again and all projections or depressions exceeding the specified tolerances shall be corrected by removing defective work and replacing it with new surface course as specified. Portions of the surface otherwise unsatisfactory shall be replaced.
- F. Finished surfaces shall be free of all roller marks, ridges and voids.

### 3.08 FIELD QUALITY CONTROL

- A. Taking of pavement cores and testing for the determination of conformance to control air voids and pavement thickness, when required, shall be performed in accordance with Section 401 of the Standard Specifications.
- B. When required per the General or Special Provisions, the Contractor shall employ and pay for the services of an Independent Testing Laboratory acceptable to the Engineer to perform additional field quality control sampling and testing when initial tests indicate work does not comply with the Contract Documents. All sampling and testing shall be performed as specified in section 401 of the Standard Specifications.
- C. Areas of pavement removed for field quality control testing shall be replaced by the Contractor as follows:
  - 1. Clean debris from core area. Cut all exposed pavement edges vertical.
  - 2. Apply tack coat to exposed surfaces before installing replacement pavement.
  - 3. Fill core area with surface course mixture for the full depth of the core.

4. Compact and grade mixture; seal repaired area with tack coat; and apply thin layer of sand over tack coat.

### 3.09 PAVEMENT MARKINGS

- A. Paint equipment and installation shall conform to Section 817 of the Standard Specifications.
- B. Application of Thermoplastic materials, where required, shall conform to Sections 817.03.5 of the Standard Specifications.
- C. All markings shall comply with the Manual on Uniform Traffic Control Devices, the Delaware Manual on Traffic Controls for Street and Highway Construction and Maintenance, the Delaware State Fire Prevention Regulations, and the Delaware State Accessibility Board.

## **PART 4 MEASUREMENT AND PAYMENT**

### 4.1 METHOD OF MEASUREMENT

- A. No separate measurement or payment will be made for pavement patching, bituminous concrete paving, or overlays depicted or noted on the plan.
- B. Pavement patching in areas not depicted or noted on the Plans shall be measured by the actual number of square yards of pavement patching installed to the required depth, in place and accepted. The width and length of pavement patches shall be limited in dimension to those marked in the field by the Owner's representative. No additional payment will be issued for pavement placed outside the limits marked for pavement patching unless approved by the Engineer.

### 4.2 BASIS OF PAYMENT

- A. Additional pavement patching, constructed in areas not depicted or noted on the Plans, measured as provided above, will be paid for at the contract unit price per square yard bid for this item, which price and payment shall constitute full compensation for removal of existing paving, saw cutting, preparation of subgrade, furnishing and placing hot-mix, and all tasks, labor, equipment, tools, and incidentals necessary to complete the work.
- B. Payment for additional pavement patching will be made only for areas where the Engineer directs the Contractor to patch pavement where patching is not depicted or noted on the Plans.
- C. Payment for additional pavement patching will only be made when paving patching exceeds the quantity noted on the Plans. If the quantity of additional pavement patching is less than the stated allowance, payment will be deducted and the unit price bid per square yard.
- D. Pavement patching for curb replacement shall not count toward the allowance quantity, and is included in the lump sum price bid for the project.

**END OF SECTION**

**SECTION 321613**  
**CONCRETE CURB**

**PART 1 GENERAL**

1.01 DESCRIPTION

- A. Remove and dispose off site existing concrete or bituminous curb as shown on the Plans, marked in the field, or as directed by the Engineer.
- B. Install new poured Portland cement concrete curb in the locations designated on the Plans, marked in the field, or as directed by the Engineer.

1.02 STANDARDS

- A. The quality of materials and performance of work specified in this section shall be in accordance with the Delaware Department of Transportation Standard Specifications for Road and Bridge Construction, dated August 2016 (hereinafter referred to as the "Standard Specifications").

Section 701: Portland Cement Concrete Curb  
Section 1022: Portland Cement Concrete Production

1.03 SUBMITTALS

- A. Certificates: All deliveries of concrete shall be accompanied by delivery slips.

1.04 ENVIRONMENTAL REQUIREMENTS

- A. Allowable Concrete Temperatures
  - 1. Cold weather: 60 degrees Fahrenheit. (18° C) when discharged from the mixer.
  - 2. Hot weather: Maximum concrete temperature is 80 degrees Fahrenheit. (30° C).
- B. Do not place concrete during rain, when atmospheric temperature is at or below 36 degrees Fahrenheit (2° C), or when conditions are otherwise unfavorable.

1.05 PROTECTION

- A. Protect new concrete curb from traffic for a minimum of seven (7) days.

**PART 2 PRODUCTS**

2.01 MATERIALS

- A. Concrete
  - 1. Use concrete developing a compressive strength of 3,000 p.s.i. at twenty-eight (28) days.
  - 2. Use air-entrained concrete.

- B. Cement, aggregates, water and air-entrainment methods and materials conforming to Section 1022 OF the Standard Specifications for Class B concrete.
- C. Joint filler: Pre-formed expansion joint material, conforming to Section 1042 of the Standard Specifications.
- D. Curing compound: White pigmented liquid, conforming to AASHTO M 148 for Type 2, Class A or B.
- E. Bituminous Joint Sealant: Conforming to the requirements of section 1042 of the Standard Specifications:

### **PART 3 EXECUTION**

#### **3.01 PREPARATION**

- A. When encountered, cut existing pavements vertically with a sharp tool on a straight line prior to excavating for curb. Cut shall be made twelve inches (12") to twenty-four inches (24") beyond the limits of excavation, and maintained straight and neat, or re-cut and dressed as required.
- B. Excavate subgrade and set forms so that finished curb conforms to required lines and grades.
- C. Prepare curb subgrade as specified in Section 701 of the Standard Specifications.
- D. Verify that earthwork is completed to correct line and grade.
- E. Verify that forms conform to proposed line, grade and curb cross section.
- F. Check that subgrade is smooth, compacted and free of frost and excessive moisture.
- G. Do not commence work until conditions are satisfactory.

#### **3.02 PERFORMANCE**

- A. Method of curb construction shall conform with Section 701 of the Standard Specifications
  - 1. Install 1/2-inch wide expansion joints at equal intervals, not to exceed forty feet (40'). Install additional expansion joints where curb abuts structures, and install expansion joints or bond breaker where curb abuts sidewalk. Fill expansion joints with joint filler, 1/2-inch thick. Insert joint filler 1/4-inch from the top and face of curb.
  - 2. Construct contraction joints (transverse joints) at 10' intervals, except where shorter sections are necessary for closures; but no section shall be less than four feet (4').
  - 3. Finish concrete surfaces of curb to match existing adjacent curbs. Curb cross section shall be as shown on the Plans.

**END OF SECTION**

**SECTION 321823**

**TENNIS COURT IMPROVEMENTS**

**PART 1 GENERAL**

1.01 DESCRIPTION

A. Work included: Provide labor, materials, and equipment necessary to complete the work of this Section, including but not limited to the following:

1. Repairing and resurfacing tennis courts.
2. Removing athletic equipment, paving, base course, and all excavation as shown on the Plans.
3. Furnishing and installing new athletic equipment.

B. Alternates

1. Alternate 1 shall include all patching, removal, paving, surfacing, painting, fencing, netting, equipment, and incidentals associated with the tennis court improvements shown on Sheets C-100 and C-102, including all labor, materials, overhead, and profit, in accordance with the conditions of the contract.

1.02 STANDARDS

A. The quality and performance of work specified in this section shall be in accordance with the Delaware Department of Transportation Standard Specifications for Road and Bridge Construction, dated August 2016, latest revision (hereinafter referred to as the "Standard Specifications").

1. Section 401: Bituminous Pavement
2. Section 504: Crack and Joint Sealing

1.03 RELATED WORK SPECIFIED IN OTHER SECTIONS:

- A. Earthmoving: Section 312000.
- B. Asphalt Paving: Section 321216

1.04 QUALITY ASSURANCE

A. Bituminous concrete producer shall be regularly engaged in the production of hot-mix, hot-laid bituminous concrete, and shall be approved by the Delaware Department of Transportation.

- B. Manufacturer and installer of acrylic tennis court surface shall have a minimum five (5) years successful experience installing similar type tennis court surfaces. Evidence of the successful installation of at least eight (8) similar surfaces shall be submitted upon request.

#### 1.05 SUBMITTALS

- A. Job mix formula for bituminous concrete paving.
- B. Manufacturer's product data, qualifications, installation instructions, and maintenance procedures for acrylic tennis court surface.
- C. Product information for nets, posts, and winding mechanisms.
- D. Manufacturer's data, installation procedures, and color chart for paint.

### **PART 2 PRODUCTS**

#### 2.01 PAVING MATERIALS AND MIXTURES

- A. Materials and mixtures shall comply with the following sections of Delaware Department of Transportation Standard Specifications.
- B. Graded Aggregate Base Course
  - 1. Materials: Section 301.
- C. Hot Mix, Hot Laid Bituminous Concrete Pavement
  - 1. Materials: Section 401.
  - 2. Mixture: Section 401
- D. Tack Coat: Meeting the requirements of Section 1011 Standard Specifications.

#### 2.02 TENNIS COURT SURFACE

- A. Tennis court surface shall be a non-fading, weather-proof, 100% acrylic system, installed in three coats over an acrylic surfacer for use on hot-mix asphalt surfaces. The surface system shall be specifically designed for tennis courts and shall be Latex-ite, as manufactured by Dalton Coatings, Plexipave, as manufactured by California Sports Surfaces, or approved equal. Surface colors shall be standard issue of the manufacturer and determined by the Owner following submission of the manufacturer's color palette.
- B. Line paint shall be a highly pigmented, 100% acrylic paint produced by the manufacturer of the surface treatment. Game lines shall be taped and hand painted.
- C. Contractor shall deliver materials to the job site in unopened drums.

### 2.03 ATHLETIC EQUIPMENT

- A. Tennis court nets shall be of standard lengths and dimensions and shall have 3-millimeter twine and a double, two-ply, headband of vinyl-coated polyester attached with four rows of stitching. There shall be vinyl-coated nylon side pockets with wooden dowels and vinyl coated nylon bottom tape. A woven polyester adjustable center strap shall be supplied and installed for each net. Tennis court nets shall be as manufactured by MacGregor, model No. TN 300-V, Douglas, model No. TN-30, or approved equal.
- B. Tennis court posts shall be steel tubing with a minimum 2-7/8 inch outer diameter and 3/16-inch thickness. Posts shall have a baked on polyester powder coat finish. Steel external winding mechanisms shall be supplied for each net, and shall have a removable handle. Posts and winding mechanism shall be "Sidewinder," as manufactured by Douglas, or approved equal.

### 2.04 PAINTING

- A. Paint for fences and posts shall be an alkyd or silicone alkyd appropriate for use on the proposed surfaces. All surfaces shall be primed with a corrosion resistant alkyd primer compatible with the finish coat. All paint and primer shall be lead free. Paint shall be Rust-o-Lastic as manufactured by MAB Paints and Coatings, or approved equal.

## PART 3 EXECUTION

### 3.01 HOT-MIX PAVING

- A. The method of construction to include bituminous concrete plant and equipment, bituminous concrete pavers, vehicles for transporting bituminous mixtures, rollers, and all construction methods shall conform to Section 401 of the Standard Specifications and Section 321216 of these Specifications.
- B. Crack and Joint Repair
  - 1. Clean, fill, and seal crack and joints greater than one-quarter inch (1/4") wide or as marked in the field or directed by the Engineer.
  - 2. Sealer shall be hot-poured emulsified asphalt, or rubberized asphalt cement meeting the requirements of Sections 1016 and 1042 of the Standard Specifications.
  - 3. Thoroughly clean joints to remove all unsuitable materials. Use compressed air or router as necessary.
  - 4. Pour bituminous material into the crack insuring that it penetrates and completely fills the crack. Use a squeegee to remove the excess bituminous material along the crack. Cover with a light application of acceptable dry sand.
  - 5. For cracks with a width greater than one inch (1"):
    - a. Fill crack with Delaware No. 8 coarse aggregate to the level of the existing surface. Pour the bituminous material into the crack ensuring that it penetrates and completely fills the void spaces in the coarse aggregate. Use a squeegee to remove the excess

bituminous material along the crack. Immediately cover with a light application of acceptable dry sand.

- b. Apply an overlay geotextile as shown on the Plans and described herein. The overlay geotextile shall consist of the complete installation of the Amoco "Petrotac" system, or approved equal. The overlay geotextile shall be installed in accordance with the manufacturer's written instructions.
- c. Prior to the installation of the geotextile, a spray application of asphalt sealant, consisting of heated asphalt cement (grade AC-20) shall be applied at a minimum uniform rate of .25 gallons per square yard. The sealant shall be applied with a calibrated distribution truck. The width of distribution shall be six inches (6") wider than the width of the geotextile fabric.
- d. The geotextile fabric shall be placed while the sealant is still tacky. Placement can be by mechanical equipment or manually. The geotextile shall be taut and wrinkle-free. Hand broom to eliminate small wrinkles. Wrinkles in excess of one-half inch (1/2") shall be slit and laid flat. Joints shall be overlapped in accordance with the manufacturer's recommendations. Additional sealant shall be applied to the joint to assure proper bonding.
- e. Standard paving operations, including tack coat, shall immediately follow (within the same day of) the geotextile fabric installation. During placement of the asphalt overlay, sufficient heat must be present to melt the sealant, allowing it to be drawn through the fabric.

#### C. Surface Preparation

1. Remove loose and foreign material from existing pavement surfaces immediately before application of tack coat.
2. Use self-propelled mechanical sweepers. Supplement with hand brooming as required.
3. Remove all vegetation and debris from along fence and edges of paving.
4. Clean and fill all cracks and joints.
5. Use type D hot-mix leveling course to fill in depression and to meet proposed grades as shown on the Plans.

#### D. Tack Coat

1. Apply to cleaned surface immediately prior to placing hot-mix overlay. Tack coat shall be applied only as far in advance of the hot-mix operation as is anticipated for the current day's operation.
2. Apply to edges of paving where base repairs are to be made.
3. Apply tack coat material at the temperatures and rates specified in Section 401 of the Standard Specifications.
4. Allow surfaces to dry until material is in a condition of appropriate tackiness to receive pavement.

#### E. Saw Cutting

1. Saw Cutting shall be performed in accordance with Section 762 of the Standard Specifications.

### 3.02 TENNIS COURT SURFACE

- A. Tennis court surface shall be installed in accordance with the manufacturer's written instructions and in the presence of the manufacturer's representative.
- B. Asphalt shall be allowed to cure for a minimum of fourteen (14) days prior to placing acrylic surface. The surface shall be thoroughly cleaned, removing all loose dirt, dust, oil, grease, leaves, and other debris.
- C. The court surface shall be checked with a ten foot straight-edge and shall be flooded with water and allowed to dry in full sun for one hour to locate low areas which are more than one-eighth inch ( $\frac{1}{8}$ " ) deep. Depressions less than one-half inch ( $\frac{1}{2}$ " ) deep shall be leveled by screeding a layer of patch mix recommended by the manufacturer over the low areas. Deeper depressions shall be patched with asphaltic concrete. All rough paving joints and roller marks shall be leveled prior to placing acrylic surface. Level testing shall be performed in the presence of the Owner's representative.
- D. Application methods, temperature, coverage, and drying time shall be performed as recommended in the manufacturer's written instructions.

### 3.03 PAINTING

- A. Surfaces shall be thoroughly cleaned prior to priming to be free of all dirt, grease, oil, loose paint, rust or scale. Remove soil and grease by solvent cleaning (SSPC-SP-1) or with a commercial bast (SSPC-SP-6). Power tool cleaning (SSPC-SP-3) or Manual Cleaning (SSPC-SP-2) are acceptable. Surface shall be dry and free from contaminants prior to placing the primer.
- B. Contractor shall contain all debris and spoil from the paint removal process within the project limits. All removed paint, sand, and debris shall be disposed of in a manner consistent with the State of Delaware and U.S. Environmental Protection Agency regulations. Certificate of acceptance from an authorized landfill shall be submitted to the Owner's representative.
- C. Primer shall be mixed, thinned, and applied in accordance with the manufacturer's written instructions. Apply in an even and uniform manner, making sure that hidden areas, rivets, and edges are thoroughly coated.
- D. Finish coat shall be mixed, thinned and applied in accordance with the manufacturer's written instructions. When spraying, apply an even, wet coat, making parallel passes that overlap 50%. Immediately cross-spray at right angles to develop maximum uniformity and film thickness. Clean with thinner, as needed. Overspray onto adjacent finished surfaces shall be cleaned immediately.

END OF SECTION

**SECTION 323913**  
**METAL BOLLARDS**

**PART 1 GENERAL**

1.01 DESCRIPTION

- A. This section shall include the supply and installation of removable steel bollards with plastic security post covers.

1.02 STANDARDS

- A. The quality of materials and performance of work specified in this section shall be in accordance with the following sections of the American Society of Testing Materials (ASTM):

ASTM A36: Standard Specification for Carbon Structural Steel

ASTM A500: Standard Specifications for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shades.

1.03 SUBMITTALS

- A. Submit product data for each type of bollard, component, finish, and accessory specified.
- B. Submit manufacturer's standard colors for selection.
- C. Submit manufacturer's maintenance instructions, including field touch-up and cleaning.

1.04 WARRANTY

- A. Bollards shall be warranted against defects in materials and workmanship. Warranty period shall be five years from the date of delivery. Coatings shall be warranted against peeling, cracking, or significant color change for two years.

**PART 2 PRODUCTS**

2.01 BOLLARDS

- A. Bollard shall be Model R-7902 as manufactured by Reliance Foundry, Model 400-36 as manufactured by Dumor, Inc., or approved equal.
- B. Bollard shall be steel meeting the requirements of ASTM A36 with black powder coat over epoxy primer. The bollard shall be designed for removable installation and be installed with steel receiver and galvanized steel cover.

## 2.02 BOLLARD COVERS

- A. Plastic bollard covers shall be high density polyethylene (HDPE) with a minimum tensile strength of 4,000 psi.
- B. Bollard cover shall be Model R-7109 as manufactured by Reliance Foundry, or approved equal.
- C. Bollard covers shall be supplied with self-adhesive foam strips, self-adhesive neoprene tape, and reflective tape. All accessories shall be supplied by the manufacturer of the cover.

## **PART 3 EXECUTION**

### 3.01 PREPARATION

- A. Examine concrete for compliance with manufacturer's requirements for placement and location of embedded items, condition of substrate, and other conditions affecting the installation of the bollards.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.02 INSTALLATION

- A. Comply with manufacturer's installation instructions and setting drawings.
- B. Do not install damaged, cracked, chipped, deformed, or marred bollards. Field touch-up minor imperfections in accordance with manufacturer's instructions. Replace bollards that cannot be field repaired.
- C. Install plastic bollard covers over foam strips in pattern indicated in manufacturer's instructions.

### 3.03 CLEANING AND PROTECTION

- A. Protect bollards and bollard covers against damage.
- B. Clean bollards and bollard covers in accordance with manufacturer's instructions to remove dust, dirt, adhesives, and other foreign materials. Touch up damaged finishes according to manufacturer's instructions.

**END OF SECTION**

**SECTION 329200**  
**TURF AND GRASSES**

**PART 1 GENERAL**

1.01 DESCRIPTION

- A. Provide lime and permanent seed mixture in the areas shown on the plans for:
  - 1. Restoration of existing grass areas disturbed by Contractor's operations
  - 2. Stabilization of unpaved areas.

1.02 STANDARDS

- A. The quality of materials and performance of work specified in this section shall be in accordance with the Delaware Department of Transportation Standard Specifications for Road and Bridge Construction, dated August 2016, latest revision (hereinafter referred to as the "Standard Specifications").
  - 1. Section 908: Soil Stabilization Practices

1.03 SUBMITTALS

- A. Certificates
  - 1. Seed producer's certified analysis of composition, purity, and germination of seed mixture, dated within nine (9) months of sowing.
  - 2. Manufacturer's certified chemical and physical composition analysis for ground limestone.
- B. Delivery Slips
  - 1. Accompany each delivery of seed, ground limestone, and fertilizer with delivery slip showing the product weight.
- C. Test Reports
  - 1. Submit results of test report for pH analysis of soil, and when ground limestone is required, the total amount of magnesium and calcium oxides required.

1.04 SUBMITTALS

- A. Deliver all materials in accordance with manufacturer's printed instructions, and in such manner as to protect from moisture.
- B. Store and handle material in accordance with manufacturer's printed instructions, and in such manner as to protect from moisture.

1.05 JOB CONDITIONS

- A. Existing Conditions: Perform seeding only after preceding work affecting found surface is completed.

- B. Environmental Requirements
  - 1. Plant seed on unfrozen soil. Soil shall be in friable condition at the time of seeding.
  - 2. Do not perform seeding when wind exceeds 15 mph.
  - 3. Do not seed between October 15th and March 1st.
- C. Protection: Restrict pedestrian and vehicular traffic from seeded areas after planting to end of the establishment period.

## **PART 2 PRODUCTS**

### **2.01 SEED MIXTURE**

- A. Seed mixture shall be as shown on the Plan or, if not shown on the plan, as specified in Section 908 of the Standard Specifications for Permanent Grass Seeding – Subdivision.
- B. Use clean, dry, new crop seed. Use certified seed when available.

### **2.02 TOPSOIL**

- A. Topsoil shall conform to Section 908 of the Standard Specifications.

### **2.03 GROUND LIMESTONE**

- A. Limestone shall be ground agricultural grade conforming to Section 908 of the Standard Specifications.

### **2.04 MULCH**

- A. Straw mulch shall be unrotted small grain straw, shall be relatively free of weeds, and shall be free of noxious weeds such as thistles, Johnsongrass, and quackgrass.
- B. Hydraulically Applied Mulch
  - 1. Wood fiber mulch shall consist of specially prepared wood that has been processed to a uniform state, is packaged for sale as a hydraulic mulch for use with hydraulic seeding equipment, and consists of a minimum of 70% virgin or recycled wood fiber combined with 30% paper fiber and additives.
  - 2. Blended fiber mulch shall consist of any hydraulic mulch that contains greater than 30% paper fiber. The paper shall be processed to a uniform fibrous state and packaged for sale as a hydraulic mulch for use with hydraulic seeding equipment.
  - 3. A bonded fiber matrix (BFM) shall consist of long strand, specially prepared wood fibers that have been processed to a uniform state held together by a water resistant bonding agent. BFM's shall contain no paper, but may contain shall percentages of synthetic fibers to enhance performance.
  - 4. All components of the hydraulically applied mulches shall be pre-packaged by the manufacturer to assure material performance.
- C. Erosion control blankets and turf reinforcement matting shall be as shown on the Plans, or if not on the Plans, shall meet the requirements of Section 908 of the Standard Specifications.

**PART 3 EXECUTION****3.01 PREPARATION**

- A. Check that clearing, soil preparation and preceding work affecting ground surface is completed.
- B. Verify that soil is unfrozen and within allowable moisture content.
- C. Do not start until conditions are satisfactory.
- D. When soil to be seeded has a pH value of less than 5.8, evenly spread ground limestone, which is dry and free flowing, over area to be seeded at rate that will change soil pH value to 6.5. Thoroughly mix limestone into upper 3 to 4 inches of soil by discing, harrowing, or other approved method.
- E. Water dry soil at least 24 hours prior to seeding to obtain a loose friable seed bed.
- F. Before applying seed, remove all stones, rocks, lumps, roots, wires, clods, and other objects measuring 1 inch or larger in any dimension.

**3.02 APPLICATION**

- A. Broadcast half of seed with mechanical seeder.
- B. Broadcast remaining half of seed at right angles to first seeding pattern, using same broadcast method.
- C. Apply seed at the rate specified in the Standard Specifications.
- D. Cover seed to depth of 1/8 inch by raking or other approved method.
- E. Roll seeded area with roller weighing maximum of 150 pounds per foot of width.
- F. Water seeded area until water penetrates to a depth of 3 to 4 inches.

**3.03 PROTECTION**

- A. Erect temporary signs and barriers to protect seeded areas from pedestrian and vehicular traffic.

**3.04 LAWN ESTABLISHMENT**

- A. Watering
  - 1. Keep soil moist during seed germination period. and during lawn establishment.
  - 2. Method of watering shall provide equal distribution and coverage to all areas seeded.
  - 3. Continue watering during establishment period to promote healthy grass stand.

- B. Re-lime and reseed all seeded areas which become eroded or otherwise disturbed; or which require mowing of weedy areas in order to establish acceptable turf.
- C. Re-lime, and reseed spots larger than one square foot not having uniform stand of grass practically weed free, and not containing plants in reasonable proportion to the various kinds of seed in the grass seed mixture.
- D. Perform all lawn establishment work in accordance with the specifications without additional compensation.
- E. Maintain seeded areas until grass is well established and exhibits vigorous growing condition for a minimum of two cuttings. Maintain grass height of three inches. Do not cut more than one third of the grass blade at each mowing. Perform first mowing when seedling are approximately four inches long.
- F. Establishment and maintenance period to extend until acceptance of the project.

### 3.05 CLEANING

- A. Immediately clean spills on paved and finished surface areas.
- B. Remove debris and excess materials from project site.
- C. Dispose of protective barricades and warning signs at termination of lawn establishment period.

### 3.06 MULCHING

- A. Straw mulch shall be applied at the rate of 70 to 90 pounds per 1,000 square feet.
- B. Hydraulically Applied Mulch
  1. Hydraulic mulches shall be applied with a viable seed and at the manufacturer's recommended rates.
  2. Apply the product to stable slopes. Do not apply to saturated soils or if precipitation is anticipated with twenty-four hours.
  3. Minimum curing temperature is forty degrees (40°F).
- C. Mulch shall be anchored immediately following application by crimping or tracking, or through the use of biodegradable netting or erosion control blankets.

### 3.07 FIELD QUALITY CONTROL

- A. The Contractor shall pay for testing and related costs when materials are found no to be in conformance with this specification.
- B. Seed sampling and testing shall be conducted in accordance with Delaware Code and with the rules and regulations for testing seed adopted by the Association of Official Seed Analysis.

**END OF SECTION**

**SECTION 334100**  
**STORM DRAINAGE**

**PART 1 GENERAL**

1.01 DESCRIPTION

- A. Furnish and install polyvinyl chloride (PVC) storm pipe and appurtenances as shown on the Plans and described herein.
- B. Furnish and install catch basins and manholes, and connect existing pipes to manholes or catch basins, and connect proposed pipes to existing manholes or catch basins where shown on the Plans or as directed by the Engineer.
- C. Repair and adjust catch basins and catch basin tops as shown on the Plans.

1.02 STANDARDS

- A. American Society for Testing and Materials (ASTM)
  - 1. ASTM D-2241: Polyvinyl Chloride (PVC) Pressure-Rated Pipe.
  - 2. ASTM 1785: Schedule 40 Polyvinyl Chloride (PVC) pipe.
- B. New Castle County Department of Special Services
- C. Delaware Department of Transportation Standard Specifications for Road and Bridge Construction, dated August 2016, latest revision:
  - 1. Section 602: Drainage Structures
  - 2. Section 711: Sanitary Sewer System

1.03 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Storage and Materials
  - 1. Store materials to prevent physical damage.
  - 2. Store pipe and fittings off ground to prevent dirt and debris from entering.
  - 3. Store flexible gasket materials and joint primer or adhesive compounds in cool dry place. Keep rubber gaskets clean, away from oil, grease, excessive heat, and out of direct sunlight.
- B. Handling of Materials
  - 1. Protect materials during transportation and installation to avoid physical damage.
  - 2. Do not install out-of-round pipe.
  - 3. Unload pipe to prevent abrasion.
  - 4. Do not drag or push pipe while handling or distributing on project site.

## **PART 2 PRODUCTS**

### **2.01 MATERIALS**

- A. P.V.C. Pipe and Fittings
  - 1. ASTM D-2241; SDR 26.
  - 2. ASTM 1785, Schedule 40
  
- B. All catch basins and manholes shall be precast or cast-in-place Portland cement concrete (p.c.c.) and shall conform to Section 602 of the Standard Specifications. Precast manholes shall conform with ASTM C-478, except where noted on the Plan.

## **PART 3 EXECUTION**

### **3.01 MATERIAL INSPECTION**

- A. The following information shall be clearly marked on each pipe section of P.V.C. pipe:
  - 1. Pipe type and SDR number.
  - 2. Nominal pipe size.
  - 3. The PVC cell classification.
  - 4. Name or trademark of manufacturer.
  - 5. The ASTM Specification designation.
  
- B. P.V.C. Fittings shall have the following markings:
  - 1. The ASTM Specification designation.
  - 2. Manufacturer's name or trademark.
  - 3. Nominal size.
  - 4. The material designation.
  
- C. Inspect pipe for defects prior to placement in trench. The pipe and fittings shall be free from visible cracks, holes, foreign inclusions or other injurious defects.
  
- D. Assure that all materials are of the type specified and are not defective. Unmarked pipe or pipe and materials not meeting Specifications requirements shall be removed from the site as directed by the Engineer.

### **3.02 INSTALLATION**

- A. Fine grade trench bottom so that pipe is supported for its full length.
  
- B. Install piping beginning at the low point of the system, true to grades and alignment indicated on the Plans. Place the bell ends of the pipe facing upstream.
  
- C. Do not lay pipe on unsuitable material, in wet trench, or in same trench with another pipe or utility.
  
- D. General Procedure for Joining Pipe

1. Do not use excavating equipment to force pipe sections together.
2. Hold pipe securely and in proper alignment when joining.
3. Do not disturb previously made joints. Check completed piping to assure joints are intact. Insure placement of backfill over pipe is accomplished without disturbing pipe position.
4. Do not allow earth, stones, or other debris to enter pipe or fittings.
5. Method of installing joint materials and joining piping shall be in strict accordance with manufacturer's printed instructions.

### 3.03 BACKFILL AND COMPACTION

#### A. Bedding and Initial Backfill

1. Bedding and initial backfill shall be in accordance with the manufacturer's written instruction or, in absence of said instructions, in accordance with Section 31200 of these Specifications.
2. Install initial backfill material as shown on the Plan details for the type of pipe being used.
3. When required, material shall be placed under the pipe haunch to provide adequate side support. Material shall be installed for entire trench width and shall be tamped and rodded to insure full contact with pipe at haunch up to the spring line.
4. Little or no tamping of the initial backfill directly over the pipe shall be done.

#### B. Final Backfill

1. Final backfill shall be in accordance with Section 312000 of these Specifications.

### 3.04 TESTING

#### A. Deflection Testing – PVC Sanitary Sewer Pipe

1. For pipe conforming to the requirements of ASTM D-3034, the maximum allowable pipe deflection (reduction in vertical diameter) shall be 7-1/2%.
2. For pipe conforming to the requirements of ASTM D-2241, the maximum allowable pipe deflection (reduction in vertical inside diameter) shall be 5%.
3. Deflection tests shall be successfully performed on the complete installation by means of one of the following methods prior to the acceptance of construction.
  - a. "Go-No-Go" mandrel properly sized
  - b. Calibrated television.

#### B. Lamping

1. Sewer lines shall meet the following standards to pass the lamping inspection:
  - a. The barrel of the pipe shall have no vertical deflection and at least seventy-five percent of the barrel shall be visible in the horizontal direction.
  - b. Pipe not meeting this Specification shall be re-laid and re-lamped until compliance is achieved at no additional cost to the Owner.

#### B. Low Pressure Air Test

1. All gravity sanitary sewer lines shall be air tested in accordance with the requirements of the New Castle County Department of Special Services.

2. The drop in pressure during the prescribed test time shall not exceed 0.5 psi, from 3.5 to 3.0 psi testing pressure. A drop in pressure below 3.0 psi shall indicate a failure of the test.

### 3.05 CATCH BASINS AND MANHOLES

- A. Catch basins and manholes shall be installed in accordance with Section 708 of the Standard Specifications.
- B. Installation of rubber gaskets for precast catch basins and manholes shall be in accordance with the manufacturer's recommendations.
- C. Frames shall be well bedded in mortar, making a watertight joint. Cover and frame shall have a shop coat of asphaltic pitch and shall have a field coat of similar paint after the frame is set in final position.
- D. Repair and adjustment of catch basins and manholes shall be in accordance with Section 602 of the Delaware Department of Transportation Standard Specifications for Road and Bridge Construction.

**END OF SECTION**