

Mermaid Park Pedestrian Trail & Streambank Stabilization Project

Prepared For:

Springfield Township
1510 Paper Mill Road
Wyndmoor, PA 19038

Phone: (215) 836-7600

January, 2022

Prepared By:

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1108 N. Bethlehem Pike, Suite 5
Lower Gwynedd, PA 19002



MERMAID PARK PEDESTRIAN TRAIL & STREAMBANK
STABILIZATION PROJECT

SPRINGFIELD TOWNSHIP

ESTIMATED PROJECT TIME LINE

- 01/12/2022 (WEDNESDAY) BOC TO ADVERTISE
- 01/23/2022 (SUNDAY) ADVERTISE
- 01/30/2022 (SUNDAY) ADVERTISE
- 02/08/2022 (TUESDAY) MANDATORY PRE-BID MEETING @ 11:30 A.M.
- 02/22/2022 (TUESDAY.) BID OPENING @ 3:00 P.M.
- 03/09/2022 (WEDNESDAY) BID AWARD (BOARD OF COMMISSIONERS MEETING)
- 03/14/2022 (MONDAY) NOTICE OF AWARD (ANTICIPATED)
- 03/15/2022 (TUESDAY) NOTICE TO PROCEED (ANTICIPATED)
- 06/13/2022 (WEDNESDAY.) PROJECT COMPLETION (90 DAYS)

MERMAID PARK PEDESTRIAN TRAIL & STREAMBANK STABILIZATION
PROJECT

CONTENTS

NOTICE FOR BIDS	7
INSTRUCTIONS TO BIDDERS	9
SCOPE OF WORK:.....	17
GENERAL CONDITIONS	19
SUPPLEMENTAL GENERAL CONDITIONS	87
SAMPLE INSURANCE FORM.....	95
BID FORM	97
BID BOND	103
CERTIFICATE AS TO CORPORATE PRINCIPAL	105
AGREEMENT	109
ACCEPTING PROVISIONS OF THE WORKMEN'S COMPENSATION ACT	113
NON-COLLUSION AFFIDAVI	115
PERFORMANCE BOND.....	119
PAYMENT BOND.....	123
CONTRACTOR'S RELEASE	129
STATEMENT OF SURETY COMPANY	131
PREVAILING WAGES	133
PREVAILING WAGE PAYMENT CERTIFICATION	147
CERTIFICATION OF SITE SAFETY CONDITIONS	149
PUBLIC WORKS EMPLOYMENT VERIFICATION FORM.....	151
EROSION & SEDIMENTATION CONTROL.....	153
CLEARING AND GRUBBING.....	157
EXCAVATION, BACKFILL AND COMPACTION.....	161
LANDSCAPING	171
SITE PLANS	177

NOTICE FOR BIDS

MERMAID PARK PEDESTRIAN TRAIL & STREAMBANK STABILIZATION PROJECT
SPRINGFIELD TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

Notice is hereby given that sealed bids will be received by Springfield Township, Montgomery County, until 3:00 p.m. (prevailing time) on Tuesday, February 22, 2022. All bids will be opened and read aloud at the Springfield Township Building, 1510 Paper Mill Road, Wyndmoor, PA 19038.

MERMAID PARK PEDESTRIAN TRAIL & STREAMBANK STABILIZATION PROJECT

This project includes construction and installation of streambank stabilization, installation and maintenance of the coffer dam and pump around system, the installation of one wooden pedestrian bridge, and the construction of eight-foot-wide pervious pavement trail. All work is to be completed in accordance with the project plans and specifications. All documents and solicitation details are available at the Springfield Township Building located at 1510 Paper Mill Road, Wyndmoor, PA 19038.

A certified check or bank draft, payable to the order of the Township of Springfield, negotiable U.S. Government Bonds (at par value), or a satisfactory Bid Bond executed by the Bidder and an acceptable surety, in an amount equal to ten percent (10%) of the total bid amount shall be submitted with each Bid. The successful Bidder will be required to furnish and pay for Satisfactory Performance and Payment Bond and Labor and Materialmen's Bond, each in an amount of 100% of the contract amount. Bidder qualifications and schedule of prices shall be submitted with the bid. A Certificate of Insurance, showing proof of Workers Compensation Coverage, and a completed Commonwealth of Pennsylvania Public Works Employment Verification Form must also be submitted.

Bid proposals shall incorporate minimum wages and salaries as set forth by the Pennsylvania Department of Labor and Industry (prevailing wages). The Contractor must ensure that employees and applicants for employment are not discriminated against because of their race, color, religion, sex, national origin or handicap.

Springfield Township reserves the right to reject any or all Bids, to eliminate or reduce items or quantities, to waive any informality, or take other such action that is deemed to be in the best interest of the Township and as may be permitted by law. Bids may be held by the Township for a period of up to 60 days from the date of Bid opening for the purpose of reviewing Bids and investigating qualifications of bidders, prior to awarding Contract.

All bidders are invited to attend a Mandatory Pre-bid Meeting to be held at 11:30 a.m. (prevailing time) on Tuesday the 8th day of February, 2022, at the Springfield Township Building, 1510 Paper Mill Road, Wyndmoor, PA. The Project Engineer is Woodrow & Associates, Inc., 1108 N. Bethlehem Pike, Suite 5, Lower Gwynedd, PA 19002, 215-542-5648.

INSTRUCTIONS TO BIDDERS

A. SCOPE OF WORK

See “Scope of Work” section

B. EXAMINATION OF FACILITIES

Bidders are required to inspect the project area so that they may use their own judgment with respect to all circumstances affecting the cost of the services in question and the nature of the work to be performed. Bidders shall assume all risks, whether or not patent, latent, known, hidden or foreseeable.

C. SPECIFICATIONS AND DOCUMENTS

Bidders are advised to examine, carefully, the specifications and all documents describing the proposed work and make their own independent judgment with respect to the circumstances affecting the cost of work and the performance required. The failure or omission of any Bidder to receive or examine any form, instrument, addendum or other document, or to acquaint himself/herself with conditions existing, shall in no way relieve him/her of any obligations with respect to his or her bid or to the contract. The Township shall make all such documents available to the bidders.

Bidders shall make their own determination as to conditions and shall assume all risk and responsibility and shall complete the work in and under conditions they may encounter or create, without extra cost to the Township.

D. CONDITION OF WORK

The Township does not make any representations in connection with any phase of this proposal or in connection with any supplementary material which forms part of the total proposal.

Bidders must inform themselves fully of all the conditions relating to the work in question. Failure to do so will not relieve the successful bidder of his obligation to furnish and perform the work which forms the basis of this proposal, or to carry out the provisions of the contract with respect to performance of the contemplated work set forth in his/her Bid.

Insofar as possible, the successful Bidder in the execution of the work called for in this proposal shall employ such methods or means as will avoid any interruption or interference with the operation of the affairs of the Township and likewise take the necessary steps to ensure that during the course of his/her performance there will be no infringement on the rights of the public.

It is likewise understood and required that the successful bidder shall, in the performance of this contract, employ such methods as will avoid violation of any applicable Federal

laws, statutes of the Commonwealth of Pennsylvania, regulation of said State or any political subdivision thereof, or ordinance of the Township.

E. PREPARATION OF PROPOSALS

Each Bidder shall submit a proposal for the entire amount of work called for in the Specifications in the Contract Documents which form a part of this proposal, and the failure to conform to this requirement may result in the classification of such a Bid as "irregular" and may render the same subject to rejection. The attachment of any conditions, limitations or ancillary provisions by a Bidder to his proposal may cause a similar classification and have a similar effect.

All proposals shall be prepared and signed by the Bidder and submitted on the prescribed form. All bids must be submitted in a sealed envelope, NO SMALLER THAN 8 1/2 by 11 INCHES, bearing the name and address of the Bidder and the project title on the outside. The following items must accompany the proposal and shall be contained in the same envelope.

- Bid Form
- Bid Bond valued at 10% of Bid value
- Consent of Surety
- Non-collusion Affidavit
- Bidders general information
- Subcontractor Certification

If forwarding by mail, the sealed envelope containing the Bid must be enclosed in another envelope addressed as specified in the Bid. The Township may consider irregular provisions hereof and may waive any informalities or reject any and all Bids.

Any Bid received after the time and date specified shall not be considered. All blank spaces in Bid Form, together with appropriate schedules, must be completed in full, in ink or typewritten, in both words and figures.

If a unit price already entered by the Bidder on the Bid form is to be altered, it shall be crossed out with ink and the new unit price bid entered above or below it, and initialed by the Bidder in ink.

F. SIGNATURE OF BIDDERS

The firm, corporation, or individual name of the Bidder must be signed in ink in the space provided for the same on the proposal blank. In the case of a corporation, the title of the officer signing must be likewise stated, and the seal of the corporation must be duly affixed. The corporate officer executing the document on behalf of the corporation shall attach, thereto, a certified copy of a resolution of the corporate board of directors indicating that officer's authority to make such a proposal and submit such Bid on behalf of the corporation. In the case of a partnership, the signature of at least one of the partners must follow the firm name, together with an indication that the signature is that of a partner. If some other agent of the partnership submits or executes a Bid for the firm, he/she shall attach thereto a notarized statement signed by each of the partners indicating

that he/she is authorized to act as an agent for the partnership in this endeavor. In the case of any Bids submitted by an individual, the designation "individual proprietorship" shall follow the signature in question. Any trade name used by a noncorporate Bidder shall be so designated and shall be indicated as having been registered or not registered under the Fictitious Names Registration Act with the Secretary of the Commonwealth of Pennsylvania and the Prothonotary of the County in Pennsylvania where so registered.

G. BIDDER'S AFFIDAVIT

Each Bidder shall complete and execute the affidavit incorporated with and made part of the proposal document. These affidavits are contained herein.

H. WITHDRAWAL OF PROPOSAL

No proposal may be withdrawn, altered or otherwise modified after it has been duly deposited with the Township.

I. CONSENT OF SURETY

Each proposal shall be accompanied by a consent of surety from an approved surety company that is licensed to conduct business in the Commonwealth of Pennsylvania; the bid bond shall state that the surety is made a condition of the awarding of this contract and anywhere in this proposal.

J. BID BOND

Each proposal shall be accompanied by a Bid Bond or Certified Check, to the Order of the Township, in the amount of Ten percent (10%) of the Total Bid Price submitted as a guarantee that the contract would be executed if awarded.

K. DISPOSAL OF PROPOSAL GUARANTEE

As soon as the lowest responsible Bidder has been selected, the award made, and the successful Bidder has executed the Contract and furnished the required security for the performance of the Contract, all bid bonds and checks submitted with Bids shall be returned to all unsuccessful Bidders. Upon the execution and delivery of the Contract and the furnishing of the required bonds or security for the performance of said Contract, the bid bond submitted by the successful Bidder shall be returned. In case the successful Bidder shall fail to execute and deliver the Contract and the necessary bonds within twenty (20) days after notice from the Township to do so, the award to him/her shall be vacated and such bid bond or check shall be forfeited as liquidated damages.

L. INTERPRETATIONS

No verbal interpretations of the meaning of the Specifications or other Contract Documents will be made to any Bidder. Any supplemental instructions will be in the form of written addenda to the Specifications which, if issued, will be mailed to all parties of record receiving such Specifications. Failure of any Bidder to receive any such addendum shall not relieve the Bidder from any obligations under his/her bid as submitted, nor from any obligations to conform to the requirements set forth.

M. QUALIFICATIONS OF CONTRACTORS

The Contractor shall submit names and addresses of similar installations where the Contractor has provided similar services over the past three (3) years. Bidders shall also complete and attach to their bid a Statement of Bidders Qualifications (Bidders General Information).

N. AFFIDAVIT OF NON-COLLUSION

Each Bidder shall be required to submit an affidavit of non-collusion on the forms included in and made a part of this Proposal.

O. PAYMENT AND PERFORMANCE BONDS

The successful Bidder shall be required to furnish a performance bond for the faithful performance of the Contract in the sum of 100% of total Contract amount. In addition, the successful Bidder shall be required to furnish a payment bond in the sum of 100% of total Contract amount to ensure that all labor, materials and equipment supplied to the project will be paid in full. All bonds shall be filed with the office of the Township Engineer no later than fifteen (15) days after the award of the contract. Said bonds shall be that of an approved surety company authorized to transact business within the Commonwealth of Pennsylvania, and proof of same shall be submitted to the satisfaction of the Township, agents of bonding company shall furnish the necessary power of attorney, bearing the seal of the company and evidencing such agents authorized to execute the particular type of bond to be furnished, as well as the right of the surety company to conduct business in the Commonwealth of Pennsylvania.

P. EXECUTION OF CONTRACT AND COMMENCEMENT OF WORKS

The successful Bidder shall execute a contract containing provisions substantially in conformance with the provisions of these Contract Documents promptly after the award of the Bid and shall commence work as soon as practical, but no later than 15 days after contract execution. Said Contract shall, in all respects, be interpreted and construed in accordance with the laws of the Commonwealth of Pennsylvania.

Q. DISQUALIFICATION OF BIDDERS

Although not intended to be an exhaustive list of causes for disqualifications, any one or more of the following causes, among others, may be considered sufficient for the disqualification of a Bidder and the rejection of his/her Bid:

- (a) Evidence of collusion among Bidders.
- (b) Lack of competency as revealed by either financial statements, experience or equipment statements as submitted or other factors.
- (c) Lack of responsibility as shown by past work, judged from the standpoint of workmanship as submitted.

(d) Default on a previous municipal contract for failure to perform.

R. METHOD OF AWARD

The Township reserves the right not to accept any Bid, or to reject any or all Bids, and to waive defects or irregularities in any Bids. In particular, any alteration, erasure or interlineations of the Contract Documents and the Bid form shall render the accompanying Bid irregular and be subject to rejection by the Township. The Township intends that the Contract shall be awarded within sixty (60) days following the date that Bids are publicly opened and read.

S. NOTICE TO CONTRACTOR

The residence or place of business designated in the Bid Proposal is hereby designated as the place to which all notices, letters and other communications shall be served, and to which all notices, letters and other communications shall be mailed or delivered. All notices specifically maintained herein, and all other communications of any kind, which may of necessity be hereafter dispatched, shall be sent by certified mail, return receipt required.

T. WORKER'S COMPENSATION INSURANCE

The contractor shall, during the term of this contract, maintain Worker's Compensation. The contract should have employer's liability insurance limits of bodily injury by accident of \$1,000,000.00 each accident and bodily injury by disease of \$1,000,000.00 policy limit, per each employee. This adds about 4% to the premium of the contractor but increases limits from \$100,00.00/\$500,000.00/\$100,000.00.

U. LIABILITY INSURANCE

The Contractor shall maintain, during the term of this Contract, at this own expense, the following liability insurance coverage:

1. Commercial General Liability Insurance for bodily injury in the amount of \$1,000,000.00 each occurrence with aggregate limits \$2,000,000.00 and property damage liability in the amount of \$1,000,000.00.
2. Automotive Liability Insurance limits of \$1,000,000.00 for any one accident. The coverage should include hired auto or borrowed auto, and non-ownership liability in the amount of \$1,000,000.00.
3. Umbrella Liability coverage in the amount of \$3,000,000.00.
4. All policies will have A.M. Best rating of A- or higher.

The required policies of insurance and others that may be necessary to comply herewith shall be maintained in the amounts set forth and shall name the Township as co-insured and shall otherwise indemnify and hold the Township harmless from all manner of claims

and lawsuits arising out of the performance of this Contract at the insurer's expense, all necessary legal aid, counsel and representations to the Township.

All required insurance policies shall be issued by an insurance carrier licensed and authorized to do business in the Commonwealth of Pennsylvania and shall be obtained and properly endorsed in favor of the Township before execution of the Contract hereunder. The policies shall remain in full force and effect until the expiration of the term of this Contract or the completion of all duties to be performed hereunder by the Contractor, whichever shall occur later. The Contractor shall deposit with the Township the original policies of insurance or true copies thereof prior to commencing work under this Contract.

Each and every policy of insurance required pursuant to the terms of this Contract shall carry with it an endorsement. The insurance carrier must send the Township, by certified mail, return receipt requested, written notice of any modifications, alterations or cancellations of any such policy or policies or the terms thereof at least ten (10) days prior to the effective date of any such modifications, alterations or cancellations. If such modifications, alterations or cancellations shall cause the insurance coverage required hereunder to fail to meet the minimum requirements set forth herein, the Contractor shall be deemed to be in default and the Township may terminate this agreement as of the effective date of such change in insurance coverage, and the surety on the performance bond may be held responsible by the Township for losses resulting therefrom.

V. ASSIGNMENT

Neither this Contract, nor any portion thereof, may be assigned, sublet or transferred to any person, firm or corporation, except upon the written consent or approval of the Township.

W. INDEMNIFICATION

The Contractor shall indemnify, save harmless, and defend the Township, its officers, agents, servants, and employees from and against any and all suits, actions, legal proceedings, claims and demands, and pay all damages, court costs, expenses and attorney's fees incident thereto and pertaining to any work done in the performance of this Contract or omission of the Contractor, its officers, agents, servants and employees.

X. EXTRA WORK OR MATERIALS

The Contractor shall not be entitled to demand or receive payment for any work as "extra work" or "extra materials" unless ordered in writing by the Township, at a price agreed upon in writing by the Contractor and the Township prior to its commencement or delivery.

Y. CONTRACTOR DEFAULT

In the event of the failure of the Contractor to provide the equipment and do the work required under the Contract, the Township may, upon 48 written hours notice by certified mail, return receipt requested, terminate the Contract and proceed as set forth in the

specification in the event of such termination at the cost and expense of the Contractor. The Township shall have the power to determine, in its sole discretion, that there has been a default or violation by the Contractor as to any of the provisions of the Contract or any part of the Contract Documents.

AA. FORBEARANCE NOT A WAIVER

Any forbearance by the Township in executing any right or remedy under the Contract, or otherwise afforded by applicable law, shall not be a waiver of or preclude the exercise of any such right or remedy by the Township.

BB. MAINTENANCE BOND

The Contractor shall provide a Maintenance Bond in the amount of 10% of the Contract sum for the maintenance of the work performed under the Contract for a period of eighteen (18) months from the date of completion and acceptance of the work performed under the Contract.

CC. REJECTION OF MATERIALS AND WORK RECEIVED

Payments made under this Contract shall not bind the Township to the acceptance of any materials furnished or work performed.

DD. SUBCONTRACTORS, ETC.

1. It is a condition of the Contract that the identity of Subcontractors and other persons and organizations be submitted by the Bidder to the Township as part of his/her bid package submittal. Such information shall be accompanied by an experience statement with pertinent information as to similar projects and other evidence of qualification for each such subcontractor, person and organization if required by the Township. If the Township, after due investigation has reasonable objection, it may, before giving the Notice of Award request the apparent low Bidder to submit an acceptable substitution, he/she will not thereby sacrifice his/her bid security. Any subcontractor, other person or organization so listed and to whom the Township does not make written objection prior to the giving of the Notice of Award will be deemed acceptable to the Township.
2. Contractor shall not be required to employ any subcontractor, other person or organization against whom he/she has a reasonable objection.

END OF DOCUMENT

SCOPE OF WORK:

1. Mobilization – It is the intent of the Township to have the contractors place all soft costs associates with the bidding process in this line item. Insurance certificates, bonding, bid preparation, equipment, travel, etc. would be covered by this item.
2. Clearing and Grubbing – Under this item, the contractor shall include all costs for material, labor and equipment required to complete the clearing and dispose of all removed tree and brush material in accordance with the plans and specifications.
3. Construction Entrance – The contractor shall include all costs for material, labor and equipment required to complete the installation and maintain the construction entrance in accordance with the plans and specifications.
4. Trail Construction 8' – The contractor shall include all costs for material, labor and equipment required to install the trail including excavation, non-woven geotextile fabric bottom and both sides, 8" 2A modified stone base, 1" depth choker base course #57 Stone, and 3.5" depth pervious paving surface course compacted to a depth of 2.5".
5. Timber Bridge – The contractor shall include all costs for material, labor and equipment required to complete the construction of the timber bridges in accordance with the plans and specifications.
6. Respread Topsoil, Rake and Seed – The contractor shall include all costs for material, labor and equipment required for respraying top soil, raking and seeding in accordance with the plans and specifications.
7. Painted Crosswalk – The contractor shall include all costs for material, labor and equipment required to complete the installation of the painted crosswalks in accordance with the plans and specifications.
8. Erosion Control – The contractor shall include all costs for material, labor and equipment required to complete the installation and maintenance of erosion control in accordance with the plans and specifications.
9. Landscaping – The contractor shall include all costs for material, labor and equipment required to complete all landscaping in accordance with the plans and specifications.
10. ADA Ramp – The contractor shall include all costs for material, labor and equipment required to complete the installation of ADA Ramp in accordance with the plans and specifications.
11. Trail Excavation – The contractor shall include all costs for material, labor and equipment required to complete the excavation for the proposed trail. It is the intent of this work to spread the excavated material to blend the surrounding area to the grade of maximum slope of three to one.

Springfield Township
Mermaid Park Pedestrian Trail & Streambank Stabilization Project

12. Cofferdam and Pump Around – The contractor shall include all costs for material, labor and equipment required to install and maintain the coffer dam and pump around in accordance with the plans and specifications.
13. Excavation – The contractor shall include all costs for material, labor and equipment required to complete excavation and prepare subgrade for the Filtrexx Stabilization System in accordance with the plans and specifications.
14. Filtrexx Edgesaver Streambank Stabilization System – The contractor shall include all costs for material, labor and equipment required to complete the installation of the Filtrexx Edgesaver Streambank Stabilization System in accordance with the plans and specifications
15. Top Soil, Rake and Seed – The contractor shall include all costs for material, labor and equipment required to complete the placement of top soil, raking the top soil, and seeding in accordance with the plans and specifications.
16. The contractor shall obtain and pay for all construction permits required. Upon receipt of all permits, Springfield Township will reimburse contractor for the permit fees.

Springfield Township
Mermaid Park Pedestrian Trail & Streambank Stabilization Project
GENERAL CONDITIONS

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the controlling Laws and Regulations.

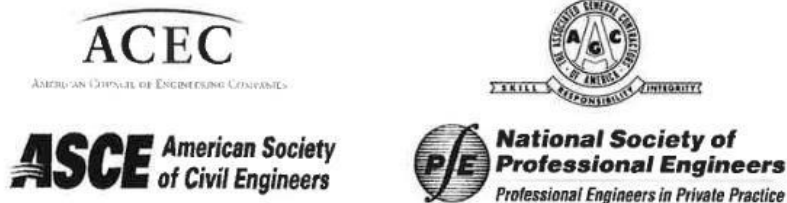
**STANDARD GENERAL CONDITIONS
OF THE CONSTRUCTION CONTRACT**

Prepared by

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

and

Issued and Published Jointly by



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Endorsed by



CONSTRUCTION SPECIFICATIONS INSTITUTE

These General Conditions have been prepared for use with the Suggested Forms of Agreement Between Owner and Contractor (EJCDC C-520 or C-525, 2007 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other. Comments concerning their usage are contained in the Narrative Guide to the EJCDC Construction Documents (EJCDC C-001, 2007 Edition). For guidance in the preparation of Supplementary Conditions, see Guide to the Preparation of Supplementary Conditions (EJCDC C-800, 2007 Edition).

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STANDARD GENERAL CONDITIONS OF THE
CONSTRUCTION CONTRACT

TABLE OF CONTENTS

	Page
Article 1 – Definitions and Terminology	1
1.01 Defined Terms	1
1.02 Terminology	5
Article 2 – Preliminary Matters	6
2.01 Delivery of Bonds and Evidence of Insurance	6
2.02 Copies of Documents	6
2.03 Commencement of Contract Times; Notice to Proceed.....	6
2.04 Starting the Work	7
2.05 Before Starting Construction	7
2.06 Preconstruction Conference; Designation of Authorized Representatives.....	7
2.07 Initial Acceptance of Schedules.....	7
Article 3 – Contract Documents: Intent, Amending, Reuse	8
3.01 Intent.....	8
3.02 Reference Standards.....	8
3.03 Reporting and Resolving Discrepancies.....	9
3.04 Amending and Supplementing Contract Documents.....	9
3.05 Reuse of Documents	10
3.06 Electronic Data.....	10
Article 4 – Availability of Lands; Subsurface and Physical Conditions; Hazardous Environmental Conditions; Reference Points.....	11
4.01 Availability of Lands.....	11
4.02 Subsurface and Physical Conditions.....	11
4.03 Differing Subsurface or Physical Conditions	12
4.04 Underground Facilities.....	13
4.05 Reference Points.....	14
4.06 Hazardous Environmental Condition at Site	14
Article 5 – Bonds and Insurance.....	16
5.01 Performance, Payment, and Other Bonds.....	16
5.02 Licensed Sureties and Insurers.....	16
5.03 Certificates of Insurance	17
5.04 Contractor’s Insurance	17
5.05 Owner’s Liability Insurance.....	19
5.06 Property Insurance.....	19
5.07 Waiver of Rights	20
5.08 Receipt and Application of Insurance Proceeds	21

5.09	Acceptance of Bonds and Insurance; Option to Replace	21
5.10	Partial Utilization, Acknowledgment of Property Insurer.....	22
Article 6 – Contractor’s Responsibilities		22
6.01	Supervision and Superintendence.....	22
6.02	Labor; Working Hours.....	22
6.03	Services, Materials, and Equipment	22
6.04	Progress Schedule	23
6.05	Substitutes and “Or-Equals”	23
6.06	Concerning Subcontractors, Suppliers, and Others.....	25
6.07	Patent Fees and Royalties	27
6.08	Permits.....	27
6.09	Laws and Regulations	28
6.10	Taxes	28
6.11	Use of Site and Other Areas.....	28
6.12	Record Documents.....	29
6.13	Safety and Protection	29
6.14	Safety Representative.....	30
6.15	Hazard Communication Programs.....	30
6.16	Emergencies	30
6.17	Shop Drawings and Samples	31
6.18	Continuing the Work.....	32
6.19	Contractor’s General Warranty and Guarantee	33
6.20	Indemnification	33
6.21	Delegation of Professional Design Services.....	34
Article 7 – Other Work at the Site.....		35
7.01	Related Work at Site	35
7.02	Coordination.....	35
7.03	Legal Relationships.....	36
Article 8 – Owner’s Responsibilities.....		36
8.01	Communications to Contractor.....	36
8.02	Replacement of Engineer	36
8.03	Furnish Data	36
8.04	Pay When Due.....	36
8.05	Lands and Easements; Reports and Tests.....	36
8.06	Insurance.....	36
8.07	Change Orders.....	37
8.08	Inspections, Tests, and Approvals	37
8.09	Limitations on Owner’s Responsibilities	37
8.10	Undisclosed Hazardous Environmental Condition	37
8.11	Evidence of Financial Arrangements.....	37
8.12	Compliance with Safety Program	37
Article 9 – Engineer’s Status During Construction.....		37
9.01	Owner’s Representative	37

9.02	Visits to Site	37
9.03	Project Representative.....	38
9.04	Authorized Variations in Work	38
9.05	Rejecting Defective Work.....	38
9.06	Shop Drawings, Change Orders and Payments	39
9.07	Determinations for Unit Price Work	39
9.08	Decisions on Requirements of Contract Documents and Acceptability of Work	39
9.09	Limitations on Engineer’s Authority and Responsibilities	39
9.10	Compliance with Safety Program	40
Article 10 – Changes in the Work; Claims		40
10.01	Authorized Changes in the Work	40
10.02	Unauthorized Changes in the Work.....	41
10.03	Execution of Change Orders.....	41
10.04	Notification to Surety	41
10.05	Claims.....	41
Article 11 – Cost of the Work; Allowances; Unit Price Work		42
11.01	Cost of the Work	42
11.02	Allowances	45
11.03	Unit Price Work	45
Article 12 – Change of Contract Price; Change of Contract Times		46
12.01	Change of Contract Price	46
12.02	Change of Contract Times	47
12.03	Delays	47
Article 13 – Tests and Inspections; Correction, Removal or Acceptance of Defective Work.....		48
13.01	Notice of Defects.....	48
13.02	Access to Work	48
13.03	Tests and Inspections	49
13.04	Uncovering Work.....	49
13.05	Owner May Stop the Work.....	50
13.06	Correction or Removal of Defective Work	50
13.07	Correction Period	50
13.08	Acceptance of Defective Work.....	51
13.09	Owner May Correct Defective Work	52
Article 14 – Payments to Contractor and Completion		52
14.01	Schedule of Values.....	52
14.02	Progress Payments	52
14.03	Contractor’s Warranty of Title.....	55
14.04	Substantial Completion.....	55
14.05	Partial Utilization	56
14.06	Final Inspection	57
14.07	Final Payment.....	57
14.08	Final Completion Delayed	58

14.09 Waiver of Claims	58
Article 15 – Suspension of Work and Termination	59
15.01 Owner May Suspend Work.....	59
15.02 Owner May Terminate for Cause	59
15.03 Owner May Terminate For Convenience	60
15.04 Contractor May Stop Work or Terminate.....	60
Article 16 – Dispute Resolution	61
16.01 Methods and Procedures	61
Article 17 – Miscellaneous	61
17.01 Giving Notice	61
17.02 Computation of Times	62
17.03 Cumulative Remedies	62
17.04 Survival of Obligations	62
17.05 Controlling Law	62
17.06 Headings.....	62

ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 2. *Agreement*—The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.
 3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *Asbestos*—Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.
 5. *Bid*—The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 6. *Bidder*—The individual or entity who submits a Bid directly to Owner.
 7. *Bidding Documents*—The Bidding Requirements and the proposed Contract Documents (including all Addenda).
 8. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid security of acceptable form, if any, and the Bid Form with any supplements.
 9. *Change Order*—A document recommended by Engineer which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.
 10. *Claim*—A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.
 11. *Contract*—The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*—Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.
13. *Contract Price*—The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).
14. *Contract Times*—The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any; (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.
15. *Contractor*—The individual or entity with whom Owner has entered into the Agreement.
16. *Cost of the Work*—See Paragraph 11.01 for definition.
17. *Drawings*—That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.
18. *Effective Date of the Agreement*—The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.
19. *Engineer*—The individual or entity named as such in the Agreement.
20. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.
21. *General Requirements*—Sections of Division 1 of the Specifications.
22. *Hazardous Environmental Condition*—The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto.
23. *Hazardous Waste*—The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.
24. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
25. *Liens*—Charges, security interests, or encumbrances upon Project funds, real property, or personal property.
26. *Milestone*—A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

27. *Notice of Award*—The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.
28. *Notice to Proceed*—A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.
29. *Owner*—The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.
30. *PCBs*—Polychlorinated biphenyls.
31. *Petroleum*—Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.
32. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.
33. *Project*—The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.
34. *Project Manual*—The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.
35. *Radioactive Material*—Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.
36. *Resident Project Representative*—The authorized representative of Engineer who may be assigned to the Site or any part thereof.
37. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.
38. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.
39. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

40. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.
41. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.
42. *Specifications*—That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.
43. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.
44. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof.
45. *Successful Bidder*—The Bidder submitting a responsive Bid to whom Owner makes an award.
46. *Supplementary Conditions*—That part of the Contract Documents which amends or supplements these General Conditions.
47. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or Subcontractor.
48. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
49. *Unit Price Work*—Work to be paid for on the basis of unit prices.
50. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.
51. *Work Change Directive*—A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an

addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

1.02 *Terminology*

A. The words and terms discussed in Paragraph 1.02.B through F are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

B. *Intent of Certain Terms or Adjectives:*

1. The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.09 or any other provision of the Contract Documents.

C. *Day:*

1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.

D. *Defective:*

1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - a. does not conform to the Contract Documents; or
 - b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 - c. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 14.04 or 14.05).

E. *Furnish, Install, Perform, Provide:*

1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
 2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
 3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
 4. When “furnish,” “install,” “perform,” or “provide” is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, “provide” is implied.
- F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

- A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.
- B. *Evidence of Insurance:* Before any Work at the Site is started, Contractor and Owner shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.

2.02 *Copies of Documents*

- A. Owner shall furnish to Contractor up to ten printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

2.03 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

2.04 *Starting the Work*

- A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 *Before Starting Construction*

- A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for timely review:
 - 1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;
 - 2. a preliminary Schedule of Submittals; and
 - 3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.06 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.05.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit instructions, receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.07 *Initial Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.
 - 1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on

Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.

2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 Intent

- A. The Contract Documents are complementary; what is required by one is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that reasonably may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated result will be provided whether or not specifically called for, at no additional cost to Owner.
- C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

3.02 Reference Standards

- A. Standards, Specifications, Codes, Laws, and Regulations
 1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
 2. No provision of any such standard, specification, manual, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies:*

1. *Contractor's Review of Contract Documents Before Starting Work:* Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor discovers, or has actual knowledge of, and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.
2. *Contractor's Review of Contract Documents During Performance of Work:* If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) any standard, specification, manual, or code, or (c) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies:*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:
 - a. the provisions of any standard, specification, manual, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference in the Contract Documents); or
 - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.
- B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:

1. A Field Order;
2. Engineer's approval of a Shop Drawing or Sample (subject to the provisions of Paragraph 6.17.D.3); or
3. Engineer's written interpretation or clarification.

3.05 *Reuse of Documents*

- A. Contractor and any Subcontractor or Supplier shall not:
1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions; or
 2. reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

3.06 *Electronic Data*

- A. Unless otherwise stated in the Supplementary Conditions, the data furnished by Owner or Engineer to Contractor, or by Contractor to Owner or Engineer, that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.
- B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party.
- C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

**ARTICLE 4 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS;
HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS**

4.01 *Availability of Lands*

- A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.
- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 *Subsurface and Physical Conditions*

- A. *Reports and Drawings:* The Supplementary Conditions identify:
 - 1. those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site; and
 - 2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).
- B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
 - 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
 - 2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
 - 3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

4.03 *Differing Subsurface or Physical Conditions*

A. *Notice:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed either:

1. is of such a nature as to establish that any "technical data" on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or
2. is of such a nature as to require a change in the Contract Documents; or
3. differs materially from that shown or indicated in the Contract Documents; or
4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *Engineer's Review:* After receipt of written notice as required by Paragraph 4.03.A, Engineer will promptly review the pertinent condition, determine the necessity of Owner's obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer's findings and conclusions.

C. *Possible Price and Times Adjustments:*

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. such condition must meet any one or more of the categories described in Paragraph 4.03.A; and
 - b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.07 and 11.03.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:
 - a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or
 - b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and

contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or

- c. Contractor failed to give the written notice as required by Paragraph 4.03.A.
3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in Paragraph 10.05. However, neither Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data provided by others; and
2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
 - a. reviewing and checking all such information and data;
 - b. locating all Underground Facilities shown or indicated in the Contract Documents;
 - c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction; and
 - d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. *Not Shown or Indicated:*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the

consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.

4.05 *Reference Points*

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.06 *Hazardous Environmental Condition at Site*

- A. *Reports and Drawings:* The Supplementary Conditions identify those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at the Site.
- B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or
 2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
 3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.

- C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.
- D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 4.06.E.
- E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered written notice to Contractor: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.
- F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.
- G. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

- H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- I. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 – BONDS AND INSURANCE

5.01 *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.
- B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed each bond.
- C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

5.02 *Licensed Sureties and Insurers*

- A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also

meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 *Certificates of Insurance*

- A. Contractor shall deliver to Owner, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.
- B. Owner shall deliver to Contractor, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.
- C. Failure of Owner to demand such certificates or other evidence of Contractor's full compliance with these insurance requirements or failure of Owner to identify a deficiency in compliance from the evidence provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.
- D. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor.
- E. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner in the Contract Documents.

5.04 *Contractor's Insurance*

- A. Contractor shall purchase and maintain such insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:
 - 1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;
 - 2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;
 - 3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;
 - 4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:

- a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or
 - b. by any other person for any other reason;
5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and
 6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.
- B. The policies of insurance required by this Paragraph 5.04 shall:
1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, be written on an occurrence basis, include as additional insureds (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;
 2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;
 3. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;
 4. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);
 5. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and
 6. include completed operations coverage:
 - a. Such insurance shall remain in effect for two years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

5.05 *Owner's Liability Insurance*

- A. In addition to the insurance required to be provided by Contractor under Paragraph 5.04, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

5.06 *Property Insurance*

- A. Unless otherwise provided in the Supplementary Conditions, Owner shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:
1. include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee;
 2. be written on a Builder's Risk "all-risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage (other than that caused by flood), and such other perils or causes of loss as may be specifically required by the Supplementary Conditions.
 3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);
 4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;
 5. allow for partial utilization of the Work by Owner;
 6. include testing and startup; and
 7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other loss payee to whom a certificate of insurance has been issued.
- B. Owner shall purchase and maintain such equipment breakdown insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors,

members, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee.

- C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other loss payee to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.
- D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.
- E. If Contractor requests in writing that other special insurance be included in the property insurance policies provided under this Paragraph 5.06, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall in writing advise Contractor whether or not such other insurance has been procured by Owner.

5.07 *Waiver of Rights*

- A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or loss payees thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.
- B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for:

1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and
 2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them.

5.08 *Receipt and Application of Insurance Proceeds*

- A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the loss payees, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order.
- B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

5.09 *Acceptance of Bonds and Insurance; Option to Replace*

- A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's

interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

- A. If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6 – CONTRACTOR’S RESPONSIBILITIES

6.01 *Supervision and Superintendence*

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

6.02 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.
- B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner’s written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

6.03 *Services, Materials, and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

- B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.
- C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 as it may be adjusted from time to time as provided below.
 - 1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.
 - 2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

6.05 *Substitutes and "Or-Equals"*

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.
 - 1. "*Or-Equal*" Items: If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or-equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:
 - a. in the exercise of reasonable judgment Engineer determines that:
 - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

- 2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole; and
 - 3) it has a proven record of performance and availability of responsive service.
- b. Contractor certifies that, if approved and incorporated into the Work:
- 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

2. *Substitute Items:*

- a. If in Engineer's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.
- b. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.
- c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented by the General Requirements, and as Engineer may decide is appropriate under the circumstances.
- d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:
 - 1) shall certify that the proposed substitute item will:
 - a) perform adequately the functions and achieve the results called for by the general design,
 - b) be similar in substance to that specified, and
 - c) be suited to the same use as that specified;
 - 2) will state:
 - a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time,
 - b) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and

- c) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;
 - 3) will identify:
 - a) all variations of the proposed substitute item from that specified, and
 - b) available engineering, sales, maintenance, repair, and replacement services; and
 - 4) shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change.
 - B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.
 - C. *Engineer's Evaluation:* Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by a Change Order in the case of a substitute and an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.
 - D. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
 - E. *Engineer's Cost Reimbursement:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.
 - F. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.
- 6.06 *Concerning Subcontractors, Suppliers, and Others*
- A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be

required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.

- B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.
- C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:
1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity; nor
 2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.
- D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.
- E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.
- F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as a loss payee on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner,

Contractor, Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

6.07 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.
- B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.
- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 *Permits*

- A. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

6.09 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

6.10 *Taxes*

- A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

6.11 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas:*

- 1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.
- 2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.
- 3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought

by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.

- B. *Removal of Debris During Performance of the Work:* During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.
- C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.
- D. *Loading Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.12 *Record Documents*

- A. Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to Engineer for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to Engineer for Owner.

6.13 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:
 - 1. all persons on the Site or who may be affected by the Work;
 - 2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 - 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and

shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.

- C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.
- D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
- E. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).
- F. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 *Safety Representative*

- A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 *Hazard Communication Programs*

- A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 *Emergencies*

- A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is

required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 *Shop Drawings and Samples*

A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as Engineer may require.

1. *Shop Drawings:*

- a. Submit number of copies specified in the General Requirements.
- b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.

2. *Samples:*

- a. Submit number of Samples specified in the Specifications.
- b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.

B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Submittal Procedures:*

1. Before submitting each Shop Drawing or Sample, Contractor shall have:

- a. reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
- b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
- c. determined and verified the suitability of all materials offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
- d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.

2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.
3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawings or Sample submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

D. Engineer's Review:

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

E. Resubmittal Procedures:

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

6.18 *Continuing the Work*

- A. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

6.19 *Contractor's General Warranty and Guarantee*

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on representation of Contractor's warranty and guarantee.
- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
 - 1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 - 2. normal wear and tear under normal usage.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
 - 1. observations by Engineer;
 - 2. recommendation by Engineer or payment by Owner of any progress or final payment;
 - 3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
 - 4. use or occupancy of the Work or any part thereof by Owner;
 - 5. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;
 - 6. any inspection, test, or approval by others; or
 - 7. any correction of defective Work by Owner.

6.20 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable .

- B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.
- C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
 - 1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
 - 2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

6.21 *Delegation of Professional Design Services*

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable law.
- B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.
- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.
- D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.

- E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

ARTICLE 7 – OTHER WORK AT THE SITE

7.01 Related Work at Site

- A. Owner may perform other work related to the Project at the Site with Owner's employees, or through other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:
 - 1. written notice thereof will be given to Contractor prior to starting any such other work; and
 - 2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.
- B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.
- C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

7.02 Coordination

- A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:
 - 1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;
 - 2. the specific matters to be covered by such authority and responsibility will be itemized; and
 - 3. the extent of such authority and responsibilities will be provided.

- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

7.03 *Legal Relationships*

- A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.
- B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's wrongful actions or inactions.
- C. Contractor shall be liable to Owner and any other contractor under direct contract to Owner for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's wrongful action or inactions.

ARTICLE 8 – OWNER'S RESPONSIBILITIES

8.01 *Communications to Contractor*

- A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

8.02 *Replacement of Engineer*

- A. In case of termination of the employment of Engineer, Owner shall appoint an engineer to whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Engineer.

8.03 *Furnish Data*

- A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

8.04 *Pay When Due*

- A. Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.02.C and 14.07.C.

8.05 *Lands and Easements; Reports and Tests*

- A. Owner's duties with respect to providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

8.06 *Insurance*

- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.07 *Change Orders*

A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

8.08 *Inspections, Tests, and Approvals*

A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

8.09 *Limitations on Owner's Responsibilities*

A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

8.10 *Undisclosed Hazardous Environmental Condition*

A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.06.

8.11 *Evidence of Financial Arrangements*

A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents.

8.12 *Compliance with Safety Program*

A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed pursuant to Paragraph 6.13.D.

ARTICLE 9 – ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *Owner's Representative*

A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract Documents.

9.02 *Visits to Site*

A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or

continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 9.09. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

9.03 *Project Representative*

- A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.09. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 *Authorized Variations in Work*

- A. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

9.05 *Rejecting Defective Work*

- A. Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.06 *Shop Drawings, Change Orders and Payments*

- A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.
- B. In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.
- C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.
- D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

9.07 *Determinations for Unit Price Work*

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of Paragraph 10.05.

9.08 *Decisions on Requirements of Contract Documents and Acceptability of Work*

- A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question.
- B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believes that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.
- C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.
- D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not

exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with, the Contract Documents.
- E. The limitations upon authority and responsibility set forth in this Paragraph 9.09 shall also apply to the Resident Project Representative, if any, and assistants, if any.

9.10 *Compliance with Safety Program*

- A. While at the Site, Engineer's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Engineer has been informed pursuant to Paragraph 6.13.D.

ARTICLE 10 – CHANGES IN THE WORK; CLAIMS

10.01 *Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).
- B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

10.02 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.04, except in the case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.D.

10.03 *Execution of Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:
1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;
 2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and
 3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

10.04 *Notification to Surety*

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

10.05 *Claims*

- A. *Engineer's Decision Required:* All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.
- B. *Notice:* Written notice stating the general nature of each Claim shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data

shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Times shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).

- C. *Engineer's Action:* Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:
1. deny the Claim in whole or in part;
 2. approve the Claim; or
 3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.
- D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.
- E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.
- F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

ARTICLE 11 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

11.01 Cost of the Work

- A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 11.01.B, and shall include only the following items:

1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.
2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.
4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
5. Supplemental costs including the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
 - c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of

said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.

- d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
- e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
- f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.
- g. The cost of utilities, fuel, and sanitary facilities at the Site.
- h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, express and courier services, and similar petty cash items in connection with the Work.
- i. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

B. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

- 1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.
- 2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
- 3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
- 4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not

limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A.
- C. *Contractor's Fee:* When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.
- D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

11.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.
- B. *Cash Allowances:*
 1. Contractor agrees that:
 - a. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
 - b. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.
- C. *Contingency Allowance:*
 1. Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 Unit Price Work

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to

the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:
 - 1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
 - 2. there is no corresponding adjustment with respect to any other item of Work; and
 - 3. Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 12 – CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 Change of Contract Price

- A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:
 - 1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or
 - 2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or
 - 3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).

C. *Contractor's Fee:* The Contractor's fee for overhead and profit shall be determined as follows:

1. a mutually acceptable fixed fee; or
2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;
 - b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent;
 - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 12.01.C.2.a and 12.01.C.2.b is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;
 - d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;
 - e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
 - f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

12.03 *Delays*

- A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or

neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.

- B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.
- D. Owner, Engineer, and their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.
- E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

ARTICLE 13 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 Notice of Defects

- A. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. Defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 Access to Work

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

13.03 *Tests and Inspections*

- A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.
- B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:
 - 1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;
 - 2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in Paragraph 13.04.C; and
 - 3. as otherwise specifically provided in the Contract Documents.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.
- D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.
- E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation.
- F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

13.04 *Uncovering Work*

- A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.
- B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.

- C. If it is found that the uncovered Work is defective, Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05.
- D. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

13.05 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

13.06 *Correction or Removal of Defective Work*

- A. Promptly after receipt of written notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).
- B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

13.07 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:

1. repair such defective land or areas; or
 2. correct such defective Work; or
 3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.
- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.
- C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.
- E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

13.08 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and for the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

13.09 *Owner May Correct Defective Work*

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct, or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.
- C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.
- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 *Schedule of Values*

- A. The Schedule of Values established as provided in Paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 *Progress Payments*

A. *Applications for Payments:*

- 1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an

Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

B. Review of Applications:

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:
 - a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and any other qualifications stated in the recommendation); and
 - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
 - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or

involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or

- b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
 - a. to supervise, direct, or control the Work, or
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
 - d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
 5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:
 - a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;
 - c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or
 - d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. Payment Becomes Due:

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.

D. Reduction in Payment:

1. Owner may refuse to make payment of the full amount recommended by Engineer because:
 - a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;
 - b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
 - c. there are other items entitling Owner to a set-off against the amount recommended; or
 - d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.
2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor remedies the reasons for such action.
3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1 and subject to interest as provided in the Agreement.

14.03 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens.

14.04 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before

final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the tentative certificate to Owner, notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will, within said 14 days, execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.

- D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.
- E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the tentative list.

14.05 *Partial Utilization*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:
 - 1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 14.04.A through D for that part of the Work.
 - 2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
 - 3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

14.06 *Final Inspection*

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 *Final Payment*

A. *Application for Payment:*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.
2. The final Application for Payment shall be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.04.B.6;
 - b. consent of the surety, if any, to final payment;
 - c. a list of all Claims against Owner that Contractor believes are unsettled; and
 - d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

B. *Engineer's Review of Application and Acceptance:*

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying

documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. Payment Becomes Due:

1. Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and will be paid by Owner to Contractor.

14.08 *Final Completion Delayed*

- A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 *Waiver of Claims*

- A. The making and acceptance of final payment will constitute:
 1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and
 2. a waiver of all Claims by Contractor against Owner other than those previously made in accordance with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION

15.01 *Owner May Suspend Work*

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.05.

15.02 *Owner May Terminate for Cause*

- A. The occurrence of any one or more of the following events will justify termination for cause:
1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);
 2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;
 3. Contractor's repeated disregard of the authority of Engineer; or
 4. Contractor's violation in any substantial way of any provisions of the Contract Documents.
- B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:
1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion);
 2. incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere; and
 3. complete the Work as Owner may deem expedient.
- C. If Owner proceeds as provided in Paragraph 15.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when

so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

- D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.
- E. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.
- F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B and 15.02.C.

15.03 *Owner May Terminate For Convenience*

- A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
 - 1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 - 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;
 - 3. all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and
 - 4. reasonable expenses directly attributable to termination.
- B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) Owner fails for 30 days

to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Paragraph 15.03.

- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this Paragraph 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Paragraph.

ARTICLE 16 – DISPUTE RESOLUTION

16.01 Methods and Procedures

- A. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.
- B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.
- C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:
1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions; or
 2. agrees with the other party to submit the Claim to another dispute resolution process; or
 3. gives written notice to the other party of the intent to submit the Claim to a court of competent jurisdiction.

ARTICLE 17 – MISCELLANEOUS

17.01 Giving Notice

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:

1. delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended; or
2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 *Computation of Times*

- A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.03 *Cumulative Remedies*

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents. The provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 *Survival of Obligations*

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

17.05 *Controlling Law*

- A. This Contract is to be governed by the law of the state in which the Project is located.

17.06 *Headings*

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

SUPPLEMENTAL GENERAL CONDITIONS

1. AMENDMENTS TO THE GENERAL CONDITIONS

1.1 Article 1 - Definitions

- A. Agreement - further defined as the Proposal and Contract (when executed).
- B. Owner - further defined as the Township of Springfield.
- C. Engineer - further defined as Woodrow and Associates, Inc. Lower Gwynedd.

1.2 Article 2 - Preliminary Matters

- A. Paragraph 2.01, delete “when Contractor delivers”, and revise to read, “within ten days of the Notice of Award the Contractor shall deliver...”
- B. Paragraph 2.05A, delete entire paragraph and substitute the following: “CONTRACTOR shall submit to the ENGINEER for review an estimated progress schedule showing proposed progression of the work beginning with the date the NOTICE TO PROCEED is issued and running for the time allowed for completion; a list of Subcontractors and the work to be performed by them; a list of materials suppliers and sources together with proof of PennDOT certification and Shop Drawings. The above listed documents shall be submitted with the executed CONTRACTS.”

1.3 Article 5 - Bonds and Insurance

- A. Paragraph 5.01A; add at end of paragraph, “The required Performance Bond, Payment Bond and Certificate of Insurance shall be delivered to the Owner prior to or with submission of the executed Contract.”

1.4 Article 6 - Contractors Responsibilities

- A. Referring to paragraph 6.02B, where no emergency exists, but the Contractor feels it is advantageous to work at night, or legal holidays, the Contractor shall notify the Engineer at least two (2) days in advance, requesting permission and agreeing to pay an overtime rate to the Engineer for the Engineer’s observation of work.
- B. Referring to paragraph 6.13, the Contractor shall comply with the pertinent provisions of the Contract Work Hours and Safety Standards Act as pertains to health and safety standards; and shall maintain an accurate record of all cases of death, occupational disease, and injury requiring medical attention or causing loss of time from work, arising out of and in the course of employment on work under the Contract. The Contractor alone shall be responsible for the safety, efficiency and adequacy of his plant, appliances, and methods; and for any damage which may result from their failure or their improper construction, maintenance or operation.
- C. The Contractor alone shall be responsible to maintain the existing surface drainage pattern of the streets, especially at the intersections to provide positive surface drainage upon project completion.

Mermaid Park Pedestrian Trail & Streambank Stabilization Project

- D. All contractors, subcontractors and other persons utilizing this specification and the information contained herein shall comply with the requirements of Pennsylvania Act 287, as amended, referred to as the "Underground Utility Protection Law." Each individual under this contract must verify location and depth of all underground utilities and facilities before starting any work. Contractor shall notify the Pennsylvania One Call System (1-800-242-1776) at least 72 hours prior to the start of excavation.
- E. In the case where overhanging tree limbs or branches obstruct construction vehicle access, it is the Contractor's responsibility to hire and pay a tree surgeon or arborist to trim back the limbs and / or branches to provide construction vehicle access in order to perform the work in the contract, at no cost to Springfield Township. If the required tree trimming work is near power wires, the arborist shall be a Certified Line Clearance trimmer or Utility Arborist.

1.5 Article 14 - Payments and Completion

- A. Paragraph 14.02B.1; change first sentence to read thirty (30) days. This paragraph is further amended to include the following provision for retainage:

After the Engineer's approval of the payment application submitted by the Contractor, the sum or sums withheld by the Owner from the Contractor shall not exceed 10% of the amount due the Contractor until 50% of the contract is completed. The sum or sums withheld by the Owner from the Contractor after the contract is 50% completed shall not exceed 5% of the amount due the Contractor on the remaining work, provided, however, that in the event of a dispute arises between the Owner and any prime Contractor, which dispute is based upon increased costs claimed by one prime Contractor occasioned by delays or other actions of another prime Contractor, additional retainage in the sum of one and one-half times the amount of any possible liability may be withheld until such time as a final resolution is agreed to by all parties directly involved, unless the Contractor causing the additional claim furnished a bond satisfactory to the Owner to indemnify such Owner against the claim. However, all such money retained by the Owner may be withheld from the Contractor until substantial completion of the Contract.
- B. Notwithstanding the provisions of Article 14, Paragraph 14.10 of the General Conditions, the failure of the Owner or Engineer to insist upon a strict performance at any time of any of the terms, conditions or details set forth in the contract documents shall not operate as a waiver of any of the said terms, conditions, or details, nor any of the rights or remedies of the Owner or Engineer.

The Owner or the Engineer shall not be precluded nor estopped by any measurement, estimate, or certificate made or given by either of them, or by any agent or employee of the Owner, under any provision or provisions of the Contract, at any time either before or after completion and acceptance of the work and payment thereof pursuant to any measurement, estimate, or certificate from showing at any time that any such measurement, estimate, or certificate is untrue or incorrectly made in any particular or that the work or material or any part thereof fail to conform in fact to the Contract.

The Owner shall have the right to reject the whole or any part of the aforesaid work or material should the said measurements, estimate, certificate or payment be found or be known to be inconsistent with the terms of the Contract, or otherwise improperly given. The Owner shall not be precluded nor estopped, notwithstanding any such measurements, estimate, certificate or payment in accordance therewith, from demanding and recovering from the Contractor and his Surety such damages as he may sustain by reason of his failure to comply with the terms of the Contract.

Neither the acceptance of the Engineer, nor any agent or employee of the Owner, nor any certificate by the Engineer for payment of money, nor any payment for or acceptance of the whole or any part of the work by the Owner or the Engineer, nor any extension of time, nor any possession taken by the Owner or his employees, shall operate as a waiver of any portion of the Contract, or of any power herein reserved by the Owner, or any right to damages herein provided; nor shall any waiver of any breach of contract be held to be a waiver of any other or subsequent breach.

- C. Paragraph 14.04; Change sixth sentence to read “Owner shall have fifteen (15) days...”; change seventh sentence to read “If, after considering such objections, Engineer concludes that the project is not substantially complete, he will within fifteen (15) days of receipt of the Owner’s objection notify the Contractor in writing, stating his reason therefore”;

Change eighth sentence to read, “If, after consideration of Owner’s objections, Engineer considers the project substantially complete, he will within fifteen (15) days of receipt of Owner’s objections execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed reflecting such changes from the tentative certificate as he believes justified after consideration of any objections from the Owner.”

2. PAYMENT OF RETAINAGE TO SUBCONTRACTORS

In the absence of good and sufficient reasons, within twenty (20) days of the receipt of payment by the Contractor, the Contractor shall pay all Subcontractors with whom he has contracted their earned share of the payment the Contractor received.

2.1 SUBCONTRACTOR PAYMENT CERTIFICATION

Springfield Township will withhold fifty percent (50%) of the Total Contract Cost until the Contractor provides written confirmation to the Township from all subcontractors and suppliers (with whom he has contracted) which certifies that they have been paid-in-full for all services rendered and/or materials provided.

3. EXTRA ENGINEERING

Should the completion of the work be delayed beyond the time herein specified for completion for any reason other than the act of neglect and the Owner, and regardless of any extensions of time granted the Contractor, the Contractor shall pay the Owner the actual engineering expense incurred by the Owner as a result of such delay. The Owner may deduct such engineering expense from payments due or to become due the Contractor.

4. **EXCLUSION OF CERTAIN ALUMINUM AND STEEL PRODUCTS**

In Accordance with the Act of July 23, 1968, P.L. 686, No. 226, as revised, no aluminum or steel products made in a foreign country which has been determined by the Commonwealth Court to discriminate shall be furnished or used in completion of any work under these contract documents.

Act No. 226 requires the Court to direct the Prothonotary of said Court to enter the name of any foreign country so determined in the Foreign Registry Docket maintained by the Prothonotary.

5. **NONDISCRIMINATION/SEXUAL HARASSMENT PROVISIONS**

During the term of this Contract, the Contractor agrees as follows:

- A. In the hiring of any employee(s) for the manufacture of supplies, performance of work, or any other activity required under the Contract or any subcontract, the Contractor, subcontractor, or any person acting on behalf of the Contractor or subcontractor shall not, by reason of gender, race, creed, or color, discriminate against any citizen of the Commonwealth who is qualified and available to perform the work to which the employment relates.
- B. Neither the Contractor nor any subcontractor nor any person on their behalf shall in any manner discriminate against or intimidate any employee involved in the manufacture of supplies, the performance of work, or any other activity required under the Contract on account of gender, race, creed, or color.
- C. The Contractor and subcontractors shall establish and maintain a written sexual harassment policy and shall inform their employees of the policy. The policy must contain a notice that sexual harassment will not be tolerated and employees who practice it will be disciplined.
- D. The Contractor shall not discriminate by reason of gender, race, creed, or color against any subcontractor or supplier who is qualified to perform the work to which the Contract relates.
- E. The Contractor and each subcontractor shall furnish all necessary employment documents and records to and permit access to their books, records, and accounts by the Department and the Bureau of contract Administration and Business Development, for purposes of investigation, to ascertain compliance with provisions of the Nondiscrimination/Sexual Harassment Clause. If the Contractor or any subcontractor does not possess documents or records reflecting the necessary information requested, the Contractor or subcontractor shall furnish such information on reporting forms supplied by the Department or the Bureau of contract Administration and Business Development.
- F. The Contractor shall include the provisions of the Nondiscrimination/Sexual Harassment clause in every subcontract so that such provisions will be binding upon each subcontractor.

Mermaid Park Pedestrian Trail & Streambank Stabilization Project

- G. The Owner may cancel or terminate the Contract, and all money due or to become due under the Contract may be forfeited for a violation of the terms and conditions of this Nondiscrimination/Sexual Harassment Clause.

6. TIME FOR COMPLETION AND LIQUIDATED DAMAGES

The work which the Contractor is required to perform under this Contract shall be commenced at the time stipulated by the Township in the Notice of Award to the Contractor and shall be fully completed within the allotted Contract time.

It is hereby understood and mutually agreed, by and between the Contractor and Owner, that the date of beginning and the time for completion as specified in the Contract of work to be done hereunder are ESSENTIAL CONDITIONS of this Contract; and it is further mutually understood and agreed that the work embraced in this contract shall be commenced on a date to be specified in the Notice of Award.

The Contractor agrees that said work shall be prosecuted regularly, diligently, and uninterruptedly at such rate of progress as will insure full completion thereof within the time specified. It is expressly understood and agreed, by and between the Contractor and the Owner, that the time for completion of the work described herein is a reasonable time for the completion of the same, taking into consideration the average climatic range and usual industrial conditions prevailing in this locality.

The work on the Contract is to be commenced within Five (5) days from the date of "Notice of Award" from Springfield Township, or its designee, and is to be diligently brought to completion within *Sixty (60)* calendar days from date of the "Notice to Proceed". Should Contractor fail to complete all work or any part of the work by the specified completion date, then the Township shall assess a liquidated penalty in the amount of One Hundred Dollars (\$100.00) per calendar day for each day the project remains incomplete. In addition to the liquidated penalty, the Contractor shall be liable for all costs and fees incurred by the Township due to the overrun. These costs and fees include, but are not limited to legal fees, engineering fees, inspection fees, insurance costs, administrative costs, interest and debt service charges. The liquidated penalty charged against the Contractor shall be increased by Fifty Dollars (\$50.00) per calendar day for every two (2) weeks that the project remains incomplete. Should the overrun last thirty (30) days, then the Township shall be entitled to obtain, from a Court of competent jurisdiction, injunctive or other equitable relief restraining the Contractor from entering into any new contracts or beginning any new projects until the project which it undertook for the Township is fully completed. The Contractor shall be liable to the Township for any and all monies spent in obtaining said injunction including, but not limited to, attorney's fees. Additionally, should the overrun last sixty (60) days, then the Township, upon five (5) days written notice, may dismiss the Contractor. Should the Township dismiss the Contractor pursuant to this agreement, then the Contractor shall indemnify the Township for all costs incurred including, but not limited to, the costs and fees of retaining a new contractor.

The said amount is fixed and agreed upon, by, and between the Contractor and the Owner because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages the Owner would in such event sustain, and said amount is agreed to be the amount of damages which the Owner would sustain and said amount shall be retained from time to time by the Owner from current periodical estimates.

It is further agreed that time is of the essence of each and every portion of this contract and of the specification wherein a definite and certain length of time is fixed for the performance of any act whatsoever; and where under the contract an additional time is allowed for the completion of any work, the new time limit fixed by such extension shall be of the essence of

Mermaid Park Pedestrian Trail & Streambank Stabilization Project
this Contract. Provided the Contractor shall not be charged with liquidated damages or any excess cost then the Owner determines the Contractor is without fault and the Contractor's reasons for the time extension are acceptable to the Owner; Provided further, that the Contractor shall not be charged with liquidated damages or any excess cost when the delay in completion of the work is due:

- A. To any preference, priority or allocation order duly issued by the Owner;
- B. To unforeseeable cause beyond the control and without the fault or negligence of the Contractor, including but not limited to, acts of God, or of the public enemy, acts of the Owner, acts of another Contractor in the performance of a contract with the Owner, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and severe weather; and
- C. To any delays of subcontractors or supplies occasioned by any of the causes specified in Subsections A. and B. of this article; Provided further, that the Contractor shall, within ten (10) days from the beginning of such delay, unless the Owner shall grant a further period of time prior to the date of final settlement of the Contract, notify the Owner, in writing, of the cause of the delay, who shall ascertain the facts and extent of the delay and notify the Contractor within a reasonable time of its decision in the matter.

7. INSURANCE

A. General

- 1. The insurance coverage specified in subsections "B" and "C" of this section must be provided by an insurance company with a rating of A.M. Bests Company of A-VIII.
- 2. Hold Harmless Agreement - The Contractor agrees to indemnify, hold harmless, and defend the Owner, Engineer and agents and employees of the Owner and Engineer for any and all liability resulting from bodily injury, including death and damage to property, arising out of any act of omission in performance of work undertaken under this contract.
- 3. Prior to execution of the Contract, the Contractor shall have his Insurance Agent forward two (2) originally signed copies of a "Certificate of Insurance" to the Owner meeting the requirements set forth in subsection "C" of this section and which affirmatively asserts on the "Certificate of Insurance" that the following applies:
 - a) All insurance companies have a minimum A.M. Bests Company rating of A-VIII.
 - b) The underlying liability limits are adequate to meet the requirements of the Umbrella Policy.
 - c) The Umbrella Policy provides coverage over and above each item checked on the General and Automobile Liabilities shown on the Certificate of Insurance.
- 4. The Contractor undertakes to permit no Subcontractor to enter upon or continue performance of this Contract, or any part thereof, unless he provides similar liability insurance coverage as required of the Contractor. All Subcontractors shall furnish the Contractor with Certificate of Insurance or

Mermaid Park Pedestrian Trail & Streambank Stabilization Project
copies of policies. The Contractor shall notify the Owner, in writing, that all insurance requirements have been fulfilled by Subcontractors before they begin work.

B. Property Insurance

The Contractor shall purchase all perils insurance for the “completed value” of all new construction as outlined in the contract drawings and specifications, or contained herein.

C. Other Insurance

The Contractor shall carry or cause to be carried for the duration of the Contract, the form and minimum limits of coverage of insurance specified by the attached sample Certificate of Insurance (refer Page GC-50). Insurance provided shall apply to all operations undertaken by him, his agents, employees, and Subcontractors, for the duration of the project. The General Liability Policy shall name the Owner, Township of Springfield, and the Engineer Woodrow and Associates, Inc., as additionally named insured and same shall be indicated on the Certificate of Insurance. The Certificate of Insurance should show a 30-day notice of cancellation and also include a Hold-Harmless clause.

8. CLEANING UP

A. Any mud that is tracked onto the roadway must be cleaned off immediately by mechanical brooming to the satisfaction of the Owner at the expense of the Contractor.

B. At the completion of the work, Contractor shall remove all excess construction waste debris, excess excavated material etc. from the site. Contractor, at his own expenses, shall also be responsible to provide all cleaning of dirt, dust and other construction related wastes as requested by the Owner.

Springfield Township
Mermaid Park Pedestrian Trail & Streambank Stabilization Project

SAMPLE INSURANCE FORM

CERTIFICATE OF LIABILITY INSURANCE						
PRODUCER		THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.				
Phone No. _____ Fax No. _____		COMPANIES AFFORDING COVERAGE				
INSURED		COMPANY				
		A				
		COMPANY				
		B				
		COMPANY				
		C				
		COMPANY				
		D				
COVERAGES						
THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.						
CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
	GENERAL LIABILITY <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS MADE <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> OWNER'S & CONTRACTOR'S PROT				GENERAL AGGREGATE	\$ 2,000,000
					PRODUCTS-COMP/OP AGG	\$ 2,000,000
					PERSONAL & ADV INJURY	\$ 1,000,000
					EACH OCCURENCE	\$ 1,000,000
					FIRE DAMAGE (Any one fire)	\$ 1,000,000
					MED EXP (Any one person)	\$ 5,000
	AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input checked="" type="checkbox"/> ALL OWNED AUTOS <input checked="" type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS <input checked="" type="checkbox"/> NON-OWNED AUTOS				COMBINED SINGLE LIMIT	\$ 1,000,000
					BODILY INJURY (Per person)	\$ 1,000,000
					BODILY INJURY (Per accident)	\$ 1,000,000
					PROPERTY DAMAGE	\$ 500,000
	GARAGE LIABILITY <input type="checkbox"/> ANY AUTO				AUTO ONLY-EA ACCIDENT	\$
					OTHER THAN AUTO ONLY:	
					EACH ACCIDENT	\$
					AGGREGATE	\$
	EXCESS LIABILITY <input checked="" type="checkbox"/> UMBRELLA FORM <input checked="" type="checkbox"/> OTHER THAN UMBRELLA FORM				EACH OCCURENCE	\$ 2,000,000
					AGGREGATE	\$ 2,000,000
						\$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY THE PROPRIETOR/PARTNERS/EXECUTIVE OFFICERS ARE: <input type="checkbox"/> INCL <input type="checkbox"/> EXCL				WC STATUTORY LIMITS	OTHER
					EI. EACH ACCIDENT	\$ 500,000
					EI. DISEASE-POLICY LIMIT	\$
					EI. DISEASE-EA EMPLOYEE	\$
	OTHER					
DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SPECIAL ITEMS						
Springfield Township and Boucher & James, Inc. are additionally named insured.						
CERTIFICATE HOLDER				CANCELLATION		
Springfield Township 1200 E. Willow Grove Ave Wyndmoor, PA 19038				SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL _____ DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES. AUTHORIZED REPRESENTATIVE		
INS-1						

BID FORM

Project Identification: E. Mermaid Lane Pedestrian Trail/Streambank Stabilization Project

This Bid is submitted to: Springfield Township
1510 Paper Mill Road
Wyndmoor, PA 19038

Article 1: The undersigned BIDDER proposes and agrees, if this Bid is accepted, to enter into an agreement with OWNER, in the form included in the Contract Documents, to perform and furnish all Work as specified or indicated in the Contract Documents for the Contract Price and within the Contract Time indicated in this Bid and in accordance with the other terms and conditions of the Contract Documents.

Article 2: BIDDER accepts all of the terms and conditions of the Notice to Bidder and Instruction to Bidders, including without limitation of those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for sixty (60) days after the day of Bid Opening. BIDDER will sign and submit the Agreement with the Bonds and other documents required by the Bidding Requirements within fifteen (15) days after the date of OWNER'S Notice of Award.

Article 3: In submitting the Bid, BIDDER represents, as more fully set forth in the Agreement, that:

A. BIDDER has examined copies of all the Contract Documents and the following Addenda receipt of all is hereby acknowledged: (List Addenda by Addendum Number and Date).

B. BIDDER has familiarized himself/herself with the nature and extent of the Contract Documents, work, site, locality, and all local conditions, Laws, and Regulations that in any manner may affect cost, progress, performance or finishing of the Work.

C. BIDDER has reviewed and checked all information and data shown or indicated on the Contract Documents with respect to existing Underground Facilities at or contiguous to the site and assumes responsibility for the accurate location of said Underground Facilities. No additional examinations, investigations, explorations, tests, reports or similar information or data in respect of said Underground Facilities are or will be required by BIDDER in order to perform and furnish the Work at the Contract Prices, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents.

- D. BIDDER has correlated the results of all such observations, examinations, investigations, explorations, tests, reports and studies with the terms and conditions of the Contract Documents.
- E. BIDDER has given ENGINEER written notice of all conflicts, errors or discrepancies that it has discovered in the Contract Documents and the written resolution thereof by ENGINEER is acceptable to BIDDER.
- F. This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm or corporation and is not submitted in conformity with any agreement or rules of any group, associates, organization or corporation; BIDDER has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; BIDDER has not solicited or induced any person, firm or corporation to refrain from bidding; and BIDDER has not sought by collusion to obtain for itself any advantage over any other Bidder or over OWNER.
- G. BIDDER hereby agrees to supply all manpower, equipment and materials to professionally provide for the Scope of Work as outlined in the Contract Documents.
- H. Bidder is hereby notified that the work shall be on the identified in the Scope of Work.

Article 4: The Bidder proposes and agrees to complete the work for the following prices.
 (See spreadsheet on following page)

Springfield Township
Mermaid Park Pedestrian Trail & Streambank Stabilization Project

Mermaid Park Pedestrian Trail / Streambank Stabilization						
Pedestrian Trail						
Description	Estimated Quantity		Unit Price		Total Amount	
1 Mobilization	1	LS @	\$ _____		LS	\$ _____
2 Clearing and Grubbing	1	LS @	\$ _____		LS	\$ _____
3 Construction Entrance	1	EA @	\$ _____		EA	\$ _____
4 Trail Construction 8' Wide						
a Excavation	2,055	LF @	\$ _____		LF	\$ _____
b Geotextile & 8" Stone Base	2,055	LF @	\$ _____		LF	\$ _____
c 1" Screening	2,055	LF @	\$ _____		LF	\$ _____
d 2.5" Pervious Paving	2,055	LF @	\$ _____		LF	\$ _____
5 Timber Bridge	1	EA @	\$ _____		EA	\$ _____
6 Respread Top Soil, Rake and Seed	1	LS @	\$ _____		LS	\$ _____
7 Painted Crosswalk	2	EA @	\$ _____		EA	\$ _____
8 Erosion Control	1	LS @	\$ _____		LS	\$ _____
9 Landscaping	1	LS @	\$ _____		LS	\$ _____
10 ADA Ramp	1	EA @	\$ _____		EA	\$ _____
Total Pedestrian Trail						
Streambank Stabilization						
Description	Estimated Quantity		Unit Price		Total Amount	
1 Cofferdam and Pump Around	1	LS @	\$ _____		LS	\$ _____
2 Excavation	1	LS @	\$ _____		LS	\$ _____
Filtrexx Edge saver Streambank 3 Stabilization System	1	LS @	\$ _____		LS	\$ _____
4 Top Soil, Rake and Seed	1	LS @	\$ _____		LS	\$ _____
Total Streambank Stabilization						
Total Pedestrian Trail and Streambank Stabilization						\$ _____
_____						\$ _____
In Words						

BID FORM

- Article 5: In submitting this Bid, it is understood and agreed by the undersigned that the right is reserved by Springfield Township Board of Commissioners to determine the actual Scope of Work by selection of any or all parts of Work as listed above.
- Article 6: The BIDDER agrees the above sum shall include, but not be limited to, all labor, materials, power, removal, overhead, profit, insurance, etc., to cover the finished Work of the several kinds required for each part.
- Article 7: In submitting this Bid, it is understood and agreed by the undersigned that the right is reserved by the OWNER to reject any or all Bids. It is further understood and agreed by the undersigned that any qualifying statements or conditions made by him to the above Bid is originally published, as well as any interlineation, erasures, omission or entered working obscure as to its meaning, may cause the bid to be declared irregular and may be cause for rejection of the Bid.
- Article 8: If awarded a Contract under this Bid, the undersigned agrees to start work on the site within fifteen (15) days after the receipt from the Engineer of a written "Notice to Proceed."
- Article 9: The BIDDER agrees that the Work will be completed and ready for final payment by August 31, 2020.
- Article 10: The BIDDER accepts the provisions of the Agreement as to liquidate damages in the event of failure to complete the Work on time.
- Article 11: The following documents are attached to and made a condition of this Bid:
- Required Bid Security
 - A tabulation of Subcontractors, Suppliers and other persons and organizations required to be identified in this Bid.
 - Required BIDDER'S GENERAL INFORMATION with supporting data
 - Bid Form
 - Bid Bond valued at 10% of Bid value
 - Consent of Surety
 - Non-collusion Affidavit
 - Bidders General Information
 - Subcontractor Certification

Springfield Township
Mermaid Park Pedestrian Trail & Streambank Stabilization Project

IF BIDDER IS:

An Individual

By _____ (Seal)

Doing business as: _____

Business address: _____

Phone Number: _____ Date: _____

A Partnership

By _____ (Seal)

_____ (Firm Name)

_____ (General Partner)

Business address: _____

Phone Number: _____ Date: _____

_____ (Signature)

A Corporation

By _____ (Corporate Name)

_____ (State of Incorporation)

_____ (Title)

_____ (Signature)

(Corporate Seal)

Attest _____ (Secretary)

Business address: _____

Phone Number: _____ Date: _____

A Joint Venture

By _____
(Name)

(Address)

(Signature)

Phone Number: _____ Date: _____

By _____
(Name)

(Address)

(Signature)

Phone Number: _____ Date: _____

(Each joint venture must sign. The manner of signing for each individual, partnership and corporation that is a party to the joint venture should be in the manner indicated above).

END OF DOCUMENT

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned, (**) _____
_____ as Principal; and (***) _____
as Surety are hereby held and firmly bound unto the TOWNSHIP OF SPRINGFIELD,
Montgomery County, Pennsylvania, in the penal sum of _____ Dollars and
_____ Cents (\$ _____) for the payment of which, well and truly to be made,
we hereby, jointly and severally, bind ourselves, our heirs, executors, administrators, successors
and assigns.

Signed this _____ day of _____, 2022

The condition of the above obligation is such that whereas the principal has submitted to the TOWNSHIP OF SPRINGFIELD, Montgomery County, Pennsylvania, a certain Bid attached hereto, made a part hereof, to enter into a contract in writing for the MERMAID PARK PEDESTRIAN TRAIL & STREAMBANK STABILIZATION PROJECT.

NOW, THEREFORE,

- (a) If said bid shall be rejected, or in the alternate,
- (b) If said bid shall be accepted, and the Principal shall execute and deliver a contract in the Form of Contract attached hereto (properly completed in accordance with said Bid) and shall furnish a bond for his faithful performance of said contract and for the payment of all persons performing labor or furnishing materials in connection therewith and shall in all other respects, perform the agreement created by the acceptance of said Bid.

Then this obligation shall be void; otherwise the same shall remain in force and effect, it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall in no event exceed the penal amount of this obligation as herein stated.

The Surety for value received hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by any extension of the time within which the Principal may accept such Bid; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and Surety have hereunto set their hands and seals and such of them as are corporations have caused their corporate seals to be hereto affixed, and these presents to be signed by their proper officers, the day and year first set forth above.

Witness

_____ By _____
as to Surety Attorney-in-Fact (SEAL)

**Insert Bidder's Name

***Insert Name of Suret

CERTIFICATE AS TO CORPORATE PRINCIPAL

I, _____ certify that I am the _____

Secretary of the Corporation named as Principal in the within bond; that
_____, who signed the said bond on behalf of the
Principal was then _____ of said corporation; that
I know his signature, and his signature thereto is genuine, and that said bond was duly signed,
sealed, and attested to for and in behalf of said Corporation by authority of its governing body.

(Corporate Seal)

Title

Springfield Township
Mermaid Park Pedestrian Trail & Streambank Stabilization Project

1. List your major equipment available for this contract.

2. List experience in improvement work similar in importance to this project.

3. Background and experience of the principal members of your organization, including the officers.

4. Give bank references and address.

5. Has your company ever reorganized under a new name? If so, list previous company names and reason for reorganization and /or name change.

6. Will you, upon request, furnish any other information that may be required by Springfield Township or their authorized representative?

7. A. Have you ever been a party to, or otherwise been involved in, any action or legal proceeding involving matters related to race, color, nationality, or religion? If so, give full details.

B. Have you ever been accused of discrimination based upon race, color, nationality, or religion in any action or legal proceeding including any proceeding related to any Federal Agency? If so, please give full details.

Springfield Township
Mermaid Park Pedestrian Trail & Streambank Stabilization Project

8. The undersigned hereby authorizes and requests any person, firm, or corporation to furnish any information requested by Springfield Township or verification of the recitals comprising this Statement of Bidder's Qualifications.

Dated at _____ this _____ day of _____, 2022

Name of Bidder

By _____

Title _____

State of _____

County of _____

_____, being first duly sworn, deposes and says that he is

of _____

Name of Bidder's Organization

and that the answers to the foregoing questions and all statements therein contained are true and

correct. Subscribed and sworn to before me this _____ Day of _____, 2022

Notary Public

My Commission Expires: _____

AGREEMENT

THIS AGREEMENT, made and concluded this _____ of _____, 2022 by and between Springfield Township, hereinafter generally called the Township, and

(Name, Address and Telephone Number of Contractor)

hereinafter generally called the Contractor.

WITNESSETH, that for, and in consideration of, the payments and agreements to be made and performed by the Township, the Contractor, at its own proper cost and expense and with skill and diligence, will construct and complete all work included in the performance of The Mermaid Park Pedestrian Trail & Streambank Stabilization Project, in accordance with attached Contract Documents, and in full compliance with this Agreement.

9. The processing of progress payments shall in no way be construed as an acceptance of work by the Township.
10. The Contract Documents shall consist of the following:

NOTICE TO BIDDERS
INSTRUCTION TO BIDDERS
GENERAL CONDITIONS
SUPPLEMENTARY CONDITIONS (If Any)
BID FORM/PROPOSAL
BID BOND
CERTIFICATE AS TO CORP. PRINCIPAL
STATEMENT OF BIDDER'S QUALIFICATIONS
AFFIDAVIT ACCEPTING PROVISIONS OF THE WORKERS'
COMPENSATION ACT
NON-COLLUSION AFFIDAVIT
PERFORMANCE AND MAINTENANCE BOND
PAYMENT BOND
CONTRACTOR'S RELEASE
STATEMENT OF SURETY COMPANY
PREVAILING WAGES
SCHEDULE OF DRAWINGS
PUBLIC WORKS EMPLOYMENT VERIFICATION FORM
ADDENDA

This Agreement, together with the Contract Documents, form the Contract and all such documents are as fully part of the Contract as if hereto attached or herein repeated.

11. And the Contractor agrees to receive the prices stated in the Form of Proposal attached in

full compensation for furnishing all plans, labor, material, supplies, equipment and other facilities and things necessary or proper or incidental to the construction of all work contemplated in this Contract; the Contractor, for such consideration, shall be responsible for all loss or damage arising out of the nature of the work aforesaid or from any action of the elements; or from any unforeseen obstruction or difficulties which may be encountered of every description connected with the work and furnishing materials, until completion of the work and its acceptance.

12. Notwithstanding any provision in the General Conditions and/or Supplemental General Conditions to the contrary, the following shall apply to this Contract:

The work on the Contract is to be commenced within Five (5) days from the date of "Notice of Award" from Springfield Township, or its designee, and is to be diligently brought to completion within Sixty (60) calendar days from date of the "Notice to Proceed". Should Contractor fail to complete all work or any part of the work by the specified completion date, then the Township shall assess a liquidated penalty in the amount of One Hundred Dollars (\$100.00) per calendar day for each day the project remains incomplete. In addition to the liquidated penalty, the Contractor shall be liable for all costs and fees incurred by the Township due to the overrun. These costs and fees include, but are not limited to legal fees, engineering fees, inspection fees, insurance costs, administrative costs, interest, and debt service charges. The liquidated penalty charged against the Contractor shall be increased by Fifty Dollars (\$50.00) per calendar day for every two (2) weeks that the project remains incomplete. Should the overrun last thirty (30) days, then the Township shall be entitled to obtain, from a Court of competent jurisdiction, injunctive or other equitable relief restraining the Contractor from entering into any new contracts or beginning any new projects until the project which it undertook for the Township is fully completed. The Contractor shall be liable to the Township for any and all monies spent in obtaining said injunction including, but not limited to, attorney's fees. Additionally, should the overrun last sixty (60) days, then the Township, upon five (5) days written notice, may dismiss the Contractor. Should the Township dismiss the Contractor pursuant to this agreement, then the Contractor shall indemnify the Township for all costs incurred including, but not limited to, the costs and fees of retaining a new contractor.

13. To prevent all disputes and litigations, it is agreed by and between the parties of this Contract that the Engineer, subject to final approval of Springfield Township, shall, in all cases, determine the quality and quantity of the several kinds of work and materials which are to be paid for under this Contract, and he shall determine all questions in relation to lines, levels and dimensions of work and as to the questions of interpretation of the plans and specifications. The term "ENGINEER" shall mean Woodrow and Associates, Inc., 1105 N. Bethlehem Pike, Suite 5, Lower Gwynedd, PA, or it's duly appointed representative, or such other engineer as identified by the Township.
14. The Engineer shall prepare, on a monthly basis, or other periodic basis as determined by the Engineer, an estimate of the value of work completed during the previous period. Within fifteen (15) days following the end of the period, the Engineer shall certify this value to the Township. During the first fifty percent (50%) of the Contract, the Township shall retain ten percent (10%) of the amount of each progress payment. During the second fifty percent (50%) of the Contract, the Township shall retain five percent (5%) of the amount of each progress payment.

Springfield Township
Mermaid Park Pedestrian Trail & Streambank Stabilization Project

15. In the event of a conflict between the Standard General Conditions and any other Contract Documents, the latter will apply so as to supersede the Standard General Conditions to the extent of the conflict.
16. The Contractor and the Township, for themselves and their respective heirs, legal representatives, successors and assigns, hereby agree to the full performance of the covenants herein contained.

IN WITNESS WHEREOF, THEY HAVE EXECUTED THIS AGREEMENT as of the day and date first written above.

ATTEST:

SPRINGFIELD TOWNSHIP

BY:

Name and Title

Name and Title (Seal)

Contractor

ATTEST:

(CONTRACTOR)

BY:

Name and Title

Name and Title (Seal)

AFFIDAVIT RE:
ACCEPTING PROVISIONS OF THE WORKMEN'S COMPENSATION ACT

State of Pennsylvania)
) ss:
)
)
)
County of

being duly sworn according to law deposes and says that he has/they have/it has accepted the provisions of the Workman's Compensation Act of the Commonwealth of Pennsylvania, with its supplements and amendments, and has/have insured his/their/its liability thereunder in accordance with the terms of the said Act with

(SURETY COMPANY)

(CONTRACTOR)

By: _____
SIGNATURE

Sworn to and subscribed before me this _____ day of _____, A.D.2022.

My Commission Expires _____
(DATE)

NON-COLLUSION AFFIDAVIT

INSTRUCTIONS FOR NON-COLLUSION AFFIDAVIT

17. This Non-Collusion Affidavit is material to any contract awarded pursuant to this bid. According to the Pennsylvania Antibid-Rigging Act, 73 P.S. Section 1617 et seq., governmental agencies may require Non-Collusion Affidavits to be submitted together with bids.
18. This Non-Collusion Affidavit must be executed by the member, officer or employee of the bidder who makes the final decision on prices and the amount quoted in the bid.
19. Bid rigging and other efforts to restrain competition, and the making of false sworn statements in connection with the submission of bids are unlawful and may be subject to criminal prosecution. The person who signs the Affidavit should examine it carefully before signing and assure himself or herself that each statement is true and accurate, making diligent inquire, as necessary, of all other persons employed by or associated with the bidder with responsibilities for the preparation, approval or submission of the bid.
20. In the case of a bid submitted by a joint venture, each party to the venture must be identified in the bid documents, and an Affidavit must be submitted separately on behalf of each party.
21. The term “complementary bid” as used in the Affidavit has the meaning commonly associated with that term in the bidding process, and includes the knowing submission of bids higher than the bid of another prospective bidder, any intentionally high or non-competitive bid, and any other form of bid submitted for the purpose of giving a false appearance of competition.
22. A person’s Affidavit stating that the person has been convicted or found liable for any act, prohibited by State or Federal law in any jurisdiction, involving conspiracy or collusion with respect to bidding on any public contract within the last three years does not prohibit a governmental agency from accepting a bid or awarding a contract to that person, but may be a ground for administrative suspension or debarment in the discretion of a governmental agency under the rules and regulations of that agency, or, in the case of a governmental agency with no administrative suspension or debarment regulations or procedures, may be a ground for consideration on the question whether such agency should decline to award a contract to that person on the basis of a lack of responsibility.
23. Failure to file an Affidavit in compliance with these instructions will result in disqualification of the bid.

NON-COLLUSION AFFIDAVIT

CONTRACT NO. _____

(Description of Project)

Commonwealth of _____ :

ss

County of _____ :

I state that I am _____ of
(Title)

_____ and that I am authorized to make this
(Name of My Firm)

affidavit on behalf of my firm, and its owners, directors, and officers. I am the person responsible in my firm for the price(s) and the amount of this bid.

I state that:

- (1) The price(s) and amount of this bid have been arrived at independently and without consultation, communication or agreement with any other contractor, bidder or potential bidder.
- (2) Neither the price(s) nor the amount of this bid, and neither the approximate price(s) nor approximate amount of this bid, have been disclosed to any other firm or person who is a bidder or potential bidder, and they will not be disclosed before bid opening.
- (3) No attempt has been made or will be made to induce any firm or person to refrain from bidding on this contract, or to submit a bid higher than this bid, or to submit any intentionally high or non-competitive bid or other form of complementary bid.
- (4) The bid of my firm is made in good faith and not pursuant to any agreement or discussion with, or inducement from, any firm or person to submit a complementary or other non-competitive bid.

Springfield Township
Mermaid Park Pedestrian Trail & Streambank Stabilization Project

(5) _____, its affiliates,
(Name of my firm)

subsidiaries, officers, directors and employees are not currently under investigation by any governmental agency and have not in the last four years been convicted or found liable for any act prohibited by State or Federal law in any jurisdiction, involving conspiracy or collusion with respect to bidding on any public contract, except as follows:

I state that _____ understands and
(Name of My Firm)

acknowledges that the above representations are material and important, and will be relied on by Springfield Township in awarding the Contract(s) for which this bid is submitted. I understand and my firm understands that any misstatement in this affidavit is and shall be treated at fraudulent concealment from Springfield Township of the true facts relating to the submission of bids for this Contract.

(Signature of Official and Position)

SWORN AND SUBSCRIBED TO BEFORE ME

This _____ day of _____, 20____.

NOTARY PUBLIC

My commission Expires _____
(Date)

PERFORMANCE BOND

(For Public Work in Pennsylvania)

KNOW ALL MEN BY THESE PRESENTS, That we, the undersigned, * _____ as Principal and ** _____ a corporation organized and existing under the laws of the State of *** _____ as Surety, are held and firmly bound unto the TOWNSHIP OF SPRINGFIELD Montgomery County, Pennsylvania (hereinafter called "Obligee") in the full and just sum **** _____ Dollars and _____ Cents (\$ _____), lawful money of the United States of America, to be paid to the said TOWNSHIP OF SPRINGFIELD or its assigns, to which payment well and truly to be made and done we bind ourselves, our heirs, executors, administrators and successors jointly and severally, firmly by these presents.

Sealed with our respective seals and dated this _____ day of _____, 2022.

WHEREAS, the above bounden Principal has entered into a contract with the said Obligee dated the _____ day of _____ 2022, for the MERMAID PARK PEDESTRIAN TRAIL & STREAMBANK STABILIZATION PROJECT certain terms and conditions in said contract more particularly mentioned;

AND WHEREAS, it is one of the conditions of the award of the Obligee pursuant to which said contract is about to be entered into that these presents be executed.

- * = Insert Contractor's name and address.
- ** = Insert Surety's name
- *** = Insert Surety's State where incorporated
- **** = Written dollar amount.

Springfield Township
Mermaid Park Pedestrian Trail & Streambank Stabilization Project

NOW, THEREFORE, the joint and several conditions of this obligation are such that if the above bounden Principal, as Contractor, shall well and faithfully do and perform the things agreed by him to be done and performed according to the terms of said contract and general conditions, including the drawings, the specifications and other contract documents therein referred to and made a part thereof, and such alterations as may be made in said drawings and specifications as therein provided, and which are hereby made part of this bond, the same as though they were set forth herein, and shall indemnify and save harmless the said Obligee and all its officers, agents and employees from any expenses incurred through the failure of the said Contractor to complete the work as specified, and for any damages growing out of the manner of performance of said contract by said Contractor or his sub-contractors, or his or their agents or servants, including patent, trade mark and copy-right infringements, then this obligation shall be void; otherwise it shall be and remain in full force and effect.

It is further understood and agreed that the principal shall guarantee for a period of one (1) year from completion date of the Contract against defects in workmanship or materials in accordance with the terms of the Contract.

It is further agreed that any alterations which may be made in the terms of the contract, or in the work to be done, or materials to be furnished, or in labor to be supplied or performed under it, or the giving by the Obligee of any extension of time for the performance of the contract, or any other forbearance on the part of either the Obligee or the Principal to the other, shall not in any way release the Principal and the Surety or Sureties, or either or any of them, their heirs, executors, administrators, successors or assigns from any liability hereunder, notice to the Surety or Sureties of such alterations, extensions or forbearance being hereby waived.

Springfield Township
Mermaid Park Pedestrian Trail & Streambank Stabilization Project

IN WITNESS WHEREOF, the said Principal and Surety have duly executed this bond under seal the day and year above written.

SIGNED, SEALED AND DELIVERED IN TRIPLICATE, THIS _____ day of _____, 2022.

in the presence of: (Individual Principals sign here)

Attest: (Corporate Principals, sign here)

(SEAL)

WITNESS: (Surety, sign here)

as to Surety By _____

Attorney-in-Fact

(SEAL)

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS that we,* _____ as Principal (the "Principal"), and ** _____, a corporation organized and existing under laws of the *** _____ of**** _____, as Surety (The "Surety") are held and firmly bound unto the TOWNSHIP OF SPRINGFIELD As Obligee (The "Obligee") in the full and just sum of _____ Dollars (\$ _____), lawful money of the United States of America for the payment of which sum we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these present.

WITNESSETH THAT:

WHEREAS, The Principal heretofore has submitted to the Obligee a certain Bid Form dated _____, 2022, (the "Proposal"), to perform certain work for the Obligee, in connection with the MERMAID PARK PEDESTRIAN TRAIL & STREAMBANK STABILIZATION PROJECT pursuant to plans, specifications, and other related documents, which are incorporated into the Proposal by reference (the "Contract Documents"), as prepared by Woodrow and Associates, Inc., 1105 N. Bethlehem Pike, Suite 5, Lower Gwynedd, PA 19002.

WHEREAS, The Obligee is a "Contracting Body" under provisions of Act No. 385 of the General Assembly of the Commonwealth of Pennsylvania, approved by the Governor on December 20, 1967, know as and cited as the "Public Works Contractors' Bond Law of 1967" (the "Act"); and

WHEREAS, The Act, in Section 3(a), requires that before an award shall be made to the Principal by the Obligee in accordance with the Proposal, the Principal shall furnish this Bond to the Obligee, with this Bond to become binding upon the award of a contract to the Principal by the Obligee in accordance with the Proposal; and

WHEREAS, It also is a condition of the Contract Documents that this bond shall be furnished by the Principal to the Obligee; and

WHEREAS, Under the Contract Documents, it is provided, inter alia, that if the Principal shall furnish this Bond to the Obligee, and if the Obligee shall make an award to the Principal in accordance with the Proposal, then the Principal and the Obligee shall enter into an agreement with respect to performance of such work (the "Agreement"), the form of which Agreement is set forth in the Contract Documents.

NOW, THEREFORE, the terms and conditions of this Bond are and shall be that if the Principal and any subcontractor of the Principal to whom any portion of the work under the Agreement shall be subcontracted, and if all assignees of the Principal and of any such subcontractor, promptly shall pay or shall cause to be paid, in full, all money which may be due any claimant supplying labor or materials in the prosecution and performance of the work in accordance with the Agreement and in accordance with the Contract Documents, including any amendment, extension or addition to the Agreement and/or to the Contract Documents, for material furnished or labor supplied or labor performed, then this Bond shall be void; otherwise, this Bond shall be and shall remain in force and effect.

This Bond, as provided by the Act, shall be solely for the protection of claimants supplying labor or materials to the Principal or to any subcontractor of the Principal in the prosecution of the work covered by the agreement, including any amendment, extension or addition to the Agreement. The term "claimant", when used herein and as required by the Act, shall mean any individual, firm, partnership, association or corporation. The phrase "labor or materials", when used herein and as required by the Act, shall include public utility services and reasonable rentals of equipment, but only for periods when the equipment rented is actually used at the site of the work covered by the Agreement. As required by the Act, the provisions of this Bond shall be applicable whether or not the material furnished or labor performed enters into and becomes a component part of the public building, public work or public improvement contemplated by the Contract Documents and the Agreement.

As provided and required by the Act, the Principal and the Surety agree that any claimant, who has performed labor or furnished material in the prosecution of the work in accordance with the Agreement and in accordance with the Contract Documents, including any amendment, extension or addition to the Agreement and/or to the Contract Documents, and who has not been paid, therefore, in full, before the expiration of ninety (90) days after the day on which such claimant performed the last of such labor or furnished the last of such materials for which payment is claimed, may institute an action upon this Bond, in the name of the claimant, in assumpsit, to recover any amount due the claimant for such labor or material, and may prosecute such action to final judgment and may have execution upon the judgment; provided, however, that: (a) any claimant who has direct contractual relationship with any subcontractor of the

Springfield Township
Mermaid Park Pedestrian Trail & Streambank Stabilization Project

Principal, but has no contractual relationship, express or implied, with the Principal, may institute an action upon this Bond only if such claimant first shall have given written notice, served in the manner provided in the Act, to the Principal, within ninety (90) days from the date upon which such claimant performed the last of the labor or furnished the last of the materials for which payment is claimed, stating, with substantial accuracy, the amount claimed and the name of the person for whom the work was performed or to whom the material was furnished; and (b) no action upon this Bond shall be commenced after the expiration of one (1) year from the day upon which the last of the labor was performed or material was supplied, for the payment of which such action is instituted by the claimant; and (c) every action upon this Bond shall be instituted either in the appropriate court of the County where the Agreement is to be performed or of such other County as Pennsylvania statutes shall provide, or in the United States district court for the district in which the project, to which the Agreement relates, is situated, and not elsewhere.

This Bond is executed and delivered under and subject to the Act, to which reference hereby is made. The Principal and the Surety agree that any alterations, changes and/or additions to the Contract Documents, and/or any alterations, changes and/or additions to the work to be performed under the Agreement in accordance with the Contract Documents, and/or any alterations, changes and/or additions to the Agreement, and/or any giving by the Obligees of any extensions of time for the performance of the Agreement in accordance with the Contract Documents and/or any act of forbearance of either the Principal or the Obligees toward the other with respect to the Contract Documents and the Agreement, and/or the reduction of any percentage to be retained by the Obligees as permitted by the Contract Documents and by the Agreement, shall not release, in any manner whatsoever, the Principal and the Surety, or either of them or their heirs, executors, administrators, successors and assigns, from liability and obligations under this Bond; and the Surety, for value received, does waive notice of any such alterations, changes, additions, extensions of time, acts of forbearance and/or reduction of retained percentage.

Springfield Township
Mermaid Park Pedestrian Trail & Streambank Stabilization Project

IN WITNESS WHEREOF, the Principal and the Surety cause this Bond to be signed, sealed and delivered this _____ day of _____, 2022.

(Individual Principal)

Witness:

_____ (SEAL)
(Signature of Individual)

Trading and doing Business as

(Partnership Principal)

(Name of Partnership)

Witness:

_____ By: _____ (SEAL)

_____ By: _____ (SEAL)

_____ By: _____ (SEAL)

(Corporation Principal)

(Name of Corporation)

By: _____
(Vice) President

ATTEST:

(Assistant Secretary)
(CORPORATE SEAL)

or (if appropriate)

(Name of Corporation)

Witness:

*By _____
Authorized Representative

* Attach appropriate proof, dated as of the same date as the Bond, evidencing authority to execute in behalf of the corporation.

(Corporation Surety)

(Name of Corporation)

Witness:

(CORPORATE SEAL) **By: _____
Attorney-in-Fact

** If applicable, attach an appropriate power of attorney, dated as of the same date as the Bond, evidencing the authority of the Attorney-in-Fact to act in behalf of the corporation.

CONTRACTOR'S RELEASE

KNOW ALL MEN THAT _____ of _____ ,
(Contractor)

County of _____, and State of _____ do
(does) hereby acknowledge that _____, (for myself, my
heirs, (Contractor)

executors and administrators) (for itself, its successors and assigns) upon receipt of and from

_____ ,

or the issuing agency, the sum of _____ quit-claim and forever discharge the said TOWNSHIP OF SPRINGFIELD, Owner its successors, and assigns, of and from any claims and demands arising from or in connection with the said agreement dated _____. Further, the Contractor forever releases the Owner of and from all manner of action and actions, cause and causes of action and actions, suits, debts, dues and duties, sum and sums of money, accounts, reckonings, bonds, bills, specialties, covenants, contracts, agreements, promises, variances, damages, judgments, extents, executions, claims, and demands, whatsoever in law and equity, or otherwise which against the said Owner ever had, now have, or which (I, my heirs, executors, or administrators) (it, its successors and assigns) hereafter can, shall or may have, for, upon or by reason of any matter, cause or thing whatsoever, from the beginning of the world to the date of this document.

Springfield Township
Mermaid Park Pedestrian Trail & Streambank Stabilization Project

IN WITNESS WHEREOF, _____
(Contractor)

has caused this document to be duly executed the _____ day of _____, 2022.

Signed, Sealed, and Delivered in the presence of:

_____ (SEAL)
(Individual Contractor)

_____ (SEAL)
(Partnership Contractor)

_____ (SEAL)
(Partner)

ATTEST:

_____ President or Vice President

(CORPORATE SEAL)

STATEMENT OF SURETY COMPANY

In accordance with the provisions of the Agreement dated _____ between
TOWNSHIP OF SPRINGFIELD, Montgomery County Pennsylvania, and _____
(Contractor)

of _____ the _____ Surety on the bond of _____
(Surety)

after a careful examination of the books and records of said Contractor or after receipt of an affidavit from the Contractor, which examination or affidavit satisfies this Company that all claims for labor, materials, and equipment rentals have been satisfactorily settled, hereby approves of the final payment of the said _____, and by these presents witnesseth that payment (Contractor) to the Contractor of the final estimates shall not relieve the Surety Company of any of its obligations to TOWNSHIP OF SPRINGFIELD as set forth in the said Surety Company's Bond.

IN WITNESS WHEREOF, the said Surety Company has hereunto set
its hand and seal this _____ day of _____, 2022.

ATTEST: _____

(SEAL) _____ By _____
(President)

Note: This statement, if executed by any person other than the President or Vice President of the Company, must be accompanied by a certificate of even date showing authority conferred upon the person so signing to execute such instruments on behalf of the Company represented.

Springfield Township
Mermaid Park Pedestrian Trail & Streambank Stabilization Project
PREVAILING WAGES

**BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES**

Project Name:	Springfield Township East Mermaid Lane Pedestrian Trail & Streambank Stabilization Project
Awarding Agency:	Springfield Township
Contract Award Date:	3/1/2021
Serial Number:	21-08270
Project Classification:	Highway
Determination Date:	12/10/2021
Assigned Field Office:	Philadelphia
Field Office Phone Number:	(215)560-1858
Toll Free Phone Number:	
Project County:	Montgomery County

Springfield Township
Mermaid Park Pedestrian Trail & Streambank Stabilization Project

**BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES**

Project: 21-08270 - Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Asbestos & Insulation Workers	5/29/2017		\$47.30	\$34.85	\$82.15
Asbestos & Insulation Workers	5/1/2018		\$49.30	\$35.85	\$85.15
Asbestos & Insulation Workers	5/1/2019		\$51.20	\$36.95	\$88.15
Asbestos & Insulation Workers	6/1/2020		\$54.20	\$36.95	\$91.15
Asbestos & Insulation Workers	5/1/2021		\$54.35	\$39.95	\$94.30
Boilermaker (Commercial, Institutional, and Minor Repair Work)	3/1/2017		\$28.52	\$18.22	\$46.74
Boilermaker (Commercial, Institutional, and Minor Repair Work)	3/1/2018		\$29.52	\$18.22	\$47.74
Boilermaker (Commercial, Institutional, and Minor Repair Work)	1/1/2019		\$29.26	\$18.48	\$47.74
Boilermakers	1/1/2018		\$46.26	\$33.36	\$79.62
Boilermakers	3/1/2018		\$45.89	\$33.73	\$79.62
Boilermakers	1/1/2019		\$45.51	\$34.11	\$79.62
Boilermakers	8/1/2019		\$47.21	\$34.11	\$81.32
Boilermakers	1/1/2021		\$49.32	\$34.90	\$84.22
Bricklayer	5/1/2017		\$40.98	\$26.78	\$67.76
Bricklayer	5/1/2018		\$43.73	\$26.78	\$70.51
Bricklayer	5/1/2019		\$46.48	\$26.78	\$73.26
Bricklayer	5/1/2020		\$44.45	\$30.31	\$74.76
Bricklayer	5/1/2021		\$45.45	\$30.61	\$76.06
Carpenter - Chief of Party (Surveying & Layout)	5/1/2017		\$45.25	\$27.59	\$72.84
Carpenter - Chief of Party (Surveying & Layout)	5/1/2018	4/30/2019	\$45.83	\$27.59	\$73.42
Carpenter - Chief of Party (Surveying & Layout)	5/1/2019	4/30/2020	\$46.54	\$27.59	\$74.13
Carpenter - Chief of Party (Surveying & Layout)	5/1/2020		\$47.73	\$27.59	\$75.32
Carpenter - Chief of Party (Surveying & Layout)	5/1/2021		\$47.47	\$28.71	\$76.18
Carpenter - Instrument Person (Surveying & Layout)	5/1/2017		\$39.35	\$27.59	\$66.94
Carpenter - Instrument Person (Surveying & Layout)	5/1/2018	4/30/2019	\$39.85	\$27.59	\$67.44
Carpenter - Instrument Person (Surveying & Layout)	5/1/2019	4/30/2020	\$40.47	\$27.59	\$68.06
Carpenter - Instrument Person (Surveying & Layout)	5/1/2020		\$41.50	\$27.59	\$69.09
Carpenter - Instrument Person (Surveying & Layout)	5/1/2021		\$41.28	\$28.71	\$69.99
Carpenter - Rodman (Surveying & Layout)	5/1/2017		\$19.68	\$19.64	\$39.32
Carpenter - Rodman (Surveying & Layout)	5/1/2018	4/30/2019	\$19.93	\$19.49	\$39.42
Carpenter - Rodman (Surveying & Layout)	5/1/2019	4/30/2020	\$20.24	\$19.69	\$39.93
Carpenter - Rodman (Surveying & Layout)	5/1/2020		\$20.75	\$19.49	\$40.24
Carpenter - Rodman (Surveying & Layout)	5/1/2021		\$20.64	\$20.31	\$40.95
Carpenters	5/1/2017		\$39.35	\$27.59	\$66.94
Carpenters	5/1/2018	4/30/2019	\$39.85	\$27.59	\$67.44
Carpenters	5/1/2019	4/30/2020	\$40.87	\$27.59	\$68.46
Carpenters	5/1/2020		\$41.90	\$27.59	\$69.49
Carpenters	5/1/2021		\$41.28	\$28.71	\$69.99
Carpenters	5/1/2022		\$42.53	\$28.71	\$71.24
Cement Masons	5/1/2017		\$36.45	\$31.76	\$68.21
Cement Masons	5/1/2018		\$37.50	\$32.26	\$69.76
Cement Masons	5/1/2019		\$38.50	\$32.81	\$71.31

Springfield Township
Mermaid Park Pedestrian Trail & Streambank Stabilization Project

**BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES**

Project: 21-08270 - Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Cement Masons	5/1/2020		\$39.45	\$33.46	\$72.91
Cement Masons	5/1/2021		\$40.70	\$33.46	\$74.16
DockBuilder/ Divers (Building Heavy & Highway)	5/1/2020		\$52.44	\$37.27	\$89.71
DockBuilder/Pile Drivers (Building, Heavy & Highway)	5/1/2018		\$43.45	\$34.47	\$77.92
DockBuilder/Pile Drivers (Building, Heavy & Highway)	5/1/2020		\$43.70	\$37.27	\$80.97
DockBuilder/Pile Drivers/ Diver Tender(Building Heavy & Highway)	5/1/2020		\$43.70	\$37.27	\$80.97
Dockbuilder/Piledriver (Building, Heavy, Highway)	11/1/2017		\$43.45	\$33.22	\$76.67
Dockbuilder/Piledriver (Building, Heavy, Highway)	5/1/2018		\$44.70	\$33.22	\$77.92
Drywall Finisher	5/1/2017		\$37.11	\$26.75	\$63.86
Drywall Finisher	5/1/2018	4/30/2019	\$39.27	\$27.49	\$66.76
Drywall Finisher	5/1/2019		\$37.75	\$28.11	\$65.86
Drywall Finisher	5/1/2020		\$38.27	\$28.59	\$66.86
Electricians	4/30/2017		\$45.16	\$35.25	\$80.41
Electricians	4/29/2018		\$46.89	\$36.52	\$83.41
Electricians	5/1/2019		\$48.26	\$38.15	\$86.41
Electricians	8/2/2020		\$50.64	\$39.27	\$89.91
Electricians	5/3/2021		\$52.31	\$41.10	\$93.41
Elevator Constructor	1/1/2018		\$55.76	\$33.05	\$88.81
Elevator Constructor	1/1/2020		\$59.44	\$35.25	\$94.69
Elevator Constructor	1/1/2021		\$61.43	\$36.36	\$97.79
Floor Coverer	5/1/2019		\$44.37	\$28.44	\$72.81
Floor Coverer	5/1/2020		\$46.01	\$28.44	\$74.45
Floor Coverer	5/1/2021		\$45.74	\$29.21	\$74.95
Floor Layer	5/1/2017		\$42.51	\$27.91	\$70.42
Floor Layer	5/1/2018		\$43.11	\$28.09	\$71.20
Glazier	5/1/2017		\$41.30	\$31.80	\$73.10
Glazier	5/1/2018	4/30/2019	\$43.32	\$32.33	\$75.65
Glazier	5/1/2019		\$43.87	\$33.38	\$77.25
Glazier	5/1/2020		\$44.92	\$33.63	\$78.55
Glazier	5/1/2021		\$45.67	\$34.38	\$80.05
Interior Finish	5/1/2019		\$30.20	\$25.80	\$56.00
Iron Workers (Bridge, Structural Steel, Ornamental, Precast, Reinforcing)	7/1/2017		\$47.30	\$32.91	\$80.21
Iron Workers (Bridge, Structural Steel, Ornamental, Precast, Reinforcing)	7/1/2018		\$51.46	\$30.60	\$82.06
Iron Workers (Bridge, Structural Steel, Ornamental, Precast, Reinforcing)	7/1/2019		\$49.30	\$34.41	\$83.71
Iron Workers (Bridge, Structural Steel, Ornamental, Precast, Reinforcing)	1/1/2020		\$49.80	\$34.41	\$84.21
Iron Workers (Bridge, Structural Steel, Ornamental, Precast, Reinforcing)	7/1/2020		\$50.80	\$34.91	\$85.71
Iron Workers (Bridge, Structural Steel, Ornamental, Precast, Reinforcing)	7/1/2021		\$47.70	\$39.51	\$87.21
Iron Workers (Riggers)	7/1/2017		\$39.83	\$27.92	\$67.75
Ironworker (Rodman)	7/1/2017		\$42.56	\$29.30	\$71.86
Ironworker (Rodman)	7/1/2018		\$42.88	\$30.60	\$73.48

Springfield Township
Mermaid Park Pedestrian Trail & Streambank Stabilization Project

**BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES**

Project: 21-08270 - Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Ironworker (Rodman)	7/1/2019		\$43.88	\$30.85	\$74.73
Ironworker (Rodman)	7/1/2020		\$44.82	\$31.60	\$76.42
Laborers (Class 01 - General)	5/1/2020		\$32.05	\$25.25	\$57.30
Laborers (Class 01 - See notes)	5/1/2017		\$28.65	\$24.95	\$53.60
Laborers (Class 01 - See notes)	5/1/2019		\$31.65	\$26.62	\$58.27
Laborers (Class 02 - See notes)	5/1/2017		\$30.85	\$25.65	\$56.50
Laborers (Class 02 - See notes)	5/1/2019		\$33.15	\$26.50	\$59.65
Laborers (Class 02 - see notes)	5/1/2020		\$35.15	\$26.15	\$61.30
Laborers (Class 03 - See notes)	5/1/2017		\$28.92	\$25.18	\$54.10
Laborers (Class 03 - See notes)	5/1/2019		\$30.52	\$25.98	\$56.50
Laborers (Class 03 - See notes)	5/1/2020		\$32.47	\$25.43	\$57.90
Laborers (Class 04 - See notes)	5/1/2017		\$28.95	\$24.95	\$53.90
Laborers (Class 04 - See notes)	5/1/2019		\$30.52	\$25.98	\$56.50
Laborers (Class 04 - See notes)	5/1/2020		\$32.47	\$25.43	\$57.90
Laborers (Class 05 - See notes)	5/1/2017		\$28.65	\$24.95	\$53.60
Laborers (Class 05 - See notes)	5/1/2019		\$30.20	\$25.80	\$56.00
Laborers (Class 05 - See notes)	5/1/2020		\$32.05	\$25.25	\$57.30
Landscape Laborer	5/1/2017		\$22.71	\$23.08	\$45.79
Landscape Laborer	5/1/2019		\$24.64	\$23.68	\$48.32
Landscape Laborer	5/1/2020		\$26.55	\$23.13	\$49.68
Marble Finisher	5/1/2017		\$35.55	\$24.17	\$59.72
Marble Finisher	5/1/2018		\$37.55	\$24.17	\$61.72
Marble Finisher	5/1/2019		\$39.75	\$24.17	\$63.92
Marble Finisher	5/1/2020		\$37.57	\$27.65	\$65.22
Marble Mason	5/1/2017		\$40.36	\$26.99	\$67.35
Marble Mason	5/1/2018		\$43.11	\$26.99	\$70.10
Marble Mason	5/1/2019		\$45.86	\$26.99	\$72.85
Marble Mason	5/1/2020		\$44.25	\$30.10	\$74.35
Mason Tender, Cement	5/1/2019		\$30.52	\$25.98	\$56.50
Millwright	7/1/2017		\$41.35	\$32.24	\$73.59
Millwright	5/1/2018		\$43.33	\$32.96	\$76.29
Millwright	5/1/2019		\$45.50	\$33.29	\$78.79
Millwright	6/8/2020		\$46.80	\$33.19	\$79.99
Millwright	5/1/2021		\$48.60	\$33.19	\$81.79
Millwright	5/1/2022		\$50.60	\$33.19	\$83.79
Operators (Building, Class 01 - See Notes)	5/1/2017		\$44.87	\$28.14	\$73.01
Operators (Building, Class 01 - See Notes)	5/1/2018		\$46.41	\$28.60	\$75.01
Operators (Building, Class 01 - See Notes)	5/1/2019		\$46.41	\$30.60	\$77.01
Operators (Building, Class 01 - See Notes)	5/1/2020		\$47.96	\$31.05	\$79.01
Operators (Building, Class 01 - See Notes)	5/1/2021		\$49.50	\$31.51	\$81.01
Operators (Building, Class 01A - See Notes)	5/1/2017		\$47.86	\$29.03	\$76.89
Operators (Building, Class 01A - See Notes)	5/1/2018		\$49.41	\$29.49	\$78.90
Operators (Building, Class 01A - See Notes)	5/1/2019		\$49.41	\$31.49	\$80.90
Operators (Building, Class 01A - See Notes)	5/1/2020		\$50.96	\$31.94	\$82.90

Springfield Township
Mermaid Park Pedestrian Trail & Streambank Stabilization Project

**BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES**

Project: 21-08270 - Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Operators (Building, Class 01A - See Notes)	5/1/2021		\$52.51	\$32.39	\$84.90
Operators (Building, Class 02 - See Notes)	5/1/2017		\$44.62	\$28.07	\$72.69
Operators (Building, Class 02 - See Notes)	5/1/2018		\$46.16	\$28.53	\$74.69
Operators (Building, Class 02 - See Notes)	5/1/2019		\$46.16	\$30.53	\$76.69
Operators (Building, Class 02 - See Notes)	5/1/2020		\$47.71	\$30.98	\$78.69
Operators (Building, Class 02 - See Notes)	5/1/2021		\$49.25	\$31.44	\$80.69
Operators (Building, Class 02A - See Notes)	5/1/2017		\$47.61	\$28.97	\$76.58
Operators (Building, Class 02A - See Notes)	5/1/2018		\$49.16	\$29.42	\$78.58
Operators (Building, Class 02A - See Notes)	5/1/2019		\$49.17	\$31.41	\$80.58
Operators (Building, Class 02A - See Notes)	5/1/2020		\$50.71	\$31.87	\$82.58
Operators (Building, Class 02A - See Notes)	5/1/2021		\$52.26	\$32.32	\$84.58
Operators (Building, Class 03 - See Notes)	5/1/2017		\$40.53	\$26.87	\$67.40
Operators (Building, Class 03 - See Notes)	5/1/2018		\$42.07	\$27.33	\$69.40
Operators (Building, Class 03 - See Notes)	5/1/2019		\$42.08	\$29.32	\$71.40
Operators (Building, Class 03 - See Notes)	5/1/2020		\$43.62	\$29.78	\$73.40
Operators (Building, Class 03 - See Notes)	5/1/2021		\$45.16	\$30.24	\$75.40
Operators (Building, Class 04 - See Notes)	5/1/2017		\$40.24	\$26.78	\$67.02
Operators (Building, Class 04 - See Notes)	5/1/2018		\$41.78	\$27.22	\$69.00
Operators (Building, Class 04 - See Notes)	5/1/2019		\$41.78	\$29.23	\$71.01
Operators (Building, Class 04 - See Notes)	5/1/2020		\$43.32	\$29.69	\$73.01
Operators (Building, Class 04 - See Notes)	5/1/2021		\$44.87	\$30.14	\$75.01
Operators (Building, Class 05 - See Notes)	5/1/2017		\$38.51	\$26.27	\$64.78
Operators (Building, Class 05 - See Notes)	5/1/2018		\$40.05	\$26.73	\$66.78
Operators (Building, Class 05 - See Notes)	5/1/2019		\$40.06	\$28.72	\$68.78
Operators (Building, Class 05 - See Notes)	5/1/2020		\$41.60	\$29.18	\$70.78
Operators (Building, Class 05 - See Notes)	5/1/2021		\$43.14	\$29.64	\$72.78
Operators (Building, Class 06 - See Notes)	5/1/2017		\$37.52	\$25.98	\$63.50
Operators (Building, Class 06 - See Notes)	5/1/2018		\$39.07	\$26.43	\$65.50
Operators (Building, Class 06 - See Notes)	5/1/2019		\$39.07	\$28.43	\$67.50
Operators (Building, Class 06 - See Notes)	5/1/2020		\$40.61	\$28.89	\$69.50
Operators (Building, Class 06 - See Notes)	5/1/2021		\$42.16	\$29.34	\$71.50
Operators (Building, Class 07A- See Notes)	5/1/2017		\$54.14	\$32.47	\$86.61
Operators (Building, Class 07A- See Notes)	5/1/2018		\$55.99	\$33.02	\$89.01
Operators (Building, Class 07A- See Notes)	5/1/2019		\$56.30	\$35.11	\$91.41
Operators (Building, Class 07A- See Notes)	5/1/2020		\$58.16	\$35.65	\$93.81
Operators (Building, Class 07A- See Notes)	5/1/2021		\$60.00	\$36.21	\$96.21
Operators (Building, Class 07B- See Notes)	5/1/2017		\$53.84	\$32.40	\$86.24
Operators (Building, Class 07B- See Notes)	5/1/2018		\$55.70	\$32.92	\$88.62
Operators (Building, Class 07B- See Notes)	5/1/2019		\$56.00	\$35.03	\$91.03
Operators (Building, Class 07B- See Notes)	5/1/2020		\$57.86	\$35.57	\$93.43
Operators (Building, Class 07B- See Notes)	5/1/2021		\$59.72	\$36.11	\$95.83
Painters Class 1 (see notes)	5/1/2021		\$41.24	\$30.29	\$71.53
Painters Class 2 (see notes)	2/1/2021		\$47.56	\$29.35	\$76.91
Painters Class 4 (see notes)	5/1/2021		\$41.62	\$30.29	\$71.91

Springfield Township
Mermaid Park Pedestrian Trail & Streambank Stabilization Project

**BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES**

Project: 21-08270 - Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Piledrivers	5/1/2021		\$43.73	\$37.99	\$81.72
Plasterers	5/1/2017		\$37.42	\$28.83	\$66.25
Plasterers	5/1/2018		\$37.42	\$30.04	\$67.46
Plasterers	5/1/2019		\$37.72	\$30.74	\$68.46
Plasterers	5/1/2020		\$38.12	\$31.34	\$69.46
Plasterers	5/1/2021		\$38.37	\$31.84	\$70.21
plumber	5/1/2018	4/30/2019	\$53.45	\$33.54	\$86.99
plumber	5/1/2019		\$55.45	\$34.54	\$89.99
plumber	8/1/2020		\$57.33	\$35.66	\$92.99
plumber	5/1/2021		\$59.83	\$36.16	\$95.99
Plumbers	5/1/2017		\$51.42	\$32.57	\$83.99
Pointers, Caulkers, Cleaners	5/1/2017		\$42.26	\$25.69	\$67.95
Pointers, Caulkers, Cleaners	5/1/2018		\$45.01	\$25.69	\$70.70
Pointers, Caulkers, Cleaners	5/1/2019		\$47.76	\$25.69	\$73.45
Pointers, Caulkers, Cleaners	5/1/2020		\$45.75	\$29.20	\$74.95
Pointers, Caulkers, Cleaners	5/1/2021		\$46.75	\$29.50	\$76.25
Roofers (Composition)	5/1/2017		\$36.15	\$30.22	\$66.37
Roofers (Composition)	5/1/2018		\$37.15	\$31.27	\$68.42
Roofers (Composition)	5/1/2019		\$38.35	\$31.80	\$70.15
Roofers (Composition)	5/1/2020		\$39.50	\$32.30	\$71.80
Roofers (Composition)	5/1/2021		\$40.33	\$33.12	\$73.45
Roofers (Shingle)	5/1/2016		\$25.70	\$19.17	\$44.87
Roofers (Shingle)	5/1/2019		\$28.50	\$20.87	\$49.37
Roofers (Shingle)	5/1/2020		\$29.50	\$21.25	\$50.75
Roofers (Shingle)	5/1/2021		\$30.50	\$21.55	\$52.05
Roofers (Slate & Tile)	5/1/2016		\$28.70	\$19.17	\$47.87
Roofers (Slate & Tile)	5/1/2018		\$30.50	\$20.37	\$50.87
Roofers (Slate & Tile)	5/1/2019		\$31.50	\$20.87	\$52.37
Roofers (Slate & Tile)	5/1/2020		\$32.50	\$21.25	\$53.75
Roofers (Slate & Tile)	5/1/2021		\$33.50	\$21.55	\$55.05
Sheet Metal Workers	5/1/2017		\$46.42	\$39.51	\$85.93
Sheet Metal Workers	5/1/2018		\$47.58	\$41.60	\$89.18
Sheet Metal Workers	5/1/2019		\$49.79	\$42.89	\$92.68
Sheet Metal Workers	5/1/2020		\$52.04	\$44.19	\$96.23
Sheet Metal Workers	5/1/2021		\$53.84	\$45.94	\$99.78
Sign Makers and Hangars	7/17/2021		\$29.49	\$23.90	\$53.39
Sprinklerfitters	4/1/2017		\$37.40	\$21.74	\$59.14
Sprinklerfitters	4/1/2018		\$38.80	\$22.74	\$61.54
Sprinklerfitters	5/1/2019		\$57.20	\$28.32	\$85.52
Sprinklerfitters	5/1/2020		\$59.10	\$29.22	\$88.32
Sprinklerfitters	5/1/2021		\$60.83	\$30.34	\$91.17
Steamfitters	5/1/2017		\$54.64	\$32.53	\$87.17
Steamfitters	5/1/2018		\$56.37	\$34.39	\$90.76
Steamfitters	5/1/2019		\$58.17	\$35.99	\$94.16

**BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES**

Project: 21-08270 - Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Steamfitters	5/1/2020		\$60.47	\$37.24	\$97.71
Steamfitters	5/1/2021		\$60.47	\$40.89	\$101.36
Steamfitters	5/1/2022		\$60.47	\$44.63	\$105.10
Stone Masons	5/1/2017		\$40.36	\$26.99	\$67.35
Stone Masons	5/1/2018		\$43.11	\$26.99	\$70.10
Stone Masons	5/1/2019		\$45.86	\$26.99	\$72.85
Stone Masons	5/1/2020		\$44.25	\$30.10	\$74.35
Stone Masons	5/1/2021		\$44.90	\$30.75	\$75.65
Terrazzo Finisher	5/1/2017		\$39.06	\$22.73	\$61.79
Terrazzo Finisher	5/1/2018		\$41.31	\$22.73	\$64.04
Terrazzo Finisher	5/1/2019		\$43.61	\$22.73	\$66.34
Terrazzo Finisher	5/1/2020		\$41.46	\$26.37	\$67.83
Terrazzo Grinder	5/1/2017		\$39.33	\$22.73	\$62.06
Terrazzo Grinder	5/1/2018		\$41.58	\$22.73	\$64.31
Terrazzo Grinder	5/1/2019		\$43.88	\$22.73	\$66.61
Terrazzo Grinder	5/1/2020		\$41.73	\$26.37	\$68.10
Terrazzo Mechanics	5/1/2017		\$43.71	\$24.81	\$68.52
Terrazzo Mechanics	5/1/2018		\$46.46	\$24.81	\$71.27
Terrazzo Mechanics	5/1/2019		\$49.21	\$24.81	\$74.02
Terrazzo Mechanics	5/1/2020		\$47.51	\$28.01	\$75.52
Terrazzo Mechanics	5/1/2021		\$48.01	\$28.81	\$76.82
Tile Finisher	5/1/2017		\$35.55	\$24.17	\$59.72
Tile Finisher	5/1/2018		\$37.55	\$24.17	\$61.72
Tile Finisher	5/1/2019		\$39.75	\$24.17	\$63.92
Tile Finisher	5/1/2020		\$37.57	\$27.65	\$65.22
Tile Setter	5/1/2017		\$43.71	\$24.81	\$68.52
Tile Setter	5/1/2018		\$46.46	\$24.81	\$71.27
Tile Setter	5/1/2019		\$49.21	\$24.81	\$74.02
Tile Setter	5/1/2020		\$47.51	\$28.01	\$75.52
Truckdriver class 1(see notes)	5/1/2017		\$30.46	\$17.96	\$48.42
Truckdriver class 1(see notes)	5/1/2018		\$31.93	\$17.96	\$49.89
Truckdriver class 1(see notes)	5/1/2019		\$32.21	\$19.19	\$51.40
Truckdriver class 1(see notes)	5/1/2020		\$34.93	\$17.96	\$52.89
Truckdriver class 1(see notes)	5/1/2021		\$36.48	\$17.96	\$54.44
Truckdriver class 2 (see notes)	5/1/2017		\$30.56	\$17.96	\$48.52
Truckdriver class 2 (see notes)	5/1/2018		\$32.03	\$17.96	\$49.99
Truckdriver class 2 (see notes)	5/1/2019		\$32.31	\$19.19	\$51.50
Truckdriver class 2 (see notes)	5/1/2020		\$35.03	\$17.96	\$52.99
Truckdriver class 2 (see notes)	5/1/2021		\$36.58	\$17.96	\$54.54
Truckdriver class 3 (see notes)	5/1/2017		\$30.56	\$17.96	\$48.52
Truckdriver class 3 (see notes)	5/1/2018		\$32.28	\$17.96	\$50.24
Truckdriver class 3 (see notes)	5/1/2019		\$32.56	\$19.19	\$51.75
Truckdriver class 3 (see notes)	5/1/2020		\$35.28	\$17.96	\$53.24
Truckdriver class 3 (see notes)	5/1/2021		\$36.83	\$17.96	\$54.79

**BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES**

Project: 21-08270 - Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Window Film / Tint Installer	6/1/2019		\$24.52	\$12.08	\$36.60

**BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES**

Project: 21-08270 - Heavy/Highway	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Carpenter - Chief of Party (Surveying & Layout)	5/1/2017		\$51.42	\$27.39	\$78.81
Carpenter - Chief of Party (Surveying & Layout)	5/1/2018	4/30/2019	\$53.20	\$27.69	\$80.89
Carpenter - Chief of Party (Surveying & Layout)	5/1/2019	4/30/2020	\$54.98	\$28.04	\$83.02
Carpenter - Chief of Party (Surveying & Layout)	5/1/2020	4/30/2021	\$57.22	\$28.04	\$85.26
Carpenter - Chief of Party (Surveying & Layout)	5/1/2021		\$59.93	\$27.69	\$87.62
Carpenter - Instrument Person (Surveying & Layout)	5/1/2017		\$44.71	\$27.39	\$72.10
Carpenter - Instrument Person (Surveying & Layout)	5/1/2018	4/30/2019	\$46.26	\$27.69	\$73.95
Carpenter - Instrument Person (Surveying & Layout)	5/1/2019	4/30/2020	\$47.81	\$28.04	\$75.85
Carpenter - Instrument Person (Surveying & Layout)	5/1/2020	4/30/2021	\$49.76	\$28.04	\$77.80
Carpenter - Instrument Person (Surveying & Layout)	5/1/2021		\$52.11	\$27.69	\$79.80
Carpenter - Rodman (Surveying & Layout)	5/1/2017		\$35.77	\$21.19	\$56.96
Carpenter - Rodman (Surveying & Layout)	5/1/2018	4/30/2019	\$37.01	\$21.34	\$58.35
Carpenter - Rodman (Surveying & Layout)	5/1/2019	4/30/2020	\$38.25	\$21.34	\$59.59
Carpenter - Rodman (Surveying & Layout)	5/1/2020	4/30/2021	\$39.81	\$21.34	\$61.15
Carpenter - Rodman (Surveying & Layout)	5/1/2021		\$41.69	\$21.34	\$63.03
Carpenter	5/1/2018	4/30/2019	\$46.26	\$27.69	\$73.95
Carpenter	5/1/2019	4/30/2020	\$47.81	\$28.04	\$75.85
Carpenter	5/1/2020		\$49.46	\$28.34	\$77.80
Carpenter	5/1/2021		\$51.76	\$28.04	\$79.80
Cement Masons	5/1/2017		\$34.45	\$31.51	\$65.96
Cement Masons	5/1/2018		\$35.65	\$32.01	\$67.66
Cement Masons	5/1/2019		\$37.90	\$31.51	\$69.41
Cement Masons	5/1/2020		\$37.95	\$33.26	\$71.21
Cement Masons	5/1/2021		\$39.65	\$33.41	\$73.06
DockBuilder/ Divers (Building Heavy & Highway)	5/1/2020		\$52.44	\$37.27	\$89.71
DockBuilder/Pile Drivers/ Diver Tender(Building Heavy & Highway)	5/1/2020		\$43.70	\$37.27	\$80.97
Electric Lineman	5/29/2017		\$52.60	\$26.37	\$78.97
Electric Lineman	5/28/2018		\$53.64	\$27.45	\$81.09
Electric Lineman	5/27/2019		\$54.66	\$28.56	\$83.22
Electric Lineman	6/1/2020		\$55.96	\$29.76	\$85.72
Electric Lineman	5/31/2021		\$57.93	\$30.22	\$88.15
Electric Lineman	5/30/2022		\$59.17	\$31.48	\$90.65
Electric Lineman	5/29/2023		\$60.48	\$32.77	\$93.25
Electric Lineman	6/3/2024		\$62.07	\$33.96	\$96.03
Electricians	6/1/2022		\$44.46	\$23.06	\$67.52
Electricians	6/1/2023		\$46.49	\$23.06	\$69.55
Iron Workers (Bridge, Structural Steel, Ornamental, Precast, Reinforcing)	1/1/2017		\$44.20	\$31.26	\$75.46
Iron Workers (Bridge, Structural Steel, Ornamental, Precast, Reinforcing)	7/1/2020		\$50.80	\$34.91	\$85.71
Iron Workers (Bridge, Structural Steel, Ornamental, Precast, Reinforcing)	7/1/2021		\$47.70	\$39.51	\$87.21
Iron Workers	7/1/2017		\$47.30	\$32.91	\$80.21
Iron Workers	7/1/2019		\$49.30	\$34.41	\$83.71
Iron Workers	1/1/2020		\$49.80	\$34.41	\$84.21

Springfield Township
Mermaid Park Pedestrian Trail & Streambank Stabilization Project

**BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES**

Project: 21-08270 - Heavy/Highway	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Ironworker (Rodman)	7/1/2020		\$44.82	\$31.60	\$76.42
Laborers (Class 01 - See notes)	5/1/2017		\$29.75	\$25.65	\$55.40
Laborers (Class 01 - See notes)	5/1/2018		\$31.25	\$25.65	\$56.90
Laborers (Class 01 - See notes)	5/1/2019		\$31.95	\$26.50	\$58.45
Laborers (Class 01 - See notes)	5/1/2020		\$33.95	\$26.15	\$60.10
Laborers (Class 01 - See notes)	5/1/2021		\$36.20	\$25.65	\$61.85
Laborers (Class 02 - See notes)	5/1/2017		\$29.95	\$25.65	\$55.60
Laborers (Class 02 - See notes)	5/1/2018		\$31.45	\$25.65	\$57.10
Laborers (Class 02 - See notes)	5/1/2019		\$32.15	\$26.50	\$58.65
Laborers (Class 02 - See notes)	5/1/2020		\$34.15	\$26.15	\$60.30
Laborers (Class 02 - See notes)	5/1/2021		\$36.40	\$25.65	\$62.05
Laborers (Class 03 - See notes)	5/1/2017		\$29.95	\$25.65	\$55.60
Laborers (Class 03 - See notes)	5/1/2018		\$31.45	\$25.65	\$57.10
Laborers (Class 03 - See notes)	5/1/2019		\$32.15	\$26.50	\$58.65
Laborers (Class 03 - See notes)	5/1/2020		\$34.15	\$26.15	\$60.30
Laborers (Class 03 - See notes)	5/1/2021		\$36.40	\$25.65	\$62.05
Laborers (Class 04 - See notes)	5/1/2017		\$24.55	\$25.65	\$50.20
Laborers (Class 04 - See notes)	5/1/2018		\$26.05	\$25.65	\$51.70
Laborers (Class 04 - See notes)	5/1/2019		\$26.75	\$26.50	\$53.25
Laborers (Class 04 - See notes)	5/1/2020		\$28.75	\$26.15	\$54.90
Laborers (Class 04 - See notes)	5/1/2021		\$31.00	\$25.65	\$56.65
Laborers (Class 05 - See notes)	5/1/2017		\$30.60	\$25.65	\$56.25
Laborers (Class 05 - See notes)	5/1/2018		\$32.10	\$25.65	\$57.75
Laborers (Class 05 - See notes)	5/1/2019		\$32.80	\$26.50	\$59.30
Laborers (Class 05 - See notes)	5/1/2020		\$34.80	\$26.15	\$60.95
Laborers (Class 05 - See notes)	5/1/2021		\$37.05	\$25.65	\$62.70
Laborers (Class 06 - See notes)	5/1/2017		\$30.65	\$25.65	\$56.30
Laborers (Class 06 - See notes)	5/1/2018		\$32.15	\$25.65	\$57.80
Laborers (Class 06 - See notes)	5/1/2019		\$32.85	\$26.50	\$59.35
Laborers (Class 06 - See notes)	5/1/2020		\$34.85	\$26.15	\$61.00
Laborers (Class 06 - See notes)	5/1/2021		\$37.10	\$25.65	\$62.75
Laborers (Class 07 - See notes)	5/1/2017		\$30.50	\$25.65	\$56.15
Laborers (Class 07 - See notes)	5/1/2018		\$32.00	\$25.65	\$57.65
Laborers (Class 07 - See notes)	5/1/2019		\$32.70	\$26.50	\$59.20
Laborers (Class 07 - See notes)	5/1/2020		\$34.70	\$26.15	\$60.85
Laborers (Class 07 - See notes)	5/1/2021		\$36.95	\$25.65	\$62.60
Laborers (Class 08 - See notes)	5/1/2017		\$30.25	\$25.65	\$55.90
Laborers (Class 08 - See notes)	5/1/2018		\$31.75	\$25.65	\$57.40
Laborers (Class 08 - See notes)	5/1/2019		\$32.45	\$26.50	\$58.95
Laborers (Class 08 - See notes)	5/1/2020		\$34.45	\$26.15	\$60.60
Laborers (Class 08 - See notes)	5/1/2021		\$36.70	\$25.65	\$62.35
Laborers (Class 09 - See notes)	5/1/2017		\$30.10	\$25.65	\$55.75
Laborers (Class 09 - See notes)	5/1/2018		\$31.60	\$25.65	\$57.25
Laborers (Class 09 - See notes)	5/1/2019		\$32.30	\$26.50	\$58.80

Springfield Township
Mermaid Park Pedestrian Trail & Streambank Stabilization Project

**BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES**

Project: 21-08270 - Heavy/Highway	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Laborers (Class 09 - See notes)	5/1/2020		\$34.30	\$26.15	\$60.45
Laborers (Class 09 - See notes)	5/1/2021		\$36.55	\$25.65	\$62.20
Laborers (Class 10- See notes)	5/1/2017		\$30.25	\$25.65	\$55.90
Laborers (Class 10- See notes)	5/1/2018		\$33.30	\$25.65	\$58.95
Laborers (Class 10- See notes)	5/1/2019		\$32.45	\$26.50	\$58.95
Laborers (Class 10- See notes)	5/1/2020		\$34.45	\$26.15	\$60.60
Laborers (Class 10- See notes)	5/1/2021		\$36.70	\$25.65	\$62.35
Laborers (Class 11 -See Notes)	5/1/2017		\$30.15	\$25.65	\$55.80
Laborers (Class 11 -See Notes)	5/1/2018		\$31.55	\$25.65	\$57.20
Laborers (Class 11 -See Notes)	5/1/2019		\$32.35	\$26.50	\$58.85
Laborers (Class 11 -See Notes)	5/1/2020		\$34.35	\$26.15	\$60.50
Laborers (Class 11 -See Notes)	5/1/2021		\$36.50	\$25.65	\$62.15
Laborers (Class 12 -See Notes)	5/1/2017		\$31.85	\$25.65	\$57.50
Laborers (Class 12 -See Notes)	5/1/2018		\$32.45	\$25.65	\$58.10
Laborers (Class 12 -See Notes)	5/1/2019		\$34.05	\$26.50	\$60.55
Laborers (Class 12 -See Notes)	5/1/2020		\$36.05	\$26.15	\$62.20
Laborers (Class 12 -See Notes)	5/1/2021		\$37.40	\$25.65	\$63.05
Laborers (Class 13 -See Notes)	5/1/2017		\$33.88	\$25.65	\$59.53
Laborers (Class 13 -See Notes)	5/1/2018		\$35.38	\$25.65	\$61.03
Laborers (Class 13 -See Notes)	5/1/2019		\$36.08	\$26.50	\$62.58
Laborers (Class 13 -See Notes)	5/1/2020		\$38.08	\$26.15	\$64.23
Laborers (Class 13 -See Notes)	5/1/2021		\$40.33	\$25.65	\$65.98
Laborers (Class 14 -See Notes)	5/1/2017		\$30.00	\$25.65	\$55.65
Laborers (Class 14 -See Notes)	5/1/2018		\$31.50	\$25.65	\$57.15
Laborers (Class 14 -See Notes)	5/1/2019		\$32.20	\$26.50	\$58.70
Laborers (Class 14 -See Notes)	5/1/2020		\$34.20	\$26.15	\$60.35
Laborers (Class 14 -See Notes)	5/1/2021		\$36.45	\$25.65	\$62.10
Laborers Utility (PGW ONLY) (Flagperson)	5/1/2017		\$23.52	\$17.58	\$41.10
Laborers Utility (PGW ONLY)	5/1/2017		\$30.55	\$17.58	\$48.13
Landscape Laborer	4/1/2016		\$21.19	\$22.65	\$43.84
Landscape Laborer	5/1/2019		\$24.22	\$23.50	\$47.72
Landscape Laborer	5/1/2020		\$26.13	\$22.95	\$49.08
Operators Class 01 - See Notes (Building, Heavy, Highway)	5/1/2017		\$44.87	\$28.14	\$73.01
Operators Class 01 - See Notes (Building, Heavy, Highway)	5/1/2018		\$46.41	\$28.60	\$75.01
Operators Class 01 - See Notes (Building, Heavy, Highway)	5/1/2019		\$46.41	\$30.60	\$77.01
Operators Class 01 - See Notes (Building, Heavy, Highway)	5/1/2020		\$47.96	\$31.20	\$79.16
Operators Class 01 - See Notes (Building, Heavy, Highway)	5/1/2021		\$49.50	\$31.51	\$81.01
Operators Class 01a - See Notes (Building, Heavy, Highway)	5/1/2017		\$47.86	\$29.03	\$76.89
Operators Class 01a - See Notes (Building, Heavy, Highway)	5/1/2018		\$49.41	\$29.49	\$78.90
Operators Class 01a - See Notes (Building, Heavy, Highway)	5/1/2019		\$49.41	\$31.49	\$80.90

**BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES**

Project: 21-08270 - Heavy/Highway	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Highway)					
Operators Class 01a - See Notes (Building, Heavy, Highway)	5/1/2020		\$50.96	\$32.09	\$83.05
Operators Class 01a - See Notes (Building, Heavy, Highway)	5/1/2021		\$52.51	\$32.39	\$84.90
Operators Class 02 - See Notes (Building, Heavy, Highway)	5/1/2017		\$44.62	\$28.07	\$72.69
Operators Class 02 - See Notes (Building, Heavy, Highway)	5/1/2018		\$46.16	\$28.53	\$74.69
Operators Class 02 - See Notes (Building, Heavy, Highway)	5/1/2019		\$46.16	\$30.53	\$76.69
Operators Class 02 - See Notes (Building, Heavy, Highway)	5/1/2020		\$47.71	\$31.13	\$78.84
Operators Class 02 - See Notes (Building, Heavy, Highway)	5/1/2021		\$49.25	\$31.44	\$80.69
Operators Class 02a - See Notes (Building, Heavy, Highway)	5/1/2017		\$47.61	\$28.97	\$76.58
Operators Class 02a - See Notes (Building, Heavy, Highway)	5/1/2018		\$49.16	\$29.42	\$78.58
Operators Class 02a - See Notes (Building, Heavy, Highway)	5/1/2019		\$49.17	\$31.41	\$80.58
Operators Class 02a - See Notes (Building, Heavy, Highway)	5/1/2020		\$50.71	\$32.02	\$82.73
Operators Class 02a - See Notes (Building, Heavy, Highway)	5/1/2021		\$52.27	\$32.31	\$84.58
Operators Class 03 - See Notes (Building, Heavy, Highway)	5/1/2017		\$40.53	\$26.87	\$67.40
Operators Class 03 - See Notes (Building, Heavy, Highway)	5/1/2018		\$42.07	\$27.33	\$69.40
Operators Class 03 - See Notes (Building, Heavy, Highway)	5/1/2019		\$42.08	\$29.32	\$71.40
Operators Class 03 - See Notes (Building, Heavy, Highway)	5/1/2020		\$43.62	\$29.93	\$73.55
Operators Class 03 - See Notes (Building, Heavy, Highway)	5/1/2021		\$45.16	\$30.24	\$75.40
Operators Class 04 - See Notes (Building, Heavy, Highway)	5/1/2017		\$40.24	\$26.78	\$67.02
Operators Class 04 - See Notes (Building, Heavy, Highway)	5/1/2018		\$41.78	\$27.22	\$69.00
Operators Class 04 - See Notes (Building, Heavy, Highway)	5/1/2019		\$41.78	\$29.23	\$71.01
Operators Class 04 - See Notes (Building, Heavy, Highway)	5/1/2020		\$43.32	\$29.84	\$73.16
Operators Class 04 - See Notes (Building, Heavy, Highway)	5/1/2021		\$44.86	\$30.15	\$75.01
Operators Class 05 - See Notes (Building, Heavy, Highway)	5/1/2017		\$38.51	\$26.27	\$64.78
Operators Class 05 - See Notes (Building, Heavy, Highway)	5/1/2018		\$40.05	\$26.73	\$66.78
Operators Class 05 - See Notes (Building, Heavy, Highway)	5/1/2019		\$40.06	\$28.72	\$68.78
Operators Class 05 - See Notes (Building, Heavy, Highway)	5/1/2020		\$41.60	\$29.33	\$70.93

Springfield Township
Mermaid Park Pedestrian Trail & Streambank Stabilization Project

**BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES**

Project: 21-08270 - Heavy/Highway	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Operators Class 05 - See Notes (Building, Heavy, Highway)	5/1/2021		\$43.14	\$29.64	\$72.78
Operators Class 06 - See Notes (Building, Heavy, Highway)	5/1/2017		\$37.52	\$25.98	\$63.50
Operators Class 06 - See Notes (Building, Heavy, Highway)	5/1/2018		\$39.07	\$26.43	\$65.50
Operators Class 06 - See Notes (Building, Heavy, Highway)	5/1/2019		\$39.07	\$28.43	\$67.50
Operators Class 06 - See Notes (Building, Heavy, Highway)	5/1/2020		\$40.61	\$29.04	\$69.65
Operators Class 06 - See Notes (Building, Heavy, Highway)	5/1/2021		\$42.16	\$29.34	\$71.50
Operators Class 07 (A) - See Notes (Building, Heavy, Highway)	5/1/2017		\$54.14	\$32.47	\$86.61
Operators Class 07 (A) - See Notes (Building, Heavy, Highway)	5/1/2018		\$55.99	\$33.02	\$89.01
Operators Class 07 (A) - See Notes (Building, Heavy, Highway)	5/1/2019		\$56.30	\$35.11	\$91.41
Operators Class 07 (A) - See Notes (Building, Heavy, Highway)	5/1/2020		\$58.16	\$35.80	\$93.96
Operators Class 07 (A) - See Notes (Building, Heavy, Highway)	5/1/2021		\$60.00	\$36.21	\$96.21
Operators Class 07 (B) - See Notes (Building, Heavy, Highway)	5/1/2017		\$53.84	\$32.40	\$86.24
Operators Class 07 (B) - See Notes (Building, Heavy, Highway)	5/1/2018		\$55.70	\$32.92	\$88.62
Operators Class 07 (B) - See Notes (Building, Heavy, Highway)	5/1/2019		\$56.00	\$35.03	\$91.03
Operators Class 07 (B) - See Notes (Building, Heavy, Highway)	5/1/2020		\$57.86	\$35.72	\$93.58
Operators Class 07 (B) - See Notes (Building, Heavy, Highway)	5/1/2021		\$59.72	\$36.11	\$95.83
Painters Class 2 (see notes)	2/1/2021		\$47.56	\$29.35	\$76.91
Painters Class 3 (see notes)	2/1/2021		\$58.52	\$29.39	\$87.91
Piledrivers	5/1/2021		\$43.73	\$37.99	\$81.72
Steamfitters (Heavy and Highway - Gas Distribution)	5/1/2017		\$51.91	\$32.53	\$84.44
Steamfitters (Heavy and Highway - Gas Distribution)	5/1/2020		\$60.47	\$36.93	\$97.40
Steamfitters	5/1/2018		\$56.37	\$34.39	\$90.76
Truckdriver class 1(see notes)	5/1/2017		\$30.31	\$17.96	\$48.27
Truckdriver class 1(see notes)	5/1/2018		\$31.78	\$17.96	\$49.74
Truckdriver class 1(see notes)	5/1/2019		\$32.06	\$19.19	\$51.25
Truckdriver class 1(see notes)	5/1/2020		\$34.78	\$17.96	\$52.74
Truckdriver class 1(see notes)	5/1/2021		\$36.33	\$17.96	\$54.29
Truckdriver class 2 (see notes)	5/1/2017		\$30.41	\$17.96	\$48.37
Truckdriver class 2 (see notes)	5/1/2018		\$31.88	\$17.96	\$49.84
Truckdriver class 2 (see notes)	5/1/2019		\$32.16	\$19.19	\$51.35
Truckdriver class 2 (see notes)	5/1/2020		\$34.88	\$17.96	\$52.84
Truckdriver class 2 (see notes)	5/1/2021		\$36.43	\$17.96	\$54.39
Truckdriver class 3 (see notes)	5/1/2017		\$30.66	\$17.96	\$48.62
Truckdriver class 3 (see notes)	5/1/2018		\$32.13	\$17.96	\$50.09

**BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES**

Project: 21-08270 - Heavy/Highway	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Truckdriver class 3 (see notes)	5/1/2019		\$32.41	\$19.19	\$51.60
Truckdriver class 3 (see notes)	5/1/2020		\$35.13	\$17.96	\$53.09
Truckdriver class 3 (see notes)	5/1/2021		\$36.68	\$17.96	\$54.64

PREVAILING WAGE PAYMENT CERTIFICATION

This form must be executed by Contractor and submitted with final voucher prior to final payment.

PROJECT _____

TO: _____
(NAME OF OWNER AS IT APPEARS IN CONTRACT)

RE: Contract for Certification of Contractor of Payment of Prevailing Wages to Workmen

The undersigned Contractor hereby certifies that any and all workmen employed by the undersigned contractor and all Subcontractors has been paid in full and prevailing wages for their respective crafts or trades as determined and computed by the Commissioner of Labor and Industry, of the Commonwealth of Pennsylvania, and that all suppliers and material men have been paid in full all amounts claimed by them, and there remains no outstanding claim, lien, or dispute; nor any contingent claim by any of the foregoing:

DATED: _____
CONTRACTOR

COMMONWEALTH OF PENNSYLVANIA

COUNTY OF _____

_____, being duly sworn according to law, upon his oath disposes and says that he is the _____ (Owner-pre. Or authorized agent) of _____ (name of corporation) that he has read the aforesaid statement of certification and knows the content thereof, and that the same is true of his own knowledge and this affidavit is being executed by him.

Signature

Sworn and subscribed to
Before me this _____ day of _____ 20____

Notary Public of Pennsylvania

PW-1

CERTIFICATION OF SITE SAFETY CONDITIONS

TOWN: _____ PROJECT NAME _____

COUNTY: _____ JOB# _____

I hereby certify that site safety conditions and the means and methods of construction have been and are in accord with the provisions of the Contract Documents and all requirements contained and referenced therein since the last executed Certificate of Site Safety Conditions, except as noted:

- | | |
|---|---|
| <input type="checkbox"/> Unsafe Trench Condition | <input type="checkbox"/> Unsafe Entry to Live Manhole |
| <input type="checkbox"/> Unsafe Traffic Control | <input type="checkbox"/> Unsafe Equipment |
| <input type="checkbox"/> Inadequate Fall Protection | <input type="checkbox"/> Proximity to Electric |
| <input type="checkbox"/> Other _____ | |
| _____ | |
| <input type="checkbox"/> None _____ | |
| Comments/Resolutions _____ | |
| _____ | |

Contractor: _____

By: _____

Authorized Representative

I executed this form at _____ on _____
Time Date



COMMONWEALTH OF PENNSYLVANIA
PUBLIC WORKS EMPLOYMENT VERIFICATION FORM

Date _____

Business or Organization Name (Employer) _____

Address _____

City _____ State _____ Zip Code _____

Contractor Subcontractor (check one)

Contracting Public Body _____

Contract/Project No _____

Project Description _____

Project Location _____

As a contractor/subcontractor for the above referenced public works contract, I hereby affirm that as of the above date, our company is in compliance with the Public Works Employment Verification Act ('the Act') through utilization of the federal E-Verify Program (EVP) operated by the United States Department of Homeland Security. To the best of my/our knowledge, all employees hired post January 1, 2013 are authorized to work in the United States.

It is also agreed to that all public works contractors/subcontractors will utilize the federal EVP to verify the employment eligibility of each new hire within five (5) business days of the employee start date throughout the duration of the public works contract. Documentation confirming the use of the federal EVP upon each new hire shall be maintained in the event of an investigation or audit.

I, _____, authorized representative of the company above, attest that the information contained in this verification form is true and correct and understand that the submission of false or misleading information in connection with the above verification shall be subject to sanctions provided by law.

Authorized Representative Signature

EROSION & SEDIMENTATION CONTROL

PART 1 – GENERAL

1.01 SECTION DESCRIPTION

A. The Work of This Section Includes:

1. CONTRACTOR shall implement and maintain the Soil Erosion and Sedimentation Control Plan prepared for the Project and/or Work.
2. CONTRACTOR shall carry out the construction operations in such a manner that soil erosion and resulting turbid stormwater runoff and sedimentation are minimized.

1.02 RELATED INFORMATION

A. Related Sections:

1. Section 02110 - Clearing and Grubbing
2. Section 02170 - Stream Crossing
3. Section 02220 - Excavation, Backfill and Compaction
4. Section 02229 - Rock Removal
5. Section 02300 - Boring or Jacking Operations
6. Section 02905 – Landscaping

1.03 QUALITY ASSURANCE

A. Reference Standards: The most current requirements of the following Standards shall govern.

1. Pennsylvania Department of Environmental Protection Soil Erosion and Sedimentation Control Manual, (Chapters 102 and 105).
2. Montgomery County Conservation District requirements.
3. Pennsylvania Department of Transportation Publication 408 Specifications.

1.04 JOB CONDITIONS

A. The associated work activities include but are not limited to the following items:

1. Temporary and permanent measures will have to be undertaken before, during and after construction to control sediment from being carried onto adjoining properties and into swales or watercourses as a result of storm water runoff.
2. The use of temporary control devices as shown on the Drawings and as described in these Specifications are for providing the trapping of sediment resulting from construction activities and to reduce the velocities of the temporary storm water courses to minimize erosion.

3. The erosion and sediment control devices shall be regularly inspected and maintained throughout the life of this project. These shall include, but are not limited to, temporary sediment basins and traps, stabilized construction entrances, perimeter dikes, perimeter swales and silt fences, as shown on the Drawings or other measures that are required for the construction of the Project and for Work.
4. Upon completion of the Project and/or Work, and stabilization of disturbed areas, the temporary devices shall be removed by CONTRACTOR.
5. Soil erosion and sedimentation control practices shall be consistent with the procedures outlined in the latest edition of the "Soil Erosion and Sedimentation Control Manual", Commonwealth of Pennsylvania, Department of Environmental Resources.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Silt Fence

1. Section 865, Publication 408 Specifications.

B. Coarse Aggregate (Stabilized Construction Entrance)

1. AASHTO #1, Table C, Section 703.2, Publication 408 Specifications.

C. Straw Bales

D. Temporary Seeding

1. See Section 02905

E. Permanent Seeding

1. See Section 02905

PART 3 – EXECUTION

3.01 TEMPORARY AND PERMANENT CONTROL MEASURES

A. CONTRACTOR shall implement and maintain the temporary control measures set forth in the Soil Erosion and Sedimentation Control Plan prepared for the Project and/or Work. In addition, CONTRACTOR shall comply with following items:

1. Limit the removal of natural ground cover to the minimum area required for construction.
2. Perform temporary seeding and mulching as soon as possible, within seasonal constraints, of disturbed areas which are expected to remain bare of vegetation for over twenty (20) days until final grading and stabilization can be accomplished. Temporary seeding is covered in Section 02905.

3. Dewatering or pumping out of excavated areas directly into existing storm ditches or natural channels which causes silt deposition, turbidity and/or possible erosion of banks is prohibited. CONTRACTOR must make use of sediment traps, filters, or other methods acceptable to the Resident Project Representative.
4. Excavated material resulting from the installation of off-site utilities shall be completely surrounded by straw bales or completely covered with a plastic sheet during non-work periods.
5. Perform permanent seeding and mulching of any disturbed areas immediately following final grading of any non-paved areas within seasonal constraints. Seeding is covered in Section 02905.

3.02 FIELD MODIFICATIONS

- A. AUTHORITY reserves the right to require modifications to any or all sediment control measures provided in order to establish proper soil erosion and sedimentation control. In addition, any measures recommended or required by the Montgomery County Conservation District shall be promptly implemented.

Section 02110
CLEARING AND GRUBBING

PART 1 – GENERAL

1.01 SECTION DESCRIPTION

A. The Work of This Section Includes:

1. Clearing
2. Grubbing
3. Stripping and stockpiling topsoil
4. Debris disposal

B. Definitions:

1. Clearing is defined as the removal of trees, brush, down timber, rotten wood, rubbish, any other vegetation, and objectionable material at or above original ground elevation not designated to be saved. Clearing also includes removal of fences, walls, guard posts, guard rail, signs, and other obstructions interfering with the proposed work.
2. Grubbing is defined as the removal from below the surface of the natural ground of stumps, roots and stubs, brush, organic materials and debris.

1.02 RELATED INFORMATION

A. Related Sections:

1. Section 01560 - Soil Erosion and Sedimentation Control
2. Section 02220 - Excavation, Backfill and Compaction
3. Section 02229 - Rock Removal
4. Section 02730 - Gravity Sanitary Sewer Pipe
5. Section 02905 - Landscaping

1.03 JOB CONDITIONS

A. CONTRACTOR may clear all obstructions within the permanent and temporary construction easements as absolutely necessary to perform the construction work. CONTRACTOR shall leave as many trees as possible particularly within the temporary construction easements. Removal of trees shall be coordinated with the Resident Project Representative and the TOWNSHIP.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Temporary Fencing:

1. Undamaged picket snow fence, 4' high, formed of wooden slats, tightly woven with wire cable.
2. Soil-set fence posts, studded "T" type, 6' high.

B. Tree Wound Dressing:

1. Antiseptic and waterproof, asphalt base.

PART 3 – EXECUTION

3.01 PREPARATION

A. Notify ENGINEER at least 48 hours prior to beginning any clearing work.

B. Protect benchmarks, utilities, existing trees, shrubs and other landscape features designated for preservation with temporary fencing or barricades satisfactory to the Resident Project Representative. No material shall be stored or construction operation carried on within four (4) feet of any tree to be saved or within the tree protection fence.

C. When a private enclosure fence encroaches on the work area, notify the property owner at least five (5) days in advance of the clearing/grubbing operations to permit the property owner to remove it, construct a supplemental fence, or make such other arrangements as may be necessary for security purposes. Upon failure of the property owner to reasonably proceed with the work required to secure his property, carefully remove the fence, in whole or in part, and neatly pile the materials onto the property owner's property.

3.02 UTILITY RELOCATIONS

A. Inform all companies, individuals and others owning or controlling facilities or structures within the limits of the work which have to be relocated, adjusted or reconstructed in sufficient time for the utility to organize and perform such work in conjunction with or in advance of CONTRACTOR operations.

B. Comply with the provisions of Pennsylvania "One Call" Act 287, most current requirements.

3.03 CLEARING

A. Confine clearing as required to within the limits of the easements, right-of-ways, and property owner's. Attention is called to Section 02110.1.03.A.

- B. Fell trees in a manner that will avoid damage to trees, shrubs, and other installations which are to be retained.
- C. Where stumps are not required to be grubbed, they shall be flush cut with ground elevation.
- D. In areas of fill or embankment where the depth of fill or embankment is to be 5 feet or more in depth, trees and stumps shall be cut off not more than 6 inches above existing grade. If the fill is to be less than 5 feet, all trees, stumps, roots, brush, root mat and debris shall be removed completely.

3.04 GRUBBING

- A. Grub areas within the construction limits to remove roots and other objectionable material to a minimum depth of 2 feet below the surface.
- B. Remove all stumps within the cleared areas unless otherwise authorized by the Resident Project Representative.
- C. All depressions made as the result of grubbing operations shall be backfilled with suitable material and compacted.

3.05 STRIPPING AND STOCKPILING TOPSOIL

- A. Strip topsoil to whatever depth it may occur from areas to be excavated, filled, or graded and stockpile at a location approved by the Montgomery County Conservation District, for use in finish grading.
- B. Topsoil within easements or right-of-ways shall not be used as backfill or removed from the site.

3.06 DEBRIS DISPOSAL

- A. Trees, logs, branches, brush, stumps, and other debris resulting from clearing and grubbing operations associated with the Work on the Project site and/or within off-site easements/public right-of-ways shall become the property of CONTRACTOR and shall be disposed of in conformance with all applicable Federal, State and local regulations.
- B. Debris resulting from the clearing and grubbing work shall not be deposited or buried on the Project site, easements or right-of-ways.

3.07 RESTORATION

- A. Repair all injuries to bark, trunk, limbs, and roots of remaining plants by properly dressing, cutting, tracing and painting, using approved arboricultural practices and materials.
- B. Replace trees, shrubs and plants designated to be saved which are permanently injured or die within one (1) year as a result of construction operations with like species acceptable to the property owner.

- C. Remove protective fences, enclosures and guards upon the completion of the project.
- D. Restore guard posts, guard rail, signs and other interferences to the condition equal to that existing before construction operations.
- E. If the CONTRACTOR removes extra material than is required on the Project, then all suitable material removed shall be replaced by the CONTRACTOR at his own expense.
- F. If the CONTRACTOR exceeds the clearing limits specified, he shall, if directed, restore areas to their original condition.

END OF SECTION

Section 02220

EXCAVATION, BACKFILL AND COMPACTION

PART 1 – GENERAL

1.01 SECTION DESCRIPTION

A. Excavation, backfill and compaction associated with utility construction, including such related features as protection of adjacent utilities and structures, maintenance and protection of traffic, cutting paved surfaces, blasting, support of excavation, control of excavated materials, dewatering, pipe bedding, disposal of excavated materials, rough grading and restoration.

B. Excavation, backfill and compaction associated with construction or installation of structures including such related features as protection of adjacent utilities and structures, blasting, support of excavation, control of excavated materials, dewatering, structure bedding, disposal of excavated material, rough grading and restoration.

1.02 RELATED INFORMATION

A. Related Sections:

1. Section 01560 - Soil Erosion and Sedimentation Control
2. Section 02110 - Clearing and Grubbing
3. Section 02229 - Rock Removal
4. Section 02300 - Boring and Jacking Operations
5. Section 02730 - Gravity Sanitary Sewer Pipe
6. Section 02731 - Sanitary Manholes
7. Section 02905 - Landscaping
8. Section 03302 - Concrete Work for Utilities

B. Associated Construction Details

1. As provided on Contract Drawings
2. Standard details of Lower Moreland Township

1.03 QUALITY ASSURANCE

A. Testing Agent:

1. Compaction testing for this Work shall be performed by and at the discretion of the ENGINEER except if required by the PennDOT Highway Occupancy Permit or Township Road Opening Permit. Where compaction testing is required by permit, such compaction testing shall be performed by a soils testing agent engaged and paid for by CONTRACTOR and approved by TOWNSHIP.

B. Reference Standards:

1. Pennsylvania Department of Transportation

Regulations Governing Occupancy of Highways by Utilities (67 PA Code, Chapter 459)

Publication 408 Specifications Pennsylvania Test Method, PTM 106 Pennsylvania Test Method, PTM 402 Publication 203, Work Zone Traffic Control

2. American Society for Testing and Materials (ASTM):

ASTM E1557 Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³)

ASTM D2922 Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)

C. Compaction Testing:

1. Conduct compaction tests at locations during backfilling operations as required by the PennDOT Highway Occupancy Permit or Township Road Opening Permit.

2. Determine compaction in state highways and shoulders by the testing procedure contained in Pennsylvania Test Method, PTM 106, Method B or PTM 402 or as noted in the PennDOT Highway Occupancy Permit.

3. Determine compaction in areas other than state highways and shoulders by the testing procedure contained in ASTM 02922 based on previously determined compaction curve data as established by ASTM 01557.

1.04 SUBMITTALS

A. Certificates:

1. Submit certification attesting that the composition analysis of pipe embedment and select material stone backfill materials meet specification requirements.

2. Submit certified compaction testing results from the soils testing agency for any required compaction testing.

1.05 JOB CONDITIONS

A. Rock Excavation:

1. See Section 02229 relative to rock removal.

B. Compaction of Backfill:

1. Excavations shall be backfilled in layers which are individually compacted.

2. The following compaction densities (based on modified Proctor Curve) shall be achieved:

Building Foundation and Structural Slab-on Grade: 95%

Exterior Side of Structure Walls: 95% to a point 5' from building wall, then 90%

Trench Backfill and Fill under Asphalt Pavement: 95% (not including base course materials)

Trench Backfill within unpaved areas: 90%

3. CONTRACTOR shall maintain optimum moisture content of backfill materials to attain the required compaction density.

C. Control of Traffic:

1. Employ traffic control measures in accordance with Pennsylvania Department of Transportation Publication 203, "Work Zone Traffic Control".

2. See Section 01000.1.11 on Traffic Control.

D. Protection of Existing Utilities and Structures:

1. Take all precautions and utilize all facilities required to protect existing utilities and structures. In compliance with Act 172 of the General Assembly of Pennsylvania, advise each Utility at least three (3) working days in advance of intent to excavate, do demolition work or use explosives and give the location of the job site. Request cooperative steps of the Utility and suggestions for procedures to avoid damage to its lines.

2. Advise each person in physical control of powered equipment or explosives used in excavation or demolition work of the type and location of utility lines at the job site, the Utility assistance to expect, and procedures to follow to prevent damage.

3. Immediately report to the Utility and the Resident Project Representative any break, leak or other damage to the lines or protective coatings made or discovered during the work and immediately alert the occupants of premises of any emergency created or discovered.

4. Provide access by Utility personnel at all times for purposes of maintenance, repair and inspection.

PART 2 – PRODUCTS

2.01 PIPE BEDDING OR EMBEDMENT MATERIAL

A. PVC Pipe:

1. AASHTO No.8 (former PennDOT No. 1B) coarse aggregate, Table C, Section 703.2, Publication 408 Specifications. Do not use slag or cinders.

B. Ductile Iron Pipe:

1. PennDOT Select Granular Material (2RC), Section 703.3, Publication 408

Specifications (required for State Highways); PennDOT No. 2A coarse aggregate, Table C, Section 703.2, Publication 408 Specifications. Do not use slag or cinders.

C. Copper Service Line:

1. Screenings or PennDOT Fine Aggregate, Type B Bituminous Concrete Sand #3, Section 703.1, Publication 408 Specifications. Do not use slag or cinders.

2.02 SLAB OR BASE MATERIAL

A. Concrete Slab or Precast Base:

1. PennDOT No. 2A coarse aggregate, Table C, Section 703.2, Publication 408 Specifications.

2.03 BACKFILL MATERIAL

A. State Highways, Shoulders and Rights of Way

1. From top of pipe bedding or embedment material to subgrade elevation: PennDOT 2A modified, Section 703.2, Publication 408 Specifications, or in accordance with PennDOT Highway Occupancy Permit requirements.

B. Existing Township Streets, Parking Areas and Driveways (All Paved Surfaces):

1. From top of pipe bedding or embedment material to subgrade elevation: Same as for State Highways and Shoulders or PennDOT No. 2A modified, Section 703.2, Publication 408 Specifications.

C. New Township Streets, Parking Areas and Driveways (All Paved Surfaces):

1. From top of pipe bedding or embedment material to 12" over top of pipe: Use PennDOT 2A modified stone.

2. From top of pipe embedment or 12" over top of pipe to subgrade elevation: Excavated material may be used if free of stones larger than 8" in size and free of wet, frozen, or organic materials.

D. Unimproved Areas:

1. From top of pipe bedding to 12" over top of pipe: PennDOT 2A modified stone.

2. From top of pipe embedment or 12" over top of pipe to sub grade elevation: Excavated material if free of boulders or stones larger than 6" in size, frozen lumps, debris (bricks, masonry batts, plaster, etc.), vegetation or other organic or foreign material.

PART 3 –EXECUTION

3.01 EXAMINATION AND PREPARATION

- A. Identify required lines, levels, contours and datum.
- B. Notify ENGINEER of unexpected subsurface conditions and discontinue work in area until notified to resume work.
- C. Maintain and protect existing utilities identified by utility users within the Work area (See Section 02220.1.05.D).
- D. Verify that structure walls are braced to support surcharge forces imposed by backfilling operations.

3.02 PROTECTION OF ADJACENT WORK

- A. Underpin adjacent structures which may be damaged by excavation work, including utilities and pipe chases.
- B. Grade excavation top perimeter to prevent surface water runoff into excavation or to adjacent properties.

3.03 MAINTENANCE AND PROTECTION OF TRAFFIC

- A. Coordinate the work to insure the least inconvenience to traffic and maintain traffic in one or more unobstructed lanes unless closing the roadway is authorized.
- B. Maintain access to all streets and private drives.
- C. Provide and maintain signs, flashing warning lights, barricades, markers, and other protective devices as required to conform with construction operations and to keep traffic flowing with minimum restrictions.
- D. Comply with State and Lower Moreland Township codes, permits and regulations.

3.04 CUTTING PAVED SURFACES

- A. Where installation of pipelines, structures, and appurtenances necessitate breaking a paved surface, make cuts in a neat uniform fashion forming straight lines parallel with the edge of the excavation. Cut offsets at right angles to the edge of the excavation.
- B. Protect edges of cut pavement during excavation to prevent raveling or breaking; square edges prior to pavement replacement.
- C. The requirement for neat line cuts, in other than state highways, may be waived if the final paving restoration indicates overlay beyond the width of the excavation.

3.05 EXCAVATION

- A. Depth of Excavation:
 - 1. Gravity Pipelines:

a. Excavate trenches to the depth and grade shown on the profile drawings for the invert of the pipe plus that excavation necessary for placement of pipe bedding material.

b. Excavation for laterals to shallow sewers shall provide a straight uniform grade from the main pipeline to the required elevation at the right-of-way line, plus that excavation necessary for placement of pipe bedding material.

c. Excavation for laterals to deep sewers shall provide a straight grade at 45° from horizontal from the main pipeline to the required elevation, then continuing at a straight uniform grade to the required elevation at the right-of-way line, plus the excavation necessary for placement of pipe bedding material.

2. Pressure Pipelines:

a. Excavate trenches to the minimum depth necessary to place required pipe bedding material and to provide four (4) feet from the top of the pipe to the finished ground elevation, except where specific depths are otherwise shown on the design plans.

3. Structures:

a. Excavate to the minimum depth necessary to install footings, concrete slab or precast base plus that excavation necessary to place the required base material as shown on the design plans.

4. Where unsuitable bearing material including shattered rock due to drilling or blasting operations is encountered in the bottom of the excavation, continue excavation until the unsuitable material is removed, solid bearing is obtained or can be established, or concrete/concrete cradle can be placed. If no concrete/concrete cradle is to be installed, refill the excavation to required grade with pipe bedding/embedment or slab/base material as appropriate.

5. Where CONTRACTOR, by error or intent, excavates beyond the minimum required depth, backfill the excavation to the required depth with pipe bedding/embedment or slab/base material as appropriate.

B. Width of Excavation:

1. Gravity and Pressure Pipelines:

a. Excavate trenches, including laterals, to a width necessary for placement and jointing of the pipe, and for placing and compacting pipe embedment under, around and over the pipe, but not less than 6" or more than 8" on each side of the pipe.

b. Shape trench walls completely vertical from trench bottom to at least two (2) feet above the top of the pipe.

c. For pressure pipeline fittings, excavate trenches to a width that will permit placement of concrete thrust blocks. Provide earth surfaces for thrust blocks that are perpendicular to the direction of thrust and are free of loose or soft material.

2. Structures:

a. Excavate to the minimum distance necessary for placement/installation of the footings, concrete slab, walls or prefabricated structures and to permit proper backfill procedures to be performed.

C. Length of Open Trench:

1. Do not advance trenching operations more than 200' ahead of completed pipeline provided the PennDOT Highway Occupancy Permit and/or

Township road opening permit does not impose a more restrictive requirement.

3.06 SUPPORT OF EXCAVATION

A. Support excavations with sheeting, shoring, and bracing or in the case of pipeline construction, a "trench box" as required to comply with Federal and State laws and OSHA requirements.

B. Install adequate excavation supports to prevent ground movement or settlement to adjacent structures, pipelines or utilities. Damage due to settlement because of failure to provide support or through negligence or fault of CONTRACTOR in any other manner, shall be repaired at CONTRACTOR's expense.

C. Withdraw shoring, bracing, and sheeting as backfilling proceeds unless otherwise directed by the Resident Project Representative.

D. The neglect, failure or refusal of the Resident Project Representative to order the use of bracing or sheeting, or a better quality, grade, or section, or larger sizes of steel or timber, or to order sheeting, bracing, struts, or shoring to be left in place, or the giving or failure to give orders or directions as to the manner or methods of placing or driving sheetings, bracing, jacks, wales, stringers, etc., shall not in any way or to any extent relieve CONTRACTOR of any responsibility concerning the condition of excavation or of any of his obligations under the Contract, nor shall any delay, whether caused by any action or want of action on the part of CONTRACTOR, or by any act of TOWNSHIP and ENGINEER or their agents, or employees, resulting in the keeping of an excavation open longer than would otherwise have been necessary, relieve CONTRACTOR from the necessity of properly and adequately protecting the excavation from caving or slipping, nor from any of their obligations relating to injury of persons or property.

3.07 CONTROL OF EXCAVATED MATERIAL

A. Keep the ground surface, within a minimum of 2 foot of the sides of the excavation free of excavated material.

B. Provide temporary barricades to prevent excavated material from encroaching on private property, walks, gutters, and storm drains.

C. Maintain accessibility to all fire hydrants, valve pit covers, valve boxes, curb boxes, fire and police call boxes, and other utility controls at all times. Keep gutters clear or provide other satisfactory facilities for street drainage. Do not obstruct natural water courses. Where necessary,

provide temporary channels to allow the flow of water either along or across the site of the Work.

D. In areas where excavations parallel or cross streams, ensure that no material slides or ashes are dumped into the stream course. Remove diversion structures and/or cofferdams immediately upon completion of construction within the stream.

3.08 DEWATERING

A. Keep excavations dry and free of water. Dispose of precipitation and subsurface water clear of the work.

B. Maintain pipe trenches dry until pipe has been joined, inspected, and backfilled, and concrete work has been completed. Prevent trench water from entering pipelines under construction.

C. Intercept and divert surface drainage away from excavations. Design surface drainage systems so that they do not cause erosion on or off the site, or cause unwanted flow of water.

D. Comply with Federal and State requirements for dewatering to any watercourse, prevention of stream degradation, and erosion and sediment control. (See Section 01560 - Erosion and Sedimentation Control).

3.09 PIPE LAYING

A. Provide required pipe bedding placed in accordance with Construction Detail G- I and these Specifications (Section 02220.2.01). A minimum bedding of 6" shall be provided.

B. Shape recesses for the joints or bell of the pipe by hand. Assure that the pipe is supported on the lower quadrant for the entire length of the barrel.

C. Lay pipe as specified in the appropriate Section of these Specifications for pipeline construction.

3.10 STRUCTURE PLACEMENT/INSTALLATION

A. Provide required base material in accordance with the design plans and Specifications (Section 02220.2.2).

3.11 BACKFILLING EXCAVATIONS

A. Pipeline Trench:

After pipe installation and inspection, provide material to complete the pipe embedment in accordance with Construction Detail S and these Specifications.

The following bedding or embedment requirements using the material noted In Section 02220.2.1 shall apply:

1. Water Mains: pipe bedding to 12 inches over top of pipe.

2. Sanitary Sewers, Laterals and Force Mains (PVC): pipe embedment to 12" above the crown of the pipe.
3. Sanitary Sewers, Laterals, and Force Mains (DIP); pipe bedding to invert of pipe.
4. Copper Service Lines: pipe embedment to 1" above the crown of the pipe.

The material shall be hand placed and carefully compacted with hand-operated mechanical tampers in layers of suitable thickness to provide specified compaction around and under the haunches of the pipe. Backfill and compact the remainder of the trench with specified backfill material in accordance with Construction Details and any relevant permit conditions. Employ a placement method so not to disturb or damage the utility line in the trench. Use of a Hydra-hammer or jumping-jack type compaction device is not permitted. A vibratory plate type compaction device is acceptable. Any settlement which occurs because of consolidation of the backfill during the construction period or during the maintenance period as stipulated by Agreement with TOWNSHIP shall be corrected by CONTRACTOR.

B. Structure Excavation:

After structure installation and inspection, backfill the excavation with specified backfill material. Employ a placement method so not to disturb or damage foundation perimeter drainage, foundation damp proofing or water proofing and protective cover or utility lines. Backfill against supported foundation walls; backfill simultaneously on each side of unsupported foundation walls. Pipelines entering the structure must be provided with the specified bedding material hand placed and carefully compacted with hand-operated mechanical tampers in layers of suitable thickness to provide specified compaction around and under the haunches of the pipe. Use of a Hydra-hammer or jumping-jack type compaction device is not permitted. A vibratory plate type compaction device is acceptable. Any settlement which occurs because of consolidation of the backfill during the construction period or during the maintenance period as stipulated by Agreement with TOWNSHIP shall be corrected by CONTRACTOR.

C. Lift Thickness Limitations:

1. Lift thicknesses shall be limited to four (4) inches for pipe embedment, eight (8) inches maximum for pipeline trenches within paved areas and twelve (12) inches maximum for pipeline trenches in non-paved areas and for structure excavations. Lift thicknesses shall also comply with requirements proposed by any PennDOT Highway Occupancy Permit. In no case shall maximum lift thickness placed exceed the maximum limits specified by the manufacturer's recommendations for the compaction equipment to be utilized. Compaction equipment shall not be used over the pipe until sufficient backfill has been placed to insure that such equipment will not damage or disturb the pipe.
2. Lift thickness limitations specified for State highways, shoulders, or embankments govern over the compaction equipment manufacturer's recommendations.

D. Unsuitable Backfill Material:

1. Where the Resident Project Representative deems backfill material to be unsuitable and rejects all or part thereof due to conditions prevailing at the time of construction, remove the unsuitable material and replace with suitable backfill material.

3.12 COMPACTION REQUIREMENTS

A. Trench backfill compaction, shall be 95% of Standard Proctor, for the backfill material used.

B. Structure sub grade compaction, shall be 100% of modified Proctor, for the backfill material being used.

C. Structure backfill compaction, shall be 95% of Standard Proctor, for the backfill material being used.

3.13 DISPOSAL OF EXCAVATED MATERIAL

A. Excavated material remaining after completion of backfilling shall remain the property of CONTRACTOR, removed from the construction area, and disposed of legally.

3.14 ROUGH AND FINE GRADING

A. Grade areas disturbed by construction to a uniform finish. Form the bases for terraces, banks, lawns and paved areas.

B. Grade areas to be paved to depths required for placing subbase and paving materials. Top surface of exposed subgrade to be plus or minus one inch.

C. Grade areas to be top soiled and seeded to 4" below indicated finish contours.

D. Slope grade away from structures at a minimum 2 inches in 10 feet unless otherwise noted on design plans.

3.15 RESTORATION OF UNPAVED SURFACES

A. Restore unpaved surfaces disturbed by construction to equal the surface condition prior to construction.

B. Restore grassed areas in accordance with Section 02905 - Landscaping.

LANDSCAPING

PART I – GENERAL

1.01 SECTION INCLUDES

- A. Preparation of soil, placement of plants, ground cover, seed, sod, and fertilizer.

1.02 RELATED WORK

- A. Section 01560 - Soil Erosion and Sedimentation Control
- B. Section 02110 - Clearing and Grubbing
- C. Section 02220 - Excavation, Backfill, and Compaction

1.03 QUALITY CONTROL

- A. Nursery: Company specializing in growing and cultivating the plant material specified in this Section.
- B. Sod Producer: Company specializing in sod production and certified by the State of Pennsylvania.
- C. Maintenance Services: Performed by CONTRACTOR or his agent (i.e., landscape subcontractor) unless otherwise specified.
- D. Reference Standards:
 - 1. Pennsylvania Department of Transportation, Publication 408 Specifications
 - 2. Pennsylvania Soil Conditioner and Plant Growth Substance Law, Act of December 1, 1977, P.L. 258, No. 86 (3P.S.68.2), as amended.

1.04 WARRANTY

- A. Plant Material: Provide one year guarantee for plant life which includes one continuous growing season.
- B. Plants replaced under the terms of the guarantee shall be of same size and species as originally specified, planted in the next growing season, with a new warranty commencing on date of replacement.
- C. Seeded or Sodded Areas: Reseed and/or replace sod as required until grass is well established and exhibits a vigorous growing condition provided TOWNSHIP

provides reasonable maintenance following completion and acceptance of the Work.

1.05 MAINTENANCE SERVICE

A. CONTRACTOR shall be responsible for the maintenance of seeded are-as, sodded areas, and plant material until completion and acceptance of the Work by TOWNSHIP.

PART 2 – PRODUCTS

2.01 GRASS

A. Seed Mixture:

1. Permanent: The "Seeding Restoration Table" at the end of this Section lists specific seeding restoration requirements.

2. Temporary Stabilization: Utilize Formula E as set forth in the "Seeding Restoration Table" at the end of this Section.

B. Sod: ASPA/Pennsylvania certified, nursery grown cultivated grass sod; with strong fibrous root system. Sod mixture shall be specified as being hardy for the region of installation.

2.02 TREES, PLANTS, AND GROUND COVER

A. Landscape Plant Material and Ground Cover: Plant material specified on plant list indicated on Drawings shall be symmetrical in growth, true to species, variety and sire, nursery grown in climatic conditions similar to region of installation and be free of any pests or disease.

2.03 SOIL AND SOIL ENHANCEMENT MATERIALS

A. Topsoil: Fertile, agricultural soil, typical for locality, capable of sustaining vigorous plant growth, free of subsoil, clay or impurities, plants, weeds and roots or other foreign materials.

B. Fertilizer:

1. Basic Fertilizer: Analysis 0-20-200 and as defined by the Pennsylvania Soil Conditioner and Plant Growth Substance Act.

2. Starter Fertilizer: Analysis 10-5-5 or 12-6-6 and as defined by the Pennsylvania Soil Conditioner and Plant Growth Substance Act.

C. Lime: Raw ground limestone conforming to Section 804.2(a), Publication 408 Specifications.

2.04 ACCESSORIES

- A. Wood Pegs: Softwood, sufficient size and length to ensure anchorage of sod on slope.
- B. Mesh: inter oven plastic.

PART 3 – EXECUTION

3.01 EXAMINATION AND PREPARATION

- A. Prepare subsoil to eliminate uneven areas. Maintain profiles and contours. Make changes in grade gradual. Blend slopes into level areas.
- B. Scarify subsoil to a depth o. F3 inches.

3.02 PLACING TOPSOIL AND TILLAGE

- A. Spread topsoil to a minimum depth of 4 inches to obtain the required grade elevation.
- B. Apply lime at a rate of 90 pound=, per 1,000 square feet.
- C. Apply basic fertilizer in according; with manufacturer's instructions at an application rate of 25 pounds per 1,000 square feet.
- D. Thoroughly loosen soil and incorporate lime and basic fertilizer to a minimum depth of 4 inches by discing, harrowing or other approved method.

3.03 FINISH GRADING

- A. Hand rake topsoil and remove all unsuitable materials.
- B. Uniformly grade topsoil to eliminate rough, low or soft areas, and to ensure positive drainage.
- C. Apply starter fertilizer at an application rate of 10 pounds per 1,000 square feet and incorporate into soil.

3.04 SEEDING

- A. Apply seed within the following time periods unless otherwise directed by ENGINEER.

* Formula B, D, and L - March 15 to June 1
August 1 to October 15

Springfield Township
Mermaid Park Pedestrian Trail & Streambank Stabilization Project

* Formula C - Ryegrass Portion:
March 1 to October 15

Crownvetch Portion:
Anytime except September and October

* Formula E - March 15 to October 15

* Formula W - April 1 to June 15
August 16 to September 15

Formula E (Annual ryegrass) to be utilized for temporary stabilization of areas disturbed by construction may be applied anytime.

B. Seeding Rates:

1. Permanent- Apply seed or hydroseed with a seed slurry evenly in two intersecting directions at the rate noted in the Seeding Restoration Table unless an alternate seeding rate appropriate for site conditions is approved by ENGINEER.
2. Temporary Stabilization: Apply seed or hydroseed with a seed slurry at the rate noted in the Seeding Restoration Table.

C. Immediately following permanent or temporary seeding, apply agricultural mulch at a minimum rate of 135 lbs. per 1001: sq. ft.

1. Apply water with a fine spray immediately after each area has been mulched.

3.05 LAYING SOD

A. Moisten prepared surface immediately prior to laying sod.

B. Lay sod within 24 hours after harvesting; with tight staggered joints

C. On slopes 1:2 and steeper, place mesh over top soil, lay sod perpendicular to slope and secure every row with wooden pegs.

D. Water sodded areas immediately after placement.

3.06 PLANTING

A. Set plants in pits or beds, partly filled with prepared backfill soil mixture.

B. Saturate soil with water when the pit or bed is half full of backfill soil mixture, mid again when ball.

3.07 MAINTENANCE

- A. Mow grass at regular intervals to maintain at a maximum height of 2-1 /2 inches. Do not cut more than 1/3 of grass blade at anyone mowing.
- B. Water to prevent grass and soil from drying out.
- C. Control growth of weeds. Apply herbicides and pesticides in accordance with manufacturer's instructions.

3.08 SCHEDULE - SEED FORMULA

- A. See Drawings for seeding restoration requirements at each specific location of Work; otherwise, use Formula D for shady areas and Formula B for sunny areas.

3.09 SCHEDULE – SOD

- A. See Drawings for areas where sod is to be utilized.

3.10 SCHEDULE - PLANT LIST

- A. See Schedule on Drawings listing type and locations of various plant life.

NOTE: SEEDING RESTORATION TABLE IS ATTACHED AT END OF THIS SECTION.

Springfield Township
Mermaid Park Pedestrian Trail & Streambank Stabilization Project

SEEDING RESTORATION TABLE **					
FORMULA AND SPECIES	% BY WEIGHT	MINIMUM %		MAX % WEED SEED	SEEDING RATE LBS. PER 1,000 SY
		PURITY	GERMINATION		
<u>Formula R</u> *Perennial Ryegrass Mixture (Lolium perenne) A combination of improved certified varieties with no one variety exceeding 50% of the total ryegrass component	20	98	90	0.15	4.0
*Creeping Red Fescue or Chewings Fescue	30	98	85	0.15	6.0
*Kentucky Bluegrass Mixture (poa pratensis) A combination of improved certified varieties with no one variety exceeding 25% of the total bluegrass component.	50	98	80	0.20	<u>11.0</u>
					TOTAL 21.0
<u>Formula C</u> *Crownvetch (Coronilla varia)	45	99	70	0.10	4.0
*Annual Ryegrass (Lolium multiflorum)	55	98	90	0.15	<u>5.0</u>
					TOTAL 9.0
<u>Formula D</u> *Tall Fescue (Festuca arundinacea var. Kentucky 31)	70	98	85	0.15	15.0
*Creeping Fed Fescue or Chewings Fescue	30	98	85	0.15	<u>6.0</u>
					TOTAL 21.0
<u>Formula E</u> *Annual Ryegrass (Lolium multiflorum)	100	98	85	0.15	<u>10.0</u>
					TOTAL 10.0
<u>Formula L</u> *Hard Fescue Mixture (Festuca longifolia) A combination of improved certified varieties with no one variety exceeding 50% of the totalhard fescue component.	60	98	85	0.15	12.5
*Creeping Red Fescue	40	98	85	0.15	<u>8.5</u>
					TOTAL 21.0
<u>Formula W</u> *Tall Fescue (Festuca arundinacea var. Kentucky 31)	70	98	85	0.15	7.5
Birdsfoot Trefoil Mixture (Lotus corniculatus) A mixture of ½ Viking and ½ of either Empire, Norcen, or Leo	20	98	80	0.10	2.0
*Redtop (Agrostis alba)	10	92	80	0.15	<u>1.0</u>
					TOTAL 10.5

*Minimum 20% hardseed and 60% normal sprouts.

**This table has been extracted from PennDOT Publication 408 (see Section 804 as supplemented April 26, 1993)

END OF SECTION

SITE PLANS

GENERAL PLAN NOTES

BASE EXISTING FEATURES and SURVEY NOTES:

- A metes and bounds survey was performed by Woodrow & Associates, Inc. The survey was performed without the benefit of a Title Report and was prepared from documents of record. This property may be subject to additional rights of others that might be listed in a Title Report. Bearings shown reflect a 1° Deg. $00'$ Min. $00''$ Sec. rotation from Deed Bearing Basis to match Pennsylvania South Zone 3702 State Plane Coordinate Bearing Basis. Plan prepared during January of 2021.
- A topographic and existing features survey was performed for this site by Woodrow & Associates, Inc. Site elevation datum is referenced per note 3 below.
- This plan was prepared utilizing the following references:
 - Tax maps and deeds as obtained from the Recorder of Deeds online resources.
 - Existing Soils classifications and mapping has been plotted from maps obtained from the USDA Web Soil Survey website (<http://websoilsurvey.sc.egov.usda.gov/>) unless otherwise noted.
 - Vertical datum references provided by the PA Spatial Data Access system (PASDA). PAMP data is based on PA State Plane (South) NAD83 horizontal, NAVD83 vertical datum.
 - Aerial imagery used for base plan reference provided by NearMap, Inc. Imagery from flight dated February 20, 2020 and August 30, 2020.
- A field investigation has been performed by Valley Environmental Services, Inc. to verify existence of Wetlands and Waters limits as shown on the plan. Performed during the month of March/April 2021.
- This site is located within Flood Plain Zone "X" (areas determined to be outside the 0.2% annual chance floodplain) as illustrated on Community Panel Number 42291-C-0383, effective date March 2, 2016 as prepared by the Federal Emergency Management Agency. No computational floodplain study has been performed for this plan.
- All persons digging on this site shall comply with the requirements of Section 5 of PA Act 287 as amended by PA Act 181. State law requires a three (3) business day notice prior to any digging (does not include state holidays or weekends). Dial 8-1-1 or go to www.paonecall.org.
- Existing subsurface utility information illustrated on these plans were based upon visual field locations obtained as part of site survey operations. The information provided is representative of subsurface conditions only at locations and depths where such information was available. There is no expressed or implied agreement that subsurface utility connections exist between explored locations. Accordingly, utility information shown should not be relied upon for construction purposes. It is incumbent upon the contractor to verify subsurface utilities prior to excavation.
- Subject property is zoned INST Institutional District as noted on the official Zoning Map.
- Legal rights-of-way width are per deed information. Ultimate rights-of-way width were derived from municipal ordinances. The area between the project title line and the Ultimate Rights-of-Way is/are offered in perpetuity for dedication to the agency having jurisdiction over said right-of-way at time of dedication.

BASE DEVELOPMENT NOTES:

- The contractor shall ensure that all necessary permits and approvals have been obtained prior to commencement of any site construction activities.
- Erosion and sedimentation control measures shall be in place and functional prior to any earth disturbance or grading work.
- A minimum of six (6) inches of clean topsoil shall be provided on all lawn and planting areas.
- Site grading shall be performed in accordance with these plans. The contractor shall be responsible for removing and replacing all soil, yielding or unsuitable materials and replacing with suitable materials. All excavated or filled areas shall be compacted to 95% of modified proctor maximum density per A.S.T.M. Test D-1557. Moisture content at time of placement shall be no more than 2% above nor 3% below optimum. Contractor shall submit a compaction report prepared by a qualified soils engineer, registered within the state where the work is performed, verifying that all filled areas and subgrade areas within the building pad area and areas to be paved have been compacted in accordance with these plans.
- The minimum slope in grassed areas shall not be less than 2% and the minimum in paved areas shall not be less than 1%.
- Erosion control matting shall be provided on all earth slopes of 3:1 or greater.

STREAMBANK STABILIZATION CONSTRUCTION SEQUENCE

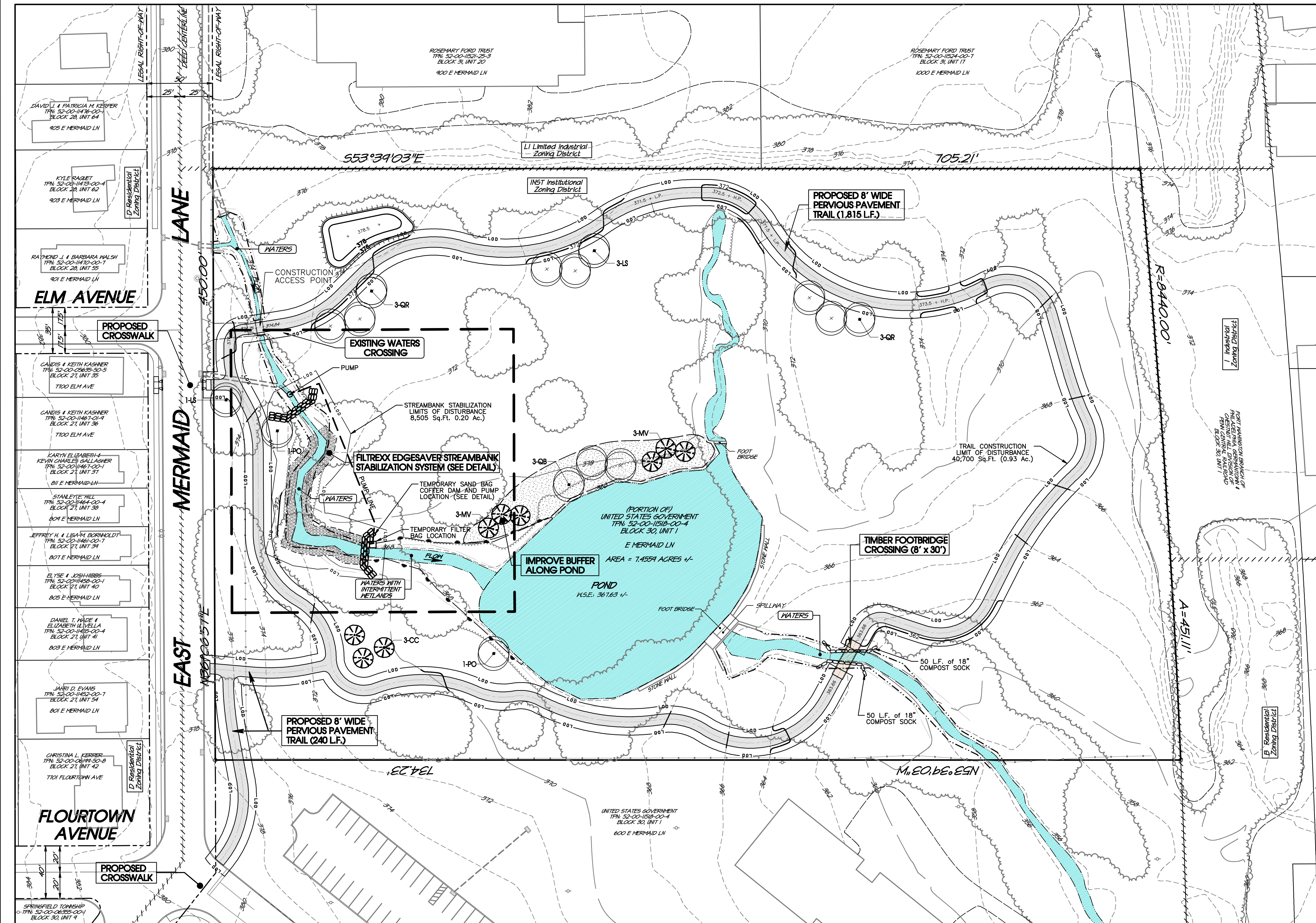
- Only the designated "Construction Access Point" providing access from East Mermaid Lane shall be used to access the area of work.
- Contractor shall consult local weather service forecasting and upon a forecast 10-day span without predicted rainfall shall commence with streambank stabilization activities.
- Upon a suitable weather forecast as mentioned above, install sand bag cofferdams and pump-around system to drain the area of streambank stabilization as shown and detailed on the plans.
- Upon successful diversion of the stream with the pump-around system commence with the installation of the Filtrix Edgesaver Streambank Stabilization System as shown and detailed on the plans and according to all current manufacturer specifications. Immediately stabilize all disturbance with a permanent seed and mulch mixture applied at the recommended rates.
- Upon completion and permanent stabilization of the streambank improvements, remove the sand bag cofferdams and allow stream flow to resume through this area. Monitor the streambank improvements for signs of erosion, and if observed, re-instate the pump-around by-pass and immediately re-stabilize the streambanks.
- Once the streambank is successfully and permanently stabilized, install all proposed plantings along the existing pond edge.

FOOTBRIDGE CONSTRUCTION SEQUENCE

- Install 18" Compost Filter Sock on both sides of the stream as shown and detailed on the plans to prevent any sediment from entering the stream.
- Begin construction of footbridge fasteners and placement of timber footbridge according to all manufacturer specifications and instructions.
- Immediately stabilize all disturbance with a permanent seed and mulch mixture applied at the recommended rates.
- Upon completion of all footbridge construction and permanent stabilization of all disturbance, all erosion control measures may be removed.

PEDESTRIAN TRAIL CONSTRUCTION SEQUENCE

- All sections of trail shall be excavated, constructed, and permanently stabilized in lengths that can be accomplished in a single day. All earth disturbance associated with the construction of the proposed trail must be permanently stabilized at the end of each work day.
- Excavate existing soils and construct pervious paving trail up to the base course of stone. Immediately stabilize all disturbance with a permanent seed and mulch mixture applied at the recommended rates.
- Complete trail connection to previously constructed footbridge.
- Upon completion of entire trail length installation up to the stone base course. Final pervious paving of the entire trail can be completed. Install proposed landscaping along the trail as shown on the plans.



EXISTING FEATURES LEGEND

- Tract Boundary Line
- Right-of-Way Line
- Right-of-Way Centerline
- Zoning District Boundary
- WETLAND Limit
- WATERS Limit
- Topographic Contour
- Stream / Pond Limit
- Woodlands Deline
- Fence Line
- Storm Sewer Piping

PROPOSED IMPROVEMENTS

- Limit of Disturbance
- Proposed Contours (2' Interval)
- Proposed 8' Wide Pervious Pavement Trail

STREAMBANK STABILIZATION
LIMIT OF DISTURBANCE:
0.20 Acres

TRAIL SYSTEM CONSTRUCTION
LIMIT OF DISTURBANCE:
0.93 Acres

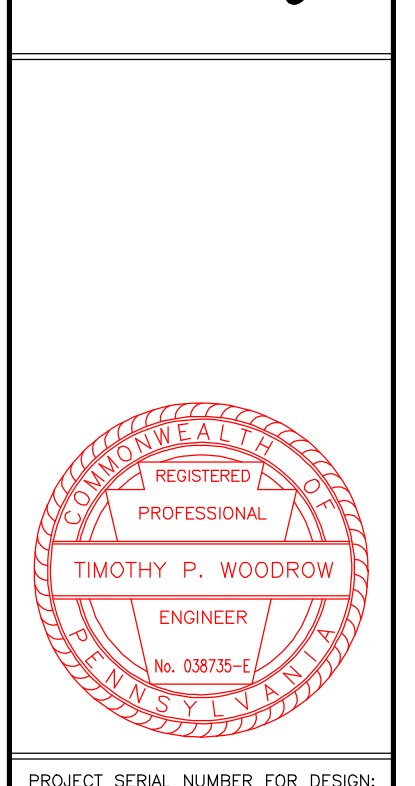
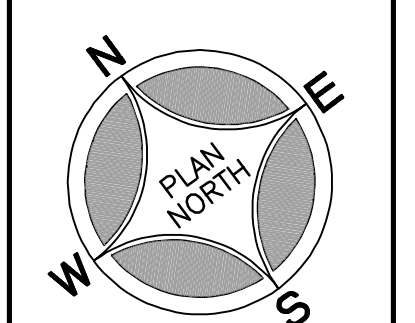
PLANTING SCHEDULE

Plan Symbol	Quantity	Botanical Name	Common Name	Minimum Planting Caliper	Planting Spread	Minimum Planting Height	Remarks
LS	4	Liquidambar styraciflua 'Rotundiloba'	'Rotundiloba' Sweetgum	2.5"	5'-6"	12'-14'	B&B
PO	2	Platanus occidentalis	American Sycamore	2.5"	5'-6"	12'-14'	B&B
QR	6	Quercus rubra	Red Oak	2.5"	5'-6"	12'-14'	B&B
CC	3	Cercis canadensis	Eastern Redbud	-	-	8'-10"	B&B

Print Date: Dec 22, 2021 (13:08) Plot Scale: 1" = 40.00'
 File Name: E:\2020\2021-11\SP-1173P-1173P-Mermaid Plan.dwg

NO.	DATE	REVISION
1	09/13/21	ISSUES PER DEP COMMENTS

REVISIONS



PROJECT SERIAL NUMBER FOR DESIGN:



Parcel Information:
 N/F Lands Of:
 UNITED STATES GOVERNMENT
 TPN: 52-00-11518-00-4
 Block 30 Unit 1
 E. Mermaid Lane
 Deed Area: 7.4559 Ac.
 Legal RW:
 LUL: RW:
 NET Area: 7.4559 Ac.

Applicant:
 SPRINGFIELD TOWNSHIP
 c/o A. Michael Taylor, Manager
 1510 Paper Mill Road
 Wyndmor, PA 19038
 (215) 836-7600

Scale In Feet (1" = 40')

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CONSTRUCTION PLAN
 STREAMBANK STABILIZATION AND
 FOOTBRIDGE CONSTRUCTION
 MERMAID PARK TRAIL
 SPRINGFIELD TOWNSHIP - MONTGOMERY COUNTY - PENNSYLVANIA
WOODROW & ASSOCIATES, INC.
 MUNICIPAL / CIVIL CONSULTING ENGINEERS
 1105 North Mermaid Lane, Suite 100
 Philadelphia, PA 19102
 Phone: (215) 836-7600
 Web: www.woodrowinc.com

Layer List:
 Exh_ES-1
 Job No:
 20-1117 SP
 Plan Date:
 April 09, 2021
 Sheet No:

- All denuded soil surfaces including soil stockpiles that are subject to erosion shall be stabilized immediately, either temporarily or permanently. Crushed stone on pavement subgrades is considered adequate protection. Disturbed areas which are not at finished grade and which will be redistributed within one (1) year may be stabilized with a quick growing, temporary seeding mixture and mulch. During non-germination periods, mulch shall be applied at recommended rates. Germination period shall be from April 1st to June 15th and August 15th to October 15th, during non-germination periods mulched areas shall be limed, fertilized, seeded and re-mulched immediately.
- If any of the measures contained within this plan prove inadequate at removing sediment from flows prior to discharge or stabilization of the surfaces involved, additional measures must be immediately implemented by the Contractor/Applicant to eliminate all such problems.
- At least 3 days prior to starting any earth disturbance activities, or expanding into an area previously unmarked, the Pennsylvania One Call System Inc. shall be notified at 1-800-242-1776 or 811 for the location of existing underground utilities.
- Areas to be filled are to be cleared, grubbed, and stripped of topsoil to remove trees, vegetation, roots and other objectionable material.
- All off-site waste and borrow areas must have an E&S plan approved by the local conservation district or the Department fully implemented prior to being activated.
- Until the site is stabilized, all erosion and sediment BMPs shall be maintained properly. Maintenance shall include inspections of all erosion and sediment BMPs after each runoff event on a weekly basis. All preventative and remedial maintenance work, including clean-out, repair, replacement, regrading, reseeding, re-mulching and renetting must be performed immediately, if the E&S BMPs fail to perform as expected, replacement BMPs, or modifications of those installed will be required.
- Sediment tracked onto any public roadway or sidewalk shall be returned to the construction site by the end of each work day and disposed in the manner described in this plan. In no case shall the sediment be washed, shoveled, or swept into any roadside ditch, storm sewer, or surface water.
- Areas which are to be topsoiled shall be scarified to a minimum depth of 3 to 5 inches - 6 to 12 inches on compacted soils - prior to placement of topsoil. Areas to be vegetated shall have a minimum 4 inches of topsoil in place prior to seeding and mulching. Fill outcrops shall have a minimum of 2 inches of topsoil.
- All fills shall be compacted as required to reduce erosion, slippage, settlement, subsidence or other related problems. Fill intended to support buildings, structures and conduits, etc. shall be compacted in accordance with local requirements or codes.
- All earthen fills shall be placed in compacted layers not to exceed 9 inches in thickness.
- Fill materials shall be free of frozen particles, brush, rods, soil, or other foreign or objectionable materials that would interfere with or prevent construction of satisfactory fills.
- Fill shall not be placed on saturated or frozen surfaces.
- Permanent stabilization is defined as a minimum uniform, perennial 70% vegetative cover or other permanent non-vegetative cover with a density sufficient to resist accelerated erosion. Cut and fill slopes shall be capable of resisting failure due to slumping, sliding, or other movements.
- After final site stabilization has been achieved, temporary erosion and sediment BMPs must be removed or converted to a permanent post construction stormwater management BMPs. Areas disturbed during removal of BMPs shall be stabilized immediately. In order to ensure rapid revegetation of disturbed areas, such removal/conversions are to be done only during the germinating season.

EROSION CONTROL DEVICES / MAINTENANCE PROGRAM:

SEDIMENT FILTER BAG:

The Sediment Filter Bag at the bypass discharge point shall be installed per Ch. 102 Standard Construction Details #3-16 and the details provided on these plans. The Filter Bag shall be inspected daily and if any problem is detected, pumping shall cease immediately and not resume until the problem is corrected. Filter Bags shall be replaced when they are 1/2 full of sediment. Spare bags shall be kept available for replacement of those that have failed or are filled. Bags shall be placed on straps to facilitate removal unless bags come with lifting straps already attached.

SAND BAG COFFER DAM:

The Sand Bag Cofferd Dam shall be installed per Ch. 102 Standard Construction Details #3-15 and the details provided on these plans. The Sand Bags shall be inspected daily to ensure they are properly damming stream flow. Any damaged bags and/or impervious membrane shall be repaired or replaced immediately.

EARTHWORK WITHIN STREAM CHANNELS:

Whenever possible, work should be scheduled for low flow seasons. Base flows for minor stream channels are to be diverted to the work area. All such bypasses must be completed and stabilized prior to diverting flow. All disturbed areas within the channel must be stabilized prior to returning base flow to the portion of the channel affected by the earthwork. Any in-channel excavations should be done from top of bank wherever possible unless this would require removal of mature trees to access the channel. All excavated materials that will not be used on-site shall be immediately removed to a disposal site having an approved E&S plan. Any water pumped from excavated areas must be filtered prior to discharging into surface waters. Suitable protection must be provided for the stream channel from any disturbed areas that have not yet achieved stabilization.

SEDIMENT DISPOSAL:

Silt removed from temporary erosion and sediment control devices shall be disposed of on-site in landscaped areas located outside the 100 year flood plains, wetlands, steep slopes and drainage swales. Areas of sediment disposal shall be considered a critical vegetation area requiring immediate stabilization. Each drainage sub-area will require separate and unique erosion and sediment control measures. The contractor shall follow the specific construction sequence deemed appropriate by the local soil conservation district.

All BMP listed above require inspection weekly and after each runoff event. All required repairs and or replacement of BMP's must be done immediately.

FERTILIZATION, SEEDING AND MULCHING:

TEMPORARY COVER ON DISTURBED AREAS:

Upon temporary cessation of an earth disturbance or any stage or phase of an activity where a cessation of activities exceeds 4 days, the site shall be immediately seeded, mulched or otherwise protected from accelerated erosion and sedimentation pending future earth disturbance activities.

PERMANENT COVER ON DISTURBED AREAS:

Disturbed areas which are either at finish grade or will not be redistributed within one (1) year period must be seeded and mulched with a permanent seed mixture.

All disturbed areas shall be stabilized immediately with a temporary seed and mulch mixture applied at the recommended rates. Site preparation of mulch and maintenance shall be performed in accordance with the Penn State University's Erosion Control & Conservation Plannings on Nonagricultural and Pennsylvania Department of Transportation publication form 408 specifications (latest edition). During non-germination periods, mulch must be applied at the recommended rates.

Graded areas shall be scarified or otherwise loosened to a depth of 3" to 5" prior to topsoil placement to permit the bonding of new topsoil.

MULCHING:

All seeded areas should be mulched or blanketed to minimize the potential for failure to establish adequate vegetated cover. Mulching may also be used as a temporary stabilization of disturbed areas in non-germinating seasons. Mulch shall be applied immediately after seeding or at the termination of grading operations during non-germinating seasons.

Straw and hay mulch should be anchored or tackified immediately after application to prevent windblow. A tractor-drawn implement may be used to "crimp" the straw or hay into the soil about 3 inches deep. This method should be limited to slopes no steeper than 3H:1V. The machinery shall be operated on the contour.

Polymeric and gum tackifiers mixed and applied according to manufacturer's recommendations may be used to tack mulch. Avoid application during rain and on windy days. A 24 hour curing period and a soil temperature of 45 degrees F are typically required. Application should generally be heaviest at edges of seeded areas and at crests of ridges and banks to prevent loss. The remainder of the area shall have binder applied uniformly. Binders may only be applied after mulch is spread or sprayed onto the mulch as it is being blown onto the soil.

Synthetic binders, or chemical binders, may be used as recommended by the manufacturer to anchor mulch provided that sufficient documentation is provided to show they are non-toxic to native plant and animal species.

Mulch on slopes of 8% or steeper should be held in place with netting. Light-weight plastic, fiber, or paper nets may be stapled over the mulch according to manufacturer's recommendations.

Shredded paper hydromulch should not be used on slopes steeper than 5%. Wood fiber hydromulch may be applied on steeper slopes provided a tacker is used. The application for any hydromulch should be 2000 lb/acre at a minimum.

MULCH APPLICATION RATES

Mulch Type:	Application Rate (Min.)			Notes:
	Per Acre:	Per 1,000 S.F.	Per 1,000 S.Y.	
Straw	3 tons	140 lbs.	1,240 lbs.	Either wheel or oat straw. Free of weeds, not chipped, and broken.
Hay	3 tons	140 lbs.	1,240 lbs.	Timothy, mixed clover and timothy or other native forage grasses.
Wood Chips	4-6 tons	185-275 lbs.	1,650-2500 lbs.	May prevent germination of grasses and legumes
Hydromulch	1 ton	47 lbs.	415	See limitations above

SEEDING SCHEDULE:

Seeding to conform to specifications outlined in Section 804 - Seeding and Soil Supplements of PA02T Publication 408/2003 (latest revision).

A soils test should be performed in order to determine actual lime and fertilizer needs of the project site instead of using the generic application rates listed below.

TEMPORARY SEEDING SPECIFICATION - FORMULA E:

100% ANNUAL RYEGRASS (LOLIUM MULTIFLORUM): 10.0 lbs./1,000 s.y.

PERMANENT SEEDING SPECIFICATION - FORMULA B:

70% Tall Fescue (Festuca Arvensensis var., Kentucky 31): 15.0 lbs./1,000 s.y.
30% Creeping Red Fescue or Chewings Fescue: 6.0 lbs./1,000 s.y.

SEEDING RATES FOR THE ABOVE MIXTURES:

Spread seeds where indicated and at the rates specified above (and Table A, Pub 408, Section 804). Spread seeds within the following dates, or as otherwise indicated or directed:

- Formula B: - March 15 to June 01
- August 01 to October 15
- Formula E: - March 15 to October 15

Extend seeding dates where project conditions warrant. Apply full treatment or apply only 50% of the permanent seeding and soil supplements and apply the remaining 50% within the next seeding dates.

Place mulch, hay or straw immediately after seeding or within 48 hours after seeding is completed. Place hay or straw uniformly, in a continuous blanket, until seeding is completed. If directed, increase the rate of application, depending upon the material used, season, soil conditions or method of application.

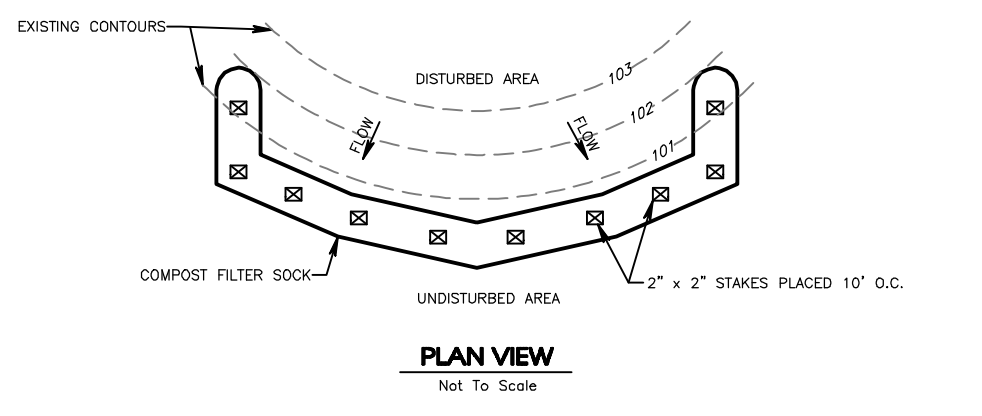
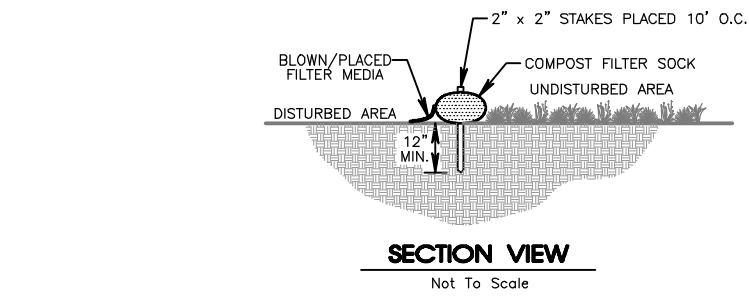
SOIL SUPPLEMENTS:

Pulverized agricultural limestone and commercial fertilizer shall be applied to all disturbed areas which are to be seeded in both temporary and permanent conditions at the following rates:

SOIL AMENDMENT APPLICATION RATE EQUIVALENTS

Soil Amendment	Permanent Seeding Application Rate		Notes	
	Per Acre:	Per 1,000 S.F.		
Agricultural Lime	6 tons	240 lb.	2,480 lb.	Or as per soil test, may not be required in agricultural fields
10-10-20 Fertilizer	1,000 lb.	25 lb.	210 lb.	Or as per soil test, may not be required in agricultural fields
Temporary Seeding Application Rate				
Agricultural Lime	1 ton	40 lb.	410 lb.	Typically not required for topsoil stockpiles
10-10-10 Fertilizer	500 lb.	12.5 lb.	100 lb.	Typically not required for topsoil stockpiles

Adapted from Penn State, "Erosion Control and Conservation Plantings on Nonagricultural"



Sock fabric shall meet standards of Table 4.1 of the Pennsylvania Department of Environmental Protection Erosion and Sediment Pollution Control Program Manual (Technical Guidance Number 363-2134-008). Compost shall meet standards of Table 4.2 of the Pennsylvania Department of Environmental Protection Erosion and Sediment Pollution Control Program Manual (Technical Guidance Number 363-2134-008).

Compost filter sock shall be placed at existing level grade. Both ends of the sock shall be extended at least 8 feet up slope at 45 degrees to the main sock alignment. Maximum slope length above any sock shall not exceed that shown on Figure 4.2 of the Pennsylvania Department of Environmental Protection Erosion and Sediment Pollution Control Program Manual (Technical Guidance Number 363-2134-008). Socks may be installed immediately downstream of the sock if so specified by the manufacturer.

Traffic shall not be permitted to cross filter socks.

Accumulated sediment shall be removed when it reaches half the aboveground height of the sock and disposed in the same manner described elsewhere in the plan.

Socks shall be inspected weekly and after each runoff event. Damaged socks shall be repaired according to manufacturer's specifications or replaced within 24 hours of inspection.

Biodegradable filter socks shall be replaced after 6 months; photodegradable socks after 1 year. Polypropylene socks shall be replaced according to manufacturer's recommendations.

Upon stabilization of the area tributary to the sock, stakes shall be removed. The sock may be left in place and vegetated or removed. In the latter case, the mesh shall be cut open and the mulch spread as a soil supplement.

COMPOST FILTER SOCK

Not To Scale

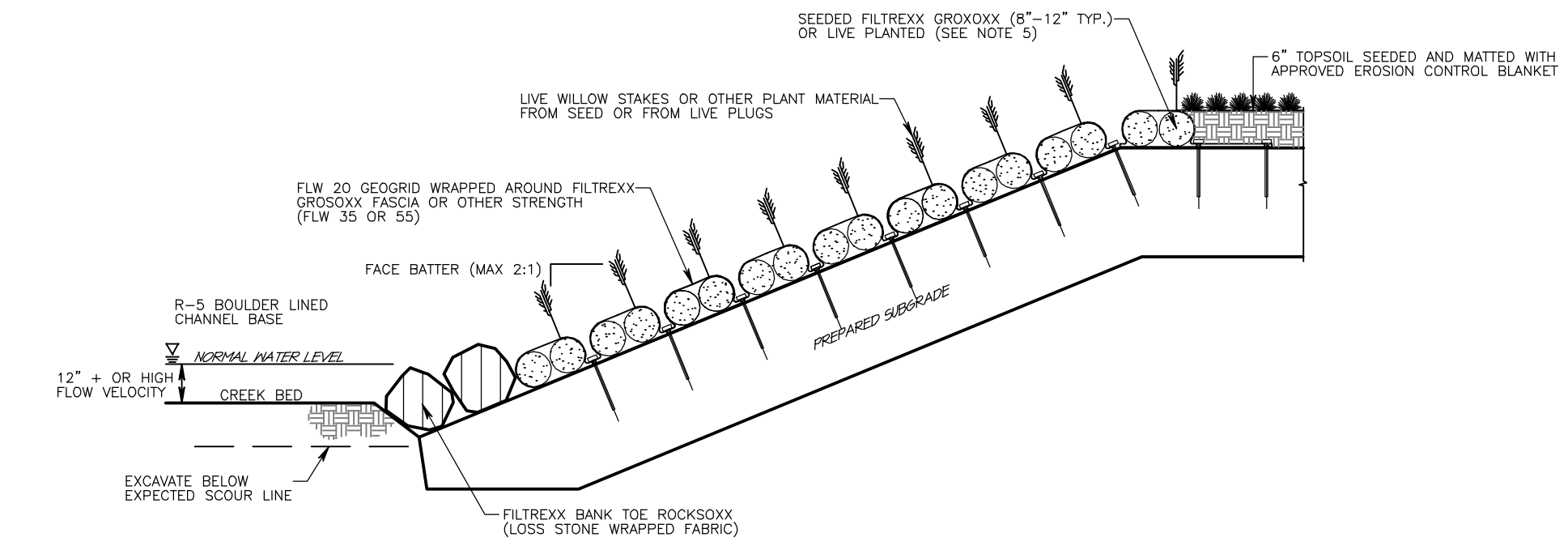
TABLE 4.1
Compost Sock Fabric Minimum Specifications

Material Type	3 mil HDPE	5 mil HDPE	5 mil HDPE	Multi-Filament Polypropylene (MPP)	Heavy Duty Polypropylene (HDPP)
Material Characteristics	Photo-degradable	Photo-degradable	Biodegradable	Photo-degradable	Photo-degradable
Sock Dimensions	12" x 18"	12" x 18"	12" x 18"	12" x 18"	12" x 18"
Mesh Opening	3/8"	3/8"	3/8"	3/8"	1/8"
Tensile Strength	26 psi	26 psi	26 psi	44 psi	292 psi
UVweaving	208 at 1000 hr.	208 at 1000 hr.	208 at 1000 hr.	1008 at 1000 hr.	1008 at 1000 hr.
Staple Strength (After 0-150)	57 lb. min. aperture size	57 lb. min. aperture size	57 lb. min. aperture size	57 lb. min. aperture size	57 lb. min. aperture size
Minimum Functional Longevity	6 months	9 months	6 months	1 year	2 years

TABLE 4.2
Compost Standards

Organic Matter Content	80% ± 100% (by weight basis)
Organic Fraction	Fibrous and elongated
pH	5.5 - 8.0
Moisture Content	50% ± 20%
Particle Size	98% pass through 1" screen
Settle Salt Concentration	5.0 dt/m (mmhos/cm) Maximum

Filtersock & J&D
PADEP EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL - MARCH 2012
(STANDARD CONSTRUCTION DETAIL #4-1)



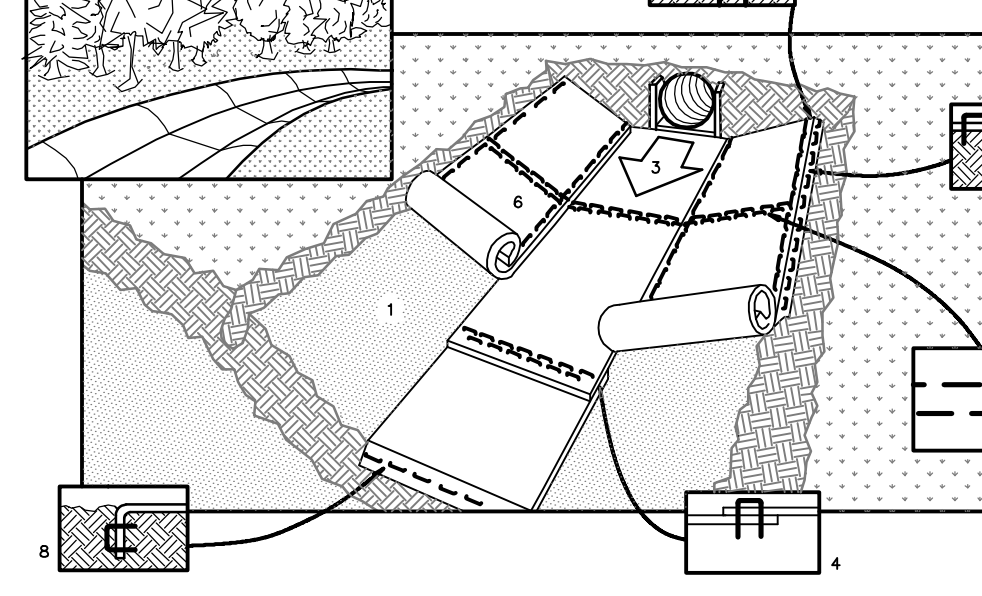
FILTREXX EDGESAVER STREAMBANK STABILIZATION SYSTEM

Not To Scale

- NOTES:**
- ALL MATERIAL TO MEET FILTREXX SPECIFICATIONS.
 - GROSSOX FILL TO MEET APPLICATION REQUIREMENTS.
 - ALL GROSSOX TO BE SEEDED PER LANDSCAPE ARCHITECT'S SPECIFICATIONS.
 - BACKFILL TO BE PLACED PER ENGINEER'S REQUIREMENTS.
 - GEGRID STRENGTH, LENGTH AND VERTICAL SPACING TO BE DETERMINED BY ENGINEER. GEGRID - NO STRANDS ARE TO BE CUT DURING PLANTING, ETC. WE RECOMMEND BI-DIRECTIONAL STRENGTH FOR CONSTRUCTION EASE.
 - NATIVE AND DRAINAGE BACKFILL TO BE SEPARATED BY NON-MOVEN FILTER FABRIC.
 - MAXIMUM HEIGHT RECOMMENDED: TEN FEET EXPOSED HEIGHT.
 - FILTREXX GROSSOX DEPENDS ON APPLICATION(SIZE DEPENDENT ON PROJECT)
 - CUT BANK NO STEEPER THAN 2H:1V. FOR STEEPER EMBANKMENTS, REFER TO GREENLOXX SYSTEM

CHANNEL INSTALLATION

NOTE: HORIZONTAL STAKE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE PROTECTED WATER LINE. REFER TO GENERAL STAPLE PATTERN GUIDE FOR CORRECT STAPLE RECOMMENDATIONS FOR CHANNELS.



- PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF LIME, FERTILIZER, AND SEED.
- BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
- ROLL CENTER BLANKET IN DIRECTION OF WATER FLOW ON BOTTOM OF CHANNEL.
- PLACE BLANKETS END OVER END (SINGLE STYLED) WITH A 6" OVERLAP. USE A DOUBLE ROW OF STAGGERED STAPLES 4" APART TO SECURE BLANKETS.
- FULL LENGTH EDGE OF BLANKETS AT TOP OF SOLE SLOPES MUST BE ANCHORED IN 4" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
- BLANKETS ON SIDE SLOPES MUST BE OVERLAPPED 4" OVER THE CENTER BLANKET AND STAPLED (2" FOR CS30 MATING).
- IN HIGH FLOW CHANNEL APPLICATIONS, A STRIKE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT INTERVALS. USE A ROW OF STAPLES 4" APART OVER ENTIRE WIDTH OF THE CHANNEL. PLACE A SECOND ROW 4" BELOW THE FIRST ROW IN A STAGGERED PATTERN.
- THE TERMINAL END OF THE BLANKETS MUST BE ANCHORED IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.



PADEP EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL - MARCH 2012
(STANDARD CONSTRUCTION DETAIL #3-13)

STRAW EROSION CONTROL BLANKET

Not To Scale

SEDIMENT FILTER BAG FOR PUMPED WATER

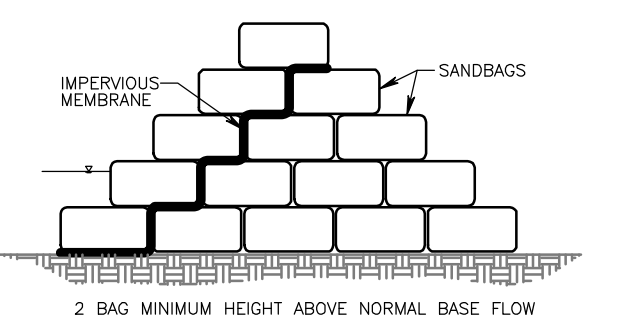
Not To Scale

TEMPORARY COFFERDAM & PUMP BYPASS SYSTEM

Not To Scale

SANDBAG DIVERSION DAM OR COFFERDAM

Not To Scale



PADEP EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL - MARCH 2012
(STANDARD CONSTRUCTION DETAIL #3-13)

NO.	DATE	DESCRIPTION
1	09/12/21	Revised per DEP comments

REVISIONS

PROJECT SERIAL NUMBER FOR DESIGN:

Parcel Information:

N/F Lands Of:
Portion of Lands of)
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Block 30 Unit 1
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Deed Area: 7.4559 Ac.
Legal RW:
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1510 Paper Mill Road
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EROSION CONTROL & NOTES
TOWNSHIP PARK IMPROVEMENTS
MERMAID PARK TRACT

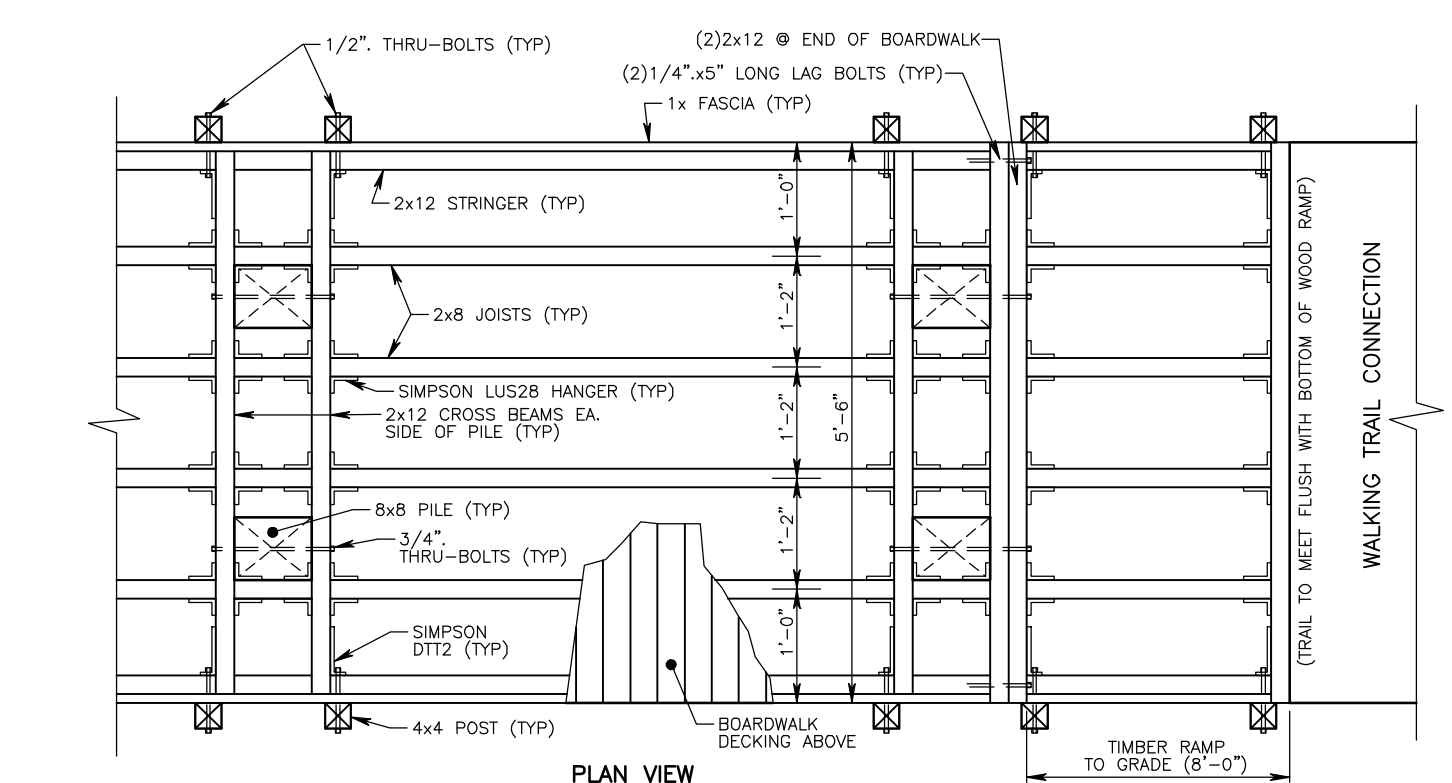
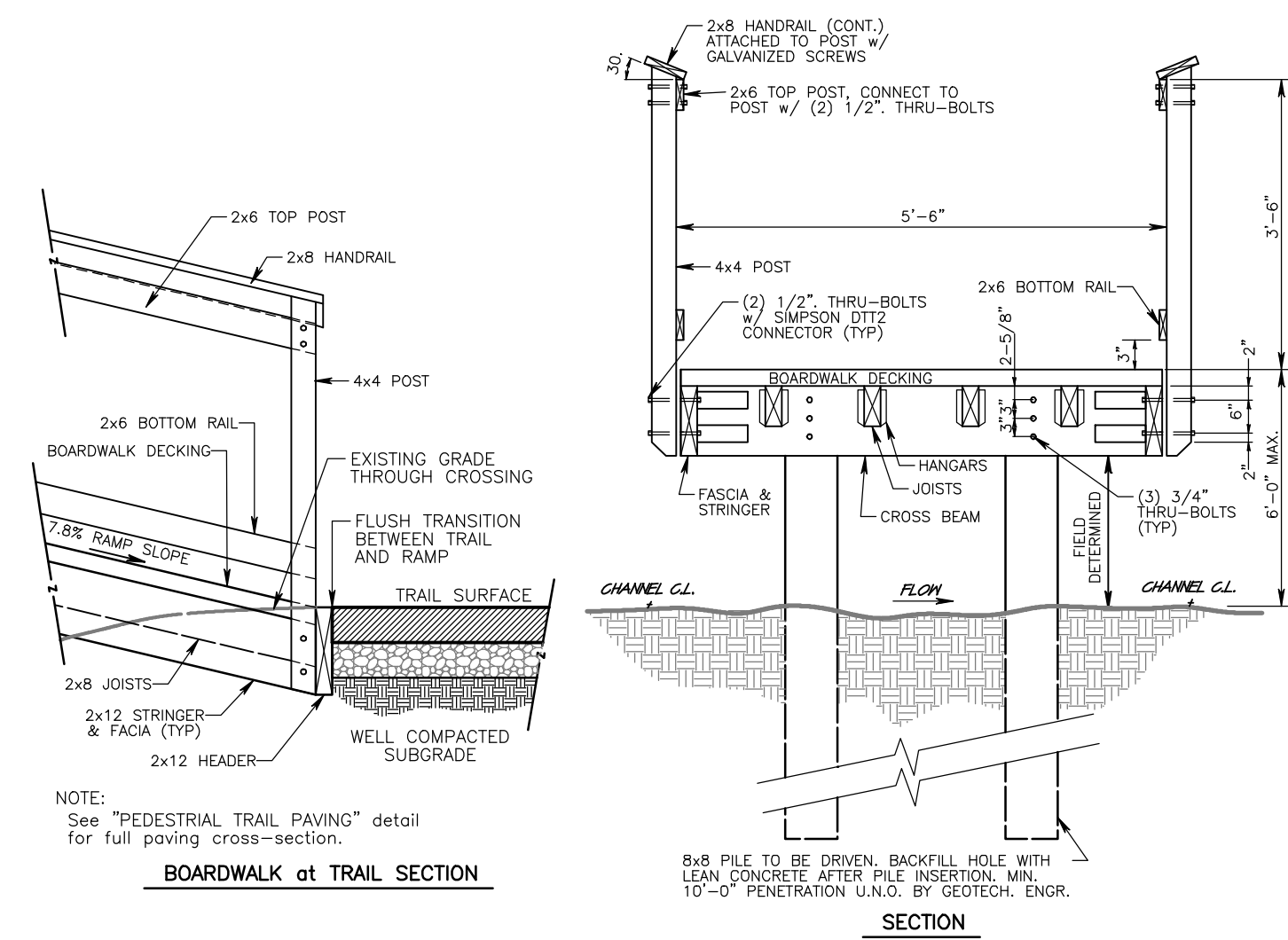
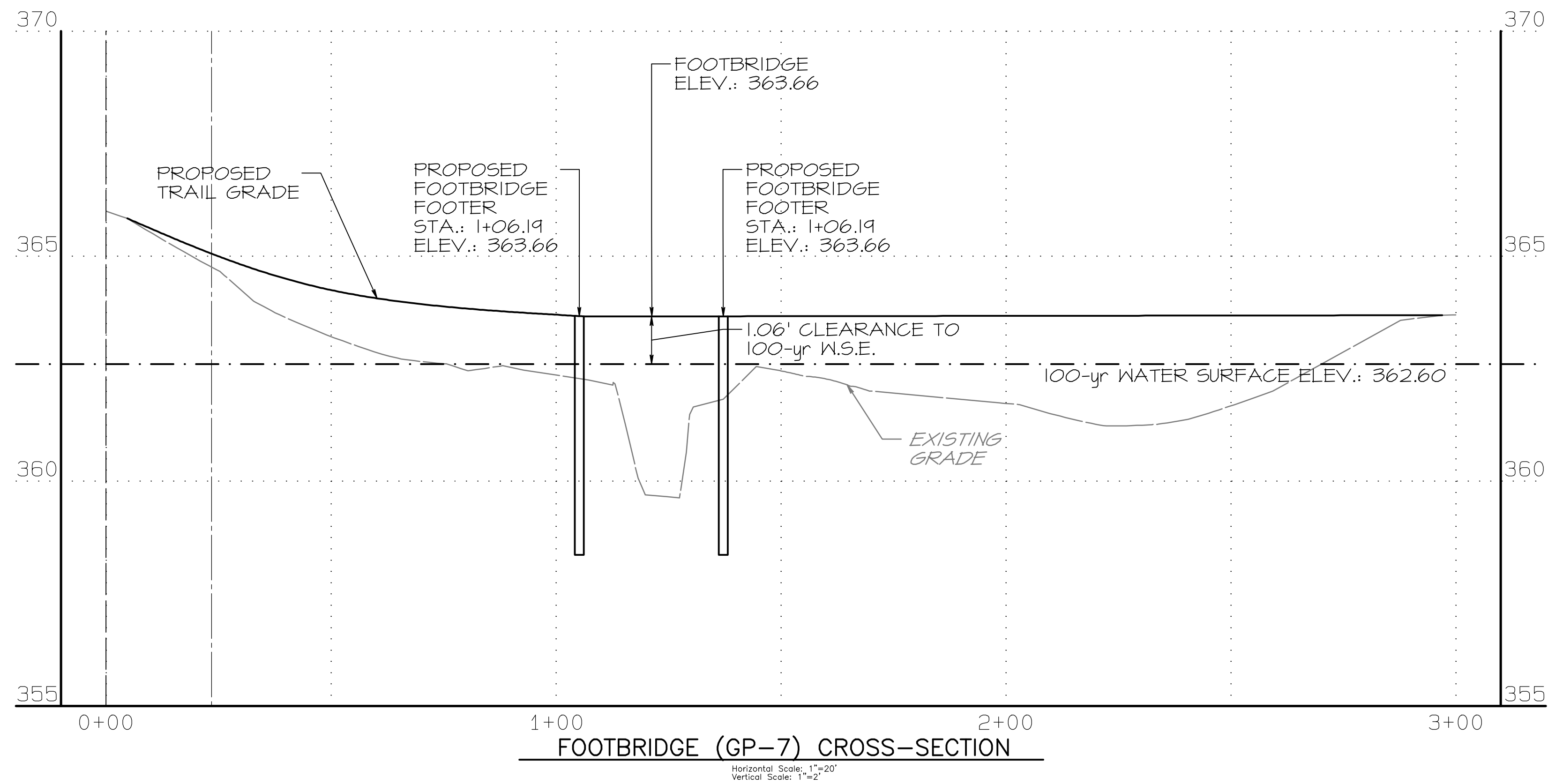
SPRINGFIELD TOWNSHIP - MONTGOMERY COUNTY - PENNSYLVANIA
WOODROW & ASSOCIATES, INC.
MUNICIPAL / CIVIL CONSULTING ENGINEERS
1105 North Mermaid Lane
Springfield, PA 19038
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Layer List:

Job No: 20-1117 SP

Plan Date: April 09, 2021

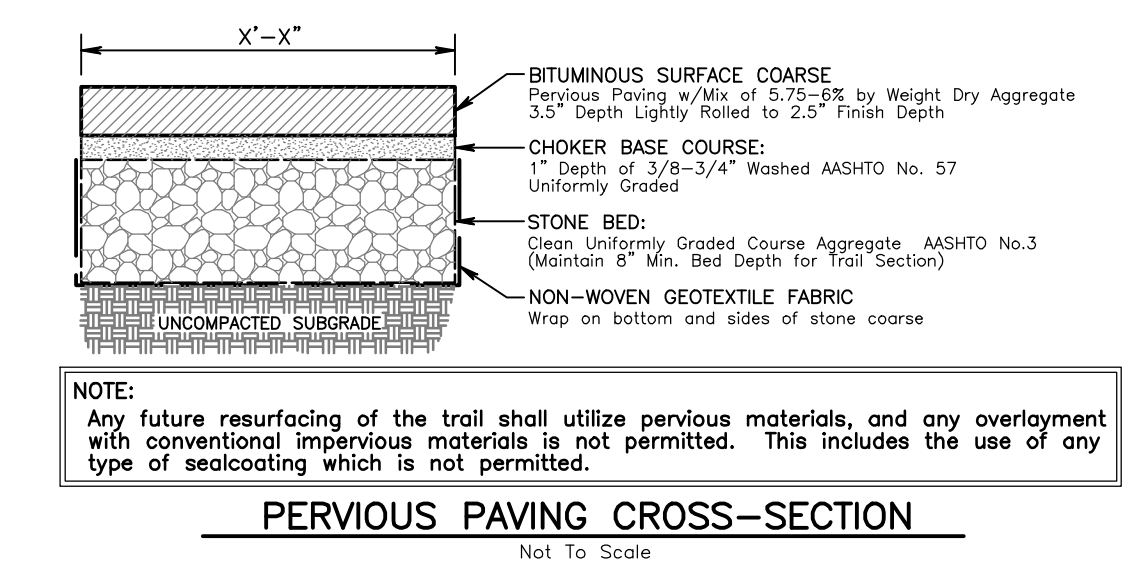
Sheet No: 2 of 3



- NOTES**
- DESIGN LOADS: DEAD: 15 PSF LIVE: 85 PSF
 - FOR LOADS NOT SHOWN, REFER TO ASCE 7 OR AASHTO LRFD FOR ADDITIONAL INFORMATION.
 - BOARDWALK DESIGN IS NOT TO BE USED IN LOCATIONS WHERE MOTOR VEHICLES MAY BE PERMITTED TO TRAVEL ON BOARDWALK.
 - ALL LUMBER SHALL BE PRESERVATIVE TREATED SOUTHERN PINE #2.
 - FACE NAIL MULTI-PLY 2x BEAMS w/ 2-ROWS OF 12d NAILS @ 12" O.C. STAGGERED.
 - BUILDER TO VERIFY CORROSION-RESISTANCE COMPATIBILITY OF HARDWARE & FASTENERS IN CONTACT w/ PRESERVATIVE-TREATED WOOD. CONTACT LUMBER & HARDWARE SUPPLIERS TO COORDINATE.
 - CONCRETE TO HAVE 28-DAY COMPRESSIVE STRENGTH OF 3,000 PSI (MIN.) U.N.O.
 - ALL THRU-BOLTS TO BE 3/4" A325 BOLTS, U.N.O. AND BE FURNISHED WITH APPROPRIATE NUTS AND WASHERS.
 - SMALL MEMBERS SHALL HAVE PRE-DRILLED HOLES TO PREVENT SPLITTING DURING CONSTRUCTION. DECKING TO BE ATTACHED TO JOISTS USING GALVANIZED SCREWS AND HARDWARE.
 - ALL BOLTS, NUTS, WASHERS, AND HARDWARE SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A153.
 - SITE SOIL PROPERTIES ARE ASSUMED TO SUPPORT FOUNDATION SHOWN. CONTRACTOR SHALL PROVIDE GEOTECHNICAL REPORT TO THE ENGINEER INDICATING THE SITE SOIL PROPERTIES & LOAD CAPACITIES PRIOR TO BEGINNING CONSTRUCTION.
 - ALL FRAMING SHALL BE A MINIMUM OF 3'-0" ABOVE NORMAL WATER LEVEL, AND BE ABOVE THE 100-YEAR STORM ELEVATION.

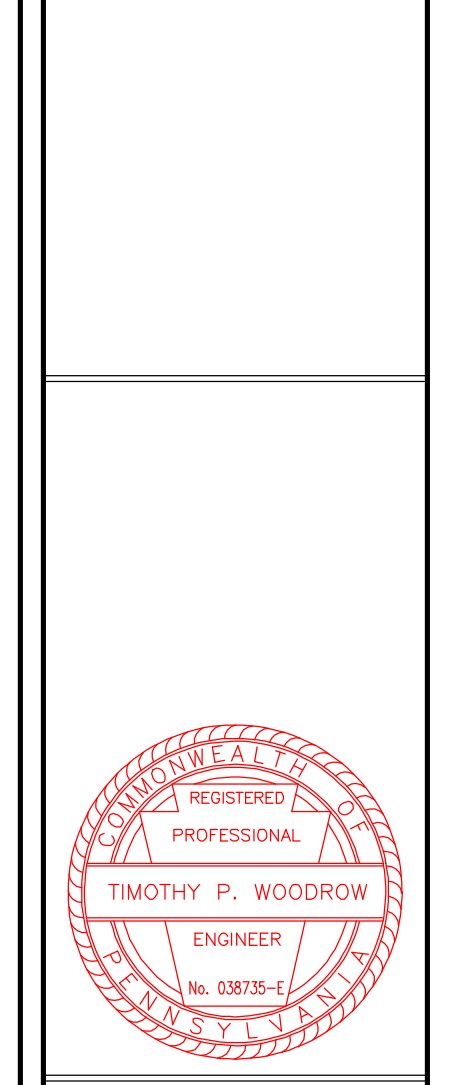
- PERVIOUS PAVING SPECIFICATIONS:**
- The following specifications are provided for informational purposes only. These specifications include information on acceptable materials for typical applications, but are by no means exclusive or limiting.
- Stone for infiltration beds shall be 2-inch to 1-inch uniformly graded coarse aggregate, with a wash loss of no more than 0.5% AASHTO size number 3 per AASHTO Specifications, Part 1, 1998 Ed., 1998, or later and shall have voids 40% as measured by ASTM-C20. Choker base course aggregate for beds shall be 3/8 inch to 3/4 inch uniformly graded coarse aggregate AASHTO size number 27 per Table 4, AASHTO Specifications, Part 1, 1998 Ed., 1998 (p. 47).
 - Non-woven geotextile shall consist of needled nonwoven polypropylene fibers and meet the following properties:
 - Grab Tensile Strength (ASTM-D4432) greater than or equal to 150 lbs.
 - Mullen Burst Strength (ASTM-D3786) greater than or equal to 225 psi.
 - Tear Rate (ASTM-D4491) greater than or equal to 50 gsf/min/ft².
 - UV Resistance after 500 hrs (ASTM-D4355) greater than or equal to 70%.
 - Test-set or heat-softened fabrics are not permitted.
 - PerVIOUS Bituminous Asphalt surface course for pervious paving should be two and one-half (2.5) inches thick with a bituminous mix of 5.75% to 6% by weight dry aggregate. In accordance with ASTM D6390, drain down of the binder shall be no greater than 0.3%. If more absorptive aggregates, such as limestone, are used in the mix, then the amount of bitumen is to be based on the testing procedures outlined in the National Asphalt Pavement Association's Information Series 131 - Pervious Asphalt Pavements (2003) or PennDOT equivalent.
 - Use neat asphalt binder modified with an elastomeric polymer to produce a binder meeting the requirements of PG 76-22 as specified in AASHTO MP-1. The elastomeric polymer shall be styrene-butadiene-styrene (SBS), or approved equal, applied at a rate of .3% by weight of the total binder. The composite materials shall be thoroughly blended at the asphalt refinery or terminal prior to being loaded into the transport vehicle. The polymer modified asphalt binder shall be neat and storage stable.
 - Aggregate shall be minimum 90% crushed material and have a gradation of:

U.S. Standard Sieve Size	Percent Passing
1/2" (12.5mm)	100
3/8" (9.5mm)	90-98
4" (4.75mm)	34-40
6" (2.36mm)	14-20
16" (1.18mm)	7-13
30" (0.60mm)	0-4
200 (0.075mm)	0-2
 - Add hydrated lime at a dosage rate of 1.0% by weight of the total dry aggregate to mixes containing granite. Hydrated lime shall meet the requirements of ASTM C 917. The additive must be able to prevent the segregation of the asphalt binder from the aggregate and achieve a required tensile strength ratio (TSR) of at least 80% on the asphalt mix when tested in accordance with AASHTO T 293. The asphaltic mix shall be tested for its resistance to stripping by water in accordance with ASTM D-1664. If the estimated coating area is not above 95 percent, anti-stripping agents shall be added to the asphalt.
 - Pervious pavement shall not be installed on wet surfaces or when the ambient air temperature is 50 degrees Fahrenheit or lower. The temperature of the bituminous mix shall be between 300 degrees Fahrenheit and 350 degrees Fahrenheit (based on the recommendations of the asphalt supplier).



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CONSTRUCTION DETAILS
TOWNSHIP PARK IMPROVEMENTS
MERMAID PARK TRACT
SPRINGFIELD TOWNSHIP - MONTGOMERY COUNTY - PENNSYLVANIA
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Layer List:
Exh_BID-03
Job No: 20-1117 SP
Plan Date: April 09, 2021
Sheet No: 3 of 3