

# **BID DOCUMENTS & SPECIFICATIONS**

**For**

## **YOUNGS INTERCOUNTY DRAIN Chesaning Township, Saginaw County New Haven Township, Shiawassee County Michigan**

**Prepared for**

### **Youngs Intercounty Drain Drainage Board**



**Joseph Brezvai, MDARD  
Board Chair**



**Brian Wendling, Saginaw County Public Works Commissioner  
Member**



**Brent Singer, Shiawassee County Drain Commissioner  
Member**

**October 31, 2025**

**Prepared by:**

**PEA GROUP**

2379 Woodlake Drive, Suite 480  
Okemos, MI 48864  
517-393-2902  
Job Number: 21-1694

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Permit #WRP 046524 v.1, Michigan Department of EGLE

END OF SECTION

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SECTION 00020

STATE OF MICHIGAN

DEPARTMENT OF AGRICULTURE  
AND RURAL DEVELOPMENT

Notice of Letting

YOUNGS INTERCOUNTY DRAIN  
(Saginaw and Shiawassee Counties)

**NOTICE OF LETTING**

**DATE:** December 11, 2025  
**TIME:** 9:00 AM  
**LOCATION:** 1024 North Shiawassee Street  
Corunna, Michigan 48817

The Youngs Intercounty Drain Drainage Board will meet on the above date, time and location to receive construction bids for the Youngs Intercounty Drain. Bids will then be opened and publicly announced.

The Youngs Intercounty Drain will be let in one section as follows, having the length, average depth and width as set forth:

The Drain project consists of clearing, open drain construction, culvert removal and replacement, berm construction, driveway repair, traffic control, landscape restoration, and soil erosion and sedimentation control. The project consists of furnishing all supplies and installation and construction of the following quantities for major items of work and character of tile or pipe, with appurtenances, and the contract let for the same. The following quantities are approximate and final payment will be made on measured quantities:

***Bid items are shown below:***

| <u>Estimated Quantity</u> | <u>Unit</u> | <u>Description (furnish and install)</u>     |
|---------------------------|-------------|----------------------------------------------|
| 1                         | LS          | Mobilization                                 |
| 1                         | LS          | Soil Erosion & Sedimentation Control         |
| 1                         | LS          | Maintaining Traffic                          |
| 2,637                     | LF          | Selective Clearing, tree and log jam removal |
| 4,903                     | LF          | Clearing, Sta. 53+47 to Sta. 102+00          |
| 6,295                     | LF          | Sediment Removal                             |
| 4,003                     | LF          | Channel Excavation                           |
| 6,295                     | LF          | Spoil Leveling (Sediment)                    |
| 4,003                     | LF          | Spoil Leveling (Excavation)                  |
| 250                       | LF          | Berm Construction, Sta. 37+37 to Sta. 39+87  |
| 44                        | SY          | Rip Rap, MDOT Plain                          |

|       |    |                                                                                   |
|-------|----|-----------------------------------------------------------------------------------|
| 151   | SY | Rip Rap, MDOT Heavy                                                               |
| 7,640 | LF | Tree and Brush Removal                                                            |
| 1,375 | LF | Mowing, both sides of channel                                                     |
| 245   | LF | Furnish & Install Erosion Control Structure, Type 1, 12" CMP w/ Metal FES (7 ea.) |
| 4     | EA | Furnish & Install 4-inch tile outlet                                              |
| 4     | EA | Furnish & Install 6-inch tile outlet                                              |
| 4     | EA | Furnish & Install 8-inch tile outlet                                              |
| 2     | EA | Furnish & Install 10-inch tile outlet                                             |
| 2     | EA | Furnish & Install 12-inch tile outlet                                             |
| 1     | LS | Furnish & install 20' x 10' steel weir plate, Sta. 102+30                         |
| 353   | SY | Remove Gravel Driveway Surface                                                    |
| 60    | SY | Remove Asphalt Road Surface                                                       |
| 60    | SY | Remove Concrete Driveway Surface                                                  |
| 400   | SY | Gravel Driveway Surface (6" MDOT 21A)                                             |
| 60    | SY | Asphalt Road Surface (6" MDOT 1300T on 9" MDOT 21AA aggregate base)               |
| 60    | SY | Concrete Driveway Surface (6" thick 3500 psi)                                     |
| 14.5  | Ac | Daily Seeding & Fertilizing                                                       |
| 500   | SY | Mulch Blanket                                                                     |
| 1     | LS | Cleanup & Restoration                                                             |

CULVERTS (includes removal of existing culverts)

|                |                       |             |
|----------------|-----------------------|-------------|
| Station 10+52  | 20'6"S x 7'3"R CM Box | driveway    |
| Station 52+82  | 117"S x 79"R CMPA     | driveway    |
| Station 72+21  | 117"S x 79"R CMPA     | driveway    |
| Station 76+10  | 117"S x 79"R CMPA     | driveway    |
| Station 83+58  | 117"S x 79"R CMPA     | driveway    |
| Station 87+50  | 117"S x 79"R CMPA     | driveway    |
| Station 98+34  | 117"S x 79"R CMPA     | driveway    |
| Station 102+04 | 12'11"S x 6'R CM Box  | Stuart Road |
| Station 187+81 | 12'S x 6'R CS Box     | Ridge Road  |

All stations are 100 feet apart. There are no bridges. There are 8 culverts in this contract.

This Notice of Letting, the plans, specifications and bid proposal shall be considered a part of the Contract. The Contract will be let in accordance with the Contract Documents now on file as indicated below and available to interested parties. Bids will be made and received in accordance with these documents. Bidders wishing to download the Plans and Specifications at NO COST may do so by contacting PEA Group, Attn: Chloé DuBois (248) 528-7377, [cdubois@peagroup.com](mailto:cdubois@peagroup.com). For bidders wishing to purchase the plans and specifications, a fee of Thirty-Five Dollars (\$35.00) will be required for each set of proposed plans and specifications and will not be refunded. A mailing fee of Twenty-Five Dollars (\$25.00) to cover handling and postage will be charged to anyone wishing to receive the plans and specifications.

Bidding Documents, including plans and specifications, may be viewed at the following locations:

**Saginaw County Public Works Commissioner**  
**111 S. Michigan Ave.**  
**Saginaw, MI 48602**

**Shiawassee County Drain Commissioner**  
**1024 N. Shiawassee St**  
**Corunna, MI 48817**

A **mandatory pre-bid conference** will be held at **9:00 a.m.** on **November 10th, 2025**, at **Chesaning Township Hall, 1025 Brady Street, Chesaning, Michigan**. Representatives of the Owner and Professional will be present to discuss the project. Attendance by any prospective General Contractor is required for sealed bids to be accepted. The Professional will transmit to all prospective bidders of record an Addendum as the Professional considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be legally effective.

The Contract will be awarded to the lowest responsive and responsible bidder giving adequate security for the performance of the work and meeting all conditions represented in the Instructions to Bidders. The Contract completion date and the terms of payment will be announced at the time and place of letting. If no satisfactory bids are received, we reserve the right to reject any or all bids and to adjourn to a time and location as we shall announce.

The following is a description of the several tracts or parcels of lands constituting the Youngs Intercounty Drain Drainage District:

**YOUNGS INTERCOUNTY DRAIN**  
**DRAINAGE DISTRICT BOUNDARY**

Sections 27, 28, & 33-35, T.9 N.-R.3 E., Chesaning Township,  
Saginaw County, Michigan and  
Sections 1-4, 10-12, & 14-15, T.8 N.-R.3 E., New Haven Township,  
Shiawassee County, Michigan

Beginning at a point on the East line of Section 28, T.9 N.-R.3 E., Chesaning Township, Saginaw County, Michigan; which is 654.18 feet, N00°52'57"W, from the Southeast Corner of said Section 28; thence N87°21'21"E, 336.47 feet; thence S00°37'11"E, 476.26 feet; thence N88°12'25"E, 666.65 feet; thence S00°37'11"E, 92.9 feet; thence N87°50'19"E, 1242.05 feet; thence N00°29'26"W, 163.05 feet; thence N87°23'20"E, 205.14 feet; thence S00°29'27"E, 176.76 feet; thence N88°17'24"E, 223.07 feet; thence N87°20'23"E, 449.28 feet; thence N00°29'27"W, 219.9 feet; thence N88°00'04"E, 300.1 feet; thence S00°29'27"E, 212.89 feet; thence N87°41'42"E, 565.85 feet; thence N00°40'25"W, 158.62 feet; thence N87°47'10"E, 267.05 feet; thence S38°53'05"E, 191.14 feet; thence N87°56'19"E, 433.62 feet; thence N87°56'19"E, 220.41 feet; thence S01°45'51"E, 53.62 feet; thence N88°09'00"E, 276.29 feet;

thence S, 47.94 feet; thence S82°02'50"E, 52.2 feet; thence S23°21'56"E, 339.81 feet; thence S00°43'07"E, 1937.65 feet; thence S12°59'41"W, 277.95 feet; thence S45°33'15"W, 49.12 feet; thence S01°22'42"E, 710.86 feet; thence N88°21'51"E, 256.57 feet; thence N88°21'51"E, 92.9 feet; thence S00°54'57"E, 338.81 feet; thence S60°15'44"E, 203.65 feet; thence S01°12'31"E, 802.74 feet; thence S88°24'32"W, 28.14 feet; thence N84°42'11"W, 105.31 feet; thence S89°02'42"W, 117.41 feet; thence S89°02'43"W, 257.64 feet; thence S08°21'57"E, 47.73 feet; thence S58°15'17"E, 113.51 feet; thence S12°12'55"E, 160.74 feet; thence S44°44'45"E, 132.47 feet; thence S20°57'55"E, 430.86 feet; thence S20°55'28"E, 542.58 feet; thence N85°48'07"E, 654.06 feet; thence S00°35'56"E, 2343.06 feet; thence N89°09'33"E, 1088.46 feet; thence N68°27'13"E, 302.65 feet; thence S83°25'32"E, 175.84 feet; thence N68°49'41"E, 175.69 feet; thence N18°03'42"E, 100.2 feet; thence N72°07'13"E, 652.44 feet; thence N85°38'30"E, 217.73 feet; thence N67°53'32"E, 1446.97 feet; thence N86°53'51"E, 112.84 feet; thence N43°38'41"E, 67.85 feet; thence N74°05'06"E, 326.96 feet; thence S87°07'49"E, 275.2 feet; thence N80°12'17"E, 615.5 feet; thence S89°23'12"E, 916.97 feet; thence S03°20'12"W, 108.44 feet; thence N88°18'25"E, 338.01 feet; thence S10°24'02"E, 208.43 feet; thence S70°25'51"E, 645.82 feet; thence S13°14'50"E, 503.41 feet; thence S50°12'22"E, 317.68 feet; thence S00°42'37"E, 72.16 feet; thence N89°38'47"E, 42.8 feet; thence S00°01'21"E, 1581.39 feet; thence S22°30'17"W, 102.94 feet; thence S56°45'13"W, 95.95 feet; thence N41°44'42"W, 159.25 feet; thence S83°55'41"W, 730.98 feet; thence S02°08'11"E, 292.23 feet; thence S61°13'37"W, 1278.96 feet; thence N89°03'21"W, 439.54 feet; thence S00°16'16"E, 290.1 feet; thence N88°25'16"W, 285.44 feet; thence N88°31'10"W, 285.42 feet; thence N88°31'10"W, 181.04 feet; thence N88°00'56"W, 203.6 feet; thence S84°39'14"W, 1883.4 feet; thence S00°20'39"E, 646.23 feet; thence S86°36'20"E, 317 feet; thence N74°01'52"E, 907.02 feet; thence N59°27'31"E, 230.18 feet; thence N89°37'22"E, 447.74 feet; thence S00°41'22"E, 1484.51 feet; thence N85°49'00"W, 369.43 feet; thence N70°06'27"W, 466.58 feet; thence S02°23'54"E, 676.48 feet; thence S39°25'33"W, 538.81 feet; thence S18°25'46"W, 486 feet; thence S69°48'34"W, 557.78 feet; thence S44°27'49"W, 301.01 feet; thence N85°55'49"W, 162.76 feet; thence N60°57'37"W, 273.78 feet; thence N86°40'24"W, 119.45 feet; thence S88°19'02"W, 263.26 feet; thence S74°06'39"W, 302.78 feet; thence S59°24'56"W, 322.83 feet; thence S14°33'20"W, 1198.53 feet; thence S00°11'23"W, 402.41 feet; thence S34°00'02"E, 649.95 feet; thence S25°05'47"W, 355.75 feet; thence N79°53'36"W, 461.18 feet; thence S01°28'42"W, 154.21 feet; thence S89°08'27"W, 530.23 feet; thence S33°05'25"W, 241.53 feet; thence S16°29'22"W, 556.12 feet; thence S86°19'11"W, 403.96 feet; thence S00°17'02"E, 56.14 feet; thence N89°57'41"W, 232.42 feet; thence S53°43'42"W, 178.39 feet; thence S01°08'03"W, 72.24 feet; thence S66°33'59"W, 106.93 feet; thence N85°54'18"W, 161.37 feet; thence S39°57'58"W, 105.64 feet; thence S88°06'20"W, 673.88 feet; thence S52°48'56"W, 293.85 feet; thence N89°52'59"W, 469.65 feet; thence N01°19'05"E, 864.14 feet; thence N28°19'55"E, 224.93 feet; thence N65°31'18"E, 597.78 feet; thence N09°15'50"E, 255.42 feet; thence N62°20'28"E, 767.27 feet; thence N01°53'28"W, 684.48 feet; thence S89°05'18"W, 384.18 feet; thence N01°00'02"E, 2612.64 feet; thence N45°39'22"W, 250.21 feet; thence N01°08'02"E, 333.43 feet; thence N20°54'09"W, 125.9 feet; thence N00°35'27"E, 586.31 feet; thence N36°21'06"E, 173.45 feet; thence N03°43'37"W, 251.6 feet; thence N80°23'11"W, 126.33 feet; thence N04°23'42"W, 217.17 feet; thence N44°51'50"W, 139.16 feet; thence N89°29'46"E, 899.24 feet; thence N00°38'48"W, 757.87 feet; thence S88°45'18"W, 3748.75 feet; thence N01°42'05"W, 2068.7 feet; thence S89°12'18"W, 1051.37 feet; thence N02°50'18"W, 250.67 feet; thence S89°26'58"W, 118.14 feet; thence N27°14'57"W, 281.04 feet; thence N07°06'06"W,

213.37 feet; thence N26°13'03"E, 144.19 feet; thence N03°29'24"W, 758.24 feet; thence N41°26'47"W, 139.62 feet; thence N30°29'31"E, 204.03 feet; thence S89°49'15"E, 166.74 feet; thence N01°30'31"W, 180.8 feet; thence N88°02'08"W, 191.74 feet; thence N18°11'07"W, 512.32 feet; thence N60°23'02"W, 297.15 feet; thence N03°05'29"W, 508.9 feet; thence N02°04'16"E, 65.72 feet; thence S88°33'22"W, 1464.88 feet; thence N82°45'47"W, 110.25 feet; thence N15°38'32"W, 135.22 feet; thence N58°52'21"W, 312.33 feet; thence S88°05'27"W, 156.34 feet; thence N61°43'31"W, 260.21 feet; thence N04°21'04"W, 160.18 feet; thence N61°46'57"W, 80.78 feet; thence N80°26'00"W, 156.69 feet; thence N25°45'19"W, 219.75 feet; thence N22°42'52"W, 161.86 feet; thence N31°46'51"W, 187.89 feet; thence N83°01'08"W, 257.11 feet; thence S80°12'39"W, 77.61 feet; thence N86°55'21"W, 97.01 feet; thence N55°55'21"W, 128.28 feet; thence S46°35'20"W, 160.63 feet; thence N00°08'55"W, 1349.12 feet; thence S87°52'08"W, 322.26 feet; thence N00°12'12"E, 2693.26 feet; thence N87°22'12"E, 122.39 feet; thence N00°00'35"W, 49.84 feet; thence S89°36'12"W, 181.09 feet; thence N00°25'40"E, 603.46 feet; thence N88°12'03"E, 198.76 feet; thence N07°48'39"W, 372.07 feet; thence N19°30'09"E, 274.88 feet; thence N19°30'09"E, 78.74 feet; thence N32°37'46"W, 173.88 feet; thence N09°43'16"E, 299.74 feet; thence N68°13'02"E, 157.94 feet; thence S56°41'21"E, 153.5 feet; thence S58°24'50"E, 251.39 feet; thence S39°11'36"E, 232.97 feet; thence S69°54'38"E, 255.55 feet; thence S64°22'49"E, 219.3 feet; thence S87°20'13"E, 261.57 feet; thence N32°49'22"E, 79.47 feet; thence N88°26'58"E, 1069.28 feet; thence N88°26'58"E, 1516.62 feet; thence S00°56'36"E, 637.67 feet to the point of beginning, containing 3,294.0 acres, more or less.

Section lines were not field verified. Bearings and distances are based on Shiawassee County and Saginaw County GIS information.

Dated: October 20, 2025

**Brian Wendling**  
**Saginaw County Drain Commissioner**  
**111 South Michigan Avenue**  
**Saginaw, MI 48602**  
**989-790-5258**

**Brent Singer**  
**Shiawassee County Drain Commissioner**  
**1024 N. Shiawassee Street**  
**Corunna, MI 48817**  
**989-743-2398**

END OF SECTION

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## **INSTRUCTIONS TO BIDDERS**

### **ARTICLE 1 – DEFINED TERMS**

- 1.01 Terms used in these Instructions to Bidders are defined in Section 00700 – General Conditions (Standard General Conditions of the Construction Contract, EJCDC, C-700, 2013 edition).

### **ARTICLE 2 – COPIES OF BIDDING DOCUMENTS**

- 2.01 Complete sets of the Bidding Documents in the number and for the deposit sum, if any, stated in the Advertisement to Bid may be obtained from ENGINEER.
- 2.02 Complete sets of Bidding Documents must be used in preparing Bids; neither OWNER nor ENGINEER assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.
- 2.03 OWNER and ENGINEER, in making copies of Bidding Documents available on the above terms, do so only for the purpose of obtaining Bids on the Work and do not confer a license or grant for any other use.

### **ARTICLE 3 – QUALIFICATIONS OF BIDDERS**

- 3.01 Each Bidder must be prepared to submit, within 5 days of OWNER's request, written evidence of qualifications to perform the Work. The written evidence will include: financial data, previous experience, present commitments and other such data as may be requested by OWNER. Bidder must be prepared to show previous experience in constructing at least three projects of a similar type, comparable size and comparable complexity within the past five years. Each Bid must contain evidence of Bidder's qualification to do business in the state where the Project is located, or Bidder must covenant to obtain such qualification prior to award of the Contract.
- 3.02 In addition to the above, when so requested, Bidder shall meet with OWNER's representatives and give further information in order to determine Bidder's qualifications, responsibility, ability to perform and complete the Work in accordance with the Contract Documents.
- 3.03 OWNER reserves the right to reject any Bid if the evidence submitted by, or investigation of, Bidder fails to satisfy OWNER that the Bidder is properly qualified to carry out the obligations of the Contract and to complete the work contemplated therein.
- 3.04 Non-Discrimination. The Bidder agrees not to discriminate against an individual with respect to providing services, hiring, tenure, terms, conditions or privileges of employment or with respect to a matter directly or indirectly related to employment solely on the basis of race, color, religion, national origin, age, sex, sexual orientation or disability. Breach of this covenant may be regarded as a material breach of the Agreement and a cause for termination and or rejection of the bid as not responsive.

### **ARTICLE 4 – EXAMINATION OF CONTRACT DOCUMENTS AND SITE**

- 4.01 It is the responsibility of each Bidder before submitting a Bid:
- 4.01.1 To examine thoroughly the Contract Documents and other related data identified in the Bidding Documents including technical data referred to below, if any;

- 4.01.2 To visit the Site to become familiar with and satisfy Bidder as to the general, local and Site conditions that may affect cost, progress, performance or furnishing of the Work;
- 4.01.3 To consider federal, state and local Laws and Regulations that may affect cost, progress, performance or furnishing of the Work;
- 4.01.4 To study and carefully correlate Bidder's knowledge and observations with the Contract Documents and such other related data and;
- 4.01.5 To promptly notify ENGINEER of all conflicts, errors, ambiguities or discrepancies which Bidder has discovered in or between the Contract Documents and such other related documents.
- 4.02 Refer to Section 00800 – Supplementary Conditions for information on reference materials, if any, which ENGINEER has used in preparing the Contract Documents and a determination of the “technical data” therein upon which Bidder may rely.
- 4.03 Information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site are based upon information and data furnished to OWNER and ENGINEER by owners of such Underground Facilities or others, and OWNER and ENGINEER do not assume responsibility for the accuracy or completeness thereof.
- 4.04 Provisions concerning responsibilities for the adequacy of data, if any, furnished to prospective Bidders with respect to subsurface conditions, other physical conditions and Underground Facilities, and possible changes in the Contract Documents due to differing or unanticipated conditions appear in Paragraphs 5.03 through 5.05 of Section 00700 – General Conditions.
- 4.05 Before submitting a Bid, each Bidder will be responsible to obtain such additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site or otherwise, which may affect cost, progress, performance or furnishing of the Work and which relate to any aspect of the means, methods, techniques, sequences or procedures of construction to be employed by Bidder and safety precautions and programs incident thereto or which Bidder deems necessary to determine its Bid for performing and furnishing the Work in accordance with the time, price and other terms and conditions of the Contract Documents.
- 4.06 On request, OWNER will provide each Bidder access to the Site to conduct such examinations, investigations, explorations, tests and studies as each Bidder deems necessary for submission of a Bid. Bidder shall fill all holes, clean up and restore the site to its former condition upon completion of such examinations, investigations, explorations, tests and studies.
- 4.07 Reference is made in the Contract Documents and Section 01010 – Summary of Work, for the identification of the general nature of work, if any, that is to be performed at Site by OWNER or others (such as utilities and other prime contractors) that relates to the Work for which a Bid is to be submitted. On request, the OWNER will provide each Bidder with examination access to or copies of Contract Documents, if any, (other than portions thereof related to price) for such work.
- 4.08 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Contract Documents and applying the specific means, methods, techniques, sequences or procedures of construction (if any) that may be shown or indicated in or expressly required by the Contract Documents, that Bidder has given ENGINEER written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in the Contract Documents and the written resolutions thereof by ENGINEER is acceptable to Bidder, and that the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

- 4.09 The provisions of paragraphs 4.01 through 4.07, inclusive, of section 00100 – Instructions to Bidders do not apply to Asbestos, Polychlorinated biphenyls (PCBs), Petroleum, Hazardous Waste or Radioactive Material covered by Paragraph 5.06 of Section 00700 – General Conditions, unless they are shown or indicated in the Documents and Specifications or identified in the Contract Document.

#### **ARTICLE 5 – AVAILABILITY OF LANDS FOR WORK, ETC.**

- 5.01 The lands upon which the Work is to be performed, rights-of-way and easements for access thereto and other lands designated for use by CONTRACTOR in performing the Work are identified in the Contract Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by CONTRACTOR. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by OWNER unless otherwise provided in the Contract Documents.
- 5.02 OWNER has acquired easements and access locations. CONTRACTOR will be limited to those areas and specifically limited to the limits of disturbance as shown on the plans. Copies of easement documents are available for review. CONTRACTOR must familiarize himself/herself with those easements and include the cost for complying with easement provisions in his Bid.
- 5.03 Work time limitations, coordination, field office and staging areas, and related matter are included in Section 01010 – Summary of Work.

#### **ARTICLE 6 – INTERPRETATIONS AND ADDENDA**

- 6.01 All questions about the meaning or intent of the Contract Documents are to be directed to ENGINEER. Interpretations or clarifications considered necessary by ENGINEER in response to such questions will be issued by Addenda, which will be mailed or delivered to all parties recorded by ENGINEER as having received the Bidding Documents. Only questions answered by formal written Addenda will be binding. Questions asked after **5:00pm on 12/3/2025** will not be answered, within the discretion of the OWNER. Oral and other interpretations or clarifications will be without legal effect.
- 6.02 Any conflicts, errors, ambiguities or discrepancies between the project plans and specifications as identified by the CONTRACTOR shall be brought to the immediate attention of the ENGINEER.
- 6.03 Addenda may also be issued to modify the Bidding Documents as deemed advisable by OWNER or ENGINEER.

#### **ARTICLE 7 – BID SECURITY**

- 7.01 Each Bid must be accompanied by Bid security made payable to OWNER in an amount of 5% of the Bidder's maximum Bid price and in the form of a certified or bank check or a Bid Bond (optional form attached) issued by a surety meeting the requirements of Article 6 of Section 00700 – General Conditions.
- 7.02 The Bid security of the Successful Bidder will be retained until such Bidder has executed the Agreement and furnished the required Contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Agreement and furnish the required Contract security within 7 days after the Notice of Award, OWNER may annul the Notice of Award, and the Bid security of that Bidder will be forfeited. The Bid security of other Bidders whom OWNER believes to have a reasonable chance of receiving the award may be retained by OWNER until the 120<sup>th</sup> day after the Bid opening, whereupon Bid security furnished by such Bidders will be returned. Bid security with Bids which are not competitive will be returned within 5 days after the Bid opening.

## **ARTICLE 8 – CONTRACT TIMES**

- 8.01 The numbers of days within which the Work is to be substantially completed and also completed and ready for final payment (the Contract Times) are set forth in the Bid Form and the Agreement.

## **ARTICLE 9 – LIQUIDATED DAMAGES**

- 9.01 Provisions for liquidated damages, if any, are set forth in the Agreement.

## **ARTICLE 10 – SUBSTITUTE OR "OR-EQUAL" ITEMS**

- 10.01 The Contract, if awarded, will be on the basis of materials and equipment described in the Drawings or specified in the Specifications without consideration of possible substitute or "or equal" items.
- 10.02 Whenever materials and equipment are indicated in the Drawings or specified in the Specifications by using the name of one or more Suppliers, the bid shall be based on providing the materials or equipment of one of the Suppliers name.
- 10.03 Whenever it is indicated in the Drawings or specified in the Specifications that a substitute or "or equal" item of material or equipment may be furnished or used by CONTRACTOR if acceptable to ENGINEER, application for such acceptance will not be considered by ENGINEER until after the Effective Date of the Agreement. The procedure for submission of any such application by CONTRACTOR and consideration by ENGINEER is set forth in Paragraphs 7.04 and 7.05 of Section 00700 – General Conditions, which may be supplemented in Division 1 – General Requirements.

## **ARTICLE 11 – SUBCONTRACTORS, SUPPLIERS AND OTHERS**

- 11.01 If Section 00800 – Supplementary Conditions requires or if OWNER requests the identity of certain Subcontractors, Suppliers and other persons and organizations (including those who are to furnish principal items of material and equipment) to be submitted to OWNER prior to the Effective Date of the Agreement, the apparent Successful Bidder, and any other Bidder so requested, shall within 7 days after the Bid opening submit to OWNER a list of all such Subcontractors, Suppliers and other persons and organizations proposed for those portions of the Work for which such identification is required. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualifications for each such Subcontractor, Supplier, person or organization if requested by OWNER. If OWNER or ENGINEER, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, other person or organization, either may, before the Notice of Award is given request the apparent Successful Bidder to submit an acceptable substitute in which case the apparent Successful Bidder shall submit an acceptable substitute, that Bidder's Bid price will be increased (decreased) by the difference in cost occasioned by such substitution and OWNER may consider such price adjustment in evaluating Bids and making the contract award. If apparent Successful Bidder declines to make any such substitutions, OWNER may award the contract to the next lowest bidder that proposed to use acceptable Subcontractors, Suppliers and other persons and organizations. Declining to make requested substitutions will not constitute grounds for forfeiting the Bid security of any Bidder. Any Subcontractor, Suppliers, or other person or organization listed and to whom OWNER or ENGINEER does not make written objection prior to the giving of the Notice of Award will be deemed acceptable to OWNER and ENGINEER subject to revocation of such acceptance after the Effective Date of the documents as provided in Paragraph 7.06 of Section 00700 – General Conditions.
- 11.02 CONTRACTOR shall not be required to employ any Subcontractor, supplier, other person or organization against whom CONTRACTOR has reasonable objection except as identified in those Procurement Contracts, if any, which will be assigned to the CONTRACTOR and identified in the Contract Documents.

## **ARTICLE 12 – BID FORM**

- 12.01 The Bid Form is included with the Bidding Documents; additional copies may be obtained from ENGINEER.
- 12.02 All blanks on the Bid Form must be completed legibly in ink or by typewriter.
- 12.03 Bids by corporations must be executed in the corporate name by the president or a vice-president (or other corporate officer accompanied by evidence of authority to sign) and the corporate seal must be affixed, if required by state law, and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be indicated below the signature.
- 12.04 Bids by joint ventures or partnerships must be executed in the partnership or joint venture name and signed by all partners, whose title must appear under the signature, and the official address of the joint venture or partnership must be provided.
- 12.05 Bids by limited liability companies must be executed in the name of the limited liability company and signed by a member, if the limited liability company is member-managed or by the manager and a member, if the limited liability company is manager-managed.
- 12.06 All names must be typed or printed below the signature, and corporations, partnerships, joint ventures or limited liability companies must provide the registered address as on file with the Michigan Department of Licensing and Regulatory Affairs.
- 12.07 The Bid shall contain an acknowledgment of receipt of all Addenda (the numbers of which must be filled in on the Bid Form).
- 12.08 The electronic mail address, mailing address and telephone number for communications regarding the Bid must be indicated.
- 12.09 Evidence of authority to conduct business as an out-of-state corporation in the state where the Work is to be performed shall be provided in accordance with Paragraph 3 above. State contractor license number, if any, must also be shown.
- 12.10 The bid price shall include such amounts as the Bidder deems proper for overhead and profit. It is understood that any cash allowances named in the Contract Documents account for the cost of materials and equipment delivered at the Site as provided in Article 13 of Section 00700 – General Conditions.

## **ARTICLE 13 – SUBMISSION OF BIDS**

- 13.01 Bids shall be submitted at the time and place indicated in the Notice of Letting and Advertisement of Bids, and shall be enclosed in an opaque sealed envelope, marked with the Project title and name and address of the Bidder and accompanied by the Bid security and all required documentation. If the Bid is sent through the mail or other delivery system, the sealed envelope shall be enclosed in a separate envelope with the notation "BID ENCLOSED" on the face of it. No Bids will be accepted via facsimile or electronic mail.
- 13.02 Each prospective Bidder is furnished one copy of the Bidding Documents with one separate unbound copy of each of the Bid Form and the Bid Bond. The unbound copy of the Bid Form is to be completed and submitted.

## **ARTICLE 14 – MODIFICATION AND WITHDRAWAL OF BIDS**

- 14.01 Bids may be modified or withdrawn by an appropriate document duly executed (in the manner that a Bid must be executed) and delivered to the place where Bids are to be submitted at any time prior to the opening of Bids.
- 14.02 If, within 24 hours after Bids are opened, any Bidder files a duly signed, written notice with OWNER and promptly thereafter demonstrates to the reasonable satisfaction of OWNER that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid and the Bid security will be returned. Thereafter, that Bidder will be disqualified from further bidding on the Work. No withdrawal of a Bid shall be permitted on account of mistake or any other reason after the expiration of 24-hour period.

#### **ARTICLE 15 – OPENING OF BIDS**

- 15.01 Bids will be opened and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the Bids and alternatives will be made available to Bidders after the opening of Bids.

#### **ARTICLE 16 – BIDS TO REMAIN SUBJECT TO ACCEPTANCE**

- 16.01 All Bids will remain subject to acceptance for 120 days after the day of the Bid opening, but OWNER may, in its sole discretion, release any Bid and return the Bid security prior to that date.

#### **ARTICLE 17 – AWARD OF CONTRACT**

- 17.01 OWNER reserves the right to reject any and all Bids, including without limitation the rights to reject any or all nonconforming, nonresponsive, unbalanced or conditional Bids and to reject the Bid of any Bidder if OWNER believes that it would not be in the best interest of the Project to make an award to that Bidder, whether because the Bid is not responsive or the Bidder is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by OWNER. OWNER also reserves the right to waive all informalities not involving price, time or changes in the Work and to negotiate contract terms with the Successful Bidder. Discrepancies in the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between words and figures will be resolved in favor of the words.
- 17.02 In evaluating Bids, OWNER will consider the qualifications of the Bidders, whether or not the Bids comply with the prescribed requirements, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.
- 17.03 OWNER may consider the qualifications and experience of Subcontractors, Suppliers, and other persons and organizations proposed for the Work. OWNER also may consider the operating costs, maintenance considerations, performance data and guarantees of materials and equipment proposed for incorporation in the Work when such data is required to be submitted prior to the Notice of Award.
- 17.04 OWNER may conduct such investigations as OWNER deems necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications and financial ability of Bidders, proposed Subcontractors, Suppliers and other persons and organizations to do the Work in accordance with the Contract Documents to OWNER's satisfaction within the prescribed time.
- 17.05 If the contract is to be awarded, it will be awarded on the basis of the Total Amount to the lowest Bidder whose evaluation by OWNER indicates to OWNER that the award will be in the best interests of the Project.
- 17.06 If the contract is to be awarded, OWNER will give the Successful Bidder a Notice of Award within 5 days after the day of the Bid opening.

## **ARTICLE 18 – CONTRACT SECURITY AND INSURANCE**

- 18.01 Article 6 of Section 00700 – General Conditions and Section 00800 – Supplementary Conditions set forth OWNER’s requirements as to insurance. When Successful Bidder delivers the executed Agreement to OWNER, it shall be accompanied by the required certificates of insurance (and other evidence of insurance requested by OWNER).
- 18.02 Paragraph 6.01 of Section 00700 – General Conditions and Section 00800 – Supplementary Conditions set forth OWNER’s requirements as to Performance and Payment Bonds. When the Successful Bidder delivers the executed Agreement to OWNER, it shall be accompanied by the required Performance and Payment Bonds.

## **ARTICLE 19 – SIGNING OF AGREEMENT**

- 19.01 When OWNER gives a Notice of Award to the Successful Bidder, it will be accompanied by the required number of unsigned counterparts of the Agreement with all other written Contract Documents attached. Within 7 days thereafter, CONTRACTOR shall sign and deliver the required number of counterparts of the Agreement to OWNER with the required Bonds and certificates of insurance. Within 10 days thereafter, OWNER will deliver one fully signed counterpart to CONTRACTOR.

## **ARTICLE 20 - PRE-BID CONFERENCE**

- 20.01 A MANDATORY pre-bid conference will be held on **11/10/2025 at 9:00am** at the place identified in the Notice of Letting and Advertisement for Bid. Prospective Bidders are required to attend and participate in the conference. All prospective Bidders must sign in by name of attendee and business represented. Only Bids from Bidders in attendance at the pre-bid conference will be opened. After the meeting introductions, no additional attendees will be accepted. All others will be considered non-responsive. There will be written minutes of the pre-bid conference issued as an Addendum.

END OF SECTION

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**SECTION 00314**

**BID FORM**

- A. **PROJECT NAME:** Youngs Intercounty Drain
- B. **PROJECT LOCATION:** Chesaning Township, Saginaw County  
New Haven Township, Shiawassee County
- C. **BID IS SUBMITTED TO:** Youngs Intercounty Drain Drainage District

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 and within the Contract Time indicated in the Contract Documents for the Contract Price and within the Contract Times indicated in this Bid and in accordance with the other terms and conditions of the Contract Documents.
2. BIDDER accepts all of the terms and conditions of the Invitation to Bid and Instructions to Bidders, including, without limitation, those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 120 days after the day of bid opening. BIDDER will sign and submit the Agreement and the Bonds and other documents required by the Bidding Documents within 7 days after the date of OWNER's Notice of Award.
3. In submitting this Bid, BIDDER represents, as more fully set forth in the Agreement, that:

- a. BIDDER has examined copies of all the Bidding Documents and of the following Addenda (receipt of all which is hereby acknowledged):

(BIDDER NOTE: Bidder shall fill in date and number of all addenda. If no addenda have been issued, insert "n/a".)

Date of Issue

Addendum No.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- b. BIDDER has visited the site and conducted an examination of the area and become familiar with and is satisfied as to the general, local and site conditions that may affect cost, progress, performance and furnishing of the Work;
- c. BIDDER is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress, performance and furnishing of the Work;
- d. BIDDER has carefully studied all reports of explorations and tests of subsurface conditions at or contiguous to the site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the site (except Underground Facilities) if identified in Section 00800 – Supplementary Conditions as provided in Article 5 of Section 00700 – General Conditions. BIDDER accepts the determination set forth in of Section 00800 - Supplementary Conditions of the extent of the "technical data" contained in such reports and drawings upon which BIDDER is entitled to rely as provided in Article 5 of Section 00700 – General Conditions. BIDDER acknowledges that such reports and drawings are not Contract Documents and may not be complete for BIDDER's purposes. BIDDER acknowledges that OWNER and ENGINEER do not assume responsibility for the accuracy or completeness of information and data shown or indicated in the Bidding Documents with respect to Underground Facilities at or contiguous to the Site;

- e. BIDDER has obtained and carefully studied (or assumes responsibility for having done so) all such additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site or otherwise which may affect cost, progress, performance or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences and procedures of construction to be employed by BIDDER and safety precautions and programs incident thereto. BIDDER does not consider that any additional examinations, investigations, explorations, tests, studies or data are necessary for the determination of this Bid for performance and furnishing of the Work in accordance with the times, price and other terms and conditions of the Contract Documents;
  - f. BIDDER is aware of the general nature of Work to be performed by OWNER and others at the Site that relates to Work for which the Bid is submitted as indicated in the Contract Documents;
  - g. BIDDER has correlated the information known to BIDDER, information and observations obtained from visits to the Site, reports and drawings identified in the Contract Documents and all additional or supplementary examinations, investigations, explorations, tests, studies and data with the Contract Documents;
  - h. BIDDER has given ENGINEER written notice of all conflicts, errors, ambiguities or discrepancies that BIDDER has discovered in the Contract Documents and the written resolution thereof by ENGINEER is acceptable to BIDDER, and the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work for which this Bid is submitted;
  - i. 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, association, 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;
  - j. Bidder acknowledges, represents and warrants that it meets the qualifications of a Bidder pursuant to the Instructions to Bidder for this Project and has complied with all Articles, terms conditions and requirements provided in Section 00100;
4. BIDDER will complete the Work in accordance with the Contract Documents for the following prices(s):

SEE EXHIBIT A – BID FORM FOR YOUNGS INTERCOUNTY DRAIN.

**EXHIBIT A – BID FORM  
YOUNGS INTERCOUNTY DRAIN**

| Item | Description                                                | Qty    | Unit | Unit Cost | Total |
|------|------------------------------------------------------------|--------|------|-----------|-------|
| 1    | Mobilization                                               | 1      | LS   | \$        | \$    |
|      | <b>Channel Excavation/Earthwork</b>                        |        |      |           |       |
| 2    | Selective thinning                                         | 2,637  | LF   | \$        | \$    |
| 3    | Logjam removal                                             | 2,637  | LF   | \$        | \$    |
| 4    | Clearing                                                   | 12,543 | LF   | \$        | \$    |
| 5    | Sediment removal                                           | 5,595  | LF   | \$        | \$    |
| 6    | Channel excavation                                         | 4,003  | LF   | \$        | \$    |
| 7    | Spoil leveling (sediment), Sta. 53+47 to Sta. 62+00        | 5,595  | LF   | \$        | \$    |
| 8    | Spoil handling (excavation), Sta. 62+00 to Sta. 204+49     | 4,003  | LF   | \$        | \$    |
| 9    | Berm construction, Sta. 37+37 to Sta. 39+87                | 250    | LF   | \$        | \$    |
| 10   | Remove existing rock pile, Sta. 37+37 to Sta 39+87         | 187    | CY   | \$        | \$    |
| 11   | Rip rap, MDOT plain                                        | 64     | SY   | \$        | \$    |
| 12   | Rip rap, MDOT heavy                                        | 151    | SY   | \$        | \$    |
|      | <b>Culverts</b>                                            |        |      |           |       |
| 13   | Crossing C-1, Station 10+51                                |        |      |           |       |
|      | Remove 60" steel culvert                                   | 1      | LS   | \$        | \$    |
|      | Furnish & install 20'6"S x 7'3"R CS Box, full metal bottom | 45     | LF   | \$        | \$    |
| 14   | Crossing C-5, Station 52+82                                |        |      |           |       |
|      | Remove 72" RCP culvert                                     | 1      | LS   | \$        | \$    |
|      | Furnish & install 117"S x 79"R CSPA, 3"x1" Corr., 10 gage  | 42     | LF   | \$        | \$    |
| 15   | Crossing C-6, Station 75+21                                |        |      |           |       |
|      | Remove 48" RCP culvert                                     | 1      | LS   | \$        | \$    |
|      | Furnish & install 117"S x 79"R CSPA, 3"x1" Corr., 10 gage  | 50     | LF   | \$        | \$    |
| 16   | Crossing C-7, Station 76+10                                |        |      |           |       |
|      | Remove 48" CMP culvert                                     | 1      | LS   | \$        | \$    |
|      | Furnish & install 117"S x 79"R CSPA, 3"x1" Corr., 10 gage  | 40     | LF   | \$        | \$    |
| 17   | Crossing C-8, Station 83+58                                |        |      |           |       |
|      | Remove 48" RCP culvert                                     | 1      | LS   | \$        | \$    |
|      | Furnish & install 117"S x 79"R CSPA, 3"x1" Corr., 10 gage  | 41     | LF   | \$        | \$    |
| 18   | Crossing C-9, Station 87+50                                |        |      |           |       |
|      | Remove 48" RCP culvert                                     | 1      | LS   | \$        | \$    |
|      | Furnish & install 117"S x 79"R CSPA, 3"x1" Corr., 10 gage  | 41     | LF   | \$        | \$    |
| 19   | Crossing C-10, Station 98+34                               |        |      |           |       |
|      | Remove 36" RCP & steel culvert                             | 1      | LS   | \$        | \$    |
|      | Furnish & install 117"S x 79"R CSPA, 3"x1" Corr., 10 gage  | 100    | LF   | \$        | \$    |
| 20   | Crossing C-11, Station 102+04                              |        |      |           |       |
|      | Remove 68"S x 43"R HECP culvert                            | 1      | LS   | \$        | \$    |
|      | Furnish & install 12'11"S x 6'R CS Box                     | 47     | LF   | \$        | \$    |
| 21   | Crossing C-15, Station 187+81                              |        |      |           |       |
|      | Remove Dual 6'S x 3.8'R Elliptical CSPA                    | 1      | LS   | \$        | \$    |
|      | Furnish & install 12'S x 6'R Aluminum Box Culvert          | 37     | LF   | \$        | \$    |

**EXHIBIT A – BID FORM  
YOUNGS INTERCOUNTY DRAIN**

|                              | Miscellaneous                                                          |       |    |    |           |
|------------------------------|------------------------------------------------------------------------|-------|----|----|-----------|
| 22                           | Maintaining traffic                                                    | 1     | LS | \$ | \$        |
| 23                           | 4-inch Tile outlet                                                     | 4     | EA | \$ | \$        |
| 24                           | 6-inch Tile outlet                                                     | 4     | EA | \$ | \$        |
| 25                           | 8-inch Tile outlet                                                     | 4     | EA | \$ | \$        |
| 26                           | 10-inch Tile outlet                                                    | 2     | EA | \$ | \$        |
| 27                           | 12-inch Tile outlet                                                    | 2     | EA | \$ | \$        |
| 28                           | 30' x 10' Sheet pile weir, Sta 102+30                                  | 1     | LS | \$ | \$        |
| 29                           | Erosion control structure, Type 1, 12" CMP w/ Metal FES (40 feet long) | 2     | EA | \$ | \$        |
| 30                           | Remove gravel driveway/road surface                                    | 353   | SY | \$ | \$        |
| 31                           | Remove asphalt road surface                                            | 60    | SY | \$ | \$        |
| 32                           | Remove concrete driveway surface                                       | 60    | SY | \$ | \$        |
| 33                           | Gravel driveway/road surface (6" MDOT 21AA)                            | 400   | SY | \$ | \$        |
| 34                           | Asphalt road surface (6" MDOT LSVP on 9" MDOT 21AA aggregate surface)  | 60    | SY | \$ | \$        |
| 35                           | Concrete driveway surface (6" thick 3500 grade)                        | 60    | SY | \$ | \$        |
| 36                           | Soil erosion & sedimentation control                                   | 1     | LS | \$ | \$        |
| 37                           | Daily seeding & fertilizing                                            | 1     | LS | \$ | \$        |
| 38                           | Mulch blanket                                                          | 500   | SY | \$ | \$        |
| 39                           | Mowing, both sides of channel                                          | 1,375 | LF | \$ | \$        |
| 40                           | Cleanup & restoration                                                  | 1     | LS | \$ | \$        |
| <b>Total Contract Amount</b> |                                                                        |       |    |    | <b>\$</b> |

BIDDER acknowledges that quantities are not guaranteed, and final payment will be based on actual quantities determined as provided in the Contract Documents. BIDDER acknowledges that progress payments will be based on the Payment Schedule as detailed in the Contract.

5. BIDDER agrees that the Work will be substantially complete on or before **10/31/2026** and completed and ready for final payment in accordance with paragraph 15.06 of Section 00700 – General Conditions on or before **5/31/2027**.

BIDDER accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work on time.

6. In addition, BIDDER accepts:
  - a. That the OWNER will provide through the ENGINEER reference points and laying out (staking) the work sufficient for construction purposes in accordance with applicable parts of paragraph 4.03 of the General Conditions and the Supplementary Conditions.
  - b. That all inspection observation on this project will be performed by the ENGINEER. The inspector is required to observe: excavation of grade; laying of pipe and appurtenances; backfilling; compaction; location and installation of services; installation of manholes, catch basins, meter pits, pump stations, and junction chambers; roadway construction; forming and pouring of concrete items; boring and jacking pits; line and grade of casing pipes; stripping and cleanup; and, restoration, etc. The inspector's limitations of authority and responsibilities are generally described in paragraph 10.08 of the General Conditions.
7. The following documents are attached to and made a condition of this Bid:
  - a. Required 5% Bid Security in the form of Bid Bond or Certified Check.
  - b. A tabulation of Subcontractors, suppliers and other persons or organizations whose separate/individual work value exceeds 15%.
  - c. If required, BIDDER's Qualification Statement with supporting data.
8. Communications concerning this Bid shall be addressed to the ENGINEER:

PEA Group  
2379 Woodlake Drive, Suite 480  
Okemos, MI 48864

T: (517) 393-2902

**Contact persons for this project are:**

Alan Boyer – [aboyer@peagroup.com](mailto:aboyer@peagroup.com)

(517) 202-5629

Greg Lamkin – [glamkin@peagroup.com](mailto:glamkin@peagroup.com)

(947) 376-1596

9. Terms used in this Bid have meanings assigned to them in Section 00700 – General Conditions of The Construction Contract.

10. This Bid submitted by:

Bidder: \_\_\_\_\_  
*(If Bidder is a corporation, a limited liability company, a partnership, or a joint venture, attach evidence of authority to sign.)*

By: \_\_\_\_\_  
*(Authorized Officer's Name)*

Its: \_\_\_\_\_  
*(Officer's Title)*

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

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

\_\_\_\_\_

\_\_\_\_\_

Telephone No. \_\_\_\_\_

FAX No. \_\_\_\_\_

e-mail address: \_\_\_\_\_

Federal ID No. \_\_\_\_\_

**CONTRACTOR’S STATEMENT OF RELEVANT EXPERIENCE**

List contracts completed or awarded within the last five (5) years that are of similar nature or complexity to the proposed **YOUNGS INTERCOUNTY DRAIN**. Include a brief description of the work; the name of the owner; the location of the project; the dollar value of your contract or subcontract; and whether you were the prime contractor or subcontractor. Make additional copies of this page as needed.

| Year | Description of Work | Name of Owner and Project # | Location | Contract Amount | Prime or Sub |
|------|---------------------|-----------------------------|----------|-----------------|--------------|
|      |                     |                             |          |                 |              |
|      |                     |                             |          |                 |              |
|      |                     |                             |          |                 |              |
|      |                     |                             |          |                 |              |
|      |                     |                             |          |                 |              |

END OF SECTION

**SECTION 00315**

**BID BOND**

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned,

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as PRINCIPAL, and

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as SURETY, are hereby held and firmly bound unto the Chair of the Youngs Intercounty Drain Drainage Board, on behalf of the Youngs Intercounty Drain Drainage Board as OWNER in the penal sum of \_\_\_\_\_ (\$ \_\_\_\_\_) or five percent (5%) of the total bid amount, for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, successors and assigns.

Signed, this \_\_\_\_\_ day of \_\_\_\_\_, 202\_\_.

The Condition of the above obligation is such that WHEREAS the Principal has submitted to the Chair of the Youngs Intercounty Drain Drainage Board, on behalf of the Youngs Intercounty Drain Drainage Board a certain BID attached hereto and hereby made a part hereof, to enter into a contract in writing for the **YOUNGS INTERCOUNTY DRAIN**, now THEREFORE:

- (a) IF said BID shall be rejected; or,
- (b) IF said BID shall be accepted and the PRINCIPAL shall execute and deliver a contract in the Form of Contract attached hereto and properly completed in accordance with said BID, and shall furnish a BOND for 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.

---

Principal

---

Surety

---

Print or type name signed above

---

Print or type name signed above

---

Title

---

Title

IMPORTANT – Surety companies executing BONDS must appear on the Treasury Department’s most current list (Circular 570 as amended) and authorized to transact business in the State of Michigan.

END OF SECTION

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## AFFIDAVIT OF COMPLIANCE

The undersigned, the owner or authorized officer of \_\_\_\_\_ (the BIDDER), pursuant to the compliance certification requirement of the State of Michigan, and as referenced by the OWNER in the BIDDING DOCUMENTS, hereby certifies, represents and warrants that the BIDDER (including its officers, directors and employees) is not an “Iran linked business” within the meaning of the Iran Economic Sanctions Act, and that in the event the BIDDER is awarded a contract as a result of the aforementioned Request for Proposal, the BIDDER will not become an “Iran linked business” at any time during the course of performing the work or any services under the contract.

**BIDDER:**

Name of Bidder

By: \_\_\_\_\_  
Its: \_\_\_\_\_  
Date: \_\_\_\_\_

STATE OF \_\_\_\_\_ )  
 )ss  
COUNTY OF \_\_\_\_\_ )

This instrument was acknowledged before me on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_,  
by \_\_\_\_\_.

Notary Public

County, \_\_\_\_\_

My Commission Expires: \_\_\_\_\_

Acting in the County of: \_\_\_\_\_

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## SECTION 00500

### AGREEMENT

This AGREEMENT is dated as of the \_\_\_\_\_ day of \_\_\_\_\_ in the year \_\_\_\_\_ by and between the Chair of the Youngs Intercounty Drain Drainage Board, on behalf of the Youngs Intercounty Drain Drainage District, (hereinafter called OWNER) and \_\_\_\_\_ (hereinafter called CONTRACTOR). OWNER and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

#### Article 1 – WORK

- 1.01 CONTRACTOR shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

**Clearing, open drain construction, culvert removal and replacement, berm construction, driveway repair, traffic control, landscape restoration, and soil erosion and sedimentation control.**

#### ARTICLE 2 – ENGINEER

- 2.01 The Project has been designed by PEA Group, 2379 Woodlake Drive, Suite 480, Okemos, Michigan, who is hereinafter called ENGINEER and who will act as OWNER's representative, assume all duties and responsibilities and have the rights and authority assigned to ENGINEER in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents. However, ENGINEER's independent review, inspection and/or contract administrations and management shall not relieve the CONTRACTOR of any of its duties under the contract. OWNER's representatives, employees and any and all independent professionals retained separately by the OWNER and not identified as the ENGINEER above shall not relieve the CONTRACTOR of any liability due to their inspection, review, measurements or analysis of the Work.

#### ARTICLE 3 – CONTRACT TIMES

- 3.01 The Work will be substantially complete by **10/31/2026**. All the work will be complete and ready for final payment by **5/31/2027**.

- 3.02 **Liquidated Damages:**

A. OWNER and CONTRACTOR recognize that time is of the essence for this Agreement, and that OWNER will suffer financial loss if the Work is not completed within the times specified in paragraph 3.01 above, plus any extensions thereof allowed in accordance with Article 11 of the General Conditions. OWNER and CONTRACTOR also recognize the delays, expense and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by OWNER if the Work is not completed on time. Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty):

1. Substantial Completion: CONTRACTOR shall pay OWNER **Three Thousand Dollars (\$3,000.00)** for each day that expires after the time (as duly adjusted

pursuant to the Contract) specified in paragraph 3.01 for Substantial Completion until the Work is substantially complete.

2. Completion of Remaining Work: After Substantial Completion if CONTRACTOR shall neglect, refuse or fail to complete the remaining work within the Contract Times (as duly adjusted pursuant to the Contract) for completion and readiness for final payment, CONTRACTOR shall pay OWNER **Three Thousand Dollars (\$3,000.00)** for each day that expires after such time until the Work is completed and ready for final payment.
  3. Liquidated damages for failing to timely attain Substantial Completion and final completion are not additive and will not be imposed concurrently.
- B. If OWNER recovers liquidated damages for a delay in completion by CONTRACTOR, then such liquidated damages are OWNER's sole and exclusive remedy for such delay, and OWNER is precluded from recovering any other damages, whether actual, direct, excess, or consequential, for such delay, except for special damages as specified in in paragraph 3.03 below.

3.03 Special Damages:

- A. CONTRACTOR shall reimburse OWNER (1) for any fines or penalties imposed on OWNER as a direct result of the CONTRACTOR's failure to attain Substantial Completion according to the Contract Times, and (2) for the actual costs reasonably incurred by OWNER for engineering, construction observation, inspection, and administrative services needed after the time specified in paragraph 3.01 for Substantial Completion (as duly adjusted pursuant to the Contract), until the Work is substantially complete.
- B. After CONTRACTOR achieves Substantial Completion, if CONTRACTOR shall neglect, refuse, or fail to complete the remaining Work within the Contract Times, CONTRACTOR shall reimburse OWNER for the actual costs reasonably incurred by OWNER for engineering, construction observation, inspection, and administrative services needed after the time specified in paragraph 3.01 for Work to be completed and ready for final payment (as duly adjusted pursuant to the Contract), until the Work is completed and ready for final payment.

3.04 All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

ARTICLE 4 – CONTRACT PRICE

- 4.01 OWNER shall pay CONTRACTOR for completion of the Work in accordance with the Contract Documents an amount in current funds equal to the sum of the amounts determined pursuant to below:
- A. For all Unit Price Work, an amount equal to the sum of the established unit price for each separately identified item of Unit Price Work times the estimated quantity of that item as indicated in the BID FORM.
- B. As provided in Paragraph 13.03 of the General Conditions, estimated quantities are not guaranteed. Determinations of actual quantities and classifications are to be made by ENGINEER as provided in Paragraph 13.03 of the General Conditions.

## ARTICLE 5 – PAYMENT PROCEDURES

- 5.01 CONTRACTOR shall submit Applications for Payment in accordance with Article 15 of Section 00700 – General Conditions. Applications for Payment will be processed by the ENGINEER as provided in the General Conditions.
- 5.02 Progress Payments; Retainage:
- A. OWNER shall make progress payments on account of the Contract Price on the basis of CONTRACTOR's Applications for Payment on or about the 15<sup>th</sup> day of each month during performance of the Work as provided in Paragraphs 5.02.A.1 and 5.02.A.2 below. All such payments will be measured by the schedule of values established as provided in the General Conditions:
1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as ENGINEER may determine or OWNER may withhold, including but not limited to liquidated damages, in accordance with Paragraph 15.01 of the General Conditions:
    - a. 95 percent of Work completed (with the balance being retainage); and
    - b. 95 percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).
  2. Upon Substantial Completion, OWNER shall pay an amount sufficient to increase total payments to CONTRACTOR to 95 percent of the Work completed, less such amounts as ENGINEER shall determine in accordance with Paragraph 15.01.C.5 of the General Conditions.
- 5.03 Final Payment
- A. As provided in Paragraph 15.06 of Section 00700 – General Conditions: upon receipt of the final Application for Payment accompanied by ENGINEER's recommendation of payment, OWNER shall pay CONTRACTOR the remainder of the Contract Price as recommended by ENGINEER less any sum OWNER is entitled to set off against ENGINEER's recommendation (including but not limited to liquidated damages).

## ARTICLE 6 – INTEREST

- 6.01 All moneys not paid when due as provided in Article 15 of Section 00700 – General Conditions shall bear interest at the rate of 0% per month.

## ARTICLE 7 – CONTRACTOR'S REPRESENTATIONS

In order to induce the OWNER to enter this Agreement, the CONTRACTOR makes the following representations:

- 7.01 CONTRACTOR has examined and carefully studied the Contract Documents (including the Addenda listed in paragraph 8) and other related data identified in the Bidding Documents including "technical data".

- 7.02 CONTRACTOR has visited the Site and become familiar with and is satisfied as to the general, local and Site conditions that may affect cost, progress, and performance of the Work.
- 7.03 CONTRACTOR is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress, and performance of the Work, including the Soil Erosion and Sedimentation Control Authorized Public Agency Procedures Manual, Rev. 2018.
- 7.04 CONTRACTOR has carefully studied all reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) if identified in Section 00800 – Supplementary Conditions as provided in Article 5 of Section 00700 – General Conditions. CONTRACTOR accepts the determination set forth in Section 00800 - Supplementary Conditions of the extent of the “technical data” contained in such reports and drawings upon which CONTRACTOR is entitled to rely as provided in Article 5 of Section 00700 – General Conditions. CONTRACTOR acknowledges that such reports and drawings are not Contract Documents and may not be complete for CONTRACTOR’S purposes. CONTRACTOR acknowledges that OWNER and ENGINEER do not assume responsibility for the accuracy or completeness of information and data shown or indicated in the Contract Documents with respect to Underground Facilities at or contiguous to the Site.
- 7.05 CONTRACTOR has obtained and carefully studied (or assumes responsibility for having done so) all such additional supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may affect cost, progress, performance or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences and procedures of construction to be employed by CONTRACTOR and safety precautions and programs incident thereto. CONTRACTOR does not consider that any additional examinations, investigations, explorations, tests, studies or data are necessary for the performance and furnishing of the Work at the Contract Price, within the Contract Times and in accordance with the other terms and conditions of the Contract Documents.
- 7.06 CONTRACTOR is aware of the general nature of work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Contract Documents.
- 7.07 CONTRACTOR has correlated the information known to the CONTRACTOR, information and observations obtained from visits to the Site, reports and drawings identified in the Contract Documents and all additional examinations, investigations, explorations, tests, studies and data with the Contract Documents.
- 7.08 CONTRACTOR has given ENGINEER written notice of all conflicts, errors, ambiguities or discrepancies that CONTRACTOR has discovered in the Contract Documents, and the written resolution thereof by ENGINEER is acceptable to the CONTRACTOR, and the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
- 7.09 Bidder acknowledges, represents and warrants that it meets the qualifications of a Bidder pursuant to the Instructions to Bidder for this Project and has complied with all Articles, terms, conditions and requirements provided in Section 00100, including but not limited to compliance with the applicable non-discrimination policies.

#### ARTICLE 8 – CONTRACT DOCUMENTS

The Contract Documents which comprise the entire agreement between the OWNER and the CONTRACTOR concerning the Work consist of the following:

- 8.01 CONTRACTOR's Bid dated \_\_\_\_\_.
- 8.02 Addenda \_\_\_\_\_ to \_\_\_\_\_, inclusive.
- 8.03 This Agreement.
- 8.04 Construction Performance Bond.
- 8.05 Construction Payment Bond.
- 8.06 General Conditions.
- 8.07 Supplementary Conditions.
- 8.08 Notice of Award.
- 8.09 Notice to Proceed.
- 8.10 Project Manual bearing the title: **Bid Documents & Specifications for YOUNGS INTERCOUNTY DRAIN, Chesaning Township, Saginaw County and New Haven Township, Shiawassee County, Michigan.**
- 8.11 Drawings, consisting of sheets as listed on the cover sheet with each sheet bearing the following general title: **YOUNGS INTERCOUNTY DRAIN.**
- 8.12 The following which may be delivered or issued after the Effective Date of the Agreement and are not attached hereto:
  - a. Written Amendments.
  - b. Change Orders

There are no Contract Documents other than those listed above in Article 8. The Contract Documents may only be amended, modified or supplemented as provided in Article 11 of Section 00700 – General Conditions.

#### ARTICLE 9 – MISCELLANEOUS

- 9.01 Terms used in this Agreement which are defined in Article 1 of the General Conditions will have the meanings indicated in Section 00700 – General Conditions.
- 9.02 No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

- 9.03 OWNER and CONTRACTOR each binds itself, its partners, successors, assigns and legal representative to the other party hereto, its partners, successors, assigns and legal representatives in respect of all covenants, agreements and obligations contained in the Contract Documents.
- 9.04 Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon OWNER and CONTRACTOR, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.
- 9.05 At OWNER's request, CONTRACTOR will attend a site walk with OWNER and/or ENGINEER to review the regulatory requirements, standards, procedures, methods, etc. applicable to the Work and in accordance with applicable local, state and federal laws, and any applicable permits.
- 9.06 CONTRACTOR shall make its records and staff available if OWNER receives State of Michigan audit request at no cost.
- 9.07 CONTRACTOR personnel working on OWNER's projects must maintain the required State and/or Federal Certifications, if applicable. The OWNER shall have the right to reject identified CONTRACTOR personnel from working on any project for the OWNER.
- 9.08 Non-Waiver. Waiver by either party of any default or breach of any provision of this Agreement by the other party shall not be construed as a waiver of any subsequent default or breach.
- 9.09 Default: In the event of a default and legal actions are necessary to enforce the terms of this agreement, the prevailing party shall be entitled to collect from any judgment or settlement sums due, plus actual attorneys' fees, court costs and other expenses incurred by the party in connection therewith, including but not limited to expert, engineering and consulting fees incurred by the prevailing party.
- 9.10 Indemnification. The CONTRACTOR shall, at its own expense, protect, defend, indemnify and hold harmless the OWNER, its elected and appointed officers, employees, servants and agents from all claims, damages, costs, lawsuits and expenses including, but not limited to, costs from administrative proceedings, court costs, and actual attorney fees that they may incur as a result of any acts, omissions, unauthorized changes or negligence of the CONTRACTOR, its subcontractor, sub-subcontractor, or any of their officers, employees, servants or agents which may arise out of this agreement.
- 9.11 Independent Review: The independent review and inspection by OWNER, OWNER's employees, agents, representatives or professionals shall not be a release or novation of any duties or responsibilities of the CONTRACTOR.
- 9.13 Entire Agreement. This Agreement constitutes the entire Agreement between the parties, supersedes all previous agreements, written or oral, and there are no understandings or representations of any kind, express, implied or otherwise, not expressly set forth herein. This Agreement may not be modified, altered, or amended except as set forth in writing signed by both parties.

IN WITNESS WHEREOF, OWNER and CONTRACTOR have signed this Agreement in triplicate. One counterpart each has been delivered to OWNER, CONTRACTOR and ENGINEER.

CONTRACTOR:

By: \_\_\_\_\_  
Name of CONTRACTOR

Youngs Intercounty Drain Drainage District

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Name and Title of Signatory

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

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

Signed on \_\_\_\_\_, 20\_\_  
Date

\_\_\_\_\_  
Street

\_\_\_\_\_  
City, State, and Zip

\_\_\_\_\_  
Telephone Number

OWNER:

\_\_\_\_\_  
Signature

Joseph Brezvai, MDARD, Board Chair  
Name and Title of Signatory

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

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

Signed on \_\_\_\_\_, 20\_\_  
Date

\_\_\_\_\_  
Street

\_\_\_\_\_  
City, State, and Zip

\_\_\_\_\_  
Telephone Number

END OF SECTION

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## PERFORMANCE BOND

Prepared By



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## PERFORMANCE BOND

|                                                                                                                                                                                                                                                    |                                                                                                                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| <b>Contractor</b><br>Name: _____<br>Address <i>(principal place of business)</i> : _____                                                                                                                                                           | <b>Surety</b><br>Name: _____<br>Address <i>(principal place of business)</i> : _____                                                |
| <b>Owner</b><br>Name: _____<br>Mailing address <i>(principal place of business)</i> : _____                                                                                                                                                        | <b>Contract</b><br>Description <i>(name and location)</i> : _____<br><br>Contract Price: _____<br>Effective Date of Contract: _____ |
| <b>Bond</b><br>Bond Amount: _____<br>Date of Bond: _____<br><i>(Date of Bond cannot be earlier than Effective Date of Contract)</i><br>Modifications to this Bond form:<br><input type="checkbox"/> None <input type="checkbox"/> See Paragraph 16 |                                                                                                                                     |
| Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth in this Performance Bond, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.                  |                                                                                                                                     |
| Contractor as Principal                                                                                                                                                                                                                            | Surety                                                                                                                              |
| _____<br><i>(Full formal name of Contractor)</i>                                                                                                                                                                                                   | _____<br><i>(Full formal name of Surety) (corporate seal)</i>                                                                       |
| By: _____<br><div style="text-align: center;"><i>(Signature)</i></div>                                                                                                                                                                             | By: _____<br><div style="text-align: center;"><i>(Signature)(Attach Power of Attorney)</i></div>                                    |
| Name: _____<br><div style="text-align: center;"><i>(Printed or typed)</i></div>                                                                                                                                                                    | Name: _____<br><div style="text-align: center;"><i>(Printed or typed)</i></div>                                                     |
| Title: _____                                                                                                                                                                                                                                       | Title: _____                                                                                                                        |
| Attest: _____<br><div style="text-align: center;"><i>(Signature)</i></div>                                                                                                                                                                         | Attest: _____<br><div style="text-align: center;"><i>(Signature)</i></div>                                                          |
| Name: _____<br><div style="text-align: center;"><i>(Printed or typed)</i></div>                                                                                                                                                                    | Name: _____<br><div style="text-align: center;"><i>(Printed or typed)</i></div>                                                     |
| Title: _____                                                                                                                                                                                                                                       | Title: _____                                                                                                                        |
| <i>Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party is considered plural where applicable.</i>                                |                                                                                                                                     |

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.
2. If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Paragraph 3.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond will arise after:
  - 3.1. The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice may indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Paragraph 3.1 will be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement does not waive the Owner's right, if any, subsequently to declare a Contractor Default;
  - 3.2. The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
  - 3.3. The Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.
4. Failure on the part of the Owner to comply with the notice requirement in Paragraph 3.1 does not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.
5. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:
  - 5.1. Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;
  - 5.2. Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;
  - 5.3. Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owners concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or
  - 5.4. Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:
    - 5.4.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
    - 5.4.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.
6. If the Surety does not proceed as provided in Paragraph 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Paragraph 5.4, and the Owner refuses the payment, or the Surety has denied liability, in whole or in part, without further notice, the Owner shall be entitled to enforce any remedy available to the Owner.
7. If the Surety elects to act under Paragraph 5.1, 5.2, or 5.3, then the responsibilities of the Surety to the Owner will not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety will not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication for:
  - 7.1. the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
  - 7.2. additional legal, design professional, and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 5; and
  - 7.3. liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

8. If the Surety elects to act under Paragraph 5.1, 5.3, or 5.4, the Surety's liability is limited to the amount of this Bond.
9. The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price will not be reduced or set off on account of any such unrelated obligations. No right of action will accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors, and assigns.
10. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.
11. Any proceeding, legal or equitable, under this Bond must be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and must be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum periods of limitations available to sureties as a defense in the jurisdiction of the suit will be applicable.
12. Notice to the Surety, the Owner, or the Contractor must be mailed or delivered to the address shown on the page on which their signature appears.
13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement will be deemed deleted therefrom and provisions conforming to such statutory or other legal requirement will be deemed incorporated herein. When so furnished, the intent is that this Bond will be construed as a statutory bond and not as a common law bond.
14. Definitions
  - 14.1. *Balance of the Contract Price*—The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made including allowance for the Contractor for any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.
  - 14.2. *Construction Contract*—The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.
  - 14.3. *Contractor Default*—Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.
  - 14.4. *Owner Default*—Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.
  - 14.5. *Contract Documents*—All the documents that comprise the agreement between the Owner and Contractor.
15. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond will be deemed to be Subcontractor and the term Owner will be deemed to be Contractor.
16. Modifications to this Bond are as follows: **None.**

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## PAYMENT BOND

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## PAYMENT BOND

|                                                                                                                                                                                                                                                    |                                                                                                                                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| <b>Contractor</b><br>Name: _____<br>Address ( <i>principal place of business</i> ): _____                                                                                                                                                          | <b>Surety</b><br>Name: _____<br>Address ( <i>principal place of business</i> ): _____                                                |
| <b>Owner</b><br>Name: _____<br>Mailing address ( <i>principal place of business</i> ): _____                                                                                                                                                       | <b>Contract</b><br>Description ( <i>name and location</i> ): _____<br><br>Contract Price: _____<br>Effective Date of Contract: _____ |
| <b>Bond</b><br>Bond Amount: _____<br>Date of Bond: _____<br><i>(Date of Bond cannot be earlier than Effective Date of Contract)</i><br>Modifications to this Bond form:<br><input type="checkbox"/> None <input type="checkbox"/> See Paragraph 18 |                                                                                                                                      |
| Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth in this Payment Bond, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.                          |                                                                                                                                      |
| Contractor as Principal                                                                                                                                                                                                                            | Surety                                                                                                                               |
| _____<br><i>(Full formal name of Contractor)</i>                                                                                                                                                                                                   | _____<br><i>(Full formal name of Surety) (corporate seal)</i>                                                                        |
| By: _____<br><div style="text-align: center;"><i>(Signature)</i></div>                                                                                                                                                                             | By: _____<br><div style="text-align: center;"><i>(Signature)(Attach Power of Attorney)</i></div>                                     |
| Name: _____<br><div style="text-align: center;"><i>(Printed or typed)</i></div>                                                                                                                                                                    | Name: _____<br><div style="text-align: center;"><i>(Printed or typed)</i></div>                                                      |
| Title: _____                                                                                                                                                                                                                                       | Title: _____                                                                                                                         |
| Attest: _____<br><div style="text-align: center;"><i>(Signature)</i></div>                                                                                                                                                                         | Attest: _____<br><div style="text-align: center;"><i>(Signature)</i></div>                                                           |
| Name: _____<br><div style="text-align: center;"><i>(Printed or typed)</i></div>                                                                                                                                                                    | Name: _____<br><div style="text-align: center;"><i>(Printed or typed)</i></div>                                                      |
| Title: _____                                                                                                                                                                                                                                       | Title: _____                                                                                                                         |
| <i>Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party is considered plural where applicable.</i>                                |                                                                                                                                      |

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner to pay for labor, materials, and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.
2. If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies, and holds harmless the Owner from claims, demands, liens, or suits by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond will arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 13) of claims, demands, liens, or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, and tendered defense of such claims, demands, liens, or suits to the Contractor and the Surety.
4. When the Owner has satisfied the conditions in Paragraph 3, the Surety shall promptly and at the Surety's expense defend, indemnify, and hold harmless the Owner against a duly tendered claim, demand, lien, or suit.
5. The Surety's obligations to a Claimant under this Bond will arise after the following:
  - 5.1. Claimants who do not have a direct contract with the Contractor
    - 5.1.1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
    - 5.1.2 have sent a Claim to the Surety (at the address described in Paragraph 13).
  - 5.2 Claimants who are employed by or have a direct contract with the Contractor have sent a Claim to the Surety (at the address described in Paragraph 13).
6. If a notice of non-payment required by Paragraph 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Paragraph 5.1.1.
7. When a Claimant has satisfied the conditions of Paragraph 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:
  - 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and
  - 7.2 Pay or arrange for payment of any undisputed amounts.
  - 7.3 The Surety's failure to discharge its obligations under Paragraph 7.1 or 7.2 will not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Paragraph 7.1 or 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.
8. The Surety's total obligation will not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Paragraph 7.3, and the amount of this Bond will be credited for any payments made in good faith by the Surety.
9. Amounts owed by the Owner to the Contractor under the Construction Contract will be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfying obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.
10. The Surety shall not be liable to the Owner, Claimants, or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond,

and shall have under this Bond no obligation to make payments to or give notice on behalf of Claimants, or otherwise have any obligations to Claimants under this Bond.

- 11 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.
- 12 No suit or action will be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Paragraph 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit will be applicable.
- 13 Notice and Claims to the Surety, the Owner, or the Contractor must be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, will be sufficient compliance as of the date received.
- 14 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement will be deemed deleted here from and provisions conforming to such statutory or other legal requirement will be deemed incorporated herein. When so furnished, the intent is that this Bond will be construed as a statutory bond and not as a common law bond.
- 15 Upon requests by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.
- 16 Definitions
  - 16.1 *Claim*—A written statement by the Claimant including at a minimum:
    - 16.1.1 The name of the Claimant;
    - 16.1.2 The name of the person for whom the labor was done, or materials or equipment furnished;
    - 16.1.3 A copy of the agreement or purchase order pursuant to which labor, materials, or equipment was furnished for use in the performance of the Construction Contract;
    - 16.1.4 A brief description of the labor, materials, or equipment furnished;
    - 16.1.5 The date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
    - 16.1.6 The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
    - 16.1.7 The total amount of previous payments received by the Claimant; and
    - 16.1.8 The total amount due and unpaid to the Claimant for labor, materials, or equipment furnished as of the date of the Claim.
  - 16.2 *Claimant*—An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials, or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond is to include without limitation in the terms of "labor, materials, or equipment" that part of the water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.
  - 16.3 *Construction Contract*—The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

- 16.4 *Owner Default*—Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.
- 16.5 *Contract Documents*—All the documents that comprise the agreement between the Owner and Contractor.
- 17 If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond will be deemed to be Subcontractor and the term Owner will be deemed to be Contractor.
- 18 Modifications to this Bond are as follows: **None.**

# STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared By



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# STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

## ARTICLE 1—DEFINITIONS AND TERMINOLOGY

### 1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. 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, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.
  3. *Application for Payment*—The document prepared by Contractor, in a form acceptable to Engineer, to request progress or final payments, and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
  4. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
  5. *Bidder*—An individual or entity that submits a Bid to Owner.
  6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.
  7. *Bidding Requirements*—The Advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.
  8. *Change Order*—A document 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, or other revision to the Contract, issued on or after the Effective Date of the Contract.
  9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.
  10. *Claim*
    - a. A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment of Contract Price or Contract Times; contesting an initial decision by Engineer concerning the

requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract.

- b. A demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision regarding a Change Proposal, or seeking resolution of a contractual issue that Engineer has declined to address.
  - c. A demand or assertion by Owner or Contractor, duly submitted in compliance with the procedural requirements set forth herein, made pursuant to Paragraph 12.01.A.4, concerning disputes arising after Engineer has issued a recommendation of final payment.
  - d. A demand for money or services by a third party is not a Claim.
- 11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), lead-based paint (as defined by the HUD/EPA standard), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to Laws and Regulations regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.
  - 12. *Contract*—The entire and integrated written contract between Owner and Contractor concerning the Work.
  - 13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.
  - 14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents.
  - 15. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.
  - 16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.
  - 17. *Cost of the Work*—See Paragraph 13.01 for definition.
  - 18. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.
  - 19. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.
  - 20. *Electronic Document*—Any Project-related correspondence, attachments to correspondence, data, documents, drawings, information, or graphics, including but not limited to Shop Drawings and other Submittals, that are in an electronic or digital format.
  - 21. *Electronic Means*—Electronic mail (email), upload/download from a secure Project website, or other communications methods that allow: (a) the transmission or communication of Electronic Documents; (b) the documentation of transmissions, including sending and receipt; (c) printing of the transmitted Electronic Document by the recipient; (d) the storage and archiving of the Electronic Document by sender and

recipient; and (e) the use by recipient of the Electronic Document for purposes permitted by this Contract. Electronic Means does not include the use of text messaging, or of Facebook, Twitter, Instagram, or similar social media services for transmission of Electronic Documents.

22. *Engineer*—The individual or entity named as such in the Agreement.
23. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.
24. *Hazardous Environmental Condition*—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto.
  - a. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated into the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, is not a Hazardous Environmental Condition.
  - b. The presence of Constituents of Concern that are to be removed or remediated as part of the Work is not a Hazardous Environmental Condition.
  - c. The presence of Constituents of Concern as part of the routine, anticipated, and obvious working conditions at the Site, is not a Hazardous Environmental Condition.
25. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and binding decrees, resolutions, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
26. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
27. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date, or by a time prior to Substantial Completion of all the Work.
28. *Notice of Award*—The written notice by Owner to a Bidder of Owner's acceptance of the Bid.
29. *Notice to Proceed*—A written notice 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.
30. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.
31. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising Contractor's plan to accomplish the Work within the Contract Times.
32. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.

33. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative (RPR) includes any assistants or field staff of Resident Project Representative.
34. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.
35. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer's review of the submittals.
36. *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.
37. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.
38. *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, and such other lands or areas furnished by Owner which are designated for the use of Contractor.
39. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.
40. *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.
41. *Submittal*—A written or graphic document, prepared by or for Contractor, which the Contract Documents require Contractor to submit to Engineer, or that is indicated as a Submittal in the Schedule of Submittals accepted by Engineer. Submittals may include Shop Drawings and Samples; schedules; product data; Owner-delegated designs; sustainable design information; information on special procedures; testing plans; results of tests and evaluations, source quality-control testing and inspections, and field or Site quality-control testing and inspections; warranties and certifications; Suppliers' instructions and reports; records of delivery of spare parts and tools; operations and maintenance data; Project photographic documentation; record documents; and other such documents required by the Contract Documents. Submittals, whether or not approved or accepted by Engineer, are not Contract Documents. Change Proposals, Change Orders, Claims, notices, Applications for Payment, and requests for interpretation or clarification are not Submittals.
42. *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 of such Work.

43. *Successful Bidder*—The Bidder to which the Owner makes an award of contract.
44. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.
45. *Supplier*—A manufacturer, fabricator, supplier, distributor, 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 a Subcontractor.
46. *Technical Data*
- a. Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (1) existing subsurface conditions at or adjacent to the Site, or existing physical conditions at or adjacent to the Site including existing surface or subsurface structures (except Underground Facilities) or (2) Hazardous Environmental Conditions at the Site.
  - b. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then Technical Data is defined, with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06, as the data contained in boring logs, recorded measurements of subsurface water levels, assessments of the condition of subsurface facilities, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical, environmental, or other Site or facilities conditions report prepared for the Project and made available to Contractor.
  - c. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data, and instead Underground Facilities are shown or indicated on the Drawings.
47. *Underground Facilities*—All active or not-in-service underground lines, pipelines, conduits, ducts, encasements, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or systems at the Site, including but not limited to those facilities or systems that produce, transmit, distribute, or convey telephone or other communications, cable television, fiber optic transmissions, power, electricity, light, heat, gases, oil, crude oil products, liquid petroleum products, water, steam, waste, wastewater, storm water, other liquids or chemicals, or traffic or other control systems. An abandoned facility or system is not an Underground Facility.
48. *Unit Price Work*—Work to be paid for on the basis of unit prices.
49. *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; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.
50. *Work Change Directive*—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

## 1.02 Terminology

- A. The words and terms discussed in Paragraphs 1.02.B, C, D, and E are not defined terms that require initial capital letters, but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.
- B. *Intent of Certain Terms or Adjectives:* 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 Article 10 or any other provision of the Contract Documents.
- C. *Day:* The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.
- D. *Defective:* The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
  - 1. does not conform to the Contract Documents;
  - 2. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
  - 3. 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 15.03 or Paragraph 15.04).
- E. *Furnish, Install, Perform, Provide*
  - 1. The word “furnish,” when used in connection with services, materials, or equipment, means 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, means 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, means to furnish and install said services, materials, or equipment complete and ready for intended use.
  - 4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words “furnish,” “install,” “perform,” or “provide,” then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.

- F. *Contract Price or Contract Times*: References to a change in “Contract Price or Contract Times” or “Contract Times or Contract Price” or similar, indicate that such change applies to (1) Contract Price, (2) Contract Times, or (3) both Contract Price and Contract Times, as warranted, even if the term “or both” is not expressed.
- G. 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 Performance and Payment Bonds; Evidence of Insurance***

- A. *Performance and Payment Bonds*: When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner the performance bond and payment bond (if the Contract requires Contractor to furnish such bonds).
- B. *Evidence of Contractor’s Insurance*: When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each additional insured (as identified in the Contract), the certificates, endorsements, and other evidence of insurance required to be provided by Contractor in accordance with Article 6, except to the extent the Supplementary Conditions expressly establish other dates for delivery of specific insurance policies.
- C. *Evidence of Owner’s Insurance*: After receipt of the signed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each additional insured (as identified in the Contract), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

### **2.02 *Copies of Documents***

- A. Owner shall furnish to Contractor four printed copies of the Contract (including one fully signed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.
- B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer.

### **2.03 *Before Starting Construction***

- A. *Preliminary Schedules*: Within 10 days after the Effective Date of the Contract (or as otherwise required by the Contract Documents), 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;
  - 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.

2.04 *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 2.03.A, procedures for handling Shop Drawings, Samples, and other Submittals, processing Applications for Payment, electronic or digital transmittals, 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 and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.05 *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 the schedules submitted in accordance with Paragraph 2.03.A. No progress payment will 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 the component parts of the Work.
  - 4. If a schedule is not acceptable, Contractor will have an additional 10 days to revise and resubmit the schedule.

2.06 *Electronic Transmittals*

- A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may send, and shall accept, Electronic Documents transmitted by Electronic Means.
- B. If the Contract does not establish protocols for Electronic Means, then Owner, Engineer, and Contractor shall jointly develop such protocols.
- C. Subject to any governing protocols for Electronic Means, when transmitting Electronic Documents by Electronic Means, the transmitting party makes no representations as to long-term compatibility, usability, or readability of the Electronic Documents resulting from the recipient's use of software application packages, operating systems, or computer hardware differing from those used in the drafting or transmittal of the Electronic Documents.

## ARTICLE 3—CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE

### 3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one Contract Document 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.
- C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic versions of the Contract Documents (including any printed copies derived from such electronic versions) and the printed record version, the printed record version will govern.
- D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.
- E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.
- F. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation will be deemed stricken, and all remaining provisions will continue to be valid and binding upon Owner and Contractor, which agree that the Contract Documents will be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.
- G. Nothing in the Contract Documents creates:
  - 1. any contractual relationship between Owner or Engineer and any Subcontractor, Supplier, or other individual or entity performing or furnishing any of the Work, for the benefit of such Subcontractor, Supplier, or other individual or entity; or
  - 2. any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity, except as may otherwise be required by Laws and Regulations.

### 3.02 *Reference Standards*

- A. *Standards Specifications, Codes, Laws and Regulations*
  - 1. Reference in the Contract Documents to standard specifications, manuals, reference standards, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, means the standard specification, manual, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract 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, reference standard, or code, and no instruction of a Supplier, will be effective to change the duties or responsibilities of Owner, Contractor, or Engineer from those set forth in the part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner or Engineer 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 part of the Contract Documents prepared by or for Engineer.

### 3.03 *Reporting and Resolving Discrepancies*

#### A. *Reporting Discrepancies*

1. *Contractor's Verification of Figures and Field Measurements:* Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict, error, ambiguity, or discrepancy is resolved by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.
2. *Contractor's Review of Contract Documents:* If, before or 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) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) 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 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.
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 part of the Contract Documents prepared by or for Engineer take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:
  - a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); 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 *Requirements of the Contract Documents*

- A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer in writing all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Contract Documents, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work.

- B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.
- C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly notify Owner and Contractor in writing that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

### 3.05 *Reuse of Documents*

- A. Contractor and its Subcontractors and Suppliers 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 versions, or 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; or
  - 2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein precludes Contractor from retaining copies of the Contract Documents for record purposes.

## **ARTICLE 4—COMMENCEMENT AND PROGRESS OF THE WORK**

### 4.01 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the 30th day after the Effective Date of the Contract 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 Contract. In no event will the Contract Times commence to run later than the 60th day after the day of Bid opening or the 30th day after the Effective Date of the Contract, whichever date is earlier.

### 4.02 *Starting the Work*

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

### 4.03 *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.

#### 4.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 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 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.
  - 2. Proposed adjustments in the Progress Schedule that will change the Contract Times must be submitted in accordance with the requirements of Article 11.
- B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work will be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

#### 4.05 *Delays in Contractor's Progress*

- A. If Owner, Engineer, 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 Contract Price or Contract Times.
- B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.
- C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. Such an adjustment will be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:
  - 1. Severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;
  - 2. Abnormal weather conditions;
  - 3. Acts or failures to act of third-party utility owners or other third-party entities (other than those third-party utility owners or other third-party entities performing other work at or adjacent to the Site as arranged by or under contract with Owner, as contemplated in Article 8); and
  - 4. Acts of war or terrorism.

- D. Contractor's entitlement to an adjustment of Contract Times or Contract Price is limited as follows:
1. Contractor's entitlement to an adjustment of the Contract Times is conditioned on the delay, disruption, or interference adversely affecting an activity on the critical path to completion of the Work, as of the time of the delay, disruption, or interference.
  2. Contractor shall not be entitled to an adjustment in Contract Price for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor. Such a concurrent delay by Contractor shall not preclude an adjustment of Contract Times to which Contractor is otherwise entitled.
  3. Adjustments of Contract Times or Contract Price are subject to the provisions of Article 11.
- E. Each Contractor request or Change Proposal seeking an increase in Contract Times or Contract Price must be supplemented by supporting data that sets forth in detail the following:
1. The circumstances that form the basis for the requested adjustment;
  2. The date upon which each cause of delay, disruption, or interference began to affect the progress of the Work;
  3. The date upon which each cause of delay, disruption, or interference ceased to affect the progress of the Work;
  4. The number of days' increase in Contract Times claimed as a consequence of each such cause of delay, disruption, or interference; and
  5. The impact on Contract Price, in accordance with the provisions of Paragraph 11.07.
- Contractor shall also furnish such additional supporting documentation as Owner or Engineer may require including, where appropriate, a revised progress schedule indicating all the activities affected by the delay, disruption, or interference, and an explanation of the effect of the delay, disruption, or interference on the critical path to completion of the Work.
- F. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5, together with the provisions of Paragraphs 4.05.D and 4.05.E.
- G. Paragraph 8.03 addresses delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.

## **ARTICLE 5—SITE; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS**

### **5.01 *Availability of Lands***

- A. Owner shall furnish the Site. Owner shall notify Contractor in writing 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.

- 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 permanent improvements are to be made 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.

## 5.02 *Use of Site and Other Areas*

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

1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas, or to improvements, structures, utilities, or similar facilities located at such adjacent lands or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.
  2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.13, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or in a court of competent jurisdiction; and (c) to the fullest extent permitted by Laws and Regulations, 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 any such claim, and against all 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 directly or indirectly, in whole or in part by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.
- B. *Removal of Debris During Performance of the Work:* During the progress of the Work the Contractor shall keep the Site and other adjacent areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris will 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 and adjacent areas 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 of 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 structures or land to stresses or pressures that will endanger them.

5.03 *Subsurface and Physical Conditions*

- A. *Reports and Drawings:* The Supplementary Conditions identify:

1. Those reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data;
2. Those drawings of existing physical conditions at or adjacent to the Site, including those drawings depicting existing surface or subsurface structures at or adjacent to the Site (except Underground Facilities), that contain Technical Data; and
3. Technical Data contained in such reports and drawings.

- B. *Underground Facilities:* Underground Facilities are shown or indicated on the Drawings, pursuant to Paragraph 5.05, and not in the drawings referred to in Paragraph 5.03.A. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data.

- C. *Reliance by Contractor on Technical Data:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data as defined in Paragraph 1.01.A.46.b.

- D. *Limitations of Other Data and Documents:* Except for such reliance on 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;
  2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings;
  3. the contents of other Site-related documents made available to Contractor, such as record drawings from other projects at or adjacent to the Site, or Owner's archival documents concerning the Site; or
  4. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

#### 5.04 *Differing Subsurface or Physical Conditions*

- A. *Notice by Contractor:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site:
1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate;
  2. is of such a nature as to require a change in the Drawings or Specifications;
  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 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

- B. *Engineer's Review:* After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine whether it is necessary for Owner to obtain additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- C. *Owner's Statement to Contractor Regarding Site Condition:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.
- D. *Early Resumption of Work:* If at any time Engineer determines that Work in connection with the subsurface or physical condition in question may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the condition in question has been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.
- E. *Possible Price and Times Adjustments*
1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, 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 fall within any one or more of the categories described in Paragraph 5.04.A;
  - 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 Paragraph 13.03; and,
  - c. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
    - a. Contractor knew of the existence of such condition at the time Contractor made a 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 otherwise;
    - b. The existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or
    - c. Contractor failed to give the written notice required by Paragraph 5.04.A.
  3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.
  4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.
- F. *Underground Facilities; Hazardous Environmental Conditions:* Paragraph 5.05 governs rights and responsibilities regarding the presence or location of Underground Facilities. Paragraph 5.06 governs rights and responsibilities regarding Hazardous Environmental Conditions. The provisions of Paragraphs 5.03 and 5.04 are not applicable to the presence or location of Underground Facilities, or to Hazardous Environmental Conditions.

#### 5.05 *Underground Facilities*

- A. *Contractor's Responsibilities:* Unless it is otherwise expressly provided in the Supplementary Conditions, the cost of all of the following are included in the Contract Price, and Contractor shall have full responsibility for:
1. reviewing and checking all information and data regarding existing Underground Facilities at the Site;
  2. complying with applicable state and local utility damage prevention Laws and Regulations;

3. verifying the actual location of those Underground Facilities shown or indicated in the Contract Documents as being within the area affected by the Work, by exposing such Underground Facilities during the course of construction;
  4. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
  5. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.
- B. *Notice by Contractor:* If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated on the Drawings, or was not shown or indicated on the Drawings with reasonable accuracy, then 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 7.15), notify Owner and Engineer in writing regarding such Underground Facility.
- C. *Engineer's Review:* Engineer will:
1. promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated on the Drawings, or was not shown or indicated with reasonable accuracy;
  2. identify and communicate with the owner of the Underground Facility; prepare recommendations to Owner (and if necessary issue any preliminary instructions to Contractor) regarding the Contractor's resumption of Work in connection with the Underground Facility in question;
  3. obtain any pertinent cost or schedule information from Contractor; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and
  4. advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
- D. *Owner's Statement to Contractor Regarding Underground Facility:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.
- E. *Early Resumption of Work:* If at any time Engineer determines that Work in connection with the Underground Facility may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the Underground Facility in question and conditions affected by its presence have been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.
- F. *Possible Price and Times Adjustments*
1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, to the extent that any existing Underground Facility at the Site that was not shown

or indicated on the Drawings, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

- a. 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 Paragraph 13.03;
  - b. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E; and
  - c. Contractor gave the notice required in Paragraph 5.05.B.
2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.
  3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.
  4. The information and data shown or indicated on the Drawings with respect to existing Underground Facilities at the Site is based on information and data (a) furnished by the owners of such Underground Facilities, or by others, (b) obtained from available records, or (c) gathered in an investigation conducted in accordance with the current edition of ASCE 38, Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data, by the American Society of Civil Engineers. If such information or data is incorrect or incomplete, Contractor's remedies are limited to those set forth in this Paragraph 5.05.F.

#### 5.06 *Hazardous Environmental Conditions at Site*

A. *Reports and Drawings:* The Supplementary Conditions identify:

1. those reports known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site;
2. drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and
3. Technical Data contained in such reports and drawings.

B. *Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data as defined in Paragraph 1.01.A.46.b. Except for such reliance on 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;

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 removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.
- D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.
- E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) 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 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.
- F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.
- G. 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, as a result of such Work stoppage, such special conditions under which Work is agreed to be resumed by Contractor, or any costs or expenses incurred in response to the Hazardous Environmental Condition, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off. Entitlement to any such adjustment is subject to the provisions of Paragraphs 4.05.D, 4.05.E, 11.07, and 11.08.
- H. 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, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.

- I. 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, arbitration, or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.I obligates Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- J. 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 failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J obligates Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

## **ARTICLE 6—BONDS AND INSURANCE**

### **6.01    *Performance, Payment, and Other Bonds***

- A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of Contractor's obligations under the Contract. These bonds must remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the terms of a prescribed bond form, the Supplementary Conditions, or other provisions of the Contract.
- B. Contractor shall also furnish such other bonds (if any) as are required by the Supplementary Conditions or other provisions of the Contract.
- C. All bonds must be in the form included in the Bidding Documents or otherwise specified by Owner prior to execution of the Contract, except as provided otherwise by Laws or

Regulations, and must be issued and signed by a surety named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Department Circular 570 (as amended and supplemented) by the Bureau of the Fiscal Service, U.S. Department of the Treasury. A bond 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 must show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.

- D. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue bonds in the required amounts.
- E. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer in writing and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which must comply with the bond and surety requirements above.
- F. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner's termination rights under Article 16.
- G. Upon request to Owner from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Owner shall provide a copy of the payment bond to such person or entity.
- H. Upon request to Contractor from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Contractor shall provide a copy of the payment bond to such person or entity.

#### 6.02 *Insurance—General Provisions*

- A. Owner and Contractor shall obtain and maintain insurance as required in this article and in the Supplementary Conditions.
- B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized in the state or jurisdiction in which the Project is located to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.
- C. Alternative forms of insurance coverage, including but not limited to self-insurance and "Occupational Accident and Excess Employer's Indemnity Policies," are not sufficient to meet the insurance requirements of this Contract, unless expressly allowed in the Supplementary Conditions.
- D. Contractor shall deliver to Owner, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Contractor has obtained and is maintaining the policies and coverages required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, full disclosure of all relevant exclusions, and evidence of insurance required to be purchased and maintained by

Subcontractors or Suppliers. In any documentation furnished under this provision, Contractor, Subcontractors, and Suppliers may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those applicable to this Contract.

- E. Owner shall deliver to Contractor, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Owner has obtained and is maintaining the policies and coverages required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, and full disclosure of all relevant exclusions. In any documentation furnished under this provision, Owner may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those relevant to this Contract.
- F. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, will not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.
- G. In addition to the liability insurance required to be provided by Contractor, the Owner, at Owner's option, may purchase and maintain Owner's own liability insurance. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.
- H. Contractor shall require:
  - 1. Subcontractors to purchase and maintain worker's compensation, commercial general liability, and other insurance that is appropriate for their participation in the Project, and to name as additional insureds Owner and Engineer (and any other individuals or entities identified in the Supplementary Conditions as additional insureds on Contractor's liability policies) on each Subcontractor's commercial general liability insurance policy; and
  - 2. Suppliers to purchase and maintain insurance that is appropriate for their participation in the Project.
- I. If either party does not purchase or maintain the insurance required of such party by the Contract, 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.
- J. If Contractor has failed to obtain and maintain required insurance, Contractor's entitlement to enter or remain at the Site will end immediately, and Owner may impose an appropriate set-off against payment for any associated costs (including but not limited to the cost of purchasing necessary insurance coverage), and exercise Owner's termination rights under Article 16.
- K. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect (but is in no way obligated) to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price will be adjusted accordingly.

- L. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests. Contractor is responsible for determining whether such coverage and limits are adequate to protect its interests, and for obtaining and maintaining any additional insurance that Contractor deems necessary.
- M. The insurance and insurance limits required herein will not be deemed as a limitation on Contractor's liability, or that of its Subcontractors or Suppliers, under the indemnities granted to Owner and other individuals and entities in the Contract or otherwise.
- N. All the policies of insurance required to be purchased and maintained under this Contract will contain a provision or endorsement that the coverage afforded will not be canceled, or renewal refused, until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured and Engineer.

#### 6.03 *Contractor's Insurance*

- A. *Required Insurance:* Contractor shall purchase and maintain Worker's Compensation, Commercial General Liability, and other insurance pursuant to the specific requirements of the Supplementary Conditions.
- B. *General Provisions:* The policies of insurance required by this Paragraph 6.03 as supplemented must:
  - 1. include at least the specific coverages required;
  - 2. be written for not less than the limits provided, or those required by Laws or Regulations, whichever is greater;
  - 3. remain in effect at least until the Work is complete (as set forth in Paragraph 15.06.D), and longer if expressly required elsewhere in this Contract, and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract;
  - 4. apply with respect to the performance of the Work, whether such performance is 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; and
  - 5. include all necessary endorsements to support the stated requirements.
- C. *Additional Insureds:* The Contractor's commercial general liability, automobile liability, employer's liability, umbrella or excess, pollution liability, and unmanned aerial vehicle liability policies, if required by this Contract, must:
  - 1. include and list as additional insureds Owner and Engineer, and any individuals or entities identified as additional insureds in the Supplementary Conditions;
  - 2. include coverage for the respective officers, directors, members, partners, employees, and consultants of all such additional insureds;
  - 3. afford primary coverage to these additional insureds for all claims covered thereby (including as applicable those arising from both ongoing and completed operations);

4. not seek contribution from insurance maintained by the additional insured; and
5. as to commercial general liability insurance, apply to additional insureds with respect to liability caused in whole or in part by Contractor's acts or omissions, or the acts and omissions of those working on Contractor's behalf, in the performance of Contractor's operations.

6.04 *Builder's Risk and Other Property Insurance*

- A. *Builder's Risk*: Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the Work's full insurable replacement cost (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). The specific requirements applicable to the builder's risk insurance are set forth in the Supplementary Conditions.
- B. *Property Insurance for Facilities of Owner Where Work Will Occur*: Owner is responsible for obtaining and maintaining property insurance covering each existing structure, building, or facility in which any part of the Work will occur, or to which any part of the Work will attach or be adjoined. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, providing coverage consistent with that required for the builder's risk insurance, and will be maintained until the Work is complete, as set forth in Paragraph 15.06.D.
- C. *Property Insurance for Substantially Complete Facilities*: Promptly after Substantial Completion, and before actual occupancy or use of the substantially completed Work, Owner will obtain property insurance for such substantially completed Work, and maintain such property insurance at least until the Work is complete, as set forth in Paragraph 15.06.D. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, and provide coverage consistent with that required for the builder's risk insurance. The builder's risk insurance may terminate upon written confirmation of Owner's procurement of such property insurance.
- D. *Partial Occupancy or Use by Owner*: If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work, as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide advance notice of such occupancy or use to the builder's risk insurer, and obtain an endorsement consenting to the continuation of coverage prior to commencing such partial occupancy or use.
- E. *Insurance of Other Property; Additional Insurance*: If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, then the entity or individual owning such property item will be responsible for insuring it. If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.04, it may do so at Contractor's expense.

6.05 *Property Losses; Subrogation*

- A. The builder's risk insurance policy purchased and maintained in accordance with Paragraph 6.04 (or an installation floater policy if authorized by the Supplementary Conditions), will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against

Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors.

1. Owner and Contractor waive all rights against each other and the 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, risks, 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 Engineer, its consultants, all individuals or entities identified in the Supplementary Conditions as builder's risk or installation floater insureds, 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.
  2. None of the above waivers extends to the rights that any party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.
- B. Any property insurance policy maintained by Owner covering any loss, damage, or consequential loss to Owner's existing structures, buildings, or facilities in which any part of the Work will occur, or to which any part of the Work will attach or adjoin; to adjacent structures, buildings, or facilities of Owner; or to part or all of the completed or substantially completed Work, during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06, will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them, and that the insured is allowed to waive the insurer's rights of subrogation in a written contract executed prior to the loss, damage, or consequential loss.
1. 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 all losses and damages caused by, arising out of, or resulting from fire or any of the perils, risks, or causes of loss covered by such policies.
- C. The waivers in this Paragraph 6.05 include the waiver of rights 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 insured peril, risk, or cause of loss.
- D. Contractor shall be responsible for assuring that each Subcontract contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, 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 fire or other peril, risk, or cause of loss covered by builder's risk insurance, installation floater, and any other property insurance applicable to the Work.

6.06 *Receipt and Application of Property Insurance Proceeds*

- A. Any insured loss under the builder's risk and other policies of property insurance required by Paragraph 6.04 will be adjusted and settled with the named insured that purchased the policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.
- B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder's risk and other policies of insurance required by Paragraph 6.04 shall maintain such proceeds in a segregated account, and distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.
- C. If no other special agreement is reached, Contractor shall repair or replace the damaged Work, using allocated insurance proceeds.

**ARTICLE 7—CONTRACTOR'S RESPONSIBILITIES**

7.01 *Contractor's Means and Methods of Construction*

- A. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.
- B. If the Contract Documents note, or Contractor determines, that professional engineering or other design services are needed to carry out Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures, or for Site safety, then Contractor shall cause such services to be provided by a properly licensed design professional, at Contractor's expense. Such services are not Owner-delegated professional design services under this Contract, and neither Owner nor Engineer has any responsibility with respect to (1) Contractor's determination of the need for such services, (2) the qualifications or licensing of the design professionals retained or employed by Contractor, (3) the performance of such services, or (4) any errors, omissions, or defects in such services.

7.02 *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.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who will not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

7.03 *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 maintain good discipline and order at the Site.

- B. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of Contractor's employees; of Suppliers and Subcontractors, and their employees; and of any other individuals or entities performing or furnishing any of the Work, just as Contractor is responsible for Contractor's own acts and omissions.
- C. 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 will be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner's written consent, which will not be unreasonably withheld.

#### 7.04 *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, whether or not such items are specifically called for in the Contract Documents.
- B. All materials and equipment incorporated into the Work must be new and of good quality, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications will 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 must 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.

#### 7.05 *"Or Equals"*

- A. *Contractor's Request; Governing Criteria:* Whenever an item of equipment or material is specified or described in the Contract Documents by using the names of one or more proprietary items or specific Suppliers, the Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item 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 is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material, or items from other proposed Suppliers, under the circumstances described below.
  - 1. If Engineer in its sole discretion determines that an item of equipment or material proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer will deem it an "or equal" item. For the purposes of this paragraph, a proposed item of equipment or material will be considered functionally equal to an item so named if:
    - a. in the exercise of reasonable judgment Engineer determines that the proposed item:
      - 1) is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

- 2) 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;
  - 3) has a proven record of performance and availability of responsive service; and
  - 4) is not objectionable to Owner.
- b. Contractor certifies that, if the proposed item is approved and incorporated into the Work:
- 1) there will be no increase in cost to the Owner or increase in Contract Times; and
  - 2) the item will conform substantially to the detailed requirements of the item named in the Contract Documents.
- B. *Contractor's Expense*: Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.
- C. *Engineer's Evaluation and Determination*: Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal," which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.
- D. *Effect of Engineer's Determination*: Neither approval nor denial of an "or-equal" request will result in any change in Contract Price. The Engineer's denial of an "or-equal" request will be final and binding, and may not be reversed through an appeal under any provision of the Contract.
- E. *Treatment as a Substitution Request*: If Engineer determines that an item of equipment or material proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer consider the item a proposed substitute pursuant to Paragraph 7.06.

#### 7.06 Substitutes

- A. *Contractor's Request; Governing Criteria*: Unless the specification or description of an item of equipment or material required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material under the circumstances described below. To the extent possible such requests must be made before commencement of related construction at the Site.
1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of equipment or material from anyone other than Contractor.
  2. The requirements for review by Engineer will be as set forth in Paragraph 7.06.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.

3. Contractor shall make written application to Engineer for review of a proposed substitute item of equipment or material that Contractor seeks to furnish or use. The application:
  - a. will certify that the proposed substitute item will:
    - 1) perform adequately the functions and achieve the results called for by the general design;
    - 2) be similar in substance to the item specified; and
    - 3) be suited to the same use as the item specified.
  - b. will state:
    - 1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times;
    - 2) 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
    - 3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.
  - c. will identify:
    - 1) all variations of the proposed substitute item from the item specified; and
    - 2) available engineering, sales, maintenance, repair, and replacement services.
  - d. will contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.
- B. *Engineer's Evaluation and Determination*: Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.
- C. *Special Guarantee*: Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- D. *Reimbursement of Engineer's Cost*: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. 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.

- E. *Contractor's Expense*: Contractor shall provide all data in support of any proposed substitute at Contractor's expense.
- F. *Effect of Engineer's Determination*: If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request will be final and binding, and may not be reversed through an appeal under any provision of the Contract. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.06.D, by timely submittal of a Change Proposal.

7.07 *Concerning Subcontractors and Suppliers*

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner. The Contractor's retention of a Subcontractor or Supplier for the performance of parts of the Work will not relieve Contractor's obligation to Owner to perform and complete the Work in accordance with the Contract Documents.
- B. Contractor shall retain specific Subcontractors and Suppliers for the performance of designated parts of the Work if required by the Contract to do so.
- C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor or Supplier to furnish or perform any of the Work against which Contractor has reasonable objection.
- D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within 5 days.
- E. Owner may require the replacement of any Subcontractor or Supplier. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors or Suppliers for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor or Supplier so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor or Supplier.
- F. If Owner requires the replacement of any Subcontractor or Supplier retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.
- G. No acceptance by Owner of any such Subcontractor or Supplier, whether initially or as a replacement, will constitute a waiver of the right of Owner to the completion of the Work in accordance with the Contract Documents.

- H. On a monthly basis, Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.
- I. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors and Suppliers.
- J. The divisions and sections of the Specifications and the identifications of any Drawings do not control Contractor in dividing the Work among Subcontractors or Suppliers, or in delineating the Work to be performed by any specific trade.
- K. All Work performed for Contractor by a Subcontractor or Supplier must be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract for the benefit of Owner and Engineer.
- L. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor for Work performed for Contractor by the Subcontractor or Supplier.
- M. Contractor shall restrict all Subcontractors and Suppliers from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed in this Contract.

7.08 *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 an 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 will be disclosed 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.

#### 7.09 *Permits*

- A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits, licenses, and certificates of occupancy. 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 the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

#### 7.10 *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.

#### 7.11 *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. Neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and 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 such Work or other action. It is not Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this does not relieve Contractor of its obligations under Paragraph 3.03.
- C. Owner or Contractor may give written notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such written notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

#### 7.12 *Record Documents*

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

### 7.13 *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.
- B. Contractor shall designate a qualified and experienced safety representative whose duties and responsibilities are the prevention of Work-related accidents and the maintenance and supervision of safety precautions and programs.
- C. 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, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- D. All damage, injury, or loss to any property referred to in Paragraph 7.13.C.2 or 7.13.C.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 at its expense (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).
- E. 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.
- F. Contractor shall notify Owner; the owners of adjacent property; the owners of Underground Facilities and other utilities (if the identity of such owners is known to Contractor); and other contractors and utility owners performing work at or adjacent to the Site, in writing, when Contractor knows that prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.
- G. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. Any Owner's safety programs that are applicable to the Work are identified or included in the Supplementary Conditions or Specifications.
- H. 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.

- I. Contractor's duties and responsibilities for safety and protection will continue until all the Work is completed, Engineer has issued a written notice to Owner and Contractor in accordance with Paragraph 15.06.C that the Work is acceptable, and Contractor has left the Site (except as otherwise expressly provided in connection with Substantial Completion).
- J. Contractor's duties and responsibilities for safety and protection will resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

7.14 *Hazard Communication Programs*

- A. Contractor shall be responsible for coordinating any exchange of safety data sheets (formerly known as 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.

7.15 *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 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 by an emergency, or are required as a result of Contractor's response to an emergency. If Engineer determines that a change in the Contract Documents is required because of an emergency or Contractor's response, a Work Change Directive or Change Order will be issued.

7.16 *Submittals*

A. *Shop Drawing and Sample Requirements*

- 1. Before submitting a Shop Drawing or Sample, Contractor shall:
  - a. review and coordinate the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
  - b. determine and verify:
    - 1) all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect to the Submittal;
    - 2) the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
    - 3) all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto;
  - c. confirm that the Submittal is complete with respect to all related data included in the Submittal.
- 2. Each Shop Drawing or Sample must bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that Submittal, and that Contractor approves the Submittal.

3. With each Shop Drawing or Sample, Contractor shall give Engineer specific written notice of any variations that the Submittal may have from the requirements of the Contract Documents. This notice must be set forth in a written communication separate from the Submittal; and, in addition, in the case of a Shop Drawing by a specific notation made on the Shop Drawing itself.
- B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall label and submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals.
1. *Shop Drawings*
    - a. Contractor shall submit the number of copies required in the Specifications.
    - b. Data shown on the Shop Drawings must 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 7.16.C.
  2. *Samples*
    - a. Contractor shall submit the number of Samples required in the Specifications.
    - b. Contractor shall 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 7.16.C.
  3. 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. *Engineer's Review of Shop Drawings and Samples*
1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the accepted Schedule of Submittals. 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, comply with the requirements of 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, or to safety precautions or programs incident thereto.
  3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
  4. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.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 will

document any such approved variation from the requirements of the Contract Documents in a Field Order or other appropriate Contract modification.

5. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for complying with the requirements of Paragraphs 7.16.A and B.
6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, will not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.
7. Neither Engineer's receipt, review, acceptance, or approval of a Shop Drawing or Sample will result in such item becoming a Contract Document.
8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.C.4.

*D. Resubmittal Procedures for Shop Drawings and Samples*

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.
2. Contractor shall furnish required Shop Drawing and Sample submittals with sufficient information and accuracy to obtain required approval of an item with no more than two resubmittals. Engineer will record Engineer's time for reviewing a third or subsequent resubmittal of a Shop Drawing or Sample, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges.
3. If Contractor requests a change of a previously approved Shop Drawing or Sample, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

*E. Submittals Other than Shop Drawings, Samples, and Owner-Delegated Designs*

1. The following provisions apply to all Submittals other than Shop Drawings, Samples, and Owner-delegated designs:
  - a. Contractor shall submit all such Submittals to the Engineer in accordance with the Schedule of Submittals and pursuant to the applicable terms of the Contract Documents.
  - b. Engineer will provide timely review of all such Submittals in accordance with the Schedule of Submittals and return such Submittals with a notation of either Accepted or Not Accepted. Any such Submittal that is not returned within the time established in the Schedule of Submittals will be deemed accepted.
  - c. Engineer's review will be only to determine if the Submittal is acceptable under the requirements of the Contract Documents as to general form and content of the Submittal.
  - d. If any such Submittal is not accepted, Contractor shall confer with Engineer regarding the reason for the non-acceptance, and resubmit an acceptable document.

2. Procedures for the submittal and acceptance of the Progress Schedule, the Schedule of Submittals, and the Schedule of Values are set forth in Paragraphs 2.03, 2.04, and 2.05.
- F. Owner-delegated Designs: Submittals pursuant to Owner-delegated designs are governed by the provisions of Paragraph 7.19.

**7.17 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 is entitled to rely on Contractor's warranty and guarantee.
- B. Owner's rights under this warranty and guarantee are in addition to, and are not limited by, Owner's rights under the correction period provisions of Paragraph 15.08. The time in which Owner may enforce its warranty and guarantee rights under this Paragraph 7.17 is limited only by applicable Laws and Regulations restricting actions to enforce such rights; provided, however, that after the end of the correction period under Paragraph 15.08:
1. Owner shall give Contractor written notice of any defective Work within 60 days of the discovery that such Work is defective; and
  2. Such notice will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the notice.
- C. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
1. abuse, or improper modification, 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.
- D. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents is absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents, a release of Contractor's obligation to perform the Work in accordance with the Contract Documents, or a release of Owner's warranty and guarantee rights under this Paragraph 7.17:
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;
  6. The issuance of a notice of acceptability by Engineer;
  7. The end of the correction period established in Paragraph 15.08;
  8. Any inspection, test, or approval by others; or
  9. Any correction of defective Work by Owner.

- E. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract will govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

#### 7.18 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, 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 losses, damages, costs, and judgments (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 from third-party claims or actions relating to or resulting from the performance or furnishing of the Work, provided that any such claim, action, loss, cost, judgment or damage is attributable to bodily injury, sickness, disease, or death, or to damage 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 7.18.A will 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.

#### 7.19 *Delegation of Professional Design Services*

- A. Owner may require Contractor to provide professional design services for a portion of the Work by express delegation in the Contract Documents. Such delegation will specify the performance and design criteria that such services must satisfy, and the Submittals that Contractor must furnish to Engineer with respect to the Owner-delegated design.
- B. Contractor shall cause such Owner-delegated professional design services to be provided pursuant to the professional standard of care by a properly licensed design professional, whose signature and seal must appear on all drawings, calculations, specifications, certifications, and Submittals prepared by such design professional. Such design professional must issue all certifications of design required by Laws and Regulations.
- C. If a Shop Drawing or other Submittal related to the Owner-delegated design is prepared by Contractor, a Subcontractor, or others for submittal to Engineer, then such Shop Drawing or other Submittal must bear the written approval of Contractor's design professional when submitted by Contractor to Engineer.
- D. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, and approvals performed or provided by the design

professionals retained or employed by Contractor under an Owner-delegated design, subject to the professional standard of care and the performance and design criteria stated in the Contract Documents.

- E. Pursuant to this Paragraph 7.19, Engineer's review, approval, and other determinations regarding design drawings, calculations, specifications, certifications, and other Submittals furnished by Contractor pursuant to an Owner-delegated design will be only for the following limited purposes:
  - 1. Checking for conformance with the requirements of this Paragraph 7.19;
  - 2. Confirming that Contractor (through its design professionals) has used the performance and design criteria specified in the Contract Documents; and
  - 3. Establishing that the design furnished by Contractor is consistent with the design concept expressed in the Contract Documents.
- F. Contractor shall not be responsible for the adequacy of performance or design criteria specified by Owner or Engineer.
- G. Contractor is not required to provide professional services in violation of applicable Laws and Regulations.

## **ARTICLE 8—OTHER WORK AT THE SITE**

### **8.01 *Other Work***

- A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.
- B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any third-party utility work that Owner has arranged to take place at or adjacent to the Site, Owner shall provide such information to Contractor.
- C. Contractor shall afford proper and safe access to the Site to each contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work.
- D. 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.
- E. If the proper execution or results of any part of Contractor's Work depends upon work performed by others, 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.

- F. The provisions of this article are not applicable to work that is performed by third-party utilities or other third-party entities without a contract with Owner, or that is performed without having been arranged by Owner. If such work occurs, then any related delay, disruption, or interference incurred by Contractor is governed by the provisions of Paragraph 4.05.C.3.

#### 8.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:
  - 1. The identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;
  - 2. An itemization of the specific matters to be covered by such authority and responsibility; and
  - 3. The extent of such authority and responsibilities.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

#### 8.03 *Legal Relationships*

- A. If, in the course of performing other work for Owner at or adjacent to the Site, the Owner's employees, any other contractor working for Owner, or any utility owner that Owner has arranged to perform work, causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment will take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract, and any remedies available to Contractor under Laws or Regulations concerning utility action or inaction. When applicable, any such equitable adjustment in Contract Price will be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Contractor's entitlement to an adjustment of the Contract Times or Contract Price is subject to the provisions of Paragraphs 4.05.D and 4.05.E.

- B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site.
  - 1. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this Paragraph 8.03.B.
  - 2. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due Contractor.
- C. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) 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 any such claims, and against all 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 damage, delay, disruption, or interference.

## **ARTICLE 9—OWNER'S RESPONSIBILITIES**

### **9.01    *Communications to Contractor***

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

### **9.02    *Replacement of Engineer***

- A. Owner may at its discretion appoint an engineer to replace Engineer, provided Contractor makes no reasonable objection to the replacement engineer. The replacement engineer's status under the Contract Documents will be that of the former Engineer.

### **9.03    *Furnish Data***

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

### **9.04    *Pay When Due***

- A. Owner shall make payments to Contractor when they are due as provided in the Agreement.

9.05 *Lands and Easements; Reports, Tests, and Drawings*

- A. Owner's duties with respect to providing lands and easements are set forth in Paragraph 5.01.
- B. Owner's duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.
- C. Article 5 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

9.06 *Insurance*

- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.

9.07 *Change Orders*

- A. Owner's responsibilities with respect to Change Orders are set forth in Article 11.

9.08 *Inspections, Tests, and Approvals*

- A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.

9.09 *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.

9.10 *Undisclosed Hazardous Environmental Condition*

- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.

9.11 *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 (including obligations under proposed changes in the Work).

9.12 *Safety Programs*

- 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.
- B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

## **ARTICLE 10—ENGINEER'S STATUS DURING CONSTRUCTION**

### **10.01 *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.

### **10.02 *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 10.07. 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.

### **10.03 *Resident Project Representative***

- A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in the Supplementary Conditions and in Paragraph 10.07.
- B. If Owner designates an individual or entity who is not Engineer's consultant, agent, or employee to represent Owner at the Site, then the responsibilities and authority of such individual or entity will be as provided in the Supplementary Conditions.

### **10.04 *Engineer's Authority***

- A. Engineer has the authority to reject Work in accordance with Article 14.
- B. Engineer's authority as to Submittals is set forth in Paragraph 7.16.
- C. Engineer's authority as to design drawings, calculations, specifications, certifications and other Submittals from Contractor in response to Owner's delegation (if any) to Contractor of professional design services, is set forth in Paragraph 7.19.
- D. Engineer's authority as to changes in the Work is set forth in Article 11.

E. Engineer's authority as to Applications for Payment is set forth in Article 15.

**10.05 *Determinations for Unit Price Work***

A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.

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

A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

**10.07 *Limitations on Engineer's Authority and Responsibilities***

A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, 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, will 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 Contractor under Paragraph 15.06.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 10.07 also apply to the Resident Project Representative, if any.

**10.08 *Compliance with Safety Program***

A. While at the Site, Engineer's employees and representatives will comply with the specific applicable requirements of Owner's and Contractor's safety programs of which Engineer has been informed.

## ARTICLE 11—CHANGES TO THE CONTRACT

### 11.01 *Amending and Supplementing the Contract*

- A. The Contract may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
- B. If an amendment or supplement to the Contract includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order.
- C. All changes to the Contract that involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, must be supported by Engineer's recommendation. Owner and Contractor may amend other terms and conditions of the Contract without the recommendation of the Engineer.

### 11.02 *Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders covering:
  - 1. Changes in 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;
  - 2. Changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;
  - 3. Changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.05, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters; and
  - 4. Changes that embody the substance of any final and binding results under: Paragraph 11.03.B, resolving the impact of a Work Change Directive; Paragraph 11.09, concerning Change Proposals; Article 12, Claims; Paragraph 13.02.D, final adjustments resulting from allowances; Paragraph 13.03.D, final adjustments relating to determination of quantities for Unit Price Work; and similar provisions.
- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of Paragraph 11.02.A, it will be deemed to be of full force and effect, as if fully executed.

### 11.03 *Work Change Directives*

- A. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.07 regarding change of Contract Price.

- B. If Owner has issued a Work Change Directive and:
  - 1. Contractor believes that an adjustment in Contract Times or Contract Price is necessary, then Contractor shall submit any Change Proposal seeking such an adjustment no later than 30 days after the completion of the Work set out in the Work Change Directive.
  - 2. Owner believes that an adjustment in Contract Times or Contract Price is necessary, then Owner shall submit any Claim seeking such an adjustment no later than 60 days after issuance of the Work Change Directive.

#### 11.04 *Field Orders*

- A. Engineer may authorize minor changes in the Work if the changes 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. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly.
- B. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

#### 11.05 *Owner-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. Changes involving the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters will be supported by Engineer's recommendation.
- B. Such changes in the Work may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work must be performed under the applicable conditions of the Contract Documents.
- C. Nothing in this Paragraph 11.05 obligates Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

#### 11.06 *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, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.C.2.

#### 11.07 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment of Contract Price must comply with the provisions of Article 12.
- B. 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, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03);
  2. Where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.07.C.2); or
  3. Where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.07.C).
- C. *Contractor's Fee*: When applicable, the Contractor's fee for overhead and profit will 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 13.01.B.1 and 13.01.B.2, the Contractor's fee will be 15 percent;
    - b. For costs incurred under Paragraph 13.01.B.3, the Contractor's fee will be 5 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 11.07.C.2.a and 11.07.C.2.b is that the Contractor's fee will be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of 5 percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted Work the maximum total fee to be paid by Owner will be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the Work;
    - d. No fee will be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;
    - e. The amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in Cost of the Work will be the amount of the actual net decrease in Cost of the Work and a deduction of an additional amount equal to 5 percent of such actual net decrease in Cost of the Work; and
    - f. When both additions and credits are involved in any one change or Change Proposal, the adjustment in Contractor's fee will be computed by determining the sum of the costs in each of the cost categories in Paragraph 13.01.B (specifically, payroll costs, Paragraph 13.01.B.1; incorporated materials and equipment costs, Paragraph 13.01.B.2; Subcontract costs, Paragraph 13.01.B.3; special consultants costs, Paragraph 13.01.B.4; and other costs, Paragraph 13.01.B.5) and applying to each such cost category sum the appropriate fee from Paragraphs 11.07.C.2.a through 11.07.C.2.e, inclusive.

#### 11.08 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment in the Contract Times must comply with the provisions of Article 12.
- B. Delay, disruption, and interference in the Work, and any related changes in Contract Times, are addressed in and governed by Paragraph 4.05.

#### 11.09 *Change Proposals*

- A. *Purpose and Content:* Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; contest an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; challenge a set-off against payment due; or seek other relief under the Contract. The Change Proposal will specify any proposed change in Contract Times or Contract Price, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents. Each Change Proposal will address only one issue, or a set of closely related issues.

- B. *Change Proposal Procedures*

- 1. *Submittal:* Contractor shall submit each Change Proposal to Engineer within 30 days after the start of the event giving rise thereto, or after such initial decision.
- 2. *Supporting Data:* The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal.
  - a. Change Proposals based on or related to delay, interruption, or interference must comply with the provisions of Paragraphs 4.05.D and 4.05.E.
  - b. Change proposals related to a change of Contract Price must include full and detailed accounts of materials incorporated into the Work and labor and equipment used for the subject Work.

The supporting data must be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event.

- 3. *Engineer's Initial Review:* Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal. If in its discretion Engineer concludes that additional supporting data is needed before conducting a full review and making a decision regarding the Change Proposal, then Engineer may request that Contractor submit such additional supporting data by a date specified by Engineer, prior to Engineer beginning its full review of the Change Proposal.
- 4. *Engineer's Full Review and Action on the Change Proposal:* Upon receipt of Contractor's supporting data (including any additional data requested by Engineer), Engineer will conduct a full review of each Change Proposal and, within 30 days after such receipt of the Contractor's supporting data, either approve the Change Proposal in whole, deny it in whole, or approve it in part and deny it in part. Such actions must be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change

Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.

5. *Binding Decision*: Engineer's decision is final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.
- C. *Resolution of Certain Change Proposals*: If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties in writing that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice will be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.
- D. *Post-Completion*: Contractor shall not submit any Change Proposals after Engineer issues a written recommendation of final payment pursuant to Paragraph 15.06.B.

#### 11.10 *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.

### ARTICLE 12—CLAIMS

#### 12.01 *Claims*

- A. *Claims Process*: The following disputes between Owner and Contractor are subject to the Claims process set forth in this article:
  1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;
  2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents;
  3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters; and
  4. Subject to the waiver provisions of Paragraph 15.07, any dispute arising after Engineer has issued a written recommendation of final payment pursuant to Paragraph 15.06.B.
- B. *Submittal of Claim*: The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim rests with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge

and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.

- C. *Review and Resolution*: The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim will be stated in writing and submitted to the other party, with a copy to Engineer.
- D. *Mediation*
  - 1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate will stay the Claim submittal and response process.
  - 2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process will resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim submittal and decision process will resume as of the date of the conclusion of the mediation, as determined by the mediator.
  - 3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.
- E. *Partial Approval*: If the party receiving a Claim approves the Claim in part and denies it in part, such action will be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.
- F. *Denial of Claim*: If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim will be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.
- G. *Final and Binding Results*: If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim will be incorporated in a Change Order or other written document to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

## **ARTICLE 13—COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK**

### **13.01 *Cost of the Work***

- A. *Purposes for Determination of Cost of the Work*: The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:
  - 1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or

2. When needed to determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.
- B. *Costs Included:* Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work will be in amounts no higher than those commonly incurred in the locality of the Project, will not include any of the costs itemized in Paragraph 13.01.C, and will 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 in advance of the subject Work. Such employees include, without limitation, superintendents, foremen, safety managers, safety representatives, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work will be apportioned on the basis of their time spent on the Work. Payroll costs include, but are not limited to, salaries and wages plus the cost of fringe benefits, which include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, sick leave, and vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, will 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 accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts will accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment will 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, which 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 will be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.
  4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed or retained for services specifically related to the Work.
  5. Other costs consisting of 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, 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.

- 1) In establishing included costs for materials such as scaffolding, plating, or sheeting, consideration will be given to the actual or the estimated life of the material for use on other projects; or rental rates may be established on the basis of purchase or salvage value of such items, whichever is less. Contractor will not be eligible for compensation for such items in an amount that exceeds the purchase cost of such item.

c. *Construction Equipment Rental*

- 1) Rentals of all construction equipment and machinery, and the parts thereof, in accordance with rental agreements approved by Owner as to price (including any surcharge or special rates applicable to overtime use of the construction equipment or machinery), and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs will be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts must cease when the use thereof is no longer necessary for the Work.
  - 2) Costs for equipment and machinery owned by Contractor or a Contractor-related entity will be paid at a rate shown for such equipment in the equipment rental rate book specified in the Supplementary Conditions. An hourly rate will be computed by dividing the monthly rates by 176. These computed rates will include all operating costs.
  - 3) With respect to Work that is the result of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price ("changed Work"), included costs will be based on the time the equipment or machinery is in use on the changed Work and the costs of transportation, loading, unloading, assembly, dismantling, and removal when directly attributable to the changed Work. The cost of any such equipment or machinery, or parts thereof, must cease to accrue when the use thereof is no longer necessary for the changed 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 builder's risk or other property insurance established in accordance with Paragraph 6.04), 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 include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses will 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 communication 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 that Contractor is required by the Contract Documents to purchase and maintain.

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

- 1. Payroll costs and other compensation of Contractor's officers, executives, principals, general 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 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.
- 2. The cost of purchasing, renting, or furnishing small tools and hand tools.
- 3. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
- 4. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
- 5. 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.
- 6. Expenses incurred in preparing and advancing Claims.
- 7. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.

D. *Contractor's Fee*

- 1. When the Work as a whole is performed on the basis of cost-plus-a-fee, then:
  - a. Contractor's fee for the Work set forth in the Contract Documents as of the Effective Date of the Contract will be determined as set forth in the Agreement.
  - b. for any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work, Contractor's fee will be determined as follows:
    - 1) When the fee for the Work as a whole is a percentage of the Cost of the Work, the fee will automatically adjust as the Cost of the Work changes.
    - 2) When the fee for the Work as a whole is a fixed fee, the fee for any additions or deletions will be determined in accordance with Paragraph 11.07.C.2.
- 2. When the Work as a whole is performed on the basis of a stipulated sum, or any other basis other than cost-plus-a-fee, then Contractor's fee for any Work covered by a Change

Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work will be determined in accordance with Paragraph 11.07.C.2.

- E. *Documentation and Audit*: Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor and pertinent Subcontractors will establish and maintain records of the costs in accordance with generally accepted accounting practices. Subject to prior written notice, Owner will be afforded reasonable access, during normal business hours, to all Contractor's accounts, records, books, correspondence, instructions, drawings, receipts, vouchers, memoranda, and similar data relating to the Cost of the Work and Contractor's fee. Contractor shall preserve all such documents for a period of three years after the final payment by Owner. Pertinent Subcontractors will afford such access to Owner, and preserve such documents, to the same extent required of Contractor.

#### 13.02 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*: Contractor agrees that:
  - 1. 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
  - 2. 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 for any of the foregoing will be valid.
- C. *Owner's Contingency Allowance*: Contractor agrees that an Owner's 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 for Work covered by allowances, and the Contract Price will be correspondingly adjusted.

#### 13.03 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. Payments to Contractor for Unit Price Work will be based on actual quantities.
- 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. 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, and the final adjustment of Contract Price will be set forth in a Change Order, subject to the provisions of the following paragraph.

E. *Adjustments in Unit Price*

1. Contractor or Owner shall be entitled to an adjustment in the unit price with respect to an item of Unit Price Work if:
  - a. the quantity of the item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
  - b. Contractor's unit costs to perform the item of Unit Price Work have changed materially and significantly as a result of the quantity change.
2. The adjustment in unit price will account for and be coordinated with any related changes in quantities of other items of Work, and in Contractor's costs to perform such other Work, such that the resulting overall change in Contract Price is equitable to Owner and Contractor.
3. Adjusted unit prices will apply to all units of that item.

**ARTICLE 14—TESTS AND INSPECTIONS; CORRECTION, REMOVAL, OR ACCEPTANCE OF DEFECTIVE WORK**

14.01 *Access to Work*

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and authorities having jurisdiction 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 with such procedures and programs as applicable.

14.02 *Tests, Inspections, and Approvals*

- A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
- B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work will be governed by the provisions of Paragraph 14.05.
- 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, obtaining, and paying for all inspections and tests required:
1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;
  2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;
  3. by manufacturers of equipment furnished under the Contract Documents;
  4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
  5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

Such inspections and tests will be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.

- E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.
- F. 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. Such uncovering will be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to cover the same and Engineer had not acted with reasonable promptness in response to such notice.

#### 14.03 *Defective Work*

- A. *Contractor's Obligation:* It is Contractor's obligation to assure that the Work is not defective.
- B. *Engineer's Authority:* Engineer has the authority to determine whether Work is defective, and to reject defective Work.
- C. *Notice of Defects:* Prompt written notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.
- D. *Correction, or Removal and Replacement:* Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.
- E. *Preservation of Warranties:* When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.
- F. *Costs and Damages:* In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs,

losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

#### 14.04 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages 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. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work will be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

#### 14.05 *Uncovering Work*

- A. Engineer has the authority to require additional inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.
- B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.
- C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then 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, and provide all necessary labor, material, and equipment.
  - 1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages 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 pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.
  - 2. 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, 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, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

#### 14.06 *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, then 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 will 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.

**14.07 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 defective Work as required by Engineer, then Owner may, after 7 days' written notice to Contractor, correct or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 14.07, 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, 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 incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. 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 14.07.

**ARTICLE 15—PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD**

**15.01 Progress Payments**

- A. *Basis for Progress Payments:* The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments for Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.
- B. *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.
  - 2. 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 must also be accompanied by: (a) a bill of sale, invoice, copies of subcontract or purchase order payments, or other documentation

establishing full payment by Contractor for the materials and equipment; (b) at Owner's request, documentation warranting that Owner has received the materials and equipment free and clear of all Liens; and (c) evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

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

*C. Review of Applications*

1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, 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 13.03, 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; 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;
  - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto;
  - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work;
  - d. to make any examination to ascertain how or for what purposes Contractor has used the money paid by Owner; 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 15.01.C.2.
6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:
  - a. the Work is defective, requiring correction or replacement;
  - b. the Contract Price has been reduced by Change Orders;
  - c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
  - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or
  - e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.

*D. Payment Becomes Due*

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

*E. Reductions in Payment by Owner*

1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:
  - a. Claims have been made against Owner based on Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages resulting from Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;

- b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;
  - c. Contractor has failed to provide and maintain required bonds or insurance;
  - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
  - e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;
  - f. The Work is defective, requiring correction or replacement;
  - g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
  - h. The Contract Price has been reduced by Change Orders;
  - i. An event has occurred that would constitute a default by Contractor and therefore justify a termination for cause;
  - j. Liquidated or other damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;
  - k. 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; or
  - l. Other items entitle Owner to a set-off against the amount recommended.
2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, 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, if Contractor remedies the reasons for such action. The reduction imposed will be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.
  3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld will be treated as an amount due as determined by Paragraph 15.01.D.1 and subject to interest as provided in the Agreement.

#### 15.02 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than 7 days after the time of payment by Owner.

#### 15.03 *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 and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time

submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.

- 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 preliminary certificate of Substantial Completion which will fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have 7 days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.
- E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.
- F. 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 punch list.

#### 15.04 *Partial Use or Occupancy*

- 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. At any time, Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be 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 15.03.A through 15.03.E for that part of the Work.
2. At any time, Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work 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 15.03 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 6.04 regarding builder's risk or other property insurance.

#### 15.05 *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, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

#### 15.06 *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, annotated record documents (as provided in Paragraph 7.12), and other documents, Contractor may make application for final payment.
2. The final Application for Payment must be accompanied (except as previously delivered) by:
  - a. all documentation called for in the Contract Documents;
  - b. consent of the surety, if any, to final payment;
  - c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.
  - d. a list of all duly pending Change Proposals and Claims; and

- e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.
- 3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) 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, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.
- B. *Engineer's Review of Final Application and Recommendation of Payment:* 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 have been fulfilled, Engineer will, within 10 days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the final Application for Payment to Owner for payment. Such recommendation will account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. 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. *Notice of Acceptability:* In support of its recommendation of payment of the final Application for Payment, Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to stated limitations in the notice and to the provisions of Paragraph 15.07.
- D. *Completion of Work:* The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment and issuance of notice of the acceptability of the Work.
- E. *Final Payment Becomes Due:* Upon receipt from Engineer of the final Application for Payment and accompanying documentation, Owner shall set off against the amount recommended by Engineer for final payment any further sum to which Owner is entitled, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions of this Contract with respect to progress payments. Owner shall pay the resulting balance due to Contractor within 30 days of Owner's receipt of the final Application for Payment from Engineer.

#### 15.07 *Waiver of Claims*

- A. By making final payment, Owner waives its claim or right to liquidated damages or other damages for late completion by Contractor, except as set forth in an outstanding Claim, appeal under the provisions of Article 17, set-off, or express reservation of rights by Owner. Owner reserves all other claims or rights after final payment.

- B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted as a Claim, or appealed under the provisions of Article 17.

15.08 *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 Supplementary Conditions or the terms of any applicable special guarantee required by the Contract Documents), Owner gives Contractor written notice that any Work has been found to be defective, or that Contractor's repair of any damages to the Site or adjacent areas has been found to be defective, then after receipt of such notice of defect Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
  - 1. correct the defective repairs to the Site or such adjacent areas;
  - 2. correct such defective Work;
  - 3. remove the defective Work from the Project and replace it with Work that is not defective, if the defective Work has been rejected by Owner, and
  - 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting from the corrective measures.
- B. Owner shall give any such notice of defect within 60 days of the discovery that such Work or repairs is defective. If such notice is given within such 60 days but after the end of the correction period, the notice will be deemed a notice of defective Work under Paragraph 7.17.B.
- C. If, after receipt of a notice of defect within 60 days and within the correction period, 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. Contractor shall pay all 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). Contractor's failure to pay such costs, losses, and damages within 10 days of invoice from Owner will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the failure to pay.
- D. 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.
- E. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, 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.
- F. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph are not to be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

## **ARTICLE 16—SUSPENSION OF WORK AND TERMINATION**

### **16.01 *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 written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times directly attributable to any such suspension. Any Change Proposal seeking such adjustments must be submitted no later than 30 days after the date fixed for resumption of Work.

### **16.02 *Owner May Terminate for Cause***

- A. The occurrence of any one or more of the following events will constitute a default by Contractor and 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);
  - 2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;
  - 3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or
  - 4. Contractor's repeated disregard of the authority of Owner or Engineer.
- B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) 10 days' written notice that Owner is considering a declaration that Contractor is in default and termination of the Contract, Owner may proceed to:
  - 1. declare Contractor to be in default, and give Contractor (and any surety) written notice that the Contract is terminated; and
  - 2. enforce the rights available to Owner under any applicable performance bond.
- C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, 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 complete the Work as Owner may deem expedient.
- D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within 7 days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
- E. If Owner proceeds as provided in Paragraph 16.02.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 the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and damages exceeds 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.

- F. 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, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.
- G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond will govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

#### 16.03 *Owner May Terminate for Convenience*

- A. Upon 7 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; and
  - 3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.
- B. Contractor shall not be paid for any loss of anticipated profits or revenue, post-termination overhead costs, or other economic loss arising out of or resulting from such termination.

#### 16.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon 7 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 16.03.
- 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, 7 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 are not intended to preclude Contractor from submitting a Change Proposal 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 17—FINAL RESOLUTION OF DISPUTES**

### **17.01 *Methods and Procedures***

- A. *Disputes Subject to Final Resolution:* The following disputed matters are subject to final resolution under the provisions of this article:
  - 1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full, pursuant to Article 12; and
  - 2. Disputes between Owner and Contractor concerning the Work, or obligations under the Contract Documents, that arise after final payment has been made.
- B. *Final Resolution of Disputes:* For any dispute subject to resolution under this article, Owner or Contractor may:
  - 1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions;
  - 2. agree with the other party to submit the dispute to another dispute resolution process; or
  - 3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

## **ARTICLE 18—MISCELLANEOUS**

### **18.01 *Giving Notice***

- A. Whenever any provision of the Contract requires the giving of written notice to Owner, Engineer, or Contractor, it will be deemed to have been validly given only if delivered:
  - 1. in person, by a commercial courier service or otherwise, to the recipient's place of business;
  - 2. by registered or certified mail, postage prepaid, to the recipient's place of business; or
  - 3. by e-mail to the recipient, with the words "Formal Notice" or similar in the e-mail's subject line.

### **18.02 *Computation of Times***

- A. When any period of time is referred to in the Contract 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.

### **18.03 *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. 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.

18.04 *Limitation of Damages*

- A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

18.05 *No Waiver*

- A. A party's non-enforcement of any provision will not constitute a waiver of that provision, nor will it affect the enforceability of that provision or of the remainder of this Contract.

18.06 *Survival of Obligations*

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

18.07 *Controlling Law*

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

18.08 *Assignment of Contract*

- A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party to this Contract of any rights under or interests in the Contract will be binding on the other party without the written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract.

18.09 *Successors and Assigns*

- A. Owner and Contractor each binds itself, its successors, assigns, and legal representatives to the other party hereto, its successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

18.10 *Headings*

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

**END OF SECTION**

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## SECTION 00800

### SUPPLEMENTARY CONDITIONS

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract EJCDC® C-700, 2018 Edition (see Section 00700 – General Conditions). Provisions that are not so amended and supplemented remain in full force and effect.

The terms used in these Supplementary Conditions have the meanings stated in the General Conditions.

The address system used in these Supplementary Conditions is the same as the address system used in the General Conditions, with the prefix “SC” added thereto.

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**SC-2.01 Delete Paragraph 2.01.D in its entirety and insert the following in its place:**

*Evidence of Owner's Insurance:* When the Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or otherwise), the certificates and other evidence of Owner's liability insurance required to be purchased and maintained by the Contractor under Article 6.

**SC-2.02 Amend the first sentence of Paragraph 2.02.A to read as follows:**

Owner shall furnish to Contractor four copies of the Contract Documents (including one fully executed counterpart of the Agreement), and one copy in electronic portable document format (PDF).

**SC-2.05 Supplement paragraph 2.05.A.1. to read as follows:**

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. **Acceptance of the Progress Schedule shall not affect or have any bearing whatsoever upon the Contract Times or the Contractor's obligation with respect to Substantial Completion or the meeting of any Milestones as may have been agreed upon by the Parties.**

**SC-3.01 Supplement paragraph 3.01.D to read as follows:**

- D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral, **all of which are deemed to be merged into the Contract.**

**SC-3.04: Paragraph 3.04 is supplemented with the following paragraph after Paragraph 3.04.C:**

- D. **The processing of an RFI or RFIs shall not be a valid basis for a change in the Contract Times or the obligation of the Contractor as it relates to Substantial Completion or Milestones.**

**SC-4.01: the last sentence of Paragraph 4.01A is deleted in its entirety and the following is inserted in its place:**

- A. **In no event will the Contract Times commence to run later than the 120th day after the day of Bid opening or the 30th day after the Effective Date of the Contract, whichever date is earlier.**

**SC-4.04: Paragraph 4.04.B is supplemented as follows:**

- B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work will be delayed or postponed pending resolution of any

disputes or disagreements, **the processing of any Claim**, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

**SC-4.05: Paragraph 4.05.A is supplemented to read as follows:**

- A. If Owner, Engineer, 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 Contract Price or Contract Times, **provided, however, that Contractor gives timely written notice of the delay, disruption or interference concurrently with the occurrence of same such that it may be mitigated or removed by the responsible party. Any claim for an equitable adjustment under this paragraph must be made by a properly submitted Change Proposal promptly after the cessation of the delay, disruption or interference.** 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.

**SC-4.05 Add the following text at the end of 4.05.B:**

Delays attributable to a stop work order issued by the Owner pursuant to Paragraph 14.06, or by any Department or Agency having jurisdiction such as that related to permit compliance, are within the Contractor's control.

**SC 4.05: Paragraph 4.05.C is supplemented as follows:**

- C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. Contractor's entitlement to an adjustment of Contract Times is conditioned on such adjustment being 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, disruption, and interference described in this paragraph. **The adjustment is expressly conditioned upon Contractor's timely written notice of the delay, disruption or interference concurrently with the occurrence of same such that it may be mitigated or removed by the responsible party, if any. Any claim for an equitable adjustment under this paragraph must be made by a properly submitted Change Proposal promptly after the cessation of the delay, disruption or interference.** Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following: [Remaining subparagraphs are unchanged.]

**SC-5.03 Paragraphs 5.03.A and 5.03.B are deleted, and the following is inserted in their stead:**

- A. **No reports of exploration or test of subsurface conditions at or adjacent to the Site, or drawings of physical conditions relating to existing surface or subsurface structures at the Site, are known to the Owner.**
- B. **[Intentionally left blank]**

**SC-5.04: The last sentence of Paragraph 5.04.A is supplemented as follows:**

- A. [As in original until:] Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement **by the Owner or Engineer** permitting Contractor to do so.

**SC-5.04: Paragraph 5.04.C is supplemented to read as follows:**

- A. *Owner's Statement to Contractor Regarding Site Condition:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part. **In the event that Owner rejects Engineer's written findings, conclusions, and recommendations, Owner may authorize Contractor to resume work under such conditions as Owner and Contractor may agree. Otherwise, Engineer shall determine the time and conditions under which work may resume.**

**SC-5.04: Paragraph 5.04.E.4 is supplemented to read as follows:**

4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question. **Failure to submit the Change Proposal within this time period results in the irrevocable waiver of Contractor's claim for an equitable adjustment for the condition addressed in the Owner's written statement. Engineer is not permitted to grant an extension of time under this section.**

**SC-5.05: Paragraph 5.05.F.1.c is supplemented to read as follows:**

- c. Contractor gave the notice **and refrained from further disturbing conditions affected by the Underground Facility or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15)** as required in Paragraph 5.05.B.

**SC-5.05: Paragraph 5.05.F.4 is supplemented to read as follows:**

4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question. **Failure to submit the Change Proposal within this time period results in the irrevocable waiver of Contractor's claim for an equitable adjustment for the condition addressed in the Owner's written statement. Engineer is not permitted to grant an extension of time under this section.**

**SC 5.06: Paragraphs 5.06.A and 5.06.B are deleted and the following is inserted in their stead:**

- A. **No reports or drawings related to Hazardous Environmental Conditions at the Site are known to Owner.**
- B. **[Intentionally left blank]**

**SC-5.06: Paragraph 5.06.G is supplemented to read as follows:**

- G. 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, as a result of such Work stoppage, such special conditions under which Work is agreed to be resumed by Contractor, or any costs or expenses incurred in response to the Hazardous Environmental Condition, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off. Entitlement to any such adjustment is subject to the provisions of Paragraphs 4.05.D, 4.05.E, 11.07, and 11.08. **Failure of Contractor to submit the Change Proposal within this time period results in the**

**irrevocable waiver of Contractor's claim for an equitable adjustment for the condition resulting in the Owner's written notice regarding the resumption of work. Engineer is not permitted to grant an extension of time under this section.**

**SC-6.01 Add the following text at the end of paragraph 6.01C:**

Said surety companies shall be classified as having financial ratings not lower than those shown below:

A.M. Best:

- |     |                            |         |
|-----|----------------------------|---------|
| (1) | Financial Strength Rating: | A+      |
| (2) | Financial Size Category:   | Class V |

Standard and Poor's:

- |     |                            |    |
|-----|----------------------------|----|
| (1) | Financial Strength Rating: | AA |
|-----|----------------------------|----|

**SC-6.02 Amend the last sentence of paragraph 6.02.B to read as follows:**

All companies that provide insurance policies required under this Contract shall be classified as having financial ratings not lower than those shown below:

A.M. Best:

- |     |                            |         |
|-----|----------------------------|---------|
| (1) | Financial Strength Rating: | A+      |
| (2) | Financial Size Category:   | Class V |

Standard and Poor's:

- |     |                            |    |
|-----|----------------------------|----|
| (1) | Financial Strength Rating: | AA |
|-----|----------------------------|----|

**SC-6.03 Paragraph 6.03.A is supplemented to read as follows:**

- A. Required Insurance: Contractor shall purchase and maintain Worker's Compensation, Commercial General Liability, and other insurance for not less than the following amounts or greater where required by Laws and Regulations:

1. Workers' Compensation, and related coverages:

|                                                |                     |
|------------------------------------------------|---------------------|
| State:                                         | <u>Statutory</u>    |
| Federal, if applicable (e.g., Longshoreman's): | <u>Statutory</u>    |
| Employer's Liability:                          |                     |
| Bodily injury, each accident                   | \$ <u>1,000,000</u> |
| Bodily injury by disease, each employee        | \$ <u>1,000,000</u> |
| Bodily injury/disease aggregate                | \$ <u>1,000,000</u> |

2. Contractor's Commercial General Liability:

|                                           |                     |
|-------------------------------------------|---------------------|
| General Aggregate                         | \$ <u>2,000,000</u> |
| Products - Completed Operations Aggregate | \$ <u>2,000,000</u> |
| Personal and Advertising Injury           | \$ <u>1,000,000</u> |

Each Occurrence (Bodily Injury and Property Damage) \$ 1,000,000

3. Automobile Liability:

Bodily Injury:

Each person \$ 1,000,000

Each accident \$ 2,000,000

Property Damage:

Each accident \$ 1,000,000

Or,

Combined Single Limit of \$ 2,000,000

MCS 90 Endorsement on Vehicle Insurance Statutory

4. Excess or Umbrella Liability:

Per Occurrence \$ 2,000,000

General Aggregate \$ 2,000,000

5. Contractor's Pollution Liability:

Each Occurrence \$ 2,000,000

General Aggregate \$ 2,000,000

☐ If box is checked, Contractor is not required to provide Contractor's Pollution Liability insurance under this Contract

6. Additional Insureds: In addition to Owner and Engineer, include as additional insureds the following:

Youngs Intercounty Drain Drainage District  
Saginaw Public Works Commissioner  
Shiawassee County Drain Commission  
People of the State of Michigan  
PEA Group  
Saginaw County Road Commission  
Shiawassee County Road Commission

**SC-6.03 Delete Paragraph 6.03.G in its entirety and replace it with the following text:**

In addition to the insurance required to be provided by Contractor under Paragraph 6.03.A, Contractor shall purchase and maintain OWNER'S and Contractor's Protective Liability Insurance which shall:

- a. Be a separate policy to protect OWNER, ENGINEER, their consultants, agents, employees, and such public corporations in whose jurisdiction the Work is located for their liability for work performed by Contractor or Subcontractors under this contract.
- b. Name OWNER as the insured.
- c. Include any specific insurance language requirements for the following named insured.
- d. Name the following as additional insured which will be held harmless and indemnified:

Youngs Intercounty Drain Drainage District  
Saginaw Public Works Commissioner  
Shiawassee County Drain Commission  
People of the State of Michigan  
PEA Group  
Saginaw County Road Commission  
Shiawassee County Road Commission

**Separate:**

|                   |             |
|-------------------|-------------|
| Each Occurrence   | \$1,000,000 |
| General Aggregate | \$1,000,000 |

In lieu of the Owner's and Contractor's Protective Liability, the Contractor may provide an endorsement to their policy for a per project aggregate coverage with the following limits:

|                                     |             |
|-------------------------------------|-------------|
| Aggregate Limit                     | \$1,000,000 |
| Each Occurrence Limit               | \$1,000,000 |
| (ISO form CG2503 or its equivalent) |             |

A copy of this endorsement must accompany the Certificate of Insurance, the Certificate will clearly state the additional insured requirement and the policy contains the per project aggregate endorsement.

**SC-7.02: Paragraph 7.02.B is amended to read as follows:**

- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent **and shall identify same to Engineer and Owner. The resident superintendent** will not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

**SC-7.07: Paragraph 7.07.F is supplemented to read as follows:**

- A. If Owner requires the replacement of any Subcontractor or Supplier retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement. **Failure to initiate a Change Proposal within this 30-day period irrevocably waives the adjustment provided for by this Paragraph.**

**SC-7.07: Paragraph 7.06.M is supplemented to read as follows:**

- M. Contractor shall restrict all Subcontractors and Suppliers from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed in this Contract. **No notice provided by a subcontractor directly to Owner or Engineer shall be deemed to satisfy any contractually obligated notice on the part of Contractor, and for purposes of this Contract will be deemed not have occurred.**

**SC-8.03: Paragraph 8.03.A is supplemented to read as follows:**

- A. If, in the course of performing other work at or adjacent to the Site for Owner, the Owner's employees, any other contractor working for Owner, or any utility owner causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. **Failure to submit the Change Proposal within this time period results in the irrevocable waiver of Contractor's claim for an equitable adjustment for the said event. Engineer is not permitted to grant an extension of time under this section.** The entitlement to, and extent of, any such equitable adjustment shall take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract. When applicable, any such equitable adjustment in Contract Price shall be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. 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.

**SC-10.03 Paragraph 10.03.B is replaced with the following text:**

- B. The Resident Project Representative (RPR) will be Engineer's representative at the Site, will act as directed by and under the supervision of Engineer, and will confer with Engineer regarding RPR's actions.
1. General: RPR's dealings in matters pertaining to the Work in general shall be with Engineer and Contractor. RPR's dealings with Subcontractors shall only be through or with the full knowledge and approval of Contractor. RPR shall generally communicate with Owner only with the knowledge of and under the direction of Engineer.
  2. Schedules: Review the progress schedule, schedule of Shop Drawing and Sample submittals, and Schedule of Values prepared by Contractor and consult with Engineer concerning acceptability.
  3. Conferences and Meetings: Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences, and other Project-related meetings, and prepare and circulate copies of minutes thereof.
  4. Liaison:
    - a. Serve as Engineer's liaison with Contractor. Working principally through Contractor's authorized representative or designee, assist in providing information regarding the provisions and intent of the Contract Documents.
    - b. Assist Engineer in serving as Owner's liaison with Contractor when Contractor's operations affect Owner's on-Site operations.

- c. Assist in obtaining from Owner additional details or information, when required for proper execution of the Work.
- 5. Interpretation of Contract Documents: Report to Engineer when clarifications and interpretations of the Contract Documents are needed and transmit to Contractor clarifications and interpretations as issued by Engineer.
- 6. Shop Drawings and Samples:
  - a. Record date of receipt of Samples and Contractor-approved Shop Drawings.
  - b. Receive Samples which are furnished at the Site by Contractor, and notify Engineer of availability of Samples for examination.
  - c. Advise Engineer and Contractor of the commencement of any portion of the Work requiring a Shop Drawing or Sample submittal for which RPR believes that the submittal has not been approved by Engineer.
- 7. Modifications: Consider and evaluate Contractor's suggestions for modifications in Drawings or Specifications and report such suggestions, together with RPR's recommendations, if any, to Engineer. Transmit to Contractor in writing decisions as issued by Engineer.
- 8. Review of Work and Rejection of Defective Work:
  - a. Conduct on-Site observations of Contractor's work in progress to assist Engineer in determining if the Work is in general proceeding in accordance with the Contract Documents.
  - b. Report to Engineer whenever RPR believes that any part of Contractor's work in progress is defective, will not produce a completed Project that conforms generally to the Contract Documents, or will imperil the integrity of the design concept of the completed Project as a functioning whole as indicated in the Contract Documents, or has been damaged, or does not meet the requirements of any inspection, test or approval required to be made; and advise Engineer of that part of work in progress that RPR believes should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.
- 9. Inspections, Tests, and System Start-ups:
  - a. Verify that tests, equipment, and systems start-ups and operating and maintenance training are conducted in the presence of appropriate Owner's personnel, and that Contractor maintains adequate records thereof.
  - b. Observe, record, and report to Engineer appropriate details relative to the test procedures and systems start-ups.
- 10. Records:
  - a. Prepare a daily report or keep a diary or log book, recording Contractor's hours on the Site, Subcontractors present at the Site, weather conditions, data relative to questions of Change Orders, Field Orders, Work Change Directives, or changed conditions, Site visitors, deliveries of equipment or materials, daily activities, decisions, observations in general, and specific observations in more detail as in the case of observing test procedures; and send copies to Engineer.
  - b. Record names, addresses, fax numbers, e-mail addresses, web site locations, and telephone numbers of all Contractors, Subcontractors, and major Suppliers of materials and equipment.
  - c. Maintain records for use in preparing Project documentation.

11. Reports:
  - a. Furnish to Engineer periodic reports as required of progress of the Work and of Contractor's compliance with the Progress Schedule and schedule of Shop Drawing and Sample submittals.
  - b. Draft and recommend to Engineer proposed Change Orders, Work Change Directives, and Field Orders. Obtain backup material from Contractor.
  - c. Immediately notify Engineer of the occurrence of any Site accidents, emergencies, acts of God endangering the Work, force majeure or delay events, damage to property by fire or other causes, or the discovery of any Constituent of Concern or Hazardous Environmental Condition.
12. Payment Requests: Review applications for payment with Contractor for compliance with the established procedure for their submission and forward with recommendations to Engineer, noting particularly the relationship of the payment requested to the Schedule of Values, Work completed, and materials and equipment delivered at the Site but not incorporated in the Work.
13. Certificates, Operation and Maintenance Manuals: During the course of the Work, verify that materials and equipment certificates, operation and maintenance manuals and other data required by the Contract Documents to be assembled and furnished by Contractor are applicable to the items actually installed and in accordance with the Contract Documents, and have these documents delivered to Engineer for review and forwarding to Owner prior to payment for that part of the Work.
14. Completion:
  - a. Participate in Engineer's visits to the Site to determine Substantial Completion, assist in the determination of Substantial Completion and the preparation of a punch list of items to be completed or corrected.
  - b. Participate in Engineer's final visit to the Site to determine completion of the Work, in the company of Owner and Contractor, and prepare a final punch list of items to be completed and deficiencies to be remedied.
  - c. Observe whether all items on the final list have been completed or corrected and make recommendations to Engineer concerning acceptance and issuance of the notice of acceptability of the work.
- C. The RPR shall not:
  1. Authorize any deviation from the Contract Documents or substitution of materials or equipment (including "or-equal" items).
  2. Exceed limitations of Engineer's authority as set forth in the Contract Documents.
  3. Undertake any of the responsibilities of Contractor, Subcontractors, or Suppliers.
  4. Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences or procedures of Contractor's work.
  5. Advise on, issue directions regarding, or assume control over security or safety practices, precautions, and programs in connection with the activities or operations of Owner or Contractor.
  6. Participate in specialized field or laboratory tests or inspections conducted off-site by others except as specifically authorized by Engineer.
  7. Accept Shop Drawing or Sample submittals from anyone other than Contractor.
  8. Authorize Owner to occupy the Project in whole or in part.

**SC-11.03: Paragraph 11.03.B.1 is amended to read as follows:**

1. Contractor believes that an adjustment in Contract Times or Contract Price is necessary, then Contractor shall submit any Change Proposal seeking such adjustment no later than 30 days after the completion of the Work set out in the Work Change Directive. **Failure to submit the Change Proposal within this time period results in the irrevocable waiver of Contractor's claim for the adjustment. Engineer is not permitted to grant an extension of time under this section.**

**SC-11.09: Paragraph 11.09.B.1 is supplement to read as follows:**

1. *Submittal:* **Unless stated otherwise in the Contract Documents,** Contractor shall submit each Change Proposal to Engineer within 30 days after the start of the event giving rise thereto, or after such initial decision.

**SC-11.09 Delete Paragraphs 11.09.B.4 and 11.09.B.5 in their entirety and insert in their place the following:**

4. *Engineer's Full Review and Action on Change Order:* Engineer will review each Change Proposal and within 15 days after receipt of the Contractor's supporting data, either indicate in writing a recommendation of approval and present the Change Proposal to the Owner, or return the Change Proposal to Contractor indicating in writing Engineer's reasons for refusing to recommend the sought after change.
5. *Binding Decision:* A Change Order will not be binding or enforceable unless authorized by Owner in writing. Contractor acknowledges that it may not submit application for payment or receive payment for changes to the Work that are not authorized by Owner in writing by a Change Order.

**SC-14.05: Paragraph 14.05.C.2 is supplemented to read as follows:**

2. 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, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective. **Failure to submit the Change Proposal within this time period results in the irrevocable waiver of Contractor's right to an increase of Contract Price or Contract Times under this Paragraph. Engineer is not permitted to grant an extension of time under this section.**

**C-16.01: Paragraph 16.01A is supplemented to read as follows:**

- 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 written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times directly attributable to any such suspension. Any Change Proposal seeking such adjustments must be submitted no later than 30 days after the date fixed for resumption of Work. **Failure to submit the Change Proposal within this time period results in the irrevocable waiver of Contractor's claim for the adjustment. Engineer is not permitted to grant an extension of time under this section.**

**SC-16.02: Paragraph 16.02.D is supplemented to read as follows:**

- D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within 7 days of receipt of notice of intent to terminate **provides Owner with a written notice of intent to cure the defect and immediately** begins to correct its failure to perform and proceeds diligently to cure such failure.

END OF SECTION

**SECTION 00952**

**NOTICE OF AWARD**

Dated \_\_\_\_\_, 20\_\_

TO: \_\_\_\_\_  
(Successful Bidder)

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

\_\_\_\_\_  
\_\_\_\_\_

CONTRACT FOR \_\_\_\_\_

You are notified that your Bid dated \_\_\_\_\_, 20\_\_ for the above Contract has been considered. You are the apparent Successful Bidder and have been awarded a contract for the YOUNGS INTERCOUNTY DRAIN project.

The contract price of your contract is \_\_\_\_\_  
\_\_\_\_\_ Dollars (\$ \_\_\_\_\_)

Three copies of the proposed Project Manual accompany this Notice of Award.

You must comply with the following conditions precedent within 7 days of the date of this Notice of Award, that is by \_\_\_\_\_, 20\_\_.

1. You must deliver to the OWNER three fully executed counterparts of the Agreement included in the Project Manual. Each of the Agreements must bear your signature at the designated location.
2. You must deliver with the executed Agreement the contract Security (Bonds) as specified in the Instructions to Bidders (Article 7) and Section 00700 – General Conditions (Article 4) and Section 00800 – Supplementary Conditions (Article 5.).
3. You must also deliver with the executed Agreement the insurance documents specified in Article 5 of Section 00700 – General Conditions and Article 5 of Section 00800 – Supplementary Conditions.
4. (List other conditions precedent).

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Failure to comply with these conditions within the time specified will entitle OWNER to consider your bid abandoned, to annul this Notice of Award and to declare your Bid Security forfeited.

Within 10 days after you comply with those conditions, OWNER will return to you one fully signed counterpart of the Agreement included in the Project Manual.

Youngs Intercounty Drain Drainage District

By: \_\_\_\_\_  
(Authorized Signature)

Joseph Brezvai, MDARD, Board Chair  
(Name and Title)

\* Typed or Printed in ink.

Copy to ENGINEER

END OF SECTION

**SECTION 00954**

**NOTICE TO PROCEED**

TO: \_\_\_\_\_ Dated \_\_\_\_\_, 20\_\_  
(Successful Bidder)  
ADDRESS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

CONTRACT FOR: YOUNGS INTERCOUNTY DRAIN

You are notified that the Contract Time under the above contract will commence to run on \_\_\_\_\_, 20\_\_. By that date, you are to start performing your obligations under the Contract Documents. In accordance with Article 3 of the Agreement, the dates of substantial Completion and Final Completion are \_\_\_\_\_, 20\_\_ and \_\_\_\_\_, 20\_\_ respectively.

Also, before you may start any work at the Site, you must:

(Add other requirements)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Youngs Intercounty Drain Drainage District

By: \_\_\_\_\_  
(Authorized Signature)

Joseph Brezvai, MDARD, Board Chair  
(Name and Title)

**ACCEPTANCE OF NOTICE TO PROCEED**

By: \_\_\_\_\_  
(Contractor)\*

\_\_\_\_\_  
(Signature)\*

\_\_\_\_\_  
(Name and Title of Signatory)\*

\_\_\_\_\_  
(Date)\*

\* Typed or Printed in ink.

Copy to ENGINEER

END OF SECTION

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## SECTION 01010

### SUMMARY OF WORK

#### PART 1 – GENERAL

##### 1.01 Work Covered by Contract Documents:

- A. The Work covered by Contract Documents comprises construction of the YOUNGS INTERCOUNTY DRAIN located at in Chesaning Township, Saginaw County, MI and New Haven Township, Shiawassee County, MI. The Work includes, but is not limited to, the major items described below:

Clearing, open drain construction, culvert removal and replacement, berm construction, driveway repair, traffic control, landscape restoration, and soil erosion and sedimentation control.

##### 1.02 Type of Contract:

- A. One contract will be considered for the total project.

##### 1.03 General:

- A. Imperative language:
  - 1. These Specifications (Divisions 1 through 2) are written in the imperative and abbreviated form. This imperative language of the technical specifications is directed at CONTRACTOR unless specifically noted otherwise. Incomplete sentences shall be completed by inserting “shall”, “shall be” and similar mandatory phrases by inference in the same manner as they are applied to notes on Drawings. The words “shall”, “shall be” and similar mandatory phrases shall be supplied by inference where a colon (:) is used within sentences or phrases. Except as worded to the contrary, fulfill (perform) all indicated requirements whether stated in the imperative or otherwise.
- B. Related Sections:
  - 1. Some Sections of these Specifications (Division 1 through 2) may include a paragraph titled “Related Sections”. This paragraph is an aid to the project Manual user and is not intended to include all Sections, which may be related. It is CONTRACTOR’s obligation to coordinate all Sections whether indicated under “Related Sections” or not.
- C. Reference to Section 00700 – General Conditions:
  - 1. In Divisions 1 through 2, a reference to Section 00700 – General Conditions, includes by inference all amendments or supplements in Section 00800 – Supplementary Conditions.

##### 1.04 CONTRACTOR Use of Premises:

- A. Limited use of premises to existing easements and/or rights-of-way.
- B. Limited Construction traffic access to existing easements and/or rights-of-way.
- C. Coordinate use of premises under direction of OWNER and individual landowners.
- D. Except in connection with the safety or protection of persons or the Work or property at the Site or adjacent thereto, all Work at the Site shall be restricted to the following hours.
  - 1. Seven (7) a.m. to seven p.m. (7), Monday through Friday (except legal holidays).

2. Saturday, Sunday or legal holidays with written approval of OWNER.

E. CONTRACTOR shall limit storage materials, equipment and associated storage to that area designated by the OWNER and landowner. CONTRACTOR shall be responsible to return storage areas to previous condition upon completion of project.

1.05 Occupancy Requirements:

A. Landowner occupancy during construction:

1. The landowner will occupy or utilize the premises during construction.
2. Access to abutting properties shall be provided at all times.
3. Access for emergency vehicles:
  - a. Provide at all times.
  - b. Provide at least one clear lane during non-work periods.
4. Fire hydrants: Provide access to at all times.
5. Do not block fire access routes.
6. Detours and street closure: When provided for in the Contract Documents or approved by ENGINEER.
7. Limit parking for construction vehicles to an area designated by OWNER and landowner.

1.06 Work Sequence:

A. Coordinate construction schedule and operations with OWNER and ENGINEER.

B. Sequence submittal:

1. Submit a proposed sequence with appropriate times of starting and completion of tasks to ENGINEER for review.

**PART 2 – PRODUCTS**

2.01 Other Materials:

A. General:

1. All other materials, which are not specified herein and are not indicated on the Drawings, but are required for proper and complete performance of the work.

B. Procedure:

1. Select new, first quality materials.
2. Obtain ENGINEER's review.
3. Provide and install.

**PART 3 – EXECUTION**

Not used.

END OF SECTION

## SECTION 01012

### STAKING AND INSPECTION SERVICES

#### **PART 1 – GENERAL**

##### 1.01 Summary:

###### A. Section includes:

1. This section includes, but is not necessarily limited to, staking and inspection services to be provided by the ENGINEER and others as indicated on the Drawings, as specified herein, and as necessary for the proper and complete performance of the work.

###### B. Related sections:

1. Documents affecting the work of this Section include, but are not necessarily limited to, the General Conditions, Supplementary Conditions and Sections in Division 1 of these Specifications.

##### 1.02 Project Layout:

###### A. Responsibilities:

1. The ENGINEER will provide horizontal and vertical layout as a part of the project.

###### B. Alignment and Construction Stakes

1. The centerline, or survey line, will be laid out by the ENGINEER. The ENGINEER will provide cut sheets describing the cut/fill, method of alignment and stakeout and benchmarks. In open drains, all angles shall be turned with circular curves commencing and ending at least fifty (50) feet on each side of the angle, unless otherwise specified on the plans. No changes shall be made without the written permission from the OWNER or the ENGINEER.
2. The ENGINEER will set suitable stakes and benchmarks showing the location and elevations of the various parts of the work. No work shall be undertaken until such stakes and benchmarks have been set by the ENGINEER. The CONTRACTOR shall assume full responsibility for detail dimensions and elevations measured from the lines, grades and elevations so established. The CONTRACTOR shall take due and proper precautions for the preservation of these stakes and benchmarks, and shall see to it that the work at all time proceeds in accordance therewith.
3. The CONTRACTOR shall provide the ENGINEER with 48 hours advance notice for all construction staking required.
4. Any restaking necessary whether due to vandalism, construction operations or any other cause will be done by the ENGINEER at the expense of the CONTRACTOR.

##### 1.03 Construction Inspection:

###### A. By PEA Group.

1. Visits to the Site: In accordance with Section 00700 – General Conditions.
2. Expense: Paid by OWNER.

###### B. By OWNER Periodic site visits:

1. Expense: Paid by OWNER.

C. Inspection

1. The OWNER and his representatives shall at all times have access to all parts of the work whenever it is in preparation or progress and the CONTRACTOR shall provide facilities for such access and for inspection.
2. If the Contract Specifications or other Contract Documents, the ENGINEER's instructions, laws, ordinances, or any public authority requires any work to be specifically tested or approved, the CONTRACTOR shall give the OWNER 72 hours advance notice of its readiness for inspection.
3. If any work shall be covered up without approval or consent of the OWNER, it must, if required by the OWNER, be uncovered for examination and properly restored at the CONTRACTOR'S expense.
4. Re-examination of any work may be ordered by the OWNER, and if so ordered, the work must be uncovered by the CONTRACTOR. If such work is found to be in accordance with the Contract Documents, the OWNER will pay the cost of the re-examination and replacement. If such work is not in accordance with the Contract Documents, the CONTRACTOR shall pay such cost.
5. Properly authorized and accredited inspectors shall be considered to be the representatives of the OWNER, limited to duties and power entrusted to them. It will be their duty to inspect materials and workmanship of those portions of the work to which they are assigned, either individually or collectively under instructions of the ENGINEER or OWNER, and to report any and all deviations from the Contract Drawings, Contract Specifications, and other Contract provisions which may come to their notice. Any inspector shall have the right to order the work which he is assigned stopped, if in their judgment such action is necessary to (a) allow proper inspection, (b) to avoid irreparable damage to the work, or (c) avoid subsequent condemnation of work which could not be readily replaced or restored to an acceptable condition. Such stoppage shall be for a period reasonably necessary for notification of the ENGINEER and for the ENGINEER to determine that the work may proceed in due fulfillment of the Contract requirements. If necessary, the OWNER may suspend all or a portion of the work in accordance with Article 16 of the General Conditions.

**PART 2 – PRODUCTS**

Not used.

**PART 3 – EXECUTION**

Not used.

END OF SECTION

## SECTION 01035

### MODIFICATION PROCEDURES

#### **PART 1 – GENERAL**

##### 1.01 Summary:

###### A. Section includes:

1. This Section includes, but is not necessarily limited to, procedures for modifying the Contract Documents, as herein specified and as necessary for the proper and complete performance of the Work.
2. Procedures for the following documents are included:
  - a. Bulletin.
3. Procedures for the following documents shall be in accordance with Section 00700 – General Conditions:
  - a. Field Order.
  - b. Work Change Directive.
  - c. Change Order.

###### B. Related Sections:

1. Documents affecting work of this Section include, but are not necessarily limited to:
  - a. General Conditions, Supplementary Conditions and Sections in Division 1 of these Specifications.

##### 1.02 Definitions:

###### A. Bulletin:

1. A document regarding possible changes to the Contract Documents which is issued by ENGINEER for OWNER and requests add or deduct costs from CONTRACTOR.

##### 1.03 Bulletin:

###### A. Changes in cost:

1. Indicate add or deduct lump sum for each item.
2. Include:
  - a. Labor.
  - b. Material.
  - c. Overhead and profit.
  - d. All related work.
  - e. All trades and Subcontractors.
3. Provide a complete cost breakdown with supporting documentation.

###### B. Notification to ENGINEER:

1. Notify ENGINEER in writing if any of the listed items will cause a change in the Work for which a cost item is not provided in the Bulletin.

###### C. Submit:

1. Three copies.
2. To ENGINEER.
3. On or before due date noted.

###### D. OWNER: May issue one or more Change Orders for some or all items listed.

## **PART 2 – PRODUCTS**

Not used.

## **PART 3 – EXECUTION**

3.01 Schedules:

- A. Attached are the following forms:
  - 1. Bulletin.
  - 2. Work Change Directive.
  - 3. Change Order.

END OF SECTION

**BULLETIN**

Page 1 of 2

CONTRACT FOR: Youngs Intercounty Drain

OWNER: Youngs Intercounty Drain Drainage Board  
Joseph Brezvai, MDARD, Board Chair

CONTRACTOR:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

ENGINEER:

PEA Group  
2379 Woodlake Drive, Suite 480  
Okemos, MI 48864

DRAWING REVISION NO.: \_\_\_\_\_

DRAWING SHEETS ISSUED HEREWITH: \_\_\_\_\_

DISTRIBUTION: \_\_\_\_\_

---

The items below are being considered as possible changes to the Contract Documents for the Project. CONTRACTOR is requested to submit changes in cost, if any, for each item and indicate whether it is an addition to or a deduction from the Contract Price. Include all labor, materials, overhead and profit. After reviewing the effects of those changes in the Work, OWNER may issue a Change Order specifying which changes are to be incorporated in the Work, if any.

This Bulletin is not a Change Order and is not to be deemed authorization to proceed with the changes listed.

Additional work or materials, where proposed, shall meet the requirements of the Contract Documents, except where noted.

CONTRACTOR will be responsible for notifying ENGINEER, in writing, concerning any revision or clarification, which causes a change in the Contract Documents, but are not specifically mentioned as a cost item in the Bulletin.

CONTRACTOR shall return three (3) completed and signed copies of the Bulletin to ENGINEER on or before the due date noted above.

Each proposed change has been described briefly with additional information provided concerning detailed changes required for the major trades concerned. Only one total cost figure has been requested for each item on the Bulletin; however, a complete breakdown is required for each item as supporting documentation. This will allow OWNER to more easily evaluate the proposed cost changes. Each Bulletin item is an all-inclusive item and may concern work from several trades or Subcontractors. It is CONTRACTOR's responsibility to ensure that all work for each item has been included in the total cost figure provided to OWNER.

**BULLETIN**  
Page 2 of 2

BULLETIN NO. \_\_\_\_\_  
Date: \_\_\_\_\_

SPECIFICATION CHANGES

ITEM NO. 1:

Section \_\_\_\_\_ - \_\_\_\_\_

[Paragraph] \_\_\_\_\_  
\_\_\_\_\_ Add/Deduct \$ \_\_\_\_\_

ITEM NO. 2:

Section \_\_\_\_\_ - \_\_\_\_\_

[Paragraph] \_\_\_\_\_  
\_\_\_\_\_ Add/Deduct \$ \_\_\_\_\_

ITEM NO. 3:

Section \_\_\_\_\_ - \_\_\_\_\_

[Paragraph] \_\_\_\_\_  
\_\_\_\_\_ Add/Deduct \$ \_\_\_\_\_

CONTRACTOR:

Signature

Name and Title

Date

END OF BULLETIN

## WORK CHANGE DIRECTIVE

Page 1 of 2

CONTRACT FOR: Youngs Intercounty Drain

WORK CHANGE DIRECTIVE NO. \_\_\_\_\_

OWNER: Youngs Intercounty Drain Drainage Board  
Joseph Brezvai, MDARD, Board Chair

DATE: \_\_\_\_\_

CONTRACTOR:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

ENGINEER:

PEA Group  
2379 Woodlake Drive, Suite 480  
Okemos, MI 48864

You are directed to proceed promptly with the following change(s) in the Contract Documents:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Attachments: (list documents supporting change)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

---

If a claim is made that the above change(s) have affected Contract Price or Contract Times any claim for a Change Order based thereon will involve one of the following methods of determining the effect of the change(s).

Method of determining change in Contract Price:

\_\_\_\_\_ Time and Materials  
\_\_\_\_\_ Unit Prices  
\_\_\_\_\_ Cost plus Fixed Fee  
\_\_\_\_\_ Other: \_\_\_\_\_.

Estimated increase (decrease) in Contract Price: \$ \_\_\_\_\_.

If the change involves any increase, the estimated amount is not to be exceeded without further authorization.

Method of determining change in Contract Times:

\_\_\_\_\_ CONTRACTOR's records.  
\_\_\_\_\_ ENGINEER's records  
\_\_\_\_\_ Other: \_\_\_\_\_.

Estimated increase (decrease) in Contract Times:

Substantial Completion: \_\_\_\_\_ days;

Ready for final payment: \_\_\_\_\_ days;

If the change involved an increase, the estimated times are not to be exceeded without further authorization.

**WORK CHANGE DIRECTIVE**

Page 2 of 2

\_\_\_\_\_  
RECOMMENDED:

\_\_\_\_\_  
APPROVED:

By: \_\_\_\_\_  
PEA Group

\_\_\_\_\_  
OWNER

\_\_\_\_\_  
Name and Title of Signatory

\_\_\_\_\_  
Name and Title of Signatory

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

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

END OF WORK CHANGE DIRECTIVE

**CHANGE ORDER NO. \_\_\_\_\_**

- A. PROJECT NAME: Youngs Intercounty Drain
- B. PROJECT LOCATION: Chesaning Township, Saginaw County and  
New Haven Township, Shiawassee County, MI
- C. SUBMITTED TO: Youngs Intercounty Drain Drainage Board  
Joseph Brezvai, MDARD, Board Chair
- D. DATE: \_\_\_\_\_
- E. CONTRACT NUMBER: \_\_\_\_\_
- F. CONTRACT DATE: \_\_\_\_\_
- G. CONTRACTOR: \_\_\_\_\_
- H. MAILING ADDRESS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- I. PHONE NUMBER: \_\_\_\_\_
- J. FAX NUMBER: \_\_\_\_\_

The following changes are hereby made to the Contract Documents and/or Services:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

CHANGE TO THE CONTRACT PRICE:

Original Contract Price: \_\_\_\_\_

Total \_\_\_\_\_

Current contract price, as adjusted by previous change orders: \_\_\_\_\_

The Contract Price due to this Change Order will be as part of the Schematic Design and will be:

A) Decreased by: \_\_\_\_\_

B) Increased by: \_\_\_\_\_

The new Contract Price due to this Change Order will be: \_\_\_\_\_

**Approvals Required:**

To be effective, this Change Order must be approved by the Owner and the Contractor if it changes the scope or objective of the project, or as may otherwise be required under the terms of the Contract.

THE NOTED CHANGES ARE REQUESTED BY: \_\_\_\_\_  
PEA Group  
ENGINEER

DATE: \_\_\_\_\_ BY \_\_\_\_\_, PE\_

-----  
THE NOTED CHANGES ARE APPROVED:

BY: Youngs Intercounty Drain Drainage Board, Joseph Brezvai, MDARD, Board Chair  
OWNER

DATE: \_\_\_\_\_ BY \_\_\_\_\_

-----  
THE NOTED CHANGES ARE APPROVED: BY: \_\_\_\_\_  
CONTRACTOR

DATE: \_\_\_\_\_ BY \_\_\_\_\_

END OF SECTION

## **SECTION 01200**

### **MEETINGS**

#### **PART 1 – GENERAL**

##### **1.01 Summary:**

- A. Section includes:
  - 1. This Section includes all scheduling and administering of pre-construction and progress meetings as herein specified and as necessary for the proper and complete performance of the Work.
- B. Related Sections:
  - 1. Documents affecting work of this Section include, but are not necessarily limited to:
    - a. General Conditions, Supplementary Conditions in Division 1 of these Specifications.
- C. Scheduling and administration of meetings:
  - 1. Responsibility:
    - a. Pre-construction meeting: ENGINEER.
    - b. Progress meetings: ENGINEER.
  - 2. Procedures:
    - a. Prepare agenda.
    - b. Distribute written notice and agendas of meetings 4 days in advance of the meeting date.
    - c. Make physical arrangements for the meetings.
    - d. Preside at meetings.
    - e. Record minutes and include significant proceedings and decisions.
    - f. Distribute copies of the minutes within 4 days after meeting to:
      - i. Participants.
      - ii. Others affected by proceedings.

##### **1.02 Preconstruction Meeting:**

- A. Schedule:
  - 1. Pre-construction meeting will be scheduled by ENGINEER:
    - a. Within 20 days after the Effective Date of Agreement.
    - b. Before starting Work at the Site.
- B. Attendance:
  - 1. Representatives of the following parties are to be in attendance at the meeting:
    - a. OWNER.
    - b. ENGINEER.
    - c. CONTRACTOR.
    - d. Major Subcontractors.
    - e. Governmental or regulatory agencies when appropriate.
    - f. Utility companies.
    - g. Michigan Department of Labor, Bureau of Safety and Regulation.

##### **1.03 Progress Meetings:**

- A. Types of progress meetings:

1. Regular.
  2. Called.
- B. Schedule meetings as follows unless otherwise approved by ENGINEER:
1. Regular: Initially weekly and less often as Work progresses.
  2. Called: As the progress of the Work dictates.
  3. Pre-installation: At least 5 working days prior to start of installation.
- C. Location:
1. Hold meetings at site or as indicated in the notice.
- D. Attendance:
1. Representatives of the following parties are to be in attendance at the meeting.
    - a. ENGINEER.
    - b. CONTRACTOR.
    - c. Major Subcontractors as pertinent to the agenda.
    - d. OWNER's representative as appropriate.
    - e. Governmental or other regulatory agencies as appropriate.
- E. Minimum agenda:
1. The minimum agenda for progress meetings shall consist of the following:
    - a. Review and approve minutes of previous meetings.
    - b. Review progress of the Work since the previous meeting.
    - c. Note field observations, problems and decisions.
    - d. Identify problems, which impede planned progress.
    - e. Review offsite fabrication problems.
    - f. Develop corrective measures and procedures to regain plan schedule.
    - g. Revise construction schedule as indicated.
    - h. Review submittal schedules; expedite as required to maintain schedule.
    - i. Maintenance of quality and work standards.
    - j. Review changes proposed by OWNER for their effect on the construction schedule and completion date.
    - k. Identify all claims and potential claims.
    - l. Pending changes and substitutions.
    - m. Complete other current business.

## **PART 2 – PRODUCTS**

Not used.

## **PART 3 - EXECUTION**

Not used.

END OF SECTION

## **SECTION 01270**

### **MEASUREMENT AND PAYMENT**

#### **PART 1 – GENERAL**

##### **1.01 Summary:**

- A. Section Includes
  - 1. Procedures for measurement and payment.

##### **1.02 Unit Quantities Specified**

- A. Quantity and measurement estimates stated in the Bid Form are for contract and bidding purposes only. Quantities and measurement supplied or placed in the Work and verified by the Engineer shall determine payment as stated in the Agreement.
- B. If actual work requires greater or lesser quantities than those quantities indicated in the Bid Form, provide the required quantities at the unit prices contracted, except as otherwise noted in the agreement.

##### **1.03 Measurement of Quantities**

- A. Measurement by Weight: Measured by ton or pound based on the scale weight.
- B. Measurement by Volume:
  - 1. Stockpiles: Measured by cubic dimension using mean length, width and height or thickness.
  - 2. Excavation and Embankment Materials: Measured by cubic dimension using the average end area method.
- C. Measurement by Area: Measured by square dimension using mean length and width or radius.
- D. Linear Measurement: Measured by linear dimension, at the item centerline or mean chord.
- E. Measurement by Number: Measured by counting the number of units.

#### **PART 2 – PRODUCTS Not Used**

#### **PART 3 – EXECUTION Not Used**

#### **PART 4 – MEASUREMENT AND PAYMENT**

##### **4.01 Bid Item No. 1 – Mobilization:**

- 1. Basis of measurement and payment: At the lump sum price bid.
- 2. Work includes: All necessary measures to mobilize material, labor, and equipment to the work site. Includes all permit fees, bonds and insurance necessary to perform the work.

##### **4.02 Bid Item No. 2 – Selective thinning:**

- 1. Basis of measurement and payment: At the unit price bid per lineal foot.
- 2. Work includes: All material, labor, and equipment to remove and dispose of undesirable trees, stumps, undergrowth, and debris to provide access for maintenance activities, or as directed by the Engineer. Also includes applying herbicide to designated plant life.

- 4.03 Bid Item No. 3 – Logjam removal
1. Basis of measurement and payment: At the unit price bid per lineal foot.
  2. Work includes: All material, labor, and equipment to remove fallen trees and logjams blocking the drainage channel.
- 4.04 Bid Item No. 4 – Clearing:
1. Basis of measurement and payment: At the unit price bid per lineal foot.
  2. Work includes: All material, labor, and equipment to cut, remove, and dispose of trees, stumps, brush, shrubs, roots, logs, and other vegetation along the side slopes of the drainage channel and the top of the embankment as shown in the drain details. Also includes applying herbicide to designated plant life.
- 4.05 Bid Item No. 5 - Sediment removal:
1. Basis of measurement and payment: At unit price bid per lineal foot.
  2. Work includes: All material, labor, and equipment necessary to excavate the drain to the proposed elevation as shown on the plans.
- 4.06 Bid Item No. 6 – Channel excavation:
- Basis of measurement and payment: At the unit price bid per lineal foot.
1. Work includes: All material, labor, and equipment to excavate the drain to required depths, grades, contours, and flow lines as shown on the plans. Also includes excavation of side drain inlets to right-of-way line, and diversion of water and/or dewatering.
- 4.07 Bid Item No. 7 – Spoil leveling (sediment):
1. Basis of measurement and payment: At the unit price bid per lineal foot.
  2. Work includes: All material, labor, and equipment necessary to level spoils on one or both sides of the drain as indicated on drawings and specifications, removal of debris from leveled spoil areas, and root raking of spoils. All work required for plantable conditions.
- 4.08 Bid Items No. 8 – Spoil handling (excavation):
1. Basis of measurement and payment: At the unit price bid per lineal foot.
  2. Work includes: All material, labor, and equipment necessary to either transport and cast spoils offsite to designated areas, or stockpile for use by adjacent landowners. Includes removal of debris and all work required for plantable conditions where applicable.
- 4.09 Bid Item No. 9 – Berm construction:
1. Basis of measurement and payment: At the unit price bid per lineal foot.
  2. Work includes: All material, labor, and equipment necessary to remove existing topsoil and/or rock pile (see Bid Item No. 10 below), and fill with imported earth, to proposed subgrade elevation, rough grade, place topsoil and finish grade as shown on the plans.
- 4.10 Bid Item No. 10 – Remove existing rock pile:
1. Basis of measurement and payment: At the unit price bid per cubic yard.
  2. Work includes: All equipment and labor to remove the existing rock pile at the proposed berm location.
- 4.11 Bid Item No. 11 – Rip rap, MDOT plain:
1. Basis of measurement and payment: At the unit price bid per square yard.
  2. Work includes: All material, labor, and equipment for excavation and grading to provide required contours as shown on the plans and as indicated in the specifications, installation of filter fabric, and placement of riprap to a depth of 1-foot or as indicated on plans.

- 4.12 Bid Item No. 12 – Rip rap, MDOT heavy:
1. Basis of measurement and payment: At the unit price bid per square yard.
  2. Work includes: All material, labor, and equipment for excavation and grading to provide required contours as shown on the plans and as indicated in the specifications, installation of filter fabric, and placement of riprap to a depth of 2-feet or as indicated on plans.
- 4.13 Bid Items No. 13-21 – Culvert removal:
1. Basis of measurement and payment: At the lump sum price bid.
  2. Work includes: All equipment, materials, and labor necessary to remove and dispose of existing culvert. Unless otherwise specified, removed culvert shall become property of the CONTRACTOR to be disposed of offsite.
- 4.14 Bid Items No. 13-21 – Culvert replacement:
1. Basis of measurement and payment: At the unit price bid per linear foot of culvert.
  2. Work includes: All material, labor, and equipment for furnishing and installing culvert, footings (if applicable), backfill (to bottom of road or driveway section), filter fabric, grout, any prefabricated tees, underdrains, mitering or end sections (if applicable), field tile connections and/or relocations and outlets, and dewatering.
- 4.15 Bid Item No. 22 – Maintaining traffic:
1. Basis of measurement and payment: At the lump sum price bid.
  2. Work includes: All necessary traffic control measures and/or devices to meet the requirements of the authority having jurisdiction. Includes all labor, material and equipment necessary to install and maintain traffic control devices.
- 4.16 Bid Items No. 23-27 – Tile outlets:
1. Basis of measurement and payment: At the unit price bid for each.
  2. Work includes: Equipment, materials, and labor necessary to furnish and install tile outlets.
- 4.17 Bid Item No. 28 – 30' x 10' Sheet pile weir, Sta 102+30:
1. Basis of measurement and payment: At the lump sum price bid.
  2. Work includes: Equipment, materials, and labor necessary to furnish and install steel weir plate.
- 4.18 Bid Item No. 29 – Erosion control structure, Type 1, 12" CMP with metal FES:
1. Basis of measurement and payment: At the unit price bid for each.
  2. Work includes: Equipment, materials, and labor necessary to furnish and install erosion control structures.
- 4.19 Bid Item No. 30 – Remove gravel driveway/road surface:
1. Basis of measurement and payment: At the unit price bid per square yard.
  2. Work includes: All labor, material, and equipment necessary to remove and dispose of the existing pavement.
- 4.20 Bid Item No. 31 – Remove asphalt road surface:
1. Basis of measurement and payment: At the unit price bid per square yard.
  2. Work includes: All equipment, material, and labor required to remove and dispose of the existing asphalt surface.
- 4.21 Bid Item No. 32 – Remove concrete driveway surface:
1. Basis of measurement and payment: At the unit price bid per square yard.
  2. Work includes: All equipment, labor, and material required for removal and disposal of the existing drive.

- 4.22 Bid Item No. 33 – Gravel driveway/road surface (6” MDOT 21AA):
1. Basis of measurement and payment: At the unit price bid per square yard.
  2. Work includes: All equipment, material, and labor necessary (placing, grading, compacting, etc.) to furnish and install a complete pavement section per detail.
- 4.23 Bid Item No. 34 – Asphalt road surface (6” MDOT LSVP on 9” MDOT 21AA aggregate surface):
1. Basis of measurement and payment: At the unit price bid per square yard for new asphalt surface.
  2. Work includes: All equipment, material, and labor necessary (placing, grading, compacting, etc.) to furnish and install a complete pavement section including granular subbase, aggregate base, leveling course, and wearing course per detail.
- 4.24 Bid Item No. 35 – Concrete driveway surface (6” thick 3500 grade):
3. Basis of measurement and payment: At the unit price bid per square yard for new concrete surface.
  4. Work includes: All equipment, material, and labor necessary (placing, grading, compacting, etc.) to furnish and install a complete pavement section including compacted base course, and surface course per detail.
- 4.25 Bid Item No. 36 – Soil erosion & sedimentation control:
1. Basis of measurement and payment: At the lump sum price bid.
  2. Work includes: All material, labor, and equipment necessary for the installation, operation, and maintenance of soil erosion and sedimentation control measures indicated on the plans or determined necessary by the Engineer, including but not limited to: silt fence, turbidity curtain, in line sediment sumps, temporary check dams, slope stabilization, and slope roughening and scarification.
- 4.26 Bid Item No. 37 – Daily seeding & fertilizing:
1. Basis of measurement and payment: At the lump sum price bid.
  2. Work includes: All labor, equipment, and material necessary to seed areas as indicated to receive Daily Seeding and Fertilizing on the plans or as directed by the Engineer. This includes finish grading of subsoil, placing 4-inches of topsoil, daily seeding, mulching, and maintenance to provide for uniform seed growth. Contractor shall be responsible for reseeding and erosion repair for a one-year period after completion at no additional cost to the Drainage District.
- 4.27 Bid Item No. 38 – Mulch blanket:
1. Basis of measurement and payment: At the unit price bid per square yard.
  2. Work includes: All materials, labor, and equipment for installing mulch blankets as noted on the plans or as directed by the Engineer on prepared surfaces (after seeding).
- 4.27 Bid Item No. 39 – Mowing, both sides of channel:
1. Basis of measurement and payment: At the unit price bid per lineal foot.
  2. Work includes: All material, labor, and equipment necessary to mow both sides of the channel as shown on the plans.
- 4.28 Bid Item No. 40 – Cleanup & restoration:
1. Basis of measurement and payment: At the lump sum price bid.
  2. Work includes: All labor and equipment necessary to restore disturbed areas, remove temporary erosion control measures, remove temporary traffic control devices, and remove and dispose of waste, and excess or rejected materials.

END OF SECTION

## **SECTION 01300**

### **SUBMITTALS**

#### **PART 1 – GENERAL**

##### **1.01 Summary**

- A. This section includes the submittal of shop drawings, product data, equipment manuals and other information as indicated on the Drawings, as specified herein, or as necessary for the proper and complete performance of the Work.

##### **1.02 Shop Drawings and Product Data**

- A. The Contractor shall submit to the ENGINEER for review, for design concept, complete drawings and ENGINEERING data for all equipment, materials, and products to be incorporated in the Work. Shop drawings, engineering data, and/or product data sheets, as appropriate, shall be submitted for the following items, including, but not limited to:
  - 1. All piping, pipe fittings, and couplings if requested by the ENGINEER.
  - 2. Miscellaneous iron castings and gratings, manhole frames and covers, curb inlets, manhole steps.
  - 3. All concrete and masonry accessories and steel reinforcement, including bending diagrams and bar schedules, ties, spreaders, chairs, inserts, form coatings, waterstops, curing and sealing compounds and bonding agents.
  - 4. Premixed grouts and mortars.
  - 5. All paints and protective coatings.
  - 6. Precast concrete manholes, sections, frames and covers, junction boxes, etc., inclusive of manhole boots and joint material, etc.
  - 7. Portland Cement Concrete mix designs.
  - 8. Paving mix design inclusive of sieve analysis and bituminous content.
  - 9. Grass seed, polymers (polyacrylamides) and commercial mulches.
  - 10. Commercially produced soil erosion products such as erosion blankets, turf reinforcement mats, silt fence, erosion eels, straw wattles, and inlet protection devices.

##### **1.03 Miscellaneous Submittals**

- A. The Contractor shall submit to the ENGINEER miscellaneous information, procedures, test data, samples, etc., in the manner and at the time specified in these Specifications and Contract Documents. Miscellaneous submittals shall include, but not be limited to the following:
  - 1. Procedures for diverting stormwater flows during construction.
  - 2. Factory test data and results where specified for specific items of equipment.
  - 3. Preliminary concrete mix design reports.
  - 4. Satisfactory written evidence in the form of laboratory or mill test reports indicating that all cement, aggregate, masonry, structural steel, fencing, castings, steel reinforcement, conduit, pipe, grout, waterproof materials, grass seed and other items incorporated in the Work follow the requirements of these Specifications.
  - 5. Copies of original invoices of all equipment delivered to the site.
  - 6. When requested, analysis and design data on concrete formwork and sheeting and shoring.
  - 7. Drawings and details of erosion and sediment control structures, if significantly different from the Drawings approved.
  - 8. Equipment manuals.
  - 9. Written evidence of equipment warranties.

**PART 2 – PRODUCTS**

Not used.

**PART 3 – EXECUTION**

Not used.

END OF SECTION

## SECTION 01310

### CONSTRUCTION PROGRESS SCHEDULES

#### **PART 1 – GENERAL**

##### 1.01 Summary

###### A. Section includes:

1. This Section includes, but is not necessarily limited to, the preparation, furnishing, distribution and periodic revision of construction progress schedules as herein specified and as necessary for the proper and complete performance of the Work.

###### B. Related Sections:

1. Documents affecting work of this Section include, but are not necessarily limited to:
  - a. General Conditions, Supplementary Conditions and Section in Division 1 of these Specifications.

#### **PART 2 – PRODUCTS**

##### 2.01 Form of Schedule:

###### A. Preparation:

1. Prepare in the form of a horizontal bar chart, CPM network, or other form as previously approved by the ENGINEER.
2. Provide a separate horizontal bar column or part for each trade or operation.
3. Prepare the schedule in the chronological order of the beginning of each item of Work.
4. Identify each column or path by:
  - a. Major Specification Section number.
  - b. Distinct graphic delineation.
5. Use a horizontal time scale and identify the first workday of each week.
6. Allow space for updating.

###### B. Size:

1. The schedule sheets shall be (11 inches x 17 inches) or (24 inches x 36 inches) unless otherwise approved by ENGINEER.

##### 2.02 Content of Schedules:

###### A. Construction sequence:

1. Provide a complete sequence of construction activity (identifying work of separate stages) and (milestones).
2. For Shop Drawing, project data and Samples indicate the following:
  - a. Submittal dates.
  - b. Dates review copies will be required.
3. Show decision dates for section of finishes.
4. Show product procurement and delivery dates (including those furnished by OWNER or under Allowances).
5. Show dates for beginning and completion of each element of construction.

###### B. Percentage completion:

1. Show the projected percentage of completion for each item of work as of the first day of each month.

- C. Sub-schedules:
  - 1. Provide separate sub-schedules showing submittals, review times, procurement schedules and delivery dates.
  - 2. Provide sub-schedules to define critical proportions of the entire schedule.

### **PART 3 – EXECUTION**

#### **3.01 Submittals:**

- A. Preliminary schedule:
  - 1. Submit the preliminary schedule within 10 days after the Effective Date of Agreement.
  - 2. ENGINEER will review schedules and will return the reviewed copy within 15 days after receipt.
  - 3. If required, re-submit within 7 days after receipt of a returned review copy.
  - 4. Meet with ENGINEER at least 10 days prior to the sub-mission of the first Application for Payment to review the schedule.
- B. Periodic adjustment:
  - 1. Monthly, submit a revised schedule depicting adjustments and progress to the first day of each month.
- C. Number of copies
  - 1. Submit the number of copies required by the CONTRACTOR, plus 4 copies to be retained by ENGINEER.

#### **3.02 Distribution:**

- A. Reviewed schedules:
  - 1. Distribute copies of the reviewed schedules to:
    - a. Job Site file.
    - b. Subcontractors
    - c. Other concerned parties.
- B. Instruction to recipients:
  - 1. Instruct recipients to report all inability to comply with the schedule and provide detailed explanations with suggested remedies.

#### **3.03 Adjustment of Progress Schedule:**

- A. Changes:
  - 1. Show all changes occurring since previous submission of the schedule.
- B. Progress:
  - 1. Indicate progress of each activity and show completion dates.
- C. Other items:
  - 1. Include major changes in scope.
  - 2. Include activities modified since previous updating.
  - 3. Include revised projections due to changes.
  - 4. Include other identifiable changes.

- D. Narrative report:
1. Provide a narrative report including:
    - a. A discussion of problem areas including current and anticipated delay factors and their impact.
    - b. Direct action taken, or proposed, and its effect.
    - c. A description of revisions including
      - i. Their effect on the schedule due to change of scope.
      - ii. Revisions in duration of activities.
      - iii. Other changes that may affect the schedule.
    - d. The status of completion of Milestone.

END OF SECTION

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## SECTION 01400

### QUALITY CONTROL

#### **PART 1 – GENERAL**

##### 1.01 Summary:

- A. Section includes:
  - 1. Related sections
  - 2. Quality assurance and control of installation.
  - 3. Reference
  - 4. Field Samples
  - 5. Inspection and testing laboratory services
  - 6. Manufacturers' field services and reports.
  - 7. Project Layout
- B. Related Sections
  - 1. Section 01300 – Submittals: Submission of Manufacturers' Instructions and Certificates.
  - 2. Section 01600 – Material and Equipment: Requirements for material and product quality.

##### 1.02 Quality Assurance/Control of Installation

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship to produce Work of specified quality.
- B. Comply fully with manufacturer's instructions, including each step in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from ENGINEER before proceeding.
- D. Comply with specified standards as a minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Perform Work by persons qualified to produce workmanship of specified quality.
- F. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.

##### 1.03 References

- A. Conform to reference standard by date of issue current on date of Contract Documents.
- B. Obtain copies of standard when required by Contract Documents.
- C. Should specified reference standards conflict with Contract Documents, request clarification for ENGINEER before proceeding.
- D. The contractual relationship for the parties to the Contract shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.

1.04 Field Samples

- A. Install field samples at the site as required by individual specifications Section for review.
- B. Acceptable samples represent a quality level for the Work.
- C. Where field sample is specified in individual Sections to be removed, clear area after field sample has been accepted by ENGINEER and storm drain installation.

1.05 Inspection and Testing Laboratory Services

- A. Notify ENGINEER 48 hours prior to scheduled construction inspection days and material testing.
- B. Construction inspection will be provided for drain crossing installations and storm drain installations. Construction inspection for open drain excavation will be provided as determined necessary by ENGINEER.
- C. OWNER will pay for services to perform construction inspection and material testing according to the specifications.
- D. Inspections, tests, and other services specified in individual specification Sections will be performed by the ENGINEER, as required.
- E. Make arrangements with ENGINEER and pay for additional samples and tests required for CONTRACTOR's use.
- F. Retesting required because of non-conformance to specified requirements shall be performed. Payment for retesting will be charged to the CONTRACTOR by deducting construction inspection or material testing charges from the Contract Price.
- G. At the discretion of the ENGINEER, survey shots of the dredging may be conducted to determine amount excavated.
- H. The ENGINEER will perform inspections, tests, and other services specified in individual specification sections and as required by the OWNER.
- I. Reports will be submitted by the ENGINEER to the OWNER; in duplicate, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.
- J. Cooperate with the ENGINEER and the OWNER; furnish samples of materials, mix designs, equipment, tools, storage and assistance as requested.
- K. Notify ENGINEER 2 working days prior to expected time for operations requiring services.
- L. Make arrangements with ENGINEER and pay for additional samples and tests required for CONTRACTOR's use.

1.06 Manufacturers' Field Services and Reports

- A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of

surfaces and installation, quality of workmanship, and to initiate instructions when necessary.

B. Individuals to report observations and site decisions or instructions given to applicators or installer that are supplemental or contrary to manufacturers' written instructions.

C. Submit report within 30 days of observation to the ENGINEER for review.

#### 1.07 Project Layout

##### C. Benchmarks and Control Elevations

1. Elevations for proposed Work shall be set from benchmarks established for the project.
2. Verify elevations of existing features against project benchmarks.
3. Notify ENGINEER of conflicts in elevations, which affect the proposed Work.

##### D. Alignment and Construction Stakes

1. Provide the ENGINEER with 48 hours advance notice for all construction staking required by him.
2. The ENGINEER will set suitable stakes and benchmarks showing the location and elevations of the various parts of the work.
3. ENGINEER will provide cut sheets describing the cut/fill, method of alignment and stakeout and benchmarks.
4. Undertake no work until such stakes and benchmarks have been set by the ENGINEER.
5. CONTRACTOR is responsible for detail dimensions and elevations measured from the lines, grades and elevations so established.
6. No changes in alignment shall be made without the written permission from the OWNER or the ENGINEER.
7. Take due and proper precautions for the preservation of stakes and benchmarks, and shall see to it that the work at all time proceeds in accordance therewith.
8. Any restaking necessary, whether due to vandalism, construction operations or any other cause, will be done by the ENGINEER at the expense of the CONTRACTOR.

## **PART 2 – PRODUCTS**

Not used.

## **PART 3 – EXECUTION**

Not used.

END OF SECTION

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## SECTION 01500

### CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

#### **PART 1 – GENERAL**

##### 1.01 Summary:

- A. Section includes:
  - 1. Related Sections
  - 2. Barriers
  - 3. Water Control
  - 4. Protection of Installed Work
  - 5. Protection of Existing Utilities
  - 6. Protection of Landscaping, Mailboxes, Drives
  - 7. Progress Cleaning
  - 8. Removal of Utilities, Facilities, and Control
  - 9. Temporary Driveways
  - 10. Temporary Sanitary Facilities
  - 11. Unit Price – Measurement and Payment
- B. Related Sections
  - 1. Section 01570 – Traffic Regulation
  - 2. Section 01700 – Contract Closeout

##### 1.02 Barrier

- A. Provide barriers to prevent unauthorized entry to construction areas to allow for OWNER's use of site, and to protect existing facilities and adjacent properties from damage from construction operations and demolition.
- B. Provide protection for plant life designated to remain. Replace damaged plant life.
- C. Protect non-owned vehicular traffic, stored materials, site and structures from damage.
- D. Provide access to all adjacent buildings for use during construction.

##### 1.03 Water Control

- A. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.
- B. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.
- C. Trenches shall be dewatered to provide a stable base for structures and piping.

##### 1.04 Protection of Installed Work

- A. Protect installed work and provide special protection where specified in individual specification sections. All road excavations will be brought up to grade each night or protected with orange construction fencing to prevent intrusion into the work area.

- B. Provide temporary and removable protection for installed products. Control Activity in immediate work area to minimize damage.
- C. Prohibit traffic from landscaped areas.

1.05 Protection of Existing Utilities

- A. CONTRACTOR shall CALL “MISS-DIG” (1-800-482-7171) A MINIMUM OF THREE WORKING DAYS PRIOR TO CONSTRUCTION.
- B. Protect utilities encountered during the work. Replace as required in following sections.
- C. Utilities must remain in service. If it becomes necessary to interrupt a utility service, the utility authority must be notified immediately and steps taken to restore temporary or permanent service as soon as possible.
- D. Maintain outlets for drains. Provide temporary pumping if necessary.
- E. Expose utility mains and services by hand in the trench.
- F. Where utility and drainage piping crosses the trench, support the piping according to the utility authority’s standards and backfill to the top with compacted sand.

1.06 Protection of Landscaping, Mailboxes, Drives

- A. Protect landscaped areas. Damaged areas shall be replaced in kind.
- B. Protect trees, shrubs, and bushes:
  - 1. Where trees, shrubs, and bushes are too large to be replaced in kind, the proposed utility shall be installed in a boring or tunneling operation unless written consent is given by the property OWNER for removal. OWNER and ENGINEER shall each be given one copy of consent letters.
  - 2. Where requested by the Property OWNER, timber from removed trees shall be cut into 6-foot lengths and stockpiled along the work or as specified in the consent letter.
  - 3. Proper disposal of removed trees or sections of removed trees not wanted by the property OWNER shall become the responsibility of the CONTRACTOR.
  - 4. Trees, shrubs, and bushes that are removed and replaced shall be transplanted by an established nursery.
- C. Protect mailboxes. Relocate temporarily until mailboxes can be returned to original location. All mail boxes and posts must be returned to their original condition or better at no additional cost to the project.
- D. Protect drives, roadway and sidewalks. Repair as required in following sections.

1.07 Progress Cleaning

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
- B. Clean road surface daily to the OWNER’s and/or ENGINEER’s satisfaction
- C. Complete leveling, remove excess material and debris and restore drainage not more than 1000 feet behind construction.

- D. Broom and vacuum clean interior areas prior to start of surface finishing and continue cleaning to eliminate dust.
  - E. Remove waste materials, debris, and rubbish from site daily and dispose off-site.
- 1.08 Removal of Utilities, Facilities and Controls.
- A. Remove temporary above grade or buried utilities, equipment, facilities, and materials prior to substantial completion and final application for payment inspection.
  - B. Clean and repair damage caused by installation or use of temporary work.
  - C. Restore existing facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.
  - D. A sufficient sum of money to remove and replace or repair any utilities damaged or relocated during the construction of the project shall be included in total contract amount.
- 1.09 Temporary Driveway
- A. Temporary driveways shall be constructed to provide safe, stable, and smooth access.
  - B. Driveways shall be finished and accepted by OWNER before 100 percent completion of work is accepted.
- 1.10 Temporary Sanitary Facilities
- A. Contact rental agency to determine correct number of sanitary units per work site.
  - B. Delivery, setup, and stock with paper products on each work site.
  - C. Service (paper products and pumping) portable unit three times per week.
  - D. Pick up units after work is complete.
- 1.11 Temporary Fencing and Barrier Fence
- A. Standard wind stop snow fencing installed according to manufacturer's recommendation.

## **PART 2 – PRODUCTS**

Not used.

## **PART 3 – EXECUTION**

Not used.

## **PART 4 – PAYMENT**

- 4.01 Measurement and Payment see Section 01270.

END OF SECTION

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## **SECTION 01570**

### **TRAFFIC REGULATION**

#### **PART 1 – GENERAL**

##### **1.01 Summary:**

###### **A. Section Includes:**

1. Related Sections
2. Traffic Control.
3. Signs, Signals, and Devices.
4. Traffic Signs and Signals.
5. Construction Parking Control.
6. Regulators.
7. Lighting Devices.
8. Haul Routes.
9. Removal.
10. Unit Price – Measurement and Payment.

###### **B. Related Sections**

1. Section 01010 – Summary of work.
2. Section 01500 – Construction Facilities and Temporary Controls: Barriers and enclosures. Access roads and parking areas

##### **1.02 Traffic Control**

- A. Comply with the rules and regulations of the authority having jurisdiction over the road.
- B. Provide, install, and maintain traffic control devices.
- C. Control devices shall conform to the Michigan Manual of Uniform Traffic Control Devices Part 6 Construction and Maintenance, and the MDOT Standard Specifications for Highway Construction.
- D. Maintain through traffic unless written permission to do otherwise is obtained from the authority having jurisdiction over the road.
- E. Work hours will be from 7:00 A.M. to 7:00 P.m., Monday – Saturday. No work on Sundays or Holidays.
- F. Provide and maintain detour signs if allowed to close road.

##### **1.03 Signs, Signals and Devices**

- A. Traffic Control Signals: As approved by local jurisdiction.
- B. Traffic Cones and Drums, and Lights: As approved by local jurisdiction.
- C. Traffic Regulators (Flagman) Equipment: As approved by local jurisdiction.

D. Post Mounted and wall Mounted Traffic Control and Informational Signs: Specified in paragraph 1.02 Traffic Control.

E. Automatic Traffic Control Signals: As approved by local jurisdiction.

1.04 Traffic Signs and Signals

A. Install traffic control devices at approaches to site and on site, at crossroads, for detours, in parking areas, and elsewhere as needed to direct construction and affected public traffic.

B. Install and operate traffic signals to direct and maintain orderly flow of traffic in areas under CONTRACTOR's control, and areas affected by CONTRACTOR's operations.

C. Relocate traffic control devices as work progresses, to maintain effective traffic control.

1.05 Construction Parking Control

A. Control vehicular parking to prevent interference with public traffic and parking, access by emergency vehicles, and landowners operations.

B. Monitor parking of construction personnel's vehicles in existing facilities. Maintain vehicular access to and through parking areas.

C. Prevent parking on or adjacent to access roads or in non-designated areas.

D. Staging of equipment and storage of materials will not be allowed on business or residential parking areas without written permission from the landowner. See plans for a designated parking area.

1.06 Regulators (Flagmen)

A. Provide trained and equipped Flagmen to move vehicles and pedestrians when construction operations or traffic encroach on public traffic laws.

1.07 Lighting Devices

A. Use lights during hours of low visibility to delineate traffic lanes and to guide traffic.

1.08 Haul Routes

A. Consult with authority having jurisdiction or landowner in establishing haul routes and site access.

B. A signed landowner agreement must be provided to ENGINEER prior to accessing project over private lands.

C. Confine construction traffic to designated haul routes.

D. Provide traffic control devices and/or regulators at critical areas of haul routes to minimize interference with public traffic.

1.09 Removal

- A. Remove equipment and traffic control devices when no longer required.
- B. Repair damage caused by installation.
- C. Remove post settings to a depth of 1 foot.

**PART 2 – PRODUCTS**

Not used

**PART 3 – EXECUTION**

Not used

**PART 4 – PAYMENT**

4.02 Measurement and Payment See Section 01270.

END OF SECTION

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## **SECTION 01600**

### **MATERIALS AND EQUIPMENT**

#### **PART 1 - GENERAL**

##### **1.01 Summary:**

- A. Section Includes
  - a. Related Sections
  - b. Products
  - c. Transportation and Handling
  - d. Storage and Protection
  - e. Product Options
  - f. Substitutions
- B. Related Sections
  - a. Instructions to Bidders: Product options and substitutions procedures.
  - b. Section 01400 – Quality Control: Product quality monitoring.

#### **PART 2 – PRODUCTS**

##### **2.01 Products:**

- A. Means new material, machinery, components, equipment, fixtures, and systems forming the work. Does not include machinery and equipment used for preparation, fabrication, conveying and erection of the work. Products may also include existing materials or components required for reuse.
- B. Do not use materials and equipment removed from existing premises, except as specifically permitted by the Contract Documents.
- C. Provide interchangeable components of the same manufacturer, for similar components.

##### **2.02 Product Options**

- A. Products specified by Reference Standards or by Description Only: Any product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

##### **2.03 Substitutions**

- A. ENGINEER will consider requests for substitutions only within 15 days after date of OWNER/CONTRACTOR agreement.
- B. Instructions to Bidders (IB) specify time for submitting request for substitutions after the effective date of the agreement to requirements specified in this section.
- C. Substitutions may be considered when a product becomes unavailable through no fault of the CONTRACTOR.

- D. Document each request with complete data substantiating compliance of proposed substitution with contract documents.
- E. A request constitutes a representation that the CONTRACTOR:
  - 1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.
  - 2. Will provide the same warranty for the substitution as for the specified work.
  - 3. Will coordinate installation and make changes to other work, which may be required for the work to be complete with no additional cost to OWNER.
  - 4. Waives claims for additional costs or time extension, which may subsequently become apparent.
  - 5. Will reimburse OWNER for review or redesign services associated with re-approval by authorities.
- F. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.
- G. Substitution Submittal Procedure:
  - 1. Submit three copies of request for Substitution for consideration. Limit each request to one proposed substitution.
  - 2. Submit shop drawings, product data, and certified test results attesting to the proposed product equivalence.
  - 3. The ENGINEER will notify CONTRACTOR, in writing, of decision to accept or reject request.

### **PART 3 – EXECUTION**

#### **3.01 Transportation and Handling**

- A. Transport and handle products in accordance with manufacturer's instructions.
- B. Promptly inspect shipments to assure that products comply with requirements, quantities are correct, and products are undamaged.
- C. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

#### **3.02 Storage and Protection**

- A. Store and protect products in accordance with manufacturer's instructions, with seals and labels intact and legible. Store sensitive products in weather-tight, climate controlled enclosures.
- B. For exterior storage of fabricated products, place on sloped supports, above ground.
- C. Provide off-site storage and protection when site does not permit on-site storage or protection.
- D. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to avoid condensation.

- E. Store loose granular materials on solid flat surfaces in a well-drained area. Avoid mixing with foreign matter.
- F. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement or damage.
- G. Arrange storage of products to permit access for inspection. Periodically inspect to assure products are undamaged and are maintained under specified conditions.

END OF SECTION

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## SECTION 01700

### CONTRACT CLOSEOUT

#### **PART 1 – GENERAL**

##### 1.01 Summary:

###### A. Section includes:

1. This Section includes, but is not necessarily limited to, the instructions for and the responsibilities of each party in contract closeout as indicated on the Drawings, as specified herein, and as necessary for the proper and complete performance of the Work.

###### B. Related Sections:

1. Documents affecting work of this Section include, but are not necessarily limited to:
  - a. General Conditions, Supplementary Conditions and Section in Division 1 of these Specifications.

##### 1.02 Final Inspection:

###### A. CONTRACTOR certification:

1. Prior to final inspection, CONTRACTOR shall submit written certification that:
  - a. The Contract Documents have been reviewed.
  - b. The Project has been inspected in compliance with the Contract Documents.
  - c. Work has been completed in accordance with the Contract Documents.
  - d. Equipment and systems have been tested in the presence of the OWNER'S representative and are optional.
  - e. The Project is complete and ready for final inspection.

###### B. ENGINEER'S inspection:

1. The ENGINEER will make final inspection:
  - a. Within 10 days after receipt of certification.
  - b. Together with OWNER and CONTRACTOR.

###### C. ENGINEER'S determination of final completion:

1. Should ENGINEER consider the Work finally complete in accordance with the requirements of the Contract Documents, ENGINEER shall required CONTRACTOR to make Project Closeout Submittals.
2. Should ENGINEER consider the Work not finally complete:
  - a. ENGINEER shall notify CONTRACTOR in writing stating reasons.
  - b. CONTRACTOR:
    - i. Take immediate steps to remedy the stated deficiencies.
    - ii. Send a second written notice to ENGINEER certifying that the Work is complete.
  - c. ENGINEER and OWNER will re-inspect the Work.

##### 1.03 Re-Inspection Costs:

- A. Should ENGINEER be required to perform second inspections because of failure of the Work to comply with the original certifications of CONTRACTOR, OWNER will compensate ENGINEER for additional services and deduct the amount paid from payment or payments to CONTRACTOR.

1.04 Evidence of Payment and Release of Liens:

- A. Affidavits
  - 1. Submit with final Application for Payment an affidavit of payment of debts and release of claims.
  - 2. Affidavit shall include:
    - a. CONTRACTOR'S release or waiver of lien.
    - b. Consent of surety of final payment.
    - c. Separate releases or waivers of liens for Subcontractors, Suppliers and others with lien rights against property of OWNER together with a list of those parties.
- B. Execution:
  - 1. All submittals shall be duly executed before delivery to ENGINEER.

1.05 Final Adjustment of Accounts:

- A. Final statement:
  - 1. Submit a final statement of accounting, which reflects all adjustment, to ENGINEER. This statement shall contain the following:
    - a. Original Contract Price.
    - b. Additions and deductions.
    - c. Total Contract Price as adjusted.
    - d. Previous payments.
    - e. Sum remaining due.
- B. Final Change Order:
  - 1. ENGINEER will prepare a final Change Order reflecting approved adjustments to the Contract Price not previously made by Change Orders and based on final field measurements of quantities installed.

1.06 Final Application for Payment:

- A. CONTRACTOR shall submit a final Application for Payment in accordance with the requirements of the Contract Documents.
- B. Disposition of final Application for Payment:
  - 1. ENGINEER will, within 10 days after receipt of the Application for Payment:
    - a. Submit to OWNER a written recommendation for payment.
    - b. Submit to OWNER and CONTRACTOR a written notice that the Work is acceptable subject to the provisions of Section 00700 – General Conditions.
  - 2. OWNER will, within 30 days after receipt of the Application for Payment and ENGINEER'S recommendations in accordance with the Contract Documents, pay to CONTRACTOR the amount recommended.
- C. If the Application for Payment, the Work or both are unacceptable:
  - 1. ENGINEER will return the Application for Payment to CONTRACTOR, indicating in writing the reasons for refusing to recommend final payment.
  - 2. CONTRACTOR shall make the necessary corrections and re-submit the Application for Payment.
- D. OWNER shall make payment of the balance due for that portion of the Work fully completed and accepted:

1. If ENGINEER confirms that final completion of the Work is significantly delayed through no fault of CONTRACTOR.
  2. Payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.
- E. If CONTRACTOR submits written consent of surety for reduction of retainage to less than the amount stipulated in the Agreement.

**PART 2 – PRODUCTS**

Not used.

**PART 3 – EXECUTION**

Not used.

END OF SECTION

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## SECTION 01720

### PROJECT RECORD DOCUMENTS

#### **PART 1 – GENERAL**

##### 1.01 Summary:

- A. Section includes: This Section includes, but is not necessarily limited to, procedures for the maintenance, recording and submittal of Project record documents as herein specified on the Drawings, as specified herein, and as necessary for the proper and complete performance of the Work.
- B. Related Sections: Documents affecting work of this Section include, but are not necessarily limited to General Conditions, Supplementary Conditions and Section in Division 1 of these Specifications.

##### 1.02 Maintenance of Documents and Samples:

- A. Maintenance:
  - 1. Maintain documents in a clean, dry, legible condition and in good order.
  - 2. Do not use record documents for construction purposes.
- B. Availability: Make documents and Samples available at all times for inspection by ENGINEER.

##### 1.03 Recording:

- A. Labeling: Label each document "PROJECT RECORD" in neat large printed letters.
- B. Recording:
  - 1. Record actual revisions to the Work.
  - 2. Record information concurrently with construction progress.
  - 3. Do not conceal any work until required information is recorded.
- C. Drawings:
  - 1. Legibly mark, with notes or graphic representations, to record actual construction:
    - a. Depths of various elements of foundation in relation to approved datum.
    - b. Horizontal and vertical locations of Underground Facilities and appurtenances, referenced to permanent surface improvements.
    - c. Location of internal utilities and appurtenances concealed in the construction, referenced to visible and accessible features of the structure.
    - d. Field changes of dimension and detail.
    - e. Change made by Field Order, Work Change Directive or Change Order.
    - f. Details not made on original Contract Drawings.
  - 2. At ENGINEER'S option, after ENGINEER'S review of the record drawings, transfer all marks to a set of mylars provided by ENGINEER.

##### 1.04 Submittal:

- A. Delivery: At Contract closeout, deliver record documents to ENGINEER for OWNER.
- B. Transmittal letter:
  - 1. Accompany submittal with transmittal letter in duplicate, containing:
    - a. Date

- b. Project title and number.
- c. CONTRACTOR'S name and address.
- d. Title and number of each Record Document.
- e. Signature of CONTRACTOR or his authorized representative.

**PART 2 – PRODUCTS**

Not used.

**PART 3 – EXECUTION**

Not used.

END OF SECTION

## **SECTION 02000**

### **MISCELLANEOUS SPECIFICATIONS**

#### **PART 1 – GENERAL**

##### **1.01 Easements**

- A. The OWNER will provide all rights-of-way and easements in or beneath which drains, pipes and other structures will be constructed under this Contract. The CONTRACTOR shall take due and proper precautions to protect all adjacent structures and shall hold himself strictly within the rights-of-way secured by the OWNER.
- B. In the event that the OWNER is unable to obtain rights-of-way before construction begins, the CONTRACTOR shall not be entitled to make or assert a claim for damage for said delay; but time for completion of the work will be extended to such time as the OWNER determines will compensate for the time lost by such delay.
- C. Attention of bidders is directed to the fact that some of the easements obtained for this project may have conditional clauses contained therein. It shall be the CONTRACTOR's responsibility to make himself thoroughly familiar with any conditions of easements acquired by the OWNER and to base his bid on such conditions. Failure to familiarize himself with easement conditions will not be considered a cause for extra compensation by the CONTRACTOR.
- D. Areas disturbed on private easements shall be reasonably restored to their original condition. Restoration of these areas by the CONTRACTOR shall be subject to the same conditions as those disturbed within the road right-of-way. Also, no topsoil shall be replaced while the ground is in a wet and/or muddy condition. The existing clean topsoil, free of debris, grease, roots, etc., encountered along the route of construction in easements, shall be pushed back and preserved for use in restoration following completion of the installation. The topsoil must remain on each easement parcel or lot where it exists. Removal of topsoil from the project or movement of topsoil from easements in one portion of the project to another portion of the project will not be allowed. The existing sand encountered along the route of construction in easements, shall remain on each easement parcel or lot where it exists. Removal of sand from the project will not be allowed.

##### **1.02 Private Wells**

- A. If during the construction of this project the excavation or dewatering of the trench or drain channel causes a private well to fail, it shall be the CONTRACTOR's responsibility to provide both a temporary and permanent replacement water source for this individual.

##### **1.03 Work within a Public Road Right-of-Way**

- A. All work performed within a public road right-of-way shall be performed in accordance with the requirements of the agency having jurisdiction. Before commencing work within the right-of-way, the CONTRACTOR shall obtain all necessary permits, post all bonds and pay all inspection costs for the work as will be required by the agency having jurisdiction. Submit a copy of all necessary permits to the OWNER.
- B. Signs within a public road right-of-way shall be removed and replaced by the agency having jurisdiction. The CONTRACTOR shall provide adequate notice prior to requiring sign

removal (verify at time of permit application). Costs shall be paid by the CONTRACTOR and shall be incidental to construction.

- C. The CONTRACTOR shall be responsible within the public road right-of-way for any conditions due to improper workmanship, materials or any cause whatsoever attributable to operations included in this Contract, as evidenced by trench settlement, pavement failure, or other conspicuous defects or damages for such period as shall be determined by the agency having jurisdiction. If the agency having jurisdiction issues a complaint during the required performance period, CONTRACTOR shall correct such defects within ten (10) days of receiving written notice from the OWNER.

#### 1.04 Responsibility for Moving Structures

- A. Any structure that (in the opinion of the ENGINEER) must be moved or changed in order to permit the proper construction of the work, will be moved or changed by its respective owner at the insistence of the OWNER. Examples of such structures include (but are not limited to) buildings, poles, conduits, manholes, catch basins, valve boxes, trees, water mains, water services, storm and sanitary sewers, and gas mains and services.
- B. Any structure that (in the opinion of the ENGINEER) can remain in place shall be undisturbed and the CONTRACTOR shall take all necessary precautions for its protection and be fully responsible for its protection. All costs resulting from moving of such structure shall be borne by the CONTRACTOR and shall be included in the unit prices or lump sums bid for the work included in the contract.

### **PART 2 – PRODUCTS**

Not used.

### **PART 3 - EXECUTION**

Not used.

END OF SECTION

## **SECTION 02110**

### **SITE CLEARING**

#### **PART 1 – GENERAL**

##### 1.01 Summary:

###### B. Section Includes

1. Site Clearing.
2. Channel clearing, Grubbing, and Snagging.
3. Selective Clearing.

###### C. Related Sections

1. Section 02211 – Rough Grading.
2. Section 02222 – Excavation.
3. Section 02274 – Soil Erosion and Sedimentation Control.
4. Section 02923 – Landscape Grading.

##### 1.02 Definitions

- A. Clearing: Cutting, dozing or other means of removing trees, logs, brush, shrubs, stumps and debris from the required work area.
- B. Grubbing: Removal of trees stumps and roots from below the ground surface.
- C. Snagging: Removal of loose debris, stumps, logs and fallen trees from an area, without disturbing the existing sodded conditions.

##### 1.03 Scope of Work

- A. This work shall include the labor and machinery necessary for the clearing, grubbing, snagging, loading, removal and disposal of trees, stumps, brush, and all other waste material as indicated on the plans and specifications. Work also includes loading, removal and disposal of unsalvageable structures, raking of root spoils, removal of fences from within the drain right-of-way, applying herbicide, cutting stumps and other items as directed by the ENGINEER.

##### 1.04 Regulatory Requirements

- A. Conform to applicable local, county, and state standards for disposal of debris, burning debris on site, and use of herbicides.
- B. Coordinate clearing work with utility companies.

#### **PART 2 – PRODUCTS**

##### 2.01 Submittals

- A. Submit under provisions of Section 01300 – Submittals.
- B. Herbicide:
  1. Garlon 3A or approved equal shall be used on brush having diameter of inch or less.

2. 25 percent Garlon 4 or approved equal and 75 percent Ax-it or approved equal shall be used on all cut stumps and brush greater than 1 inch per manufacturer's specifications.
3. All herbicides shall contain a dye additive so that sprayed areas can be visually identified.
4. Applicator shall be certified.
5. Use only in locations approved by ENGINEER and with materials approved by ENGINEER and OWNER.

### **PART 3 – EXECUTION**

#### **3.01 Preparation**

- A. Verify that existing plant life designated to remain is tagged or identified.
- B. The CONTRACTOR shall walk the project with the ENGINEER and ICDC Staff to investigate what trees, brush, etc. must be removed.

#### **3.02 Protection**

- A. Locate, identify, and protect utilities that remain from damage.
- B. Protect survey stakes and survey monuments. If monuments, stakes or benchmarks are damaged or destroyed, CONTRACTOR will be responsible for replacement costs.
- C. Protect trees, plant growth, and features designated to remain as final landscaping.
- D. All trees outside of right-of-way shall be protected.
- E. Protect benchmarks and existing structures from damage or displacement.
- F. Burnable debris is not to be covered with earth or spoils

#### **3.03 Site Clearing**

- A. Notify ENGINEER 48 hours prior to channel clearing, grubbing and snagging or applying herbicide.
- B. All dead elm and ash shall be taken down and removed.
- C. In reaches proposed for open channel excavation.
  1. CONTRACTOR shall excavate according to the plans and specifications.
  2. Clear trees, shrubs, and brush as noted in the plans and according to the project details.
  3. Stumps located in proposed excavation areas **SHALL NOT** be grubbed.
  4. Stumps not located in excavation areas opposite bank in one-sided excavation areas shall be trimmed flush, no higher than 6", with ground and sprayed with herbicide.
- D. Clear area required for access to site and execution of work or as indicated on plans as approved by the ENGINEER.
- E. Snag all deadfalls and debris from project work areas and haul or otherwise manage as indicated on the plans.

#### **3.04 Channel Clearing, Grubbing and Snagging**

- A. Notify ENGINEER 48 hours prior to channel clearing, grubbing, and snagging or applying herbicide.
- B. All dead elm and ash shall be taken down and removed.
- C. In reaches proposed for channel clearing, grubbing, and snagging.
  - 1. CONTRACTOR shall not excavate.
  - 2. Grub from toe of slope to toe of slope only as directed by ENGINEER.
  - 3. Clear trees, shrubs, and brush as noted in the plans and according to the project details.
  - 4. Stumps not located in grubbing areas shall be trimmed flush, no higher than 6" with ground and sprayed with herbicide.
- D. Clear areas required for access to site and execution of work or as indicated on plans as approved by the ENGINEER.
- E. Snag all deadfalls and debris from project work areas and haul or otherwise manage as indicated on the plans.

#### 3.05 Selective Clearing

- A. Notify ENGINEER 48 hours prior to selective clearing or applying herbicide.
- B. All dead elm and ash shall be taken down and removed.
- C. Selective clearing shall be done in such a manner that the conditions within drain right-of-way are not disturbed except by foot traffic or light machinery.
- D. Remove trees and log jams as indicated by the OWNER or the OWNER'S ENGINEER at the time of the pre-bid meeting.
- E. Stumps shall be trimmed flush, no higher than 6", with ground and sprayed with herbicide.

#### 3.06 Merchantable Timber

- A. When specified on the plans and bid as a separate item, the CONTRACTOR will be required to salvage all merchantable timber in accordance with the details found in the current MDOT Standard Specifications for Construction.
- B. If timber salvage is not specified, the landowner will be given reasonable notice so that the landowner may, at their option, cut and remove the merchantable timber before the clearing operation begins; otherwise, all timber will be treated as debris and disposed of as required.
- C. CONTRACTOR will obtain written approval from the landowner before removing any merchantable timber from the site.

#### 3.07 Debris Management

- A. Coordinate debris management with OWNER/ENGINEER prior to construction.
- B. Landowners shall have first call on all valuable timber.
- C. All burying of debris must be done in a manner to remove and replace all topsoil in bury location.

D. Burnable Debris

1. Wooded Areas – At the option of the landowner do one of the following:
  - i. Cut trees over 6” in diameter into 8’ lengths piled a minimum 15’ away from the top of bank of drain.
  - ii. Windrow wood and brush piles along the right-of-way
2. Agricultural Areas
  - i. Windrow wood and brush piles along the right-of-way.
3. Burning Restrictions:
  - i. **NO BURNING BY THE CONTRACTOR IS ALLOWED ON THIS PROJECT.**

F. Non-Burnable Debris

1. Wooded areas- debris to be buried minimum 24” below ground level or removed.
2. Agricultural areas- debris to be buried minimum 24” below ground level or removed.
3. Residential areas- debris to be removed.
4. Chipped materials shall be disposed of in one of the following manner determined by the CONTRACTOR.
  - i. Spread on right-of-way outside of slope to a maximum depth of 6”.
  - ii. Spread or pile in location specified by the landowner outside of, but within 50’ of the drain right-of-way to a depth specified by the landowner.
  - iii. Hauled off-site and disposed of in a manner compliant with Michigan Department of Agriculture’s Emerald Ash Borer Requirements.

G. Remove debris, rock, and extracted plant life from site.

1. Agricultural Areas- Must be left in a plantable condition, acceptable to the OWNER.
2. A mechanical root rake must be used to remove the superficial debris.
3. A chisel plow or harrow disk must be used to scarify the soil in all leveled locations.
4. A mechanical root rake must be used again after the chisel plow/harrow disk operation to remove any debris.
5. Hand picking of rocks and debris will be required as necessary and as directed by the OWNER.

3.08 Fences and/or Other Private Property

- A. CONTRACTOR shall notify landowners and ENGINEER of conflicts and provide reasonable cooperation and assistance.
- B. Any structures outside of drain right-of-way shall not be disturbed. CONTRACTOR shall correct all damage outside of right-of-way at own expense.
- C. CONTRACTOR shall disassemble fence, etc. and stockpile off right-of-way, and CONTRACTOR is responsible for reassembly unless otherwise noted in the plans. No extra payment will be made for fences, etc.
- D. CONTRACTOR shall give the landowner three (3) days’ notice prior to the disassembly of any fence.

**PART 4 – PAYMENT**

4.01 Measurement and Payment see Section 01270.

END OF SECTION

## SECTION 02111

### SELECTIVE TREE REMOVAL AND TRIMMING

#### **PART 1 – GENERAL**

##### 1.01 Summary:

###### A. Section Includes

1. Tree removal in drain or road right-of-way ONLY.
2. Tree trimming and pruning in drain or road right-of-way ONLY.
3. Stump removal in drain or road right-of-way ONLY.

###### B. Related Sections

1. Section 02110 – Site Clearing
2. Michigan Department of Transportation Standard Specifications for Construction, latest edition.

##### 1.02 Definitions

- A. Removal: Cutting, dozing or other means of removing trees, logs, brush, shrubs, stumps and debris from the required work area.
- B. Grubbing: Removal of trees stumps and roots from below the ground surface.
- C. Trimming or Pruning: Selective removal of branches or portions of the trunk that may be dead, dying or that may interfere with utilities or vehicles moving along or maintaining the roadway or utilities along the roadway.
- D. Lifting the Crown: Selective removal of the lower branches of a tree crown to increase the distance between the base of the canopy and the ground level.
- E. DBH: Diameter measured at the breast height, generally 4.5 feet above ground.

##### 1.03 Scope of Work

- A. This work shall include the labor and machinery necessary for the removal, grubbing, trimming or pruning of trees 6-inches or larger within the limits of work within a designated road right-of-way.

##### 1.04 Regulatory Requirements

- A. Conform to applicable local, county, and state standards for disposal of debris, burning debris on site, and use of herbicides.
- B. Coordinate tree removal with utility companies.
- C. Contractor shall obtain the necessary permit(s) to perform the work within the road right-of-way.

## **PART 2 – PRODUCTS**

### 2.01 Submittals

- A. Submit under provisions of Section 01300 – Submittals.
  - 1. Backfill shall be MDOT Class III Granular Material.

## **PART 3 – EXECUTION**

### 3.01 Preparation

- A. Verify that the trees to be removed are tagged, painted or marked in some manner.
- B. The CONTRACTOR shall investigate for himself/herself what trees must be removed and verify with the ENGINEER.

### 3.02 Protection

- A. Locate, identify, and protect from damage all utilities that remain.
- B. Protect survey stakes, survey monuments and benchmarks. If monuments, stakes or benchmarks are damaged or destroyed, CONTRACTOR will be responsible for replacement costs.
- C. Protect adjacent trees, plant growth, and features designated to remain as final landscaping.
- D. All trees outside of right-of-way shall be protected.
- E. Protect existing structures and utilities from damage or displacement.

### 3.03 Tree & Stump Removal

- A. Remove and dispose of designated trees and/or stumps. Stumps in the roadbed or trench shall be removed by grubbing. Others in the right-of-way can be removed by grinding.
- B. If stump removal results in a depression or lowering of the grade, restore grade with backfill.

### 3.04 Tree Trimming and Pruning

- A. Remove dead or dying branches and those that interfere with vehicular movement within the drain or road right-of-way for the purpose of maintaining the roadway or utilities along the roadway. Trimming and pruning to lift the crown can allow the tree to remain without interfering with traffic or utilities.

### 3.05 Merchantable Timber

- A. When specified on the plans and bid as a separate item, the CONTRACTOR will be required to salvage all merchantable timber in accordance with the details found in the current MDOT Standard Specifications for Construction.

- B. If timber salvage is not specified, the landowner will be given reasonable notice so that the landowner may, at their option, cut and remove the merchantable timber before the clearing operation begins; otherwise, all timber will be treated as debris and disposed of as required.

3.06 Debris Management

- A. Coordinate debris management with OWNER/ENGINEER prior to construction.
- B. Landowners shall have first call on all valuable timber.

**PART 4 – PAYMENT**

4.01 Measurement and Payment see Section 01270

END OF SECTION

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## **SECTION 02140**

### **DEWATERING**

#### **PART 1 – GENERAL**

##### 1.01 Summary:

- A. Section Includes
  - 1. Dewatering
- B. Related Sections
  - 1. Section 02211 – Rough Grading.
  - 2. Section 02222 – Excavation.
  - 3. Section 02225 – Trenching.

##### 1.02 Submittals

- A. Submit under provisions of Section 01300 – Submittals
- B. Submit shop drawings and product data for all items to be installed and/or constructed within this section.
- C. CONTRACTOR shall submit a dewatering plan prior to beginning work.

#### **PART 2 – PRODUCTS**

Not Used.

#### **PART 3 – EXECUTION**

##### 3.01 Dewatering

- A. CONTRACTOR shall be aware of and conform to the requirements of the State of Michigan in all dewatering operations. The CONTRACTOR shall also be responsible for the rules set down under the Ground Water Quality Control of the Well Construction Code.
- B. The CONTRACTOR shall provide and maintain adequate dewatering equipment to remove and dispose of all surface and ground water from all excavations and trenches or other parts of work.
- C. Excavation shall be kept dry during the preparation of the subgrade and continually thereafter until work within that excavation etc. is complete as approved by the ENGINEER.
- D. CONTRACTOR shall repair all work damaged due to failure of dewatering operation as determined by ENGINEER.
- E. All excavations for concrete structures or trenches, which extend down to or below the static ground water elevations, shall be dewatered by lowering the ground water surface to a minimum of 24 inches below the bottom of the excavation as approved by the ENGINEER.

- F. Surface water shall be diverted or prevented from entering the excavations without leaving the project site.
- G. Flow of water downstream shall not be impeded as a part of the project.
- H. CONTRACTOR shall submit complete dewatering plan for approval by ENGINEER prior to construction.
- I. No work that requires dewatering shall commence without approval from the ENGINEER.

#### **PART 4 – PAYMENT**

4.01 Unit Price – Measurement and Payment see Section 01270

END OF SECTION

## **SECTION 02160**

### **EXCAVATION SUPPORT SYSTEMS**

#### **PART 1 – GENERAL**

##### 1.01 Summary:

- A. Work Includes
  - 1. Excavation Support Systems.
- B. Related Sections
  - 1. Section 02211 – Rough Grading.
  - 2. Section 02222 – Excavation.
  - 3. Section 02225 – Trenching.

##### 1.02 Regulatory Requirements

- A. Conform to applicable OSHA regulations.

##### 1.03 References

- A. ASTM A-328 – Standard Specifications for Sheet Piling.
- B. ASTM A-572 – Grades 50, High Strength.
- C. ASTM A-690 – High Strength, Corrosion Resistant.

##### 1.04 Submittals

- A. Submit under provisions of Section 01300 – Submittals.
- B. Submit shop drawings and product data for all items to be installed and/or constructed within this section.
- C. Submit manufacturer's instructions for all product data.
- D. Shop drawings shall include sheeting, shoring, and bracing design and calculations prepared and sealed by a registered professional ENGINEER.
- E. Product shall include component sizes, dimensions and finishes.

#### **PART 2 – PRODUCTS**

##### 2.01 Materials

- A. Timber and lumber for shoring and bracing shall be new, merchantable pine, Douglas Fir or Spruce, unless otherwise shown or specified. Secondhand timber or lumber shall not be used where strength and/or appearance are important consideration.
- B. Steel for sheeting, shoring and bracing shall be as per the referenced ASTM specifications.
- C. Temporary Sheeting: Select section modulus, embedment depth and bracing required to complete the work unless noted on the plans.

### **PART 3 – EXECUTION**

#### **3.01 Installation**

- A. The CONTRACTOR is responsible for the design and location of all sheeting, shoring and bracing.
- B. Where required to properly support the surfaces of excavations and to protect the construction work and workmen, sheeting, bracing and shoring shall be provided.
- C. If the ENGINEER is of the opinion that at any point sufficient or proper supports have not been provided, he may order additional supports at the expense of the CONTRACTOR, but neither the placing of such additional supports by the order of the ENGINEER nor the failure of the ENGINEER to order such additional supports placed shall release the CONTRACTOR from his responsibility for the sufficiency of such supports and the integrity of the work.
- D. Damage to new or existing structures occurring through settlements due to failure or lack of sheeting or bracing shall be repaired by the CONTRACTOR at his own expense.
- E. Conflict of opinion as to whether the settlement is due to the work of the CONTRACTOR or to any other cause will be determined by the ENGINEER.
- F. In general, the sheeting and bracing shall be removed, as the trench or excavation is refilled, in such a manner as to avoid the caving in of the work.
- G. Fill voids left by the withdrawal of the sheeting by ramming, or otherwise as directed.
- H. When sheeting and bracing is removed, the CONTRACTOR shall assume full responsibility for injury to structures or to other property or persons arising from failure to leave in place such sheeting or bracing.
- I. For the purpose of preventing injury to the structures, or to other property or to Persons, the CONTRACTOR shall leave in place any sheeting or bracing shown on the plans or ordered in writing by the ENGINEER.
- J. Cut off sheeting left in place at the elevation ordered but not less than 24” below the final ground surface.
- K. Bracing remaining in place shall be driven up tight.
- L. Measurements and payment for sheeting and bracing ordered by ENGINEERS left in place will be made as extra work, unless noted otherwise.
- M. The right of the ENGINEER to order sheeting and bracing left in place shall not be construed as creating any obligation on his part to issue such orders.

### **PART 4 – PAYMENT**

#### **4.01 Unit Price – Measurement and Payment see Section 01270.**

END OF SECTION

## **SECTION 02211**

### **ROUGH GRADING**

#### **PART 1 – GENERAL**

##### 1.01 Summary:

- A. Work Includes
  - 1. General Rough Grading.
- B. Related Sections
  - 1. Section 01400 – Quality Control.
  - 2. Section 02110 – Site Clearing.
  - 3. Section 02222 – Excavation.
  - 4. Section 02223 – Backfilling.
  - 5. Section 02225 – Trenching.
  - 6. Section 02923 – Landscape Grading.

##### 1.02 References

- A. MDOT Density Control Handbook, current addition.
- B. MDOT Standard Specifications for Construction, current addition
- C. Test method for density of soil in place with loss by wash less than 15 percent one point Michigan cone test.
- D. Test methods for density of soil with loss by wash greater than 15 percent – One Point T-99 test.
- E. ASTM D2922 – Test methods of density of soil and soil-aggregate in place by nuclear methods. (shallow depth)

##### 1.03 Submittals

- A. Submit under provisions of Section 01300 – Submittals
- B. Samples: Submit a gallon bucket sample of each type of fill to ENGINEER, in airtight containers.

#### **PART 2 – PRODUCTS**

##### 2.01 Materials

- A. Topsoil: Excavated material graded free of roots, rocks, subsoil, debris and large weeds.
- B. Course Stone Fill: MDOT 6A, 100 percent crushed for wet excavation, excavation within open drain, backfill for subgrade undercutting for poor soil or in pipe trench.

### **PART 3 – EXECUTION**

#### **3.01 Examination**

- A. Verify site conditions.
- B. Verify that survey benchmark and intended elevations for the work are as indicated.
- C. Verify that fill materials to be used are acceptable.

#### **3.02 Preparation**

- A. Identify required lines, levels, contours and datum.
- B. Identify known underground, above ground and aerial utilities. Stake and flag locations.
- C. Notify utility company to remove and relocate utilities.
- D. Protect above and below grade utilities, which are to remain.
- E. Protect plant life, lawns, rock outcropping and other features remaining as a portion of final landscaping.
- F. Protect benchmarks, existing structures, fences, sidewalks, paving, and curbs from excavation equipment and vehicular traffic.

#### **3.03 Topsoil Excavation**

- A. Excavate topsoil from areas to be further excavated, re-landscaped or re-graded.
- B. Stockpile in area designated on site or haul from site as designated on the plans. Remove excess topsoil not being reused, from site.
- C. Do not excavate wet topsoil.
- D. Stockpile topsoil to depth not exceeding 8 feet. Cover to protect from erosion.

#### **3.04 Subsoil Excavation**

- A. Excavate subsoil from areas to be further excavated, re-landscaped, or re-graded.
- B. Stockpile in area designated on site. Remove excess and unsuitable subsoil not being reused from site.
- C. Do not excavate wet subsoil.
- D. Stockpile subsoil to depth not exceeding 8 feet. Cover to protect from erosion.
- E. When excavation through roots is necessary, perform work by hand and cut roots with sharp axe.

### 3.05 Filling

- A. Fill areas to contours and elevations with unfrozen materials allowing for placement of topsoil.
- B. Granular Fill: Place and compact materials in continuous layers not exceeding 6 inches compacted depth, compacted to a minimum 95 percent of the material's dry density.
- C. Subsoil and Topsoil Fill: Place and compact material in continuous layers not exceeding 12 inches compacted depth, compacted to a minimum 95 percent of the material's maximum dry density.
- D. Maintain optimum moisture content of fill materials to attain required compaction density.
- E. Make grade changes gradual. Blend slope into level areas.
- F. Remove surplus and unsuitable fill materials from site.
- G. Slope grade away from buildings and structures minimum 2 inches in 10ft, unless noted otherwise.
- H. Remove surplus and unsuitable fill materials from site.

### 3.06 Tolerances

- A. Top surface of Subgrade: Plus or minus 1/10 foot.

### 3.07 Schedule

- A. Fill Under Grass Areas:
  - 1. Subsoil native fill, to 6 inches below finish grade, compacted to 95 Percent maximum dry density as determined by MDOT standard requirements.
- B. Fill Under Asphalt Paving:
  - 1. MDOT Class II fill, to subgrade elevation, compacted to 95 percent maximum dry density as determined by MDOT standard requirements.
- C. Fill Under Concrete Building Pads, Concrete Curb and Gutter and Sidewalks:
  - 1. MDOT Class II fill, to within 4" of underside of concrete slab. All fill to be compacted to 95 percent maximum dry density as determined by MDOT standard requirements.
- D. Backfill for Utility Trenches:
  - 1. Bedding as specified in individual utility specifications section.
  - 2. Backfill material as specified in Section 02225 – Trenching and as defined here in for typed fill.
- E. Fill for Subgrade and Undercutting:
  - 1. MDOT Class II fill to proposed subgrade elevation, compacted to 95 percent maximum dry density as determined by MDOT standard requirements.

### 3.08 Tolerances

- A. Top surface of subgrade: Plus or minus 1/10 foot.

3.09 Field Quality Control

- A. Field inspection and testing will be performed under provisions of Section 01400.
- B. Tests and analysis of fill material will be performed in accordance with MDOT standard requirements and with Section 01400.
- C. Compaction testing will be performed in accordance with MDOT standard requirements and with Section 01400.
- D. If tests indicate work does not meet specified requirements, remove work, replace and retest at no cost to OWNER.
- E. Frequency of Tests: At the discretion of the ENGINEER.

**PART 4 – PRODUCTS**

4.01 Unit Price – Measurement and Payment see Section 01270.

END OF SECTION

## SECTION 02220

### REMOVAL OF STRUCTURES AND OBSTRUCTIONS

#### **PART 1 GENERAL**

##### 1.01 SECTION INCLUDES

This WORK consists of the removal and disposal of trees, slope and ditch protection, abandoned utility services, curbs, gutters, pipes, sidewalks, appurtenances, traffic control devices, guardrail, fences, foundations, pavements, pavement markings, and any other obstructions that are not designated or permitted to remain. It shall also include salvaging, stockpiling and loading salvable materials, sandblasting, plugging structures, cleaning culverts, and sawing and cutting to facilitate controlled breaking and removal of concrete and asphalt to a neat line. Except in areas to be excavated, the resulting trenches, holes, and pits shall be backfilled.

Materials removed and not designated to be salvaged or incorporated into the WORK shall become the property of CONTRACTOR.

##### 1.02 RELATED SECTIONS

- A. Section 02230 – Clearing and Grubbing
- B. Section 02315 – Excavation and Embankment

#### **PART 2 PRODUCTS**

Not used.

#### **PART 3 EXECUTION**

##### 3.01 CONSTRUCTION REQUIREMENTS

- A. **General.** CONTRACTOR shall raze, remove, and dispose of all structures and obstructions which are identified on the PROJECT, except utilities, structures and obstructions removed under other contractual agreements or as otherwise provided for in the CONTRACT DOCUMENTS, and salvable material designed to remain the property of OWNER.
- B. **Salvageable Material.** All salvageable material designated in the CONTRACT, or by ENGINEER, to remain the property of OWNER shall be removed without damage, in sections or pieces which may be readily transported, and shall be stockpiled by CONTRACTOR at specified locations within the project limits. CONTRACTOR shall safeguard salvageable materials and shall be responsible for the expense of repairing or replacing damaged or missing material until it is incorporated into the work, or loaded onto OWNER's equipment by CONTRACTOR.
- C. **Signs and Traffic Signals.** Removal of signs shall include removal of posts, footings, pedestals, sign panels, and brackets. Concrete adhering to salvable signposts shall be removed. Removal of sign panels shall include removal of the panel and its attachment hardware from the existing installation and adjusting the spacing of the remaining panels.

The removal of traffic signal items shall include poles, mast arms, signal heads, span wires, footings, all attachment hardware, and other incidental materials. Removal of signal poles or pedestal poles shall include pole, span wire, cable, signal heads, overhead sign support wire, footings, and pedestrian push buttons. Removal of traffic signal controller and cabinet shall include removal of the footing and all auxiliary equipment contained within the cabinet.

- D. **Pavements, Sidewalks, and Curbs.** All concrete pavements, sidewalks, structures, curbs, gutters, etc., designated for removal, shall be disposed of off-site by CONTRACTOR at CONTRACTOR's expense. Sawing of concrete and asphalt shall be done to a true line, with a vertical face, unless otherwise specified. The minimum depth of a saw cut shall be two (2) inches. For reinforced concrete, the minimum depth shall be two (2) inches, or to the depth of the reinforcing steel, whichever occurs first.
- E. **Abandonment of Existing Sewer Facilities.** All existing sewer facilities to be plugged and abandoned in place are specifically shown on the DRAWINGS. Unless otherwise specified in the DRAWINGS, the procedures and methods for the abandonment of said facilities shall conform to the requirements set forth in the CONTRACT DOCUMENTS for that specific item. Abandonment of existing sewer facilities shall be included in this item of work unless otherwise provided for under other WORK items in the CONTRACT DOCUMENTS.

END OF SECTION

## **SECTION 02222**

### **EXCAVATION**

#### **PART 1 – GENERAL**

##### **1.01 Summary:**

- A. Section Includes
  - 1. Pilot Channel Excavation.
  - 2. Open Channel Excavation.
  - 3. Spoil Leveling.
  - 4. Riffle and Pool Construction
  - 5. Subgrade Undercutting and Backfilling.
  - 6. Excavation and Sediment Removal
- B. Related Sections
  - 1. Section 01012 – Staking and Inspection Services.
  - 2. Section 01300 – Construction Progress Schedule.
  - 3. Section 02110 – Site Clearing.
  - 4. Section 02211 – Rough Grading.
  - 5. Section 02223 – Backfilling.
  - 6. Section 02225 - Trenching
  - 7. Section 02751 – Drain Crossings.

#### **PART 2 – PRODUCTS**

Not used.

#### **PART 3 – EXECUTION**

##### **3.01 Preparation**

- A. Notify ENGINEER in accordance with Section 01200 –Meetings.
- B. Identify required lines, levels, contours, and datum.
- C. Identify known underground, above ground, and aerial utilities, stake and flag locations.
- D. Notify utility company when specified to remove and relocate utilities.
- E. Protect above and below grade utilities.
- F. Protect plant life, lawns, rock outcropping and other features remaining as a portion of final landscaping.
- G. Protect benchmarks, existing structures, fences, sidewalks, paving, and curbs from excavation equipment and vehicular traffic.
- H. Protect grade and slope stakes.
- I. No deposition of spoil on identified tree root zones.

3.02 Pilot Channel Excavation

- A. Notify ENGINEER 48 hours prior to pilot channel excavation.
- B. Clear site in accordance with Section 02110 – Site Clearing.
- C. Excavate pilot channel to the dimensions specified on plans.
- D. Limits of the pilot channel to be coordinated prior to construction with the ENGINEER.
- E. Remove necessary sediment from existing culverts in order to provide upstream dewatering.

3.03 Open Channel Excavation

- A. Clear site in accordance with Section 02110 – Site Clearing.
- B. Excavate drain to the dimensions and cross sections specified on plans.
- C. CONTRACTOR shall check flow line elevations every 100 feet (ENGINEER will provide grade stakes). Undercutting of 0.3 feet or greater will be filled with Type A. fill - 6A Stone – to the proposed flow line as incidental cost to the CONTRACTOR.
- D. CONTRACTOR shall remove all sediment from existing culverts.
- E. Underpin, brace, or shore adjacent structures, which may be damaged by excavation work, including utilities and pipe chases.
- F. Machine slope banks to required slopes.
- G. Notify ENGINEER of unexpected subsurface conditions and discontinue affected work in area until notified to resume work.
- H. Correct unauthorized excavation at no extra cost to OWNER.
- I. Rake, seed, and mulch all disturbed areas daily in accordance with Section 02936 – Seeding.
- J. Repair and replace field tile outlets as directed by ENGINEER and in accordance with Section 02715 – Lateral Tile Drains.
- K. Match existing side slopes in reaches identified channel cleanout.
- L. Excess spoils on roadsides and lawn areas are to be hauled away.
- M. Excavation should be coordinated with the ENGINEER in areas of Pilot Channel Excavation. Open Channel Excavation shall not begin until dewatering is adequate and has been approved by the ENGINEER.

3.04 Channel Reshaping

- A. Channel shall be excavated to the dimensions and cross sections specified in the plans and as directed by the ENGINEER.
- B. Notify the ENGINEER of unexpected conditions and discontinue work in area until notified to resume work.

- C. Match existing side slopes to minimize disturbance as specified on the plans or directed by the ENGINEER.
- D. Correct unauthorized excavation at no extra cost to OWNER.
- E. Field tile outlets shall extend into the proposed channel as specified on the plans, as directed by the ENGINEER, and in accordance with Section 02715 – Lateral Tile Drains. Tile extending into the channel more than 6” shall be cut back and splash pad installed.

### 3.05 Channel Parallel to Roads

- A. Unless the plans require the drain to be set back from a road, all excavations will be made from the slope on the field side of the drain.
- B. On the undisturbed slope adjacent to a road, the CONTRACTOR will handle trees and brush as specified in Section 02110 – Site Clearing.
- C. Where farm outlet roads occur along the side of the drain, spoil may be placed on the opposite side of a farm road and leveled in a manner to save existing travel surfaces.

### 3.06 Spoil Leveling

- A. Spoils in wooded areas shall be placed according to the plan details or as directed by the landowner. Permission from the landowner shall be granted utilizing the Landowner Agreement Form.
- B. Spoils in agricultural areas shall be spread as agreed upon by the landowner. Spoils spread on tillable land shall be evenly spread, raked, hand-picked of sticks and stones, and all foreign debris otherwise removed. Permission from the landowner shall be granted utilizing the Landowner Agreement Form.
- C. Seed spoils in accordance with Section 02936 – Seeding.
- D. It is preferred that the spoils shall be placed and leveled near the edge of the drain right-of-way. Where this is not possible, spoils are to be kept a minimum 10 feet from excavation area.
- E. No excavated materials shall be placed on roads without written permission of the authorities having jurisdiction of said road.
- F. At the option of the road authority and if right-of-way allows, spoil may be ordered placed on the opposite side of the road and leveled.
- G. Spoils excavated in areas adjacent to residential or lawn areas are to be removed from the area unless directed by the ENGINEER, shown on plans, or CONTRACTOR receives written permission from landowner to level in area.
- H. No spoils are to be placed in any watercourse, drain, or wetland area.
- I. Openings will be left or made through the leveled spoil at places where the general ground surface indicates an opening is necessary for passage of surface water to the drain.
- J. Side grade outs for watercourse and ditches shall be done at the time of open drain excavation or channel cleanout.

- K. Non-combustible items (i.e. roots and stumps), brush, or debris shall not be mixed with leveled spoil material.
- L. Shape leveled spoils to prevent the ponding of water behind spoils piles.
- M. Level spoils on the same side of the drain which excavation occurs. If excavation occurs from both sides of drain, then make even spoil piles on both sides of drain unless otherwise directed by the ENGINEER.
- N. In agricultural lawn, landscaped, or otherwise developed areas, root rake and hand pick sticks and rocks so that all foreign debris is removed spoils must be in a plantable condition and acceptable to the landowner.
- O. Prior to completion, all spoil piles must be raked to remove wood and rocks.
- P. 4 inches of topsoil must be placed on spoil piles in which the native excavated material is not suitable for establishing vegetation as determined by the ENGINEER.

### 3.07 Riffle and Pool Construction

- A. Clear site in accordance with Section 02110 – Site Clearing.
- B. Excavate or place material to achieve proposed dimensions and cross sections specified on plans.
- C. CONTRACTOR shall check flow line elevations every 100 feet (ENGINEER will provide grade stakes). Undercutting of 0.3 feet or greater will be filled with Type A fill -6A Stone – to the proposed flow line as incidental cost to the CONTRACTOR.
- D. CONTRACTOR shall remove all sediment from existing culverts and intakes.
- E. Underpin, brace, or shore adjacent structures, which may be damaged by excavation work, including utilities and pipe chases.
- F. Machine slope banks to required slopes.
- G. Notify ENGINEER of unexpected subsurface conditions and discontinue affected work in area until notified to resume work.
- H. Correct unauthorized excavation at no extra cost to OWNER.
- I. Rake, seed, and mulch all disturbed areas daily in accordance with Section 02936 – Seeding.
- J. Repair and replace field tile outlets as directed by ENGINEER and in accordance with Section 02715 – Lateral Tile Drains.
- K. Match existing side slopes in reaches identified channel cleanout.
- L. Excess spoils are to be hauled away as detailed on the plans.
- M. In muck area construct pilot channels to dewater spoils based on field conditions. Cost included in open channel excavation.

3.08 Subgrade Undercutting and Backfilling

- A. In areas that are suspect and may require subgrade undercutting, notify ENGINEER immediately. Do not proceed until it is agreed subgrade undercutting is required and quantities can be documented.
- F. Remove the subgrade undercut quantity of material as determined adequate by ENGINEER.
- G. Backfill with Type A fill for work under structures, crossings, etc. all work shall be according to the plans and directed by the ENGINEER.
- B. Compact fill material as specified in Section 02223 – Backfilling.

3.09 Excavation/Sediment Removal

- A. Excavate drain to the dimensions and cross sections specified on plans.
- B. Underpin, brace, or shore adjacent structures, which may be damaged by excavation work, including utilities and pipe chases.
- C. Notify ENGINEER of unexpected subsurface conditions and discontinue affected work in area until notified to resume work.
- D. Correct unauthorized excavation at no extra cost to OWNER.
- E. Excavation should be coordinated with the ENGINEER in areas of Pilot Channel excavation. Excavation/Sediment Removal shall not begin until dewatering is adequate and has been approved by the ENGINEER.

3.10 Field Quality Control

- A. Field inspection and testing will be performed under provisions of Section 01400
- B. Provide for visual inspection of bearing surfaces.
- C. If tests indicate work does not meet specified requirements, remove work, replace and retests at no cost to the OWNER.
- D. Frequency of Tests: As directed by the ENGINEER.

3.11 Protection

- A. Protect excavations by methods required to prevent cave-in or loose soil from falling into excavation.
- B. Protect bottom of excavations and soil adjacent to and beneath foundation, from freezing.
- C. Protect landscape areas, mailboxes, trees, lawns etc. Any damage to these areas becomes the responsibility of the CONTRACTOR.

**PART 4 – PAYMENT**

4.01 Measurement and Payment see Section 01270.

END OF SECTION

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## **SECTION 02223**

### **BACKFILLING**

#### **PART 1 – GENERAL**

##### 1.01 Summary:

- A. Section Includes
  - 1. Backfill Materials.
- B. Related Sections
  - 1. Section 01400 – Quality Control.
  - 2. Section 02222 – Excavation
  - 3. Section 02225 – Trenching: Backfilling of utility trenches.

##### 1.02 References

- A. ANSI/ASTM C136 or MTM 108 & 109 – Method for Sieve Analysis of fine and coarse aggregates.
- B. ANSI/ASTM C117 or MTM 108 – Test method for materials finer than 15 mm (N0.200 Sieve) in mineral aggregates by washing.
- C. ASTM D2992 – Test methods of Density of Soil and Soil Aggregate in place by the Nuclear Methods (shallow depth).
- D. MDOT 2003 Standard Specification for construction.
- E. MDOT Density Control Handbook, 1998.

##### 1.03 Submittals

- A. Submit under provisions of Section 01300 – Submittals.
- B. Samples: Submit a 5-gallon bucket sample of each type of fill to ENGINEER in airtight containers.

#### **PART 2 – PRODUCTS**

##### 2.01 Fill Materials

- A. Coarse Stone Fill: MDOT 6A, 100% crushed – for wet excavation, within open drain, backfill for subgrade undercutting for poor soil or in pipe trench, compacted to a minimum of 95 percent of the materials maximum dry density as determined by modified proctor method in layers not to exceed 12 inches loose depth, unless otherwise specified. A ballast type crushed stone free of shale, clay, friable material, sand, and debris graded in accordance with ANSI/ASTM C136 or substitute with Foundry Slag having equivalent gradation.
- B. Granular Fill: MDOT Class IIA – for dry excavation, pipe bedding to 12” above pipe, and trench backfill within roadway influence or dry excavation. Compacted to a minimum of 95 percent of the materials maximum dry density is determined by modified proctor method in

layers not to exceed 12 inches loose depth. Substitute with MDOT 6A coarse stone for wet excavation.

- C. Native Subsoil: Site soils reused, free of gravel larger than 3-inch size, organic material, and debris, backfill above bedding of pipe to subgrade in greenbelt area. Compacted to a minimum of 90 percent of the materials maximum dry density as determined by modified proctor method in layers not to exceed 12 inches loose depth, unless otherwise specified or as approved by the ENGINEER.

## 2.02 Accessories

- A. Filter Fabric: See Section 02279 – Filter Fabric

## **PART 3 – EXECUTION**

### 3.01 Examination

- A. Verify that fill materials to be used are acceptable.
- B. Verify foundation and/or perimeter drainage installation has been inspected.

### 3.02 Preparation

- A. Generally, compact subgrade to density requirements for subsequent backfill materials.
- B. Cut out soft areas of subgrade not capable of insitu compaction. Backfill with MDOT 6A fill (wet excavation) or MDOT Class II fill (dry Excavation) as directed by ENGINEER and compact to density equal to or greater than requirements for subsequent backfill material.
- C. Prior to placement of aggregate surface material at gravel paved areas, compact subsoil to a minimum of 95 percent of its maximum dry as determined by Modified Proctor Method.
- D. Thoroughly proof-roll all areas of building pads, slabs-on-grade, bituminous pavement, concrete curb and gutter and sidewalks with a fully loaded tandem-axle truck, or its equivalent.
- E. Loose or soft areas revealed during the proof-rolling operations are to be compacted or removed and replace with compacted MDOT Class II fill.
- F. Install geotextile fabric between subgrade and aggregate in parking and drive areas as specified by the ENGINEER.

### 3.03 Backfilling

- A. Backfill areas to contours and elevations with unfrozen materials.
- B. Systematically backfill to allow maximum time for natural settlement. Do not backfill over porous, wet, frozen or spongy subgrade surfaces.
- C. Granular Fill: Place and compact materials as specified in Part 2 of this section.
- D. Native Subsoil: Place and compact material as specified in Part 2 of this section.

- E. Machine compact under spring line of pipe with T-bar or ENGINEER approved equivalent.
- F. Employ a placement method that does not disturb or damage foundation perimeter drainage conduit in trenches.
- G. Maintain optimum moisture content of backfill materials to attain required compaction density.
- H. Backfill against supported foundation walls. Do not backfill against unsupported foundation walls.
- I. Backfill simultaneously on each side of unsupported foundation walls until supports are in place.
- J. Backfill simultaneously on all sides of utility structures, manholes, and catch basins.
- K. Make grade changes gradual. Blend slope into level areas.
- L. Remove surplus backfill materials from site.
- M. Leave fill material stockpile areas completely free to excess fill materials.
- N. Backfill wet excavation and subgrade undercutting according to Section 02222 – Excavation, Subgrade Undercutting and Section 02223 – Backfilling.
- O. Backfill subgrade undercutting in open drain according to Section 02222 – Excavation, Subgrade Undercutting and section 02223 – Backfilling.
- P. Place geotextile fabric over MDOT 6A bedding prior to placing the next lift of bedding.

#### 3.04 Tolerances

- A. Top Surface of Backfilling Under Paved Areas: Plus or minus 1/10 foot from required elevations.

#### 3.05 Field Quality Control

- A. Field inspection and testing will be performed under provisions of Section 01400.
- B. Tests and analysis of fill material will be performed in accordance with One Point Michigan Cone Test.
- C. Compaction testing will be performed in accordance with MDOT standard requirements.
- D. If tests indicate work does not meet specified requirements, remove work, replace and retest at no cost to OWNER.
- E. Frequency of Tests: At the discretion of ENGINEER.
- F. Proof roll compacted fill surfaces under slabs-on-grade.

#### 3.06 Protection of Finished Work

- A. Protect finished work under provisions of Section 01500 – Construction Facilities and Temporary Controls.
- B. Recompect fill subjected to vehicular traffic.

**PART 4 – EXECUTION**

4.01 Unit Price – Measurement and Payment see Section 01270.

END OF SECTION

## **SECTION 02225**

### **TRENCHING**

#### **PART 1 – GENERAL**

##### **1.01 Summary:**

###### **A. Section Includes**

1. Trenching.

###### **B. Related Sections**

1. Section 01400 – Quality Control: Testing Fill Compaction.
2. Section 02211 – Rough Grading: Topsoil and Subsoil removal from site surface.
3. Section 02223 – Backfilling: General Backfilling.

##### **1.02 References**

- A. ANSI/ASTM C136 – Method for Sieve Analysis of Fine and Coarse aggregates.
- B. ASTM D2922-05 – Test Methods for density of soil and soil-aggregate in place by Nuclear Methods (shallow depth).
- C. ASTM C12- Standard practice for Installing Vitrified Clay Pipe lines.
- D. ASTM D2321 – Standard practice for Underground Installation of Thermoplastic Gravity-Flow Applications.

##### **1.03 Field Measurements**

- A. Verify that survey benchmark and intended elevations for the work are as shown in drawings.

#### **PART 2 – PRODUCTS**

##### **2.01 Bedding/Backfill Materials**

- A. Coarse Stone Fill: MDOT 6A, 100% crushed – for wet excavation, within open drain, backfill for subgrade undercutting for poor soil or in pipe trench, compacted to a minimum of 95 percent of the materials maximum dry density as determined by modified proctor methods. A ballast type crushed stone free of Shale, Clay, Friable material, Sand, and debris graded in accordance with ANSI/ASTM C136 or substitute with Foundry Slag having equivalent gradation.
- B. Granular Fill: MDOT Class IIA – for dry excavation, pipe bedding to 12” above pipe, and trench backfill within roadway influence or dry excavation compacted to a minimum of 95 percent of the materials maximum dry density as determined by modified proctor method in layers not to exceed 12 inches loose depth. Substitute with MDOT 6A coarse stone for wet excavation.
- C. Structural Fill: MDOT Class I – for lower area of excess excavation over 24” compacted to a minimum of 95 percent of the materials maximum dry density as determined by modified proctor method.

- D. Native Subsoil: Reused, free of gravel larger than 3-inch size, organic material, and debris, backfill above bedding of pipe to subgrade in greenbelt area compacted to a minimum of 90 percent of the materials maximum dry density as determined by modified proctor method in layers not to exceed 12 inches loose depth, unless otherwise specified.
- E. Dense Aggregate: MDOT 22A dense graded aggregate for driveway and temporary patches on traveled surfaces, compacted to a minimum of 98 percent of its maximum dry density as determined by modified proctor method.
- F. MDOT Standard Flowable Fill (Fill Class C concrete) – for headwall, sheet piling repair, and culvert storm sewer back filling.
- G. Dense Aggregate: MDOT 23A dense graded aggregate – for gravel road as drive surface course and road shoulder construction. Compacted to a minimum of 90 percent of the materials maximum dry density as determined by modified proctor method in layers not to exceed 12 inches loose depth, unless otherwise specified or as approved by the ENGINEER.

### **PART 3 – EXECUTION**

#### **3.01 Preparation**

- A. Identify required lines, levels, contours and datum.
- B. Maintain and protect existing utilities remaining, which pass through work area.
- C. Protect benchmarks, grade and slope stakes.

#### **3.02 Excavation**

- A. Excavate subsoil required for utility piping and accessories as indicated on the drawings.
- B. Excavate on the required line to the depth required below the pipe grade for bedding thickness required.
- C. Trenches for pipe shall be excavated to the following minimum of and maximum widths measured at the top of the pipe:

| <u>Pipe Size</u> | <u>Trench Width</u> |                |
|------------------|---------------------|----------------|
|                  | <u>Minimum</u>      | <u>Maximum</u> |
| 6" and smaller   | 18"                 | 24"            |
| 8" & 10"         | 24"                 | 30"            |
| 12" & 15"        | 30"                 | 36"            |
| 18"              | 34"                 | 40"            |
| 21"              | 38"                 | 42"            |
| 24"              | 42"                 | 46"            |
| 27"              | 45"                 | 49"            |
| 30"              | 49"                 | 53"            |
| 36"              | 56"                 | 60"            |
| Larger than 36"  | I.D. + 20"          | I.D. + 24"     |

- D. Where trench widths exceed the maximum specified above, the OWNER's representative may require special bedding or the use of extra strength pipe at the CONTRACTOR's expense.

- E. Minimum trench width is 18 inches.
- F. Excavation shall not interfere with normal 45 degree bearing splay of foundations.
- G. Hand trim excavation. Hand trim for bell and spigot pipe joints. Remove loose matter.
- H. Remove lumped subsoil, boulders, and rock 6 inches below bottom of pipe.
- I. Where soil in the bottom of the trench is unsuitable in the opinion of the ENGINEER, excavate below the trench bottom and place MDOT 6A fill, as directed by the ENGINEER.
- J. Correct unauthorized excavation at no cost to OWNER.
- K. Correct areas over-excavated by error with MDOT 6A fill, in accordance with Section 02223.
- L. Stockpile excavated material in area designated on site and remove excess material not being reused from site.
- M. Grade top perimeter of excavation to prevent surface water from draining into excavation.
- N. Notify OWNER's representative of unexpected subsurface conditions and discontinue affected work in area until notified to resume work.
- O. Protect excavation by methods required to prevent cave-in or loose soil from falling into excavation.
- P. Provide, operate, and maintain pumping equipment to keep trench free of water. Payment for dewatering shall be included in the pay item being installed.
- Q. Use trench boxes or other form of temporary protection when required by OSHA standards or when protection of existing utilities is necessary.

### 3.03 Bedding

- A. Place and compact bedding below the pipe to the depth specified on the plans.
- B. Support pipe and conduit during placement and compaction of bedding fill.

### 3.04 Backfilling

- A. See Section 02223 – Backfilling.
- B. Place 4 inches tamped MDOT Class II fill along the side of the pipe, filling any void space under the pipe. Execute tamping with a T bar or other tamping device approved by the ENGINEER.
- C. Place additional tamped MDOT Class II fill alongside the pipe to a height equal to the top of the pipe.
- D. Place and compact MDOT Class II fill material to 12 inches above the top of the pipe unless shown otherwise on the project plans.

3.05 Tolerances

- A. Top Surface of Backfilling: Under Paved Areas: Plus or minus ½ inch from required elevations.

3.06 Field Quality Control

- A. Field inspection and testing will be performed under provisions of Section 01400- Quality Control.
- B. Tests and analysis of fill material will be performed in accordance with MDOT standard requirements and with Section 01400 – Quality Control.
- C. Compaction testing will be performed in accordance with MDOT standard requirements and with Section 01400 – Quality Control.
- D. If tests indicate work does not meet specified requirements, remove work, replace and retest at no cost to OWNER.
- E. Frequency of Tests: As directed by the ENGINEER
- F. Proof roll compacted fill surfaces under paving.

3.07 Protection of Finished Work

- A. Protect finished work under provisions of Section 01500 – Temporary Controls.
- B. Recompect fills subjected to vehicular traffic prior to placing wearing surface.

**PART 4 – PAYMENT**

4.01 Unit Price – Basis of Measurement see Section 01270.

END OF SECTION

## **SECTION 02231**

### **AGGREGATE BASE COURSE**

#### **PART 1 – GENERAL**

##### 1.01 Summary:

- A. Section Includes:
  - 1. Aggregate Base.
- B. Related Sections
  - 1. Section 02211 – Rough Grading
  - 2. Section 02223 – Backfilling
  - 3. Section 02225 – Trenching.

##### 1.02 References

- A. AASHTO M147-65- Materials for Aggregate and Soil- Aggregate
- B. ASTM C136 – Sieve Analysis of Fine and Coarse aggregate
- C. MDOT Standard Specifications for construction, current edition.
- D. ASTM D4318 – Test method for liquid limit, plastic limit, and plasticity index of soils.

##### 1.03 Submittals

- A. Submit under provisions of Section 01300 – Submittals.
- B. Samples: Submit a 5-gallon sample of each type of aggregate to testing laboratory as directed by ENGINEER.

#### **PART 2 – PRODUCTS**

##### 2.01 Materials

- A. Dense Aggregate: MDOT 22A dense graded aggregate – for driveway and temporary patches on traveled surfaces, compacted to a minimum of 95 percent of its maximum dry density as determined by modified proctor method in layers not to exceed 12 inches loose depth.
- B. Dense Aggregate: MDOT 23A dense graded aggregate - for gravel road as drive surface course and road shoulder construction compacted to a minimum of 90 percent of the materials maximum dry density as determined by modified proctor method in layers not to exceed 12 inches loose depth, unless otherwise specified or as approved by the ENGINEER.

### **PART 3 – EXECUTION**

#### **3.01 Examination**

- A. Verify subbase and/or subgrade has been inspected, gradients and elevations are correct and are dry.

#### **3.02 Aggregate Placement**

- A. Spread aggregate over prepared base to a total compacted thickness as indicated on the drawings and specifications.
- B. Level and contour surfaces to elevations, depths, and gradients as indicated on the plans and in the specifications.
- C. Compact placed aggregate materials to a minimum of 95 percent of its maximum dry density as determined by modified proctor method.
- D. If necessary, add water to assist compaction. If excess water is apparent, remove aggregate and aerate to reduce moisture content.
- E. Replace gravel to the width as shown on the plans and compact to a minimum 98 percent of the material's maximum dry density according to the modified proctor method.
- F. Use mechanical vibrating tamping in areas inaccessible to compaction equipment.
- G. See plans for required aggregate depths.

#### **3.03 Tolerances**

- A. Flatness: Maximum variation of 3/8 inch measure with 10-foot straight edge.
- B. Scheduled Compacted Thickness: With 1/4 inch.
- C. Variation from True Elevation: Within 1/2 inch.

#### **3.03 Field Quality Control**

- A. Field inspection and testing will be performed under provisions of Section 01400 – Quality Control.
- B. Gradation of Aggregate: In accordance with ASTM/C136.
- C. Furnish material certification from supplier as required by the ENGINEER.
- D. Compaction testing will be performed in accordance with MDOT Standard Requirements and with Section 01400- Quality Control.
- E. If tests indicate work does not meet specified requirements, remove work, replace and retest at no cost to OWNER.
- F. Frequency of Tests: As directed by the ENGINEER.

**PART 4 – PAYMENT**

4.01 Unit Price – Measurement and Payment see Section 01270.

END OF SECTION

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## SECTION 02271

### SLOPE PROTECTION AND EROSION CONTROL

#### **PART 1 – GENERAL**

##### 1.01 Summary:

- A. Section Includes
  - 1. Plain Riprap.
  - 2. Heavy Riprap Scour Protection.
  - 3. Riprap Spillway.
  - 4. Rock Vanes.
  - 5. Riprap Toe of Slope Protection
  - 6. Reinforced Slope Protection
  - 7. Reinforcement Mat.
- B. Related Sections
  - 1. Section 01500 – Temporary Controls.
  - 2. Section 02211 – Rough Grading.
  - 3. Section 02222 – Excavation.
  - 4. Section 02223 – Backfilling.
  - 5. Section 02279 – Filter Fabric.
  - 6. Section 02715 – Lateral Tile Drains, Surface Outlet Tubes.
  - 7. Section 02110 – Site Clearing.
  - 8. Section 02274 – Soil Erosion Control
  - 9. Section 02936 – Seeding

##### 1.02 References

- A. Part 91 of Act 451 of 1994, (as amended), Soil Erosion and Sedimentation Control Act.
- B. “Soil Erosion and Sedimentation Control – Authorized Public Agency Procedures Manual”, MACDC APA, 2018.
- C. Natural Crushed Stone Association (N.C.S.A.).
- D. Michigan Department of Transportation: Current edition of the Standard Specifications for Construction.
- E. ASTM D-4595 – Test method for geo-grid tensile strength.

##### 1.03 Submittals

- A. Submit under provisions of Section 01300 – Submittals.
- B. Submit shop drawings and product data for all items to be installed and/or constructed within this section.

##### 1.04 Corrective Actions

- A. In the event that the OWNER’S personnel, or the OWNER’S contract inspector, is unsuccessful in getting the CONTRACTOR to perform corrective actions, the OWNER will assume responsibility for ensuring that SESC corrective actions are implemented. The

following progressive steps shall be taken if a CONTRACTOR fails to comply with their contract or Part 91 regulations.

1. Issue or reissue a work order. Describing the work to be completed by the CONTRACTOR specifying a completion date.
2. Issue a Notice of Non-Compliance with Contract Requirements for failure to respond to SESC correction actions in a timely manner.
3. Contract with another specialty contractor to complete the required corrective actions to ensure compliance with regulations.
4. Prepare and place on file a Contractor Evaluation to document the CONTRACTOR'S inability to meet contract obligations and implementation of required SESC measures.

## **PART 2 – PRODUCTS**

### **2.01 Materials**

- A. Plain Riprap – Sound, tough, durable uniform white crushed limestone free from structural defects. Material to be uniform in size and range in dimension from 8 to 16 inches.
- B. Heavy Riprap – Sound, tough, angular durable uniformly white crushed limestone free from structural defects. Material to be uniform in size and not less than 16 inches in the least dimension, with an average of 18 inches to 24 inches diameter.
- C. All materials must be approved by ENGINEER before use on project.
- D. Filter Fabric: As specified in Section 02279 – Filter Fabric.
- E. Geo-Grid Netting – For retaining wall tiebacks shall be as specified on the drawings.
- F. Reinforced Grass Spillway turf reinforcement mat: North American Green SC250 or ENGINEER approved equivalent.
- G. Reinforced Slope Protection reinforcement mat: North American Green C350 or ENGINEER approved equivalent.
- H. Reinforcement mat securing pins: 12 inch North American Green Eco Stakes or ENGINEER approved equivalent.

## **PART 3 – EXECUTION**

### **3.01 Plain Rip Rap and Rip Rap Toe of Slope Protection**

- A. Clear topsoil and rough grade to required contours. Over excavate protection area equal to the thickness of the protection.
- B. Place filter fabric with all edges “toed in” a minimum of 12 inches. Riprap will not pass inspection if filter fabric is not “toed in”.
- C. Place protection on filter fabric; tamp protection until individual pieces are firmly bedded.
- D. Hand place stone, if necessary, to assure that there are no void spaces in protection. Upon completion the filter fabric should not be visible.

- E. Bank and grade protection shall be installed as needed per location as directed by the OWNER/ENGINEER.
- F. Prepare side slope according to the directions of the OWNER/ENGINEER.
- G. Over excavate protection area equal to the thickness of the protection.
- H. Place filter fabric in accordance with Section 02279 – Filter Fabric.

### 3.02 Heavy Rip Rap Scour Protection

- A. Over excavate protection area equal to the thickness of the protection.
- B. Place filter fabric with all edges “toed in” a minimum of 12 inches. Riprap will not pass inspection if filter fabric is not “toed in”.
- C. Place protection of filter fabric; tamp protection until individual pieces are firmly bedded.
- D. Hand place stone, if necessary, to assure that there are no void spaces in protection. Upon completion the filter fabric should not be visible.
- F. Scour protection shall be installed as shown on the plans or as directed by the ENGINEER.
- G. Place filter fabric in accordance with Section 02279 – Filter Fabric.

### 3.03 Rip Rap Spillway

- A. Clear topsoil and rough grade to required dimensions. Over excavate spillway so that upon completion the flow line of the spillway is recessed 18 inches below the proposed side slope of the open drain.
- B. Spillway shall be constructed with a 4-foot bottom and 2 horizontal to 1 vertical side slope unless directed otherwise by the ENGINEER. Riprap should be placed to a width of 8 foot across the spillway.
- C. Filter fabric shall be placed under riprap and toed-in as shown on construction plans.
- D. Spillway will not pass inspection if filter fabric is not “toed in.”
- E. Riprap should be placed starting at the toe of slope and extend to 3 feet beyond same side top of bank.
- F. Tamp riprap until individual pieces are firmly bedded.
- G. Hand place stone, if necessary, to assure that there are no void spaces in protection. Upon completion the filter fabric should not be visible.

### 3.04 Rock Vanes

- A. Place J-Hook or Cross vanes at the location noted on the plans.
- B. Construct the vane with type and size of rip rap noted in the plans.

- C. Construct the vanes to the shape and dimensions noted in the plans.

3.05 Side-Culvert Outlet Protection

- A. Rip rap shall be placed at the outlet of each side-culvert outlet.
- B. Rip rap shall begin at a depth of 6-inches below the flow line of the drain and be extended, with a batter of 2H:1V on the face, up to a height of 2 feet above the top of the culvert.
- C. Rip rap shall extend 2 feet beyond the side of the culvert on each side.
- D. Filter fabric shall be placed under riprap and toed-in as shown on construction plans.

3.06 Reinforced Slope Protection

- A. Repair side slopes in location to be protected.
- B. Place topsoil on disturbed slopes to a minimum depth of 2 inches.
- C. Rake in fertilizer; apply at the rate of 15 pounds per 1000 square feet.
- D. Seed topsoil with ditch bank seeding mix at a rate of 6 pounds per 1,000 square feet.
- E. Place North American Green C350 or ENGINEER approved equal, reinforced slope protection mat with all edges extending completely.
- F. Place header and toe protection. Tamp until individual pieces are firmly bedded.
- G. Place metal pins over entire spillway to anchor fabric as recommended by the manufacturer for high velocity protection (5 to 8 feet per second).

3.08 Reinforcement Mat

- A. Place North American Green SC250 or C350 or ENGINEER approved equal, reinforced slope protection mat with all edges extending completely.
- B. Place header and toe protection. Tamp until individual pieces are firmly bedded.
- C. Place metal pins over entire spillway to anchor fabric as recommended by the manufacturer for high velocity protection.

**PART 4 – PAYMENT**

- 4.01 Unit Price – Measurement and Payment see Section 01270.

END OF SECTION

## SECTION 02274

### SOIL EROSION AND SEDIMENTATION CONTROL

#### PART 1 – GENERAL

##### 1.01 Summary:

- A. Section Includes
  - 1. Soil Erosion and Sedimentation Control.
  - 2. Quality Assurance.
  - 3. Regulatory Requirements.
  - 4. Materials.
  - 5. Examination and Preparation.
  - 6. Protection of Adjacent Work.
  - 7. Installation and Maintenance.
  - 8. Dust Control.

##### 1.02 System Description

- A. Methods of control are identified on plans by numbers corresponding to MACDC APA's "Soil Erosion and Sedimentation Control – Authorized Public Agency Procedures Manual", 2018.
- B. Additional control measures shall be employed as required by site conditions, applicable enforcing agency having project jurisdiction and/or as directed the ENGINEER.

##### 1.03 Quality Assurance

- A. Perform and maintain work in accordance with "Soil Erosion and Sedimentation Control – Authorized Public Agency Procedures Manual", MACDC APA, 2018 and Soil Erosion and Sedimentation Control, Part 91 of Act 451 of 1994, as amended. The Drain Commissioner's Office, as the authorized public agency (APA), reserves the right to amend the soil erosion and sedimentation control plan and measures during the course of the project. If for any reason, the Owner is found to be in violation of Act 91 due to the Contractor found in non-compliance, the Contractor will be fully responsible for any fines and costs incurred by Owner, including legal defense and any and all costs associated with a violation.

##### 1.04 Regulatory Requirements

- A. Submit installation time schedule for temporary and permanent soil erosion prevention and sedimentation control measures to applicable enforcing agency having jurisdiction, as well as to ENGINEER. Make submittals prior to start of construction.
- B. **CONTRACTOR will be responsible for all Soil Erosion Control Measures. Daily seeding and stabilization of all disturbed areas will be required.** See "Soil Erosion and Sedimentation Control – Authorized Public Agency Procedures Manual MACDC APA, 2018 and supplementary conditions, Part 91, Soil Erosion and Sedimentation Control of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.
- C. CONTRACTOR will be responsible for any fines or other corrective measures required by regulating agencies.

## **PART 2 – MATERIALS**

### **2.01 Materials**

- A. All materials shall be in accordance with the MACDC APA “Soil Erosion and Sedimentation Control – Authorized Public Agency Procedures Manual”, 2018.

## **PART 3 – EXECUTION**

### **3.01 Examination and Preparation**

- A. Identify required lines, levels, contours and datum.
- B. Field locate the known utility locations. Notify ENGINEER of conflicts and attain removal or relocation instructions prior to continuing installation activities.
- C. Maintain and protect existing utilities to remain.

### **3.02 Protection of Adjacent Work**

- A. Protect adjacent structures and property, which may be damaged by execution of work.
- B. Protect existing trees, shrubs, landscaping and lawn areas designated to remain.

### **3.03 Installation and Maintenance**

- A. Construct soil erosion prevention and sedimentation control measures in accordance with the plans and the applicable enforcing agencies having jurisdiction.
- B. Schedule planned control measures with construction operations to limit the area of any disturbed land to the shortest possible period of exposure.
- C. Conduct all earth changes so as to effectively reduce accelerated soil erosion and resulting sedimentation.
- D. Remove all sediment from runoff water before it leaves the site. Removed sediment shall be leveled, seeded, polymer applied and, if necessary, mulched. During winter operations this shall be done prior to the ground and spoils freezing.
- E. Daily seed all disturbed areas.
- F. CONTRACTOR shall be responsible for daily inspection, maintenance, and repair of Soil Erosion and Sedimentation Control measures until final acceptance by OWNER.
- G. Install silt sacks in all catch basin inlets, to be removed after final inspection of the project.

### **3.04 Dust Control**

- A. The CONTRACTOR shall implement measures to minimize dust.
- B. The CONTRACTOR will develop a dust plan that will be reviewed and approved by the ENGINEER/OWNER.

1. Adequate chloride application will be required monthly at minimum on all travel routes.
  2. Wet application shall be required several times daily or as directed by the ENGINEER.
  3. All surfaces must be swept or vacuumed at minimum at the end of each work day and may be required more often at the direction of the ENGINEER.
- C. The plan shall include but not be limited to the implementation of a combination of any or all of following techniques as determined to be applicable to this project by the ENGINEER.
1. Wet Suppression.
  2. Vehicle Speed Reduction.
  3. Surface Cleaning.
  4. Traffic Control.
  5. Windbreaks.
  6. Good operating Practices.
  7. Chloride Application.

#### **PART 4 – PAYMENT**

4.01 Unit Price – Basis of Measurement see Section 01270.

END OF SECTION

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## SECTION 02279

### FILTER FABRIC

#### **PART 1 – GENERAL**

##### 1.01 Summary:

- A. Section Includes
  - 1. Filter Fabric.
- B. Related Sections
  - 1. Section 02211 – Rough Grading
  - 2. Section 02271 – Riprap Slope Protection
  - 3. Section 02715 – Lateral Tile Drains.

##### 1.02 References

- A. ASTM/D-4632 – Test method for Tensile Strength and Elongation.
- B. ASTM D-3786 – Test method for Mullen Burst.
- C. ASTM D-4533 – Test method for Trapezoidal Tear Strength.
- D. ASTM D-3787 – Test method for Puncture Strength.
- E. ASTM D-4751 – Test method for Apparent Opening Size.
- F. ASTM D-4491 – Test method for Coefficient of Permeability.

#### **PART 2 – PRODUCTS**

##### 2.01 Materials

- A. Mechanically bonded, non-woven, long-chain polymetric fibers or yarns. The edges of the fabric shall be finished to prevent the outer fiber from pulling away from the fabric.
  - 1. Filter fabric for groundwater infiltration applications (French drains, trench drains, pipe joint wrap, etc.) is to have, at minimum, the following properties:

|                             |                |
|-----------------------------|----------------|
| Tensile Strength            | 100 lbs        |
| Tensile Elongation (max)    | 100 %          |
| Mullen Burst                | 210 psi        |
| Trapezoidal Tear Strength   | 40 lbs         |
| Puncture Strength           | 65 lbs         |
| Apparent Opening Size (max) | 70 sieve       |
| Flow Rate                   | 140 gal/min/ft |

- 2. Filter fabric for cobblestone applications (cobblestone streambed protection, splash pads, etc.) to have, at minimum, the following properties:

|                          |         |
|--------------------------|---------|
| Tensile Strength         | 120 lbs |
| Tensile Elongation (max) | 100 %   |

|                             |                |
|-----------------------------|----------------|
| Mullen Burst                | 230 psi        |
| Trapezoidal Tear Strength   | 45 lbs         |
| Puncture Strength           | 70 lbs         |
| Apparent Opening Size (max) | 70 sieve       |
| Flow Rate                   | 135 gal/min/ft |

3. Filter fabric for plain riprap applications (riprap, riprap spillways, etc.) concrete box culvert joints are to have, at minimum, the following properties:

|                             |                |
|-----------------------------|----------------|
| Tensile Strength            | 155 lbs        |
| Tensile Elongation (max)    | 100 %          |
| Mullen Burst                | 315 psi        |
| Trapezoidal Tear Strength   | 65 lbs         |
| Puncture Strength           | 95 lbs         |
| Apparent Opening Size (max) | 70 sieve       |
| Flow Rate                   | 110 gal/min/ft |

4. Filter fabric for heavy riprap applications is to have, at minimum, the following properties:

|                             |               |
|-----------------------------|---------------|
| Tensile Strength            | 200 lbs       |
| Tensile Elongation (max)    | 100 %         |
| Mullen Burst                | 350 psi       |
| Trapezoidal Tear Strength   | 75 lbs        |
| Puncture Strength           | 100 lbs       |
| Apparent Opening Size (max) | 80 sieve      |
| Flow Rate                   | 95 gal/min/ft |

### **PART 3 – EXECUTION**

#### **3.01 Examination**

- A. Verify the correct fabric is specified for the specific use.
- B. At the time of installation, the filter fabric may be rejected at the discretion of the ENGINEER if it has been removed from its protective cover for over 72 hours or has defects, tears, punctures, flow deterioration, or damage incurred during manufacture, transportation or storage.
- C. No torn, punctured, or otherwise damaged fabric shall be installed.

#### **3.02 Preparation**

- A. Remove large stones or other debris, which could damage the filter fabric.

#### **3.03 Storage**

- A. During all periods of shipment and storage, the filter fabric shall be protected from abrasion, direct sunlight, ultraviolet rays, and temperatures greater than 140 degrees Fahrenheit (or as directed by the manufacturer). To the extent possible, the fabric shall be maintained wrapped in its protective covering.

3.04 Installation

- A. All joints/overlaps in material shall be a minimum of 2 feet.
- B. Any damaged material shall be repaired by placing a piece of fabric that is sufficiently large to cover the damaged area plus 2 feet of adjacent undamaged geotextile in all directions.
- C. Finish according to specific use requirements.
- D. Edges of filter fabric shall be toed in 12 inches unless specified otherwise. Work will not pass inspection if filter fabric is not “toed in.”

**PART 4 – PAYMENT**

- 4.01 Unit Price – Measurement and Payment see Section 01270.

END OF SECTION

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## SECTION 02390

### SPECIAL PROVISION FOR STEEL SHEET PILING WEIR

**a. Description.** This work consists of designing, furnishing, installing, maintaining, removing and/or cutting off the sheet piling and bracing, anchors, deadman, walers, related materials, and equipment required to maintain support of the sheeting and adjacent embankment and coordinated with the staged construction requirements at this site. Perform the work in accordance with section 704 of the 2020 MDOT Standard Specifications for Construction, the *AASHTO Standard Specifications for Highway Bridges 17<sup>th</sup> Edition* ("AASHTO" hereafter), the plans and this special provision.

**b. Materials.** Furnish materials in accordance with subsections 704.02 and 707.02 of the 2020 MDOT Standard Specifications for Construction.

**c. Construction.** Design, prepare working drawings, install, and maintain the temporary steel sheet piling. Design cantilever or braced steel sheet piling walls interaction with the soil using the following software: SPW 911 by PileBuck International Inc.; SupportIT by GTSoft Ltd.; or CivilTech Software Shoring Suite. The use of other software will be reviewed by the Department and requires approval by the Engineer prior to use. Hand calculations and/or spreadsheet calculations will not be accepted for steel sheet piling design unless special conditions are present, which will require approval by the Engineer prior to use. Hand calculations and/or spreadsheet calculations (with example hand calculations) for design of anchors, deadman, bracing sections, weld details and connections is acceptable.

Design the steel sheet piling, ground anchors, deadman, bracing sections, and adjacent excavations to support traffic. Assume a live load surcharge of 360 psf for design of steel sheet piling adjacent to traffic and/or construction equipment. The calculated and measured maximum deflection of the steel sheet piling must not exceed 2 inches. Include supporting calculations for the steel sheet piling including: sheeting, anchors, deadman, bracing sections, welded or bolted connection details, sheeting tip elevations, calculated deflection of sheeting sections, all connections and embedment depth. The design must consider and provide supporting calculations for all stages of construction.

If ground anchors are used, ensure a load testing program is submitted and reviewed by the Department with the design submittal. The Contractor's designer must reference *FHWA Publication No. FHWA-IF-99-015 (Geotechnical Engineering Circular No. 4, Ground Anchors and Anchored System)* in the design and load testing program. Load test all ground anchors, regardless of anchor type. Prestress and lock off all ground anchors and deadman. Ground anchors and deadman that cannot be prestressed to the required load and locked off cannot be used. When helical anchors are used for ground anchors, the design load must not exceed 50 kips.

Ensure that the design is prepared by the Contractor's designer; and the designer is a Professional Engineer, licensed in the State of Michigan. Submit the design and supporting calculations to the Engineer for review and approval not less than 30 calendar days prior to beginning of work. All submittals are to be as a PDF file to the Engineer. Paper sets are prohibited. Obtain the Engineer's approval of the steel sheet piling design prior to beginning installation.

Cutt off the sheet piling after installation as shown on the plans or as approved by the Engineer and place a steel top cap of similar material running the length of the weir. Unless otherwise shown on the plans, ensure sheet piling is cut off to 4 feet below the stream invert.

END OF SECTION

## SECTION 02575

### PAVEMENT REPAIR

#### **PART 1 – GENERAL**

##### 1.01 Summary:

- A. Section Includes
  - 1. Asphalt Pavement.
  - 2. Gravel Road or Shoulder.
  - 3. Driveways.
  - 4. Native Drive Restoration – Farm Crossings.
- B. Related Sections
  - 1. Section 02222 - Excavation.
  - 2. Section 02223 – Backfilling.
  - 3. Section 02225 – Trenching.
  - 4. Section 02231 – Aggregate Base Course.

##### 1.02 Submittals

- A. Submit under provisions of Section 01300 – Submittals.
- B. Submit shop drawings and product data for all items to be installed and/or constructed within this section.

##### 1.03 Regulatory Requirements

- A. Perform construction within public road right-of-way to meet the requirements of the authority having jurisdiction.
- B. Obtain construction permits as required by the authority having jurisdiction over the work in the public right-of-way. Notify the authority 48 hours prior to working within the road right-of-way.
- C. Maintain traffic control as required in Section 01570 - Traffic Regulation.

##### 1.04 References

- A. Michigan Department of Transportation Standard Specifications for Construction, current edition.
- B. MS-2 Mix design methods for Asphalt Concrete and Other Hot Mix Types – the Asphalt Institute. (AI).
- C. ASTM D946- Penetration – Graded Asphalt Cement for use in Pavement Construction.

## **PART 2 – PRODUCTS**

### 2.01 Materials and Mix - Pavements

- A. MDOT 21AA Dense Graded Aggregate – for bituminous pavement aggregate base course.
- B. MDOT 21AA Dense Graded Aggregate – for gravel road surface course, road shoulder, and gravel drive surface course.
- C. Cold patch for temporary patches.
- D. Asphalt: Conform to MDOT Standards.
  - 1. Leveling Course: LSVP-L
  - 2. Wearing Course: LSVP-T
- E. Concrete: Conform to MDOT Standards. Use grade 3500.
- F. Asphalt Bond Coat: MDOT Standards.

### 2.02 Accessories

- A. Asphalt Bond Coat to be homogenous, medium curing, liquid asphalt in accordance with MDOT Standards and approved by the ENGINEER.

### 2.03 Source Quality Control

- A. Provide mix design under provisions of Section 01400 – Quality Control.
- B. Submit proposed mix design of each class of concrete to appointed firm for review prior to commencement of work.
- C. Submit certification for cement and aggregates to ensure conformance with specified requirements as required by the ENGINEER.

## **PART 3 – EXECUTION**

### 3.01 Examination

- A. Verify base conditions under provisions of Section 02223 – Backfilling and 02225 – Trenching.
- B. Verify that compacted subgrade, granular base or aggregate base is dry and ready to support paving and imposed loads.
- C. Verify gradients and elevations of base are correct.

### 3.02 Installation of Temporary Patches

- A. Permanent or acceptable temporary repairs of all driveways and roadways shall be made immediately after the utility is installed.

- B. Bituminous and/or concrete drives to be repaired shall be sawcut to provide a straight edge. The driveway shall be replaced to an existing joint if located within 5 feet of the utility trench. The minimum replacement width shall be the trench width plus 4 feet.
- C. All drives shall be completely backfilled with sand compacted to 95 percent of its maximum dry density as determined by modified proctor method.
- D. Maintain temporary patches until final patch can be installed. Mark areas with appropriate signs to provide motorists with adequate warning.

### 3.03 Preparation

- A. Adjust manholes, catch basins, valve boxes, and monument boxes to grade.
- B. Sawcut and remove existing pavement a minimum of 2 feet back from top edge of undisturbed soil on both sides of trench.
- C. Sawcut to a minimum of 1 ½ inch depth on straight line perpendicular to the roadway.
- D. Remove pavement to an existing joint when a joint lies within 5 feet of the top edge of undisturbed soil.
- E. Notify ENGINEER minimum 2 working days prior to placing paving mix.
- F. Coat surfaces of manhole and catch basin frames and valve and monument boxes with oil to prevent bond with paving mix.
- G. Asphalt:
  - 1. Apply bond coat in accordance with manufacturer's instructions and MDOT standard requirements.
  - 2. Apply bond coat to contact surfaces of curbs and existing pavement.
- H. Prepare other areas damaged during construction as determined by the ENGINEER according to these guidelines.
- I. Road surface shall be prepared in accordance with MDOT standards to accept pavement markings.
- J. There shall be no moisture on the base course prior to placing the wearing course. Pavement cannot be placed if there is precipitation. CONTRACTOR shall check weather forecasts prior to paving. If precipitation occurs during paving, the CONTRACTOR shall pay for the removal and replacement of any asphalt.

### 3.04 Placement

- A. Thickness:
  - 1. Asphalt: As noted in the plans.
  - 2. Concrete: As noted in the plans
  - 3. Gravel: As noted in the plans.
- B. Compact asphalt pavement by rolling with a minimum 5-ton roller unless otherwise directed by ENGINEER. Do not displace or extrude pavement from position. Hand compact in areas inaccessible to rolling equipment.

- C. Develop rolling with consecutive passes to achieve even and smooth finish, without roller marks for asphalt paving.
  - D. Materials, construction and methods of placement to conform to MDOT Standard Specifications for Construction.
  - E. Grade surfaces to match existing elevations and for drainage.
  - F. Apply pavement markings in compliance with MDOT Standards.
- 3.05 Field Quality Control
- A. Field inspection and testing will be performed under provisions of Section 01400 – Quality Control.

#### **PART 4 – PAYMENT**

- 4.01 Unit Price – Measurement and Payment see Section 01270.

END OF SECTION

## SECTION 02715

### LATERAL TILE DRAINS

#### **PART 1 – GENERAL**

##### 1.01 Summary:

###### A. Section Includes

1. Field Tile Outlets
2. Surface Outlet Tubes
3. Flap Gates
4. Rodent Guards

###### B. Related Sections

1. Section 02222 – Excavation
2. Section 02223 – Backfilling
3. Section 02271 – Slope Protection and Erosion Control
4. Section 02279 – Filter Fabric

##### 1.02 Reference

- A. ASTM F405 – Corrugated Polyethylene Pipe, 3-6 in.
- B. ASTM F667 – Corrugated Polyethylene Pipe, 8-24 in.
- C. AASHTO M252 – Corrugated Polyethylene Drainage Pipe.
- D. AASHTO M294 – Corrugated Polyethylene Drainage Pipe, 300-1500 mm.

##### 1.03 Submittals

- A. Submit under provisions of Section 01300 – Submittals.
- B. Submit shop drawings and product data for all items to be installed and/or constructed within this section.

##### 1.04 Protection

- A. Care shall be taken to locate and excavate around all field tile Outlets.
- B. Any damage to drainage tiles and outlets during construction shall be repaired. The work to be incidental to the project.

#### **PART 2 – PRODUCTS**

##### 2.01 Materials

- A. Field Tile Outlets – 6” to 10” – Dual Wall, H.D.P.E. Smooth-Lined Corrugated Polyethylene Pipe (SLCPP), 2” larger in diameter than existing field tile or SDR 26 PVC and provide connection as indicated on plans.

- B. Field Tile Outlets – 12” and larger – Dual Wall H.D.P.E. Smooth-Lined Corrugated Polyethylene Pipe (SLCPP).
- C. 15” Surface Outlet Tubes with flap gates: Galvanized corrugated metal pipe, 16-gauge, 2 2/3 inches x ½ inch corrugations.
- D. Flap gates: Waterman Industries F-10 Cast Iron Drainage (Flap) Gate or Equal.
- E. Rodent Guard – Manufactured by pipe manufacturer and approved by the ENGINEER.
- F. Cobblestone Splash Pads – See Section 02271 – Slope Protection and Erosion Control.
- G. Flared End Sections- Same material as pipe and approved by the ENGINEER. See Section 02722 – Storm Sewerage Systems.
- H. Dual Wall, H.D.P.E. Smooth-Lined Corrugated Polyethylene Pipe (SLCPP) shall meet AASHTO M252 or AASHTO M294, Type S and ASTM F405 or ASTM F667.
- I. Fittings-Manufactured by pipe manufacturers according to ASTM standards and approved by the ENGINEER.

#### 2.02 Preparation

- A. Coordinate locations of proposed surface outlet tube and field tile outlets with ENGINEER prior to delivering material to site. Tubes may or may not be installed based on landowner preference and ENGINEER’s decision.
- B. Receive direction from ENGINEER as to which field tile outlets are in need of repair even if indicated on plans.

#### 2.03 Installation – Field Tile Outlets

- A. Installation shall be as shown in the plans. See Section 02222 – Excavation and Section 02223 – Backfilling. Backfill material shall be native material.
- B. Field tile outlet is to be installed at a minimum of 1 percent slope to provide for positive drainage.
- C. All joints between like materials shall be connected with a manufactured connector.
- D. Connection between field tile and field tile outlet with unlike materials as shown in the plans.
- E. Place riprap splash pad beneath tile outlet. See Section 02279 – Filter Fabric and Section 02271 – Slope Protection and Erosion Control.
- F. Clean out any field tile outlets that do not require replacement and/or extension.
- G. Cross culvert extension shall be connected to existing with prefabricated metal band and filter fabric for a soil tight joint.

2.04 Installation – Rodent Guards

- A. Rodent guards shall be placed on all tile outlets 3 inches or larger which are cutoff, replaced, or extended during construction of this project.
- B. Rodent guards do not have to be installed in existing tile outlets, which are not cut off, replaced, or extended during construction of this project.

2.05 Installation – Surface Outlet Tubes

- A. Surface outlet tubes may be installed with riprap spillways based on landowner and ENGINEER preference. Coordinate all installations with ENGINEER prior to delivering materials to site.
- B. Provide a minimum of 0.5 feet of fall in tube or as shown on the plans.
- C. Provide a minimum of 2' cover.
- D. Outlet pipe shall be mitered to slope and installed with manufacturer recommended rodent guard approved by the ENGINEER.
- E. Flap gates shall be installed according to manufacturer's specifications. In flap gate applications, the pipe shall not be mitered to slope, and a rodent guard is not applicable.
- F. Install riprap splash pad with filter fabric at the outlet of the tube.
- G. Construct as shown on detail sheet of drawings, including emergency spillway.

**PART 3 – EXECUTION**

3.01 Work

- A. Construct, repair, install, or make connections to field tiles according to the plans, these specifications, and according to the manufacturer recommendations.

**Part 4 – PAYMENT**

4.01 Unit Price – Measurement and Payment see Section 01270

END OF SECTION

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## **SECTION 02751**

### **DRAIN CROSSINGS**

#### **PART 1 – GENERAL**

##### **1.01 Summary:**

- A. Section Includes
  - 1. Drain Crossings
  - 2. Remove Existing Structure
- B. Related Sections
  - 1. Section 02110 – Site Clearing.
  - 2. Section 02140 – Dewatering.
  - 3. Section 02211 – Rough Grading.
  - 4. Section 02222 – Excavation.
  - 5. Section 02223 – Backfilling.
  - 6. Section 02271 – Slope Protection and Erosion Control.
  - 7. Section 02279 – Filter Fabric.
  - 8. Section 02923 – Landscape Grading.
  - 9. Section 02936 - Seeding.

##### **1.02 References**

- A. AASHTO M-218 and ASTM A-444.
- B. AASHTO M-219 and ASTM B-746.
- C. AASHTO M-246 and ASTM A-742.
- D. AASHTO M-245, ASTM A-760 and ASTM A-762.
- E. AASHTO M-36 and ASTM A-929.
- F. ASTM B-209.
- G. ASTM B-789.
- H. ASTM B-790.

##### **1.03 Submittals**

- A. Submit under provisions of Section 01300 – Submittals.
- B. Submit shop drawing and product data for all items to be installed and/or constructed within this section.
- C. Provide 2 copies of permits for road and highway crossing permits to ENGINEER.

## **PART 2 – PRODUCTS**

### **2.01 Materials**

- A. Crossing material shall be MDOT Class A Dual Wall Polymer Coated Corrugated Metal Pipe with 3x1 corrugations meeting the requirements of Section 909.05 of the MDOT 2003 Standard Specifications for Construction.
- B. All corrugated metal pipe shall be galvanized unless otherwise noted.
- C. Galvanized Pipe Material: Steel coils shall conform to applicable requirements of AASHTO M-218 or ASTM A-444.
- D. Polymer Precoated Material: Steel coils shall conform to applicable requirements of AASHTO M-246 or ASTM A-742.
- E. Galvanized Pipe: Corrugated metal pipe – size corrugations and gauge as indicated on the plans or ENGINEER approved equal. Manufactured in accordance with the applicable requirements of AASHTO M-36 or ASTM A-929.
- F. Polymer Precoated Pipe: Corrugated metal pipe – size, corrugations and gauge as indicated on the plans. Manufactured in accordance with the applicable requirements of AASHTO M-245 or ASTM A-762.
- G. All corrugated steel joints must be banded according to manufacturer's instructions and must be wrapped with a 3 feet band of filter fabric. Joints must fit within .10 feet.
- H. Coupling bands shall be corrugated with rubber gasket and shall be same material as pipe. Bands shall be manufactured by pipe supplier and approved by ENGINEER.
- I. Backfill – See Section 02223 – Backfilling.
- J. Drive Surface – See Section 02575 – Pavement Repair.
- K. Native Crossings.
  - 1. Bedding: Crushed angular MDOT 6A coarse aggregate. Backfill: MDOT Class II granular material to springline if pipe and ENGINEER approved native material, or MDOT Class II granular material installed to bottom of road subbase.
  - 2. Drive Surface – Match existing native surface.
- L. Gravel Crossings.
  - 1. Bedding: Crushed angular MDOT 6A coarse aggregate.
  - 2. Backfill: MDOT Class II granular material installed to bottom of road subbase.
  - 3. See plans for pavement restoration.
- N. Bituminous Drive Crossing.
  - 1. Bedding: Crushed angular MDOT 6A coarse aggregate.
  - 2. Backfill: MDOT Class II Granular material installed to bottom of road subbase.
  - 3. See plans for pavement restoration.

### **PART 3 – EXECUTION**

#### **3.01 Preparation**

- A. Contact ENGINEER 48 hours prior to any work on crossing to verify construction and installation schedule and to schedule necessary inspection time for installation.
- B. Verify that backfill and roadway requirements meet specifications of Authority having jurisdiction.
- C. Verify acceptability of backfill material with ENGINEER.
- D. Verify approval of all shop drawing submittals with ENGINEER.
- E. Verify benchmarks and required culvert placement elements and alignment.
- F. Verify that all traffic and other safety requirements have been met by the authority having jurisdiction.

#### **3.02 Drain Crossing**

- A. CONTRACTOR shall maintain flow at all times through drain. CONTRACTOR shall submit proposed procedure to ENGINEER for approval prior to construction. Cost shall be included in the cost per linear foot of drain crossing.
- B. Special care shall be taken when storing handling, and placing culverts so they are not cracked, dented, scaled, or the galvanized coating is not damaged.
- C. Assemble crossings according to manufacturer's specifications.
- D. Excavate to required dimensions and remove existing culvert or structure where applicable.
- E. Cut out soft area not capable of insitu compaction. Backfill with MDOT 6A fill and compact to a minimum of 95 percent of the materials maximum dry density as determined by modified proctor method. See Section 02222 – Excavation, Subgrade Undercutting and Backfilling.
- F. Subgrade undercutting shall be per Section 02222 – Excavation, Subgrade Undercutting and Backfilling.
- G. Place bedding and scour protection according to detail shown on plans.
- H. Compact all subsoil and bedding material to a minimum of 95 percent of the materials maximum dry density as determined by modified proctor method.
- I. Place structure according to the planned elevations and alignment.
- J. Install butyl rubber rope on concrete box culvert joints to completely seal all joints. Wrap exterior of joints with filter fabric.
- K. Recess inverts of crossings 6 inches or as shown on plans.
- L. Landscape areas as outlined in Section 02923 – Landscape Grading and Section 02936 – Seeding.

- M. Excavate in accordance with Section 02225 – Trenching.
- N. Backfill in accordance with Section 02223 – Backfilling.
- 3.03 Remove Existing Structures
  - A. Remove existing structure as indicated on the plans.
  - B. Removed culverts shall become property of the CONTRACTOR unless otherwise noted by the ENGINEER or OWNER.
  - C. Grade and restore area around removed culvert to match proposed contours, elevations, and cross sections.
- 3.04 Field Quality Control
  - A. Field inspection and testing will be performed under provisions of Section 01400 – Quality Control.
  - B. Compaction testing will be performed in accordance with MDOT standard requirements.
  - C. If tests indicate work does not meet specified requirements, remove work, replace and retest at no cost to the OWNER.
  - D. Frequency of the tests: At the discretion of the ENGINEER.
- 3.05 Protection of Finished Work
  - A. Protect finished work under provisions of Section 01560 – Construction Facilities and Temporary Controls.
  - B. Recompress fills subject to vehicular traffic.
- 3.06 Cleanout Existing Structure
  - A. Remove all sediment and debris from culverts to remain in place.
  - B. Spoils and debris become the property of the CONTRACTOR.
- 3.07 Salvaging Replaced Crossings
  - A. Care shall be taken when removing, storing, handling, and placing culverts so they are not damaged.
  - B. Removed culverts shall become property of the CONTRACTOR unless otherwise noted by the ENGINEER or OWNER.
- 3.08 Unsalvageable Crossing
  - A. Unsalvageable crossings become property of the CONTRACTOR and removed from the site.

- B. Concrete from existing crossing will NOT be acceptable in lieu of riprap bank grade protection.

#### **PART 4 – PAYMENT**

4.01 Measurement and Payment see Section 01270.

END OF SECTION

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## **SECTION 02923**

### **LANDSCAPE GRADING**

#### **PART 1 – GENERAL**

##### **1.01 Summary:**

- A. Section Includes
  - 1. Landscape Grading.
- B. Related Sections
  - 1. Section 01400 – Quality Control.
  - 2. Section 01700 – Contract Closeout.
  - 3. Section 02211 – Rough Grading.
  - 4. Section 02223 – Backfilling.
  - 5. Section 02936 – Seeding.

#### **PART 2 – PRODUCTS**

##### **2.01 Materials**

- A. Topsoil: Min. 4 inches compacted depth, unless otherwise stated.
- B. Topsoil: Friable loam; free of subsoil, roots, grass, excessive amount of weeds, stone, and foreign matter, acidity range (pH) of 5.5 to 7.5; containing a minimum of 4 percent and a maximum of 25 percent organic matter.
- C. Topsoil – Special Applications: Topsoil used for special applications such as golf courses shall conform to the mix specified by the OWNER and/or as noted on the plans.
- D. CONTRACTOR shall conduct fertility and calcium tests on all topsoil to be used in lawn and planting areas to assure that soil conditions are ready to receive plantings.
- E. Submit lab results or samples for testing as requested by the OWNER or ENGINEER if imported topsoil is used.

##### **2.02 Samples**

- A. Submit samples under provisions of Section 01400- Quality Control.
- B. Submit 5-gallon bucket of sample of imported fill to testing laboratory, in air-tight containers.
- C. Disregard sample submission if recent test results are available for type of fill.

##### **2.03 Protection**

- A. Protect landscaping and other features remaining as final work.
- B. Protect existing structures, fences, roads, sidewalks, paving, mailboxes, and curbs.

### **PART 3 – EXECUTION**

#### **3.01 Inspection**

- A. Verify site conditions and note irregularities affecting work of this Section.
- B. Beginning work of this Section means acceptance of existing conditions.

#### **3.02 Subsoil Preparation**

- A. Eliminate uneven areas and low spots. Remove debris, roots, branches, and stones, in excess of ½ inch in size. Remove and dispose of off-site subsoil contaminated with petroleum products.
- B. Scarify subgrade to minimum depth of 8 inches where topsoil is scheduled. Scarify in areas where equipment used for hauling and spreading topsoil has compacted subsoil.

#### **3.03 Placing Topsoil**

- A. Place topsoil to a minimum 4 inches compacted depth in areas where seeding, sodding and planting is scheduled.
- B. For special application, topsoil shall be placed per the OWNER's requirements and/or as noted on the plans.
- C. Use topsoil in relatively dry state. Do not place topsoil when weather conditions are excessively windy.
- D. Handle and place topsoil only when weather and soil moisture permits.
- E. Placement of topsoil in frozen or muddy conditions shall not be permitted.
- F. Fine grade topsoil eliminating rough or low areas. Maintain levels, profiles, and contours of subgrade.
- G. Remove stone, roots, grass, weeds, debris, and foreign material while spreading.
- H. Manually spread topsoil around trees and plants to prevent damage.
- I. Lightly compact placed topsoil in preparation for seeding, fertilizing, and mulching.
- J. Fertilizer and lime shall be applied at the minimum rates indicated by tests and shall be raked into the top 2 inches of the topsoil.
- K. Remove surplus subsoil and topsoil from site.
- L. Import topsoil as necessary to match the depths as specified on the plans.
- M. Leave stockpile area and site clean and raked, ready to receive landscaping.
- N. Place required trees, shrubs, fences, and mailboxes in their proper locations.

3.04 Tolerances

A. Top of Topsoil: Plus or minus ½ inch.

**PART 4 – PAYMENT**

4.01 Measurement and Payment see Section 01270

END OF SECTION

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## SECTION 02936

### SEEDING

#### **PART I – GENERAL**

##### 1.01 Summary

###### A. Section Includes

1. Native Grass Seeding
2. Landscape Seeding
3. Waterway Seeding
4. Mulch Blanket, North American Green SC-150 BN, S-150 BN

###### B. Related Sections

1. Section 02110- Site Clearing
2. Section 02222 – Excavation
3. Section 02223 – Backfilling
4. Section 02923 - Landscape Grading.

##### 1.02 Protection

A Protect landscaping and other features remaining as final Work.

B Protect existing structures, fences, roads, sidewalks, paving, mailboxes, curbs, etc.

##### 1.03 Submittals

A Submit under provisions of Section 01300 - Submittals.

B Submit shop drawings and product data for all items to be installed and/or constructed within this Section.

1. Provide seed mixture in containers showing percentage of seed mix, year of production, net weight, date of packaging, location of packaging, any tags from seed bags and any receipt associated with seeding.

##### 1.04 Quality Assurance

A The Contractor shall make arrangements to obtain seed materials with nurseries a maximum 30 days after he/she is awarded contract and provide a list of suppliers to the Engineer.

B The Contractor will provide a final list of all species purchased to the Engineer for a minimum of 90 days prior to seeding.

##### 1.05 Regulatory Requirements

A Comply with regulatory agencies for fertilizer and herbicide composition.

##### 1.06 Qualifications

A Seed Supplier: Companies specializing in growing and cultivating applicable plant species.

- B Installer: The seeding Contractor must be experienced and specialized in seeding the respective species as determined by the Engineer. He/she shall properly supervise a competent staff. The Contractor must have the necessary equipment to complete this task.
  - C Maintenance Services: Shall be provided by the Contractor for up to one year to guarantee establishment of growth.
- 1.07 Delivery, Storage and Handling
- A Deliver, store, protect and handle products to site under provisions of Section 01600 — Material and Equipment.
  - B Deliver seed mixture in sealed containers. Seed in damaged packaging is not acceptable.
  - C Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.
- 1.08 Coordination
- A Coordinate work under provisions of Section 01039— Coordination and Meetings.
- 1.09 Maintenance Service
- A Maintain seeded areas immediately after placement until seed mix is well established, exhibits a vigorous growing condition and is accepted by Owner. Guarantee reseeding of bare areas for one year following acceptance.

## **PART 2 - PRODUCTS**

- 2.01 Materials
- A Topsoil:
    1. Reused - free of subsoil, roots, grass, excessive amount of weeds, stone, and foreign matter.
    2. Topsoil: Imported, friable loam; free of subsoil, roots, grass, excessive amount of weeds, stone, and foreign matter; acidity range (pH) of 5.5 to 7.5; containing a minimum of 4 percent and a maximum of 25 percent organic matter.
    3. Topsoil furnished from outside the project limits shall be approved by the Engineer.
  - B Seed Mixes:
    1. Native Grass Seed Mix:
 

**Permanent Native Species:**  
 Bouteloua curtipendula Side-oats Grama 18 oz per acre  
 Bromus kalmii Prairie Brome 12 oz per acre  
 Calamagrostis canadensis Blue Joint Grass 1 oz per acre  
 Elymus canadensis Canada Wild Rye 16 oz per acre  
 Elymus villosus Silky Wild Rye 16 oz per acre  
 Elymus virginicus Virginia Wild Rye 16 oz per acre  
 Glyceria striata Fowl Manna Grass 2 oz per acre  
 Hystrix patula Bottlebrush Grass 8 oz per acre  
 Koeleria cristata June Grass 4 oz per acre

Schizachyrium scoparium Little Bluestem 32 oz per acre  
Sporobolus heterolepis Prairie Dropseed 3 oz per acre

**Temporary Cover:**

*Cosmos bipinnatus* Cosmos 72 oz per acre  
*Gaillardia pauciflora* Blanket Flower 24 oz per acre  
*Lolium multiflorum* Annual Rye 204 oz per acre  
*Papaver rhoeas* Corn Poppy 36 oz per acre

2. Waterway Seed Mix

Grasses:

Fawn Tall Fescue 45%  
Perennial Ryegrass 40%  
Annual Ryegrass 12%  
Other 3%

3. Landscape Seeding:

Apply a minimum rate of 220 lbs/acre

**Fescue Grasses:**

*Festuca rubra* Creeping Red Fescue 40%  
*Lolium multiflorum* Annual Ryegrass 20%  
*Festuca rubra* spp. *commutata* Chewings Fescue 15%  
*Poa pratensis* Kentucky Bluegrass 10%  
*Lolium perenne* Perennial Ryegrass 10%  
*Poa trivialis* Rough Bluegrass 5%

A Fertilizer:

1. If directed by the Engineer, apply 500 pounds per acre (12 pounds per 1000 square feet) of 12-12-12 commercial grade fertilizer or Engineer approved equivalent on landscape seeding, spoil bank seeding, and roadside seeding areas.

B Mulch

1. Apply 1200 pounds per acre (28 pounds per 1000 square feet) small grain straw mulch that is clean and weed free on all seeded areas unless otherwise indicated.
2. Apply tackifier to mulch according to manufacturer's recommendations as approved by the Engineer.

C Hydroseeding Mulching Material:

1. Apply 1400 pounds/acre of Conwed Verdoyl #2 000 with hydraulic seeder.

D Mulch Blankets:

1. Install North American Green SC-I5OBN or S-I5OBN, as specified, or equivalent in areas with slopes 4 horizontal to 1 vertical and steeper as indicated on the plans or directed by the Engineer.
2. Install all mulch blankets with North American Green Eco Stakes of sufficient length to secure blanket to in situ soils. Stake according to manufacturer's recommendations as approved by the Engineer. Long stakes will be required in soft soils.

### **PART 3 - EXECUTION**

#### **3.01 Examination**

- A Install temporary soil erosion and sedimentation control measures in accordance with the soil erosion and sedimentation control plan.
- B Verify that prepared soil base is ready to receive the Work of this Section and that the necessary excavation Work has been completed. See Section 02218 - Landscape Grading and Section 02222 - Excavation.
- C Native Seeding, Channel Bank Native Seeding, Native Wildflower Seeding: Disc and cultipack (roll) site to ensure a flat and firm seedbed.

#### **3.02 Native Seeding and Waterway**

- A Daily seed and mulch all disturbed areas with seed mix as approved by the Engineer.
- B Apply native seed mixes at the rate shown in Part 2.
- C Additional seeding is required until uniform growth of species is established.
- D Seeding activities shall be conducted between May **1st** and October **15th** or otherwise defined in section 02953- Planting and Seeding Schedule for Mature Plant and Seed Mixes.
- E Seeding method:
  - 1. Hand broadcast native seed mix, and cover crop in designated areas. Mix seed with a lightweight inert material such as damp sawdust or vermiculite.
  - 2. For areas larger than 1 acre a mechanical planter, such as a Truax drill, may be used.
  - 3. Upon completion of seeding, rake or drag seed so that it is lightly covered with soil (approx. 1/4 inch deep). The site should then be rolled to firm the seed into the soil. Approximately 25 percent of the seed should still be visible on the surface.
  - 4. Apply mulch or mulch blankets at specified rates of application evenly on prepared seedbed and maintain clear of trees and shrubs. Allow sunlight to penetrate mulch so as not to cover more than 70% of the soil surface or as directed by the Engineer.
- F Install Permanent soil erosion and sedimentation control measures in accordance with the soil erosion and sedimentation control plan.

#### **3.03 Landscape Seeding, Roadside Seeding (Hydroseeding)**

- A All final roadside seeding shall be done using the hydroseeding method.
- B Apply seed and mulch slurry evenly on prepared seedbed with a hydraulic seeder.
- C Apply water with a fine spray immediately after each area has been hydroseeded. Saturate to 3 inches of soil.
- D Daily seed and mulch all disturbed areas with seed mix as approved by the Engineer.
- E Additional seeding is required until uniform growth of grass is established.
- F Apply seed at the rate specified in this Section Part 2.1 Materials.

- G Seeding shall be done between May 15th and October 15th. Seeding done before or after these dates may require reseeding at the discretion of the Engineer.
- H Apply fertilizer and mulch or mulch blankets at specified rates of application evenly on prepared seedbed and maintain clear of trees and shrubs.
  - 1. Install Permanent soil erosion and sedimentation control measures in accordance with the soil erosion and sedimentation control plan.

#### 3.04 Maintenance

- A Immediately reseed areas, which show bare spots.
- B Repair any eroded areas and reseed immediately.
- C Final payment will not be issued until a uniform growth of grass is established for period of one year on all areas disturbed as a result of the construction of this Project. A minimum of eighty percent of the native species seeded shall be established prior to final payment.
- D The Contractor shall be responsible for watering at the direction of the Engineer during the one-year guarantee period.
- E Monitor all seeded areas during site visits for water stress.
- F The Contractor shall replace, at no cost to the Owner, all dead vegetation during the Guarantee period.
- G Judgment of the plant's health will be the Engineers or the Owners.
- H Protection from traffic and erosion in newly seeded areas is the responsibility of the Contractor. Safety fences and/or silt fences with appropriate signage may be used at the Contractor's expense until the grasses and flowers are fully established.

### **PART 4 - MEASUREMENT AND PAYMENT**

#### 4.01 Measurement and Payment see Section 01270

END OF SECTION

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## SECTION 02998

### CLEANUP AND RESTORATION

#### **PART 1 – GENERAL**

##### 1.01 Summary:

- A. Section includes requirements for cleanup, restabilization, restoration and disposal to maintain a safe and well-kept job site and properly repair disturbed areas.

##### 1.02 Cleanup

- A. Proceed with construction cleanup as construction progresses.
  - a. Remove mud, oil, grease, soil, gravel, trash, scrap, debris and excess materials that are unsightly or may cause accidents to persons or properties.
  - b. Select and employ cleaning methods and equipment with care to avoid damaging, defacing or destroying structures or surfaces.
- B. Final Cleanup: Perform immediately before written request for final inspection of the Contract Work or any portion thereof.

##### 1.03 Restoration

- A. Restore and restabilize disturbed areas including, but not limited to, staging and stockpiling areas, construction limits, access roads, drain crossings, landscape areas, road right-of-ways and disturbed areas within acquired right-of-ways.
- B. Proceed with final restoration and restabilization on completion of the Contract Work, including landscape grading, seeding, mulching and paving.
- C. Disassemble and remove all temporary construction facilities and leave the construction limits in an orderly and restored condition.
- D. Preserve public and private signs, markers, guardrails, fences, and landscaping, and maintain in existing locations and condition unless written permission is obtained for removal and restoration or replacement.
  - a. Remove confliction facilities when work begins and store in a manner to preserve them in their existing condition.
  - b. Restore to original or new locations at the ENGINEER'S direction.
  - c. Damaged items will be repaired or replaced at the Contractor's cost.
- E. Perform restoration of landscape areas in accordance with Sections 02923 and 02936.
- F. Perform tree protection or repair in accordance with Section 02111.
- G. Restore gravel surfaces and roadway shoulders to their condition before being disturbed.
  - a. Do not re-use shoulder or driveway material if contaminated with foreign material.
    - 1. Replace with new material of same quality and gradation.
- H. Restore pavement, curbs, other paved areas, and sidewalks in accordance with the plans.

1.04 Disposal of Waste and Excess Materials

- A. Dispose of construction waste and excess materials in an approved disposal area.
- B. Remove waste and excess material disposed of in unauthorized areas, and restore areas to the condition before disturbance, at the Contractor's expense.
- C. Dispose of human waste in accordance with the Health Department requirements.

1.05 Removal of Rejected Material

- D. Remove materials delivered which have been determined by the Engineer to be unsuitable or not in conformance with the Contract Documents and dispose of in an approved disposal area.

**PART 2 – PRODUCTS Not Used**

**PART 3 – EXECUTION Not Used**

**PART 4 – PAYMENT**

4.01 Measurement and Payment see Section 01270.

END OF SECTION



**MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY  
WATER RESOURCES DIVISION  
PERMIT**

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**Issued To:**

**Joseph Brezvai  
c/o MI Dept of Agriculture & Rural Development  
515 West Allegan St, PO Box 30017  
LANSING, MI 48909**

**Permit No: WRP046524 v.1  
Submission No.: HQ6-6MV1-NVS2P  
Site Name: 73-Youngs Intercounty Drain  
Issued: DRAFT PERMIT  
Revised:  
Expires: DRAFT PERMIT**

**This permit is being issued by the Michigan Department of Environment, Great Lakes, and Energy (EGLE), Water Resources Division, under the provisions of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA); specifically:**

- |                                                                                                       |                                                                                |
|-------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> <b>Part 301, Inland Lakes and Streams</b>                         | <input type="checkbox"/> <b>Part 323, Shorelands Protection and Management</b> |
| <input type="checkbox"/> <b>Part 303, Wetlands Protection</b>                                         | <input type="checkbox"/> <b>Part 325, Great Lakes Submerged Lands</b>          |
| <input type="checkbox"/> <b>Part 315, Dam Safety</b>                                                  | <input type="checkbox"/> <b>Part 353, Sand Dunes Protection and Management</b> |
| <input type="checkbox"/> <b>Part 31, Water Resources Protection (Floodplain Regulatory Authority)</b> |                                                                                |

**EGLE certifies that the activities authorized under this permit are in compliance with the State Coastal Zone Management Program and certifies without conditions under the Federal Clean Water Act, Section 401 that the discharge from the activities authorized under this permit will comply with Michigan's water quality requirements in Part 31, Water Resources Protection, of the NREPA and associated administrative rules, where applicable.**

**Permission is hereby granted, based on permittee assurance of adherence to State of Michigan requirements and permit conditions, to:**

**Authorized Activity:**

**DRAFT PERMIT. SIGNATURE REQUIRED.**

Replace a 24ft long by 5ft round culvert with a 45ft long by 20.5ft wide by 7.25ft tall box culvert as part of the Youngs Intercounty Drain establishment.

All work shall be completed in accordance with the approved plans and specifications of this permit.

Waterbody Affected: Youngs Intercounty Drain

Property Location: Saginaw County, Chesaning Township, T09N, R03E, Sec. 27

Property Tax No.: 73-13-09-3-28-3001-000

**Authority granted by this permit is subject to the following limitations:**

- A. Initiation of any work on the permitted project confirms the permittee's acceptance and agreement to comply with all terms and conditions of this permit.
- B. The permittee, in exercising the authority granted by this permit, shall not cause unlawful pollution as defined by Part 31 of the NREPA.
- C. This permit shall be kept at the site of the work and available for inspection at all times during the duration of the project or until its date of expiration.
- D. All work shall be completed in accordance with the approved plans and specifications submitted with the application and/or plans and specifications attached to this permit.
- E. No attempt shall be made by the permittee to forbid the full and free use by the public of public waters at or adjacent to the structure or work approved.
- F. It is made a requirement of this permit that the permittee give notice to public utilities in accordance with 2013 PA 174 (Act 174) and comply with each of the requirements of Act 174.
- G. This permit does not convey property rights in either real estate or material, nor does it authorize any injury to private property or invasion of public or private rights, nor does it waive the necessity of seeking federal assent, all local permits, or complying with other state statutes.
- H. This permit does not prejudice or limit the right of a riparian owner or other person to institute proceedings in any circuit court of this state when necessary to protect his rights.
- I. Permittee shall notify EGLE within one week after the completion of the activity authorized by this permit by completing and forwarding the attached preaddressed postcard to the office addressed thereon.
- J. This permit shall not be assigned or transferred without the written approval of EGLE.
- K. Failure to comply with conditions of this permit may subject the permittee to revocation of permit and criminal and/or civil action as cited by the specific state act, federal act, and/or rule under which this permit is granted.
- L. All dredged or excavated materials shall be disposed of in an upland site (outside of floodplains, unless exempt under Part 31 of the NREPA, and wetlands).
- M. In issuing this permit, EGLE has relied on the information and data that the permittee has provided in connection with the submitted application for permit. If, subsequent to the issuance of a permit, such information and data prove to be false, incomplete, or inaccurate, EGLE may modify, revoke, or suspend the permit, in whole or in part, in accordance with the new information.
- N. The permittee shall indemnify and hold harmless the State of Michigan and its departments, agencies, officials, employees, agents, and representatives for any and all claims or causes of action arising from acts or omissions of the permittee, or employees, agents, or representative of the permittee, undertaken in connection with this permit. The permittee's obligation to indemnify the State of Michigan applies only if the state: (1) provides the permittee or its designated representative written notice of the claim or cause of action within 30 days after it is received by the state, and (2) consents to the permittee's participation in the proceeding on the claim or cause of action. It does not apply to contested case proceedings under the Administrative Procedures Act, 1969 PA 306, as amended, challenging the permit. This permit shall not be construed as an indemnity by the State of Michigan for the benefit of the permittee or any other person.
- O. Noncompliance with these terms and conditions and/or the initiation of other regulated activities not specifically authorized shall be cause for the modification, suspension, or revocation of this permit, in whole or in part. Further, EGLE may initiate criminal and/or civil proceedings as may be

deemed necessary to correct project deficiencies, protect natural resource values, and secure compliance with statutes.

- P. If any change or deviation from the permitted activity becomes necessary, the permittee shall request, in writing, a revision of the permitted activity from EGLE. Such revision request shall include complete documentation supporting the modification and revised plans detailing the proposed modification. Proposed modifications must be approved, in writing, by EGLE prior to being implemented.
- Q. This permit may be transferred to another person upon written approval of EGLE. The permittee must submit a written request to EGLE to transfer the permit to the new owner. The new owner must also submit a written request to EGLE to accept transfer. The new owner must agree, in writing, to accept all conditions of the permit. A single letter signed by both parties that includes all the above information may be provided to EGLE. EGLE will review the request and, if approved, will provide written notification to the new owner.
- R. Prior to initiating permitted construction, the permittee is required to provide a copy of the permit to the contractor(s) for review. The property owner, contractor(s), and any agent involved in exercising the permit are held responsible to ensure that the project is constructed in accordance with all drawings and specifications. The contractor is required to provide a copy of the permit to all subcontractors doing work authorized by the permit.
- S. Construction must be undertaken and completed during the dry period of the wetland. If the area does not dry out, construction shall be done on equipment mats to prevent compaction of the soil.
- T. Authority granted by this permit does not waive permit requirements under Part 91, Soil Erosion and Sedimentation Control, of the NREPA, or the need to acquire applicable permits from the County Enforcing Agent (CEA).
- U. Authority granted by this permit does not waive permit requirements under the authority of Part 305, Natural Rivers, of the NREPA. A Natural Rivers Zoning Permit may be required for construction, land alteration, streambank stabilization, or vegetation removal along or near a natural river.
- V. The permittee is cautioned that grade changes resulting in increased runoff onto adjacent property is subject to civil damage litigation.
- W. Unless specifically stated in this permit, construction pads, haul roads, temporary structures, or other structural appurtenances to be placed in a wetland or on bottomland of the water body are not authorized and shall not be constructed unless authorized by a separate permit or permit revision granted in accordance with the applicable law.
- X. For projects with potential impacts to fish spawning or migration, no work shall occur within fish spawning or migration timelines (i.e., windows) unless otherwise approved in writing by the Michigan Department of Natural Resources, Fisheries Division.
- Y. Work to be done under authority of this permit is further subject to the following special instructions and specifications:
  - 1. Authority granted by this permit does not waive permit or program requirements under Part 91 of the NREPA or the need to acquire applicable permits from the CEA. To locate the Soil Erosion Program Administrator for your county, visit <https://www.michigan.gov/egle/about/organization/water-resources/soil-erosion/sesc-overview> and select "Soil Erosion and Sedimentation Control Agencies".
  - 2. The authority to conduct the activity as authorized by this permit is granted solely under the provisions of the governing act as identified above. This permit does not convey, provide, or otherwise imply approval of any other governing act, ordinance, or regulation, nor does it waive the permittee's obligation to acquire any local, county, state, or federal approval or authorization necessary to conduct the activity.

3. No fill, excess soil, or other material shall be placed in any wetland, floodplain, or surface water area not specifically authorized by this permit, its plans, and specifications.
4. This permit does not authorize or sanction work that has been completed in violation of applicable federal, state, or local statutes.
5. The permit placard shall be kept posted at the work site in a prominent location at all times for the duration of the project or until permit expiration.
6. This permit is being issued for the maximum time allowed and no extensions of this permit will be granted. Initiation of the construction work authorized by this permit indicates the permittee's acceptance of this condition. The permit, when signed by EGLE, will be for a five-year period beginning on the date of issuance. If the project is not completed by the expiration date, a new permit must be sought.
7. Prior to the initiation of any permitted construction activities, a sedimentation barrier (e.g., silt fence, straw bale barrier, etc.) shall be constructed immediately down gradient of the construction site. Sedimentation barriers shall be specifically designed to handle the sediment type, load, water depth, and flow conditions of each construction site throughout the anticipated time of construction and unstable site conditions. The sedimentation barrier shall be maintained in good working order throughout the duration of the project. Upon project completion, the accumulated materials shall be removed and disposed of at an upland (i.e., non-wetland, non-floodplain, non-bottomland) site and stabilized with seed and mulch. The sedimentation barrier shall then be removed in its entirety and the area restored to its original configuration and cover. In the event there is a problem with the sedimentation barrier, and a failure to contain the sediments from leaving the project site, the project shall be immediately stopped, evaluated, and appropriate measures shall be taken to stop the release of sediments/turbidity. The permittee, agent or contractor shall immediately notify the EGLE representative through MiEnviro Schedules of Compliance submission, or via phone or email at 989-280-0089 or [PetersonS11@Michigan.gov](mailto:PetersonS11@Michigan.gov), on the sedimentation barrier failure and the measures being taken to stop the release of sediments/turbidity.
8. Prior to commencing installation of the culvert, the entire waterward perimeter of the project site shall be isolated with a turbidity curtain to prevent movement of suspended sediments. The turbidity curtain shall be installed to extend from the bed of the waterbody to a point above the existing water's surface. The turbidity curtain shall be maintained for the duration of the project and shall be left in place after completion until all disturbed sediments have settled.
9. All raw areas in uplands resulting from the permitted construction activity shall be effectively stabilized with sod and/or seed and mulch (or other technology specified by this permit or project plans) in a sufficient quantity and manner to prevent erosion and any potential siltation to surface waters or wetlands. Temporary stabilization measures shall be installed before or upon commencement of the permitted activity and shall be maintained until permanent measures are in place. Permanent measures shall be in place within five (5) days of achieving final grade.
10. All raw earth within 100 feet of a lake, stream, or wetland that is not brought to final stabilization by the end of the active growing season shall be temporarily stabilized with mulch blankets in accordance with the following dates: September 20<sup>th</sup> for the Upper Peninsula, October 1<sup>st</sup> for the Lower Peninsula north of US-10, and October 10<sup>th</sup> for the Lower Peninsula south of US-10.
11. If the project, or any portion of the project, is stopped and lies incomplete for any length of time other than that encountered in a normal work week, every precaution shall be taken to protect the incomplete work from erosion, including the placement of temporary gravel bag riprap, temporary seed and mulch, or other acceptable temporary protection.

12. No work shall be done in the stream during periods of above-normal flows except as necessary to prevent erosion.
13. All fill/backfill shall consist of clean inert material that will not cause siltation nor contain soluble chemicals, organic matter, pollutants, or contaminants. All fill shall be contained in such a manner so as not to erode into any surface water, floodplain, or wetland. All raw areas associated with the permitted activity shall be stabilized with sod and/or seed and mulch, riprap, or other technically effective methods as necessary to prevent erosion.
14. All fill shall consist of clean, washed rock or stone that is free of fines, other soil materials, any contaminants, or pollutants.
15. All riprap shall be properly sized and graded based on wave action and velocity and shall consist of natural field stone or rock (free of paint, soil or other fines, asphalt, soluble chemicals, or organic material). **Broken concrete is not allowed.**
16. The existing structure shall be kept open to pass the stream flow during removal of the existing road fill.
17. The placement of the new culvert and the initial placement of fill in the stream shall be done immediately after removal of the existing culvert. The placement shall be conducted in such a manner that all flow is immediately passed through the new culverts, allowing the major placement of fill to be done in the dry or in still water where erosion and siltation will be minimized. The fill material used in this initial placement shall be washed gravel, coarse aggregate, or rock and shall be placed at both ends of the culvert to a level above normal water level before backfill material is placed.
18. The culvert shall be installed to align with the center line of the existing stream at both the inlet and outlet ends and must be buried below the stream bed to provide a natural channel substrate through the structure as shown on the approved plans.
19. Road fill side slopes shall not be steeper than 1-on-2 (1 vertical to 2 horizontal) except where headwalls of reinforced concrete, mortar masonry, dry masonry, or other acceptable methods are used.
20. Road fill side slopes terminating in the stream and any raw streambanks resulting from the construction shall be stabilized with temporary measures in accordance with appropriate Best Management Practices based on site conditions, and if necessary, may be riprapped extending above the ordinary high water mark, before or upon commencement of the permitted activity. Temporary stabilization measures shall be maintained until permanent measures are in place.
21. All other road fill slopes, ditches, and other raw areas draining directly to the stream may be protected with riprap, sod and/or seed and mulch as may be necessary to provide effective erosion protection. The placement of riprap shall be limited to the minimum necessary to ensure proper stabilization of the side slopes and fill in the immediate vicinity of the structure. Rock riprap shall be placed such that it does not narrow up the stream or interfere with stream flows into and out of the structure.
22. If the project, or any portion of the project, is stopped and lies incomplete for any length of time other than that encountered in a normal work week, every precaution shall be taken to protect the incomplete work from erosion, including the placement of temporary gravel bag riprap, temporary seed and mulch, or other acceptable temporary protection.
23. The structure shall be installed to align with the centerline of the stream at both the inlet and the outlet ends. If needed, up to 25 feet of the channel at either end may be reshaped to allow for a smooth transition. The bankfull width must be maintained for any reshaped areas. Meanders upstream or downstream of the structure shall not be eliminated when creating a smooth transition. Any channel reshaping shall be constructed as shown on the approved plans.

24. Exposed streambanks resulting from this construction shall be stabilized with temporary measures in accordance with appropriate Best Management Practices based on site conditions, and if necessary, may be riprapped extending above the ordinary high water mark, to provide adequate erosion protection. Temporary stabilization measures shall be maintained until permanent measures are in place.
25. All other exposed slopes, ditches, and other raw areas draining directly to the stream may be protected with riprap, sod and/or seed and mulch as may be necessary to provide effective erosion protection. The placement of riprap shall be limited to the minimum necessary to ensure proper stabilization of the side slopes and fill in the immediate vicinity of the structure.
26. All riprap shall be installed such that it does not narrow the stream or interfere with flows into or out of the structure (culvert or bridge).
27. The culvert shall be recessed no greater than 24 inches into the stream bottom in order to preserve proper flow conveyance through the structure.
28. The permittee shall monitor the stream crossing structure and associated rip rap for a minimum of four (4) years following construction. Two monitoring events shall take place, one each in years 2 and 4, during baseflow conditions. A written summary, including photographs, shall be submitted for each monitoring event. Visual assessment of channel function and stability is required during each monitoring event. Monitoring reports shall cover the period of January 1 through December 31 and be submitted to EGLE prior to January 31 of the following year. The permittee shall conduct the following activities at each monitoring event and provide the information collected in the monitoring reports:
  - a. Provide photographic documentation of the crossing structure; the rip rap upstream, downstream, and through the culvert; and the channel bed and banks from station 12+50 to 14+00. Photos must be labeled with the subject, location, date photographed, and direction. A map of the locations of the photo stations shall be included.
  - b. Assess the stability and performance of the culvert crossing and associated rip rap, and the upstream channel. Describe any areas of erosion, aggradation, piping, undermining, end-around, or other indication of instability. Evaluate the channel for any evidence of a developing headcut. Within the monitoring period, any headcut that develops must be addressed to prevent upstream migration. If evidence of a headcut is present, provide a discussion of the mechanism of the headcut, its severity, prediction for its progression, and propose corrective actions to prevent the headcut from migrating upstream. EGLE may require corrective actions and subsequent monitoring.
  - c. Evaluate the elevation of stream baseflow in comparison to the top elevation of the rip rap. Discuss any areas where stream flows are below the surface of the rip rap and whether transported sediments are filling the voids within the rip rap.
  - d. Provide a written summary of the observations, including any differences from as-builts and previous monitoring periods, and a discussion of changes or trends based on all monitoring results.

Upon signing by the permittee named herein, this permit must be returned to EGLE's Water Resources Division, Samantha Peterson, at [PetersonS11@Michigan.gov](mailto:PetersonS11@Michigan.gov) for final execution. This permit shall become effective on the date of the EGLE representative's signature.

Permittee hereby accepts and agrees to comply with the terms and conditions of this permit.

X

\_\_\_\_\_  
Permittee

\_\_\_\_\_  
Date

X

\_\_\_\_\_  
Printed Name and Title of Permittee

Issued By: \_\_\_\_\_

Samantha Peterson  
Bay City District Office  
Water Resources Division  
989-280-0089

THIS PERMIT MUST BE SIGNED BY THE PERMITTEE TO BE VALID.

Enclosure: Youngs IC Drain 2025 Approved Plan Set

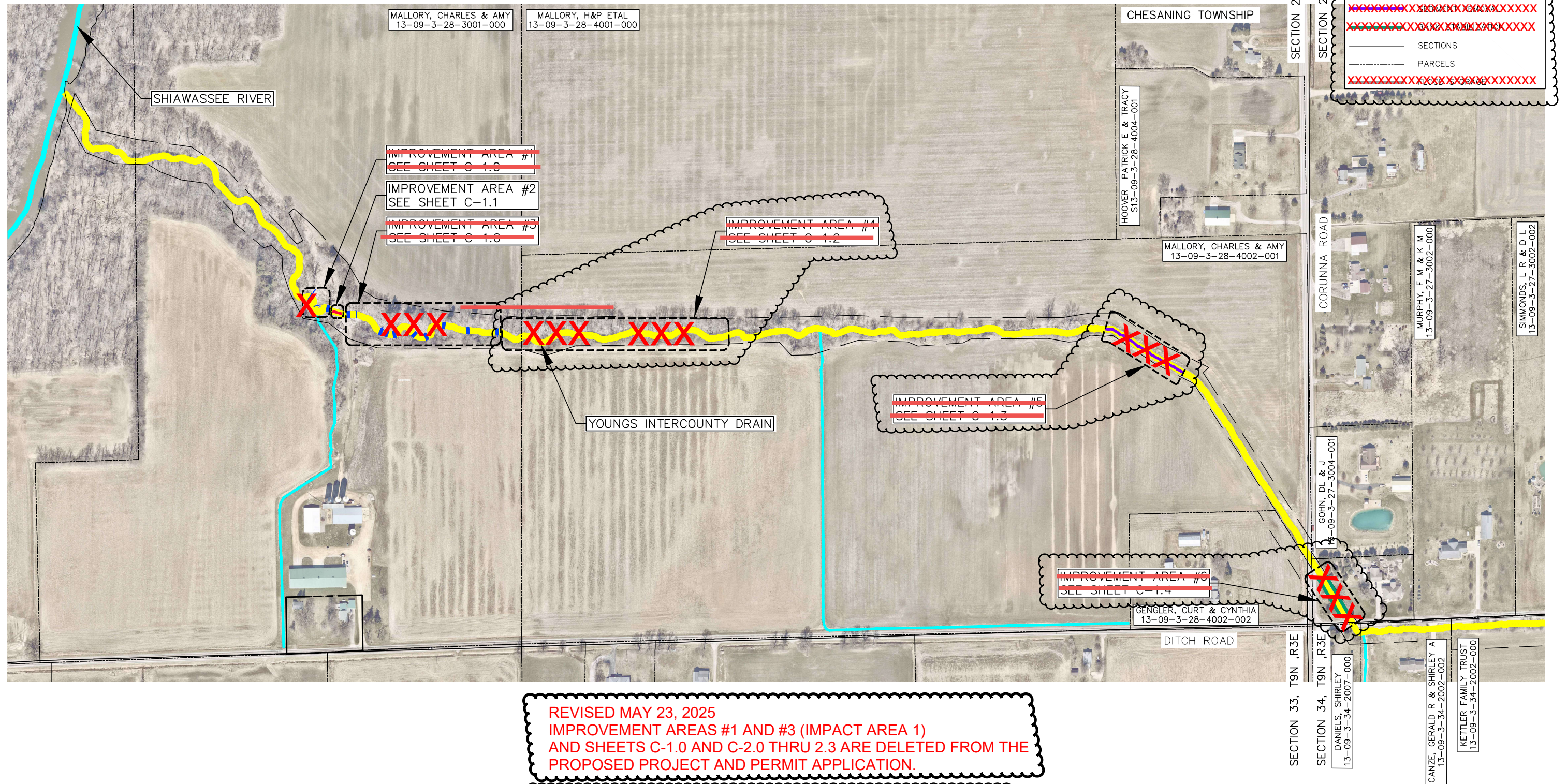
cc: Chesaning Township Clerk  
Saginaw County Drain Commissioner  
Saginaw County  
Saginaw County CEA  
Saginaw County Building Department  
Alan Boyer, PEA Group; Agent  
Ron Hoeft, PEA Group; Consultant  
Kathryn Kirkpatrick; EGLE  
Bethany Matousek; EGLE

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Permittee Signature and Date

# YOUNGS INTERCOUNTY DRAIN

CHESANING TOWNSHIP, SAGINAW COUNTY, MICHIGAN  
NEW HAVEN TOWNSHIP, SHIAWASSEE COUNTY, MICHIGAN



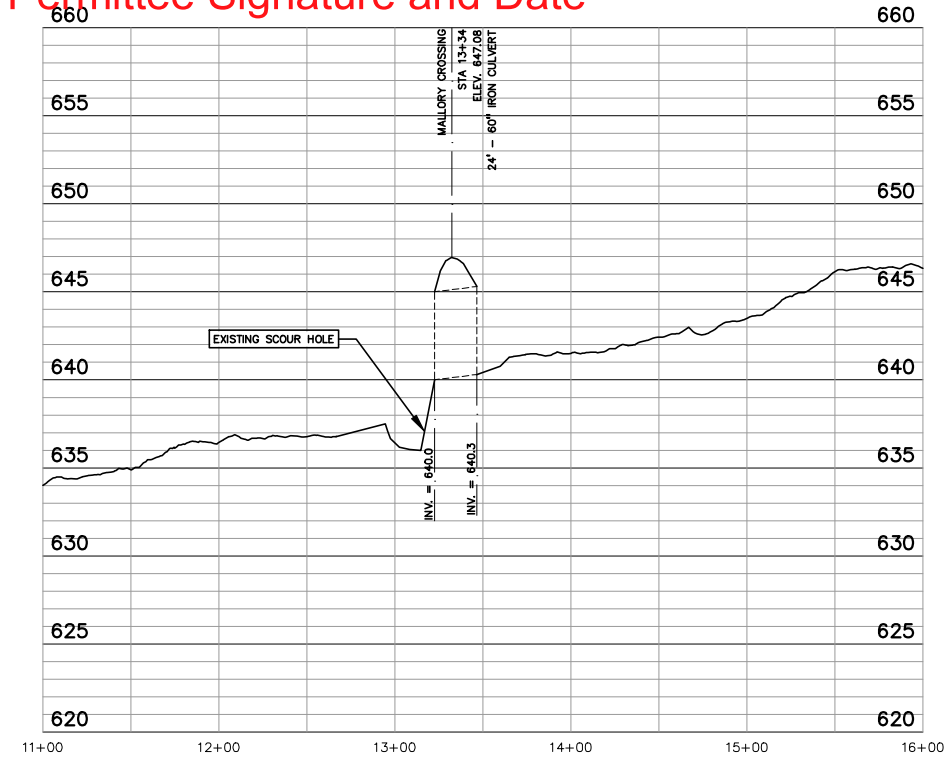
REVISED MAY 23, 2025  
IMPROVEMENT AREAS #1 AND #3 (IMPACT AREA 1)  
AND SHEETS C-1.0 AND C-2.0 THRU 2.3 ARE DELETED FROM THE  
PROPOSED PROJECT AND PERMIT APPLICATION.

REVISED MARCH 11, 2025  
IMPROVEMENT AREAS #4, #5 AND #6 (IMPACT AREAS 3, 4 & 5)  
AND SHEETS C-1.2 THRU C-1.4 ARE DELETED FROM THE  
PROPOSED PROJECT AND PERMIT APPLICATION.

CLIENT:  
**YOUNGS INTERCOUNTY  
DRAINAGE BOARD**  
MICHIGAN DEPARTMENT OF AGRICULTURE  
MICHAEL GREGG  
SAGINAW COUNTY PUBLIC WORKS COMMISSIONER  
BRIAN VENOGING  
SHIAWASSEE COUNTY DRAIN COMMISSIONER  
ANTHONY NEWMAN

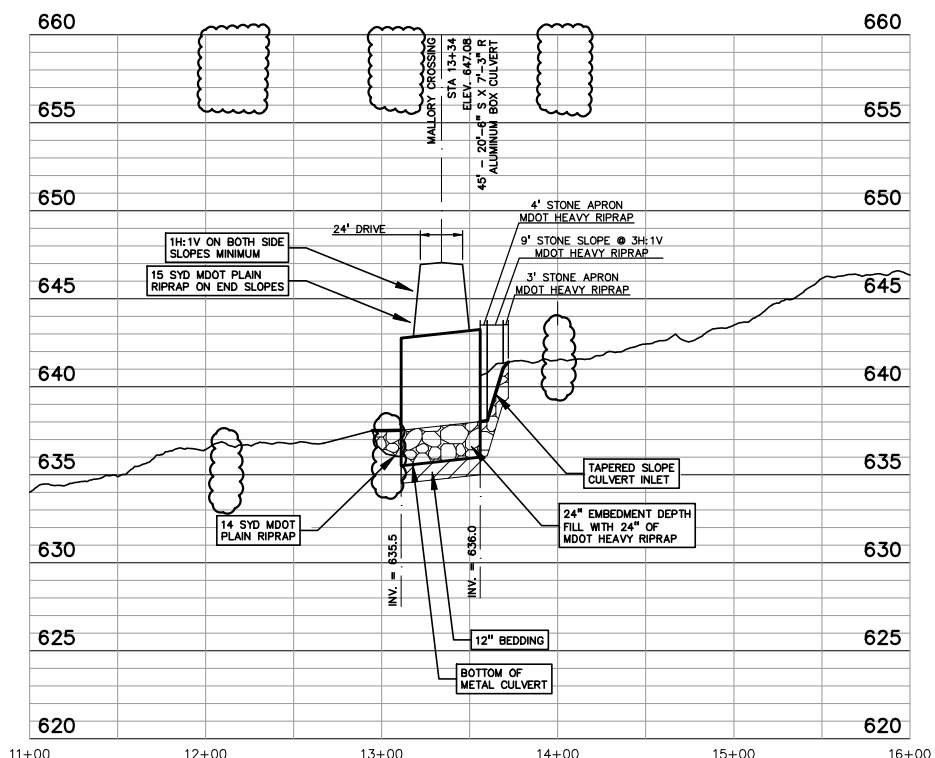
## PROJECT OVERVIEW

Permittee Signature and Date



EXISTING CULVERT PROFILE

HORIZ: 1" = 50'  
VERT: 1" = 10'



PROPOSED CULVERT PROFILE

HORIZ: 1" = 50'  
VERT: 1" = 10'

| AVERAGE CROSSING EXCAVATION |                 |                            |                                               |                                               |
|-----------------------------|-----------------|----------------------------|-----------------------------------------------|-----------------------------------------------|
| LENGTH (FT)                 | AVE. WIDTH (FT) | AVE. DEPTH BELOW OHWM (FT) | AVE. VOLUME CUT BELOW OHWM (FT <sup>3</sup> ) | AVE. VOLUME CUT BELOW OHWM (YD <sup>3</sup> ) |
| 61                          | 34              | 5.9                        | 12,237                                        | 453                                           |

| AVERAGE CROSSING FILL |                 |                            |                                                |                                                |
|-----------------------|-----------------|----------------------------|------------------------------------------------|------------------------------------------------|
| LENGTH (FT)           | AVE. WIDTH (FT) | AVE. DEPTH BELOW OHWM (FT) | AVE. VOLUME FILL BELOW OHWM (FT <sup>3</sup> ) | AVE. VOLUME FILL BELOW OHWM (YD <sup>3</sup> ) |
| 77                    | 30              | 2.8                        | 6,468                                          | 240                                            |

| BACKFILL (YD <sup>3</sup> ) | RIPRAP (YD <sup>3</sup> ) |
|-----------------------------|---------------------------|
| 130                         | 110                       |

|                   |            |
|-------------------|------------|
| MDOT PLAIN RIPRAP | 8" TO 16"  |
| MDOT HEAVY RIPRAP | 16" TO 48" |

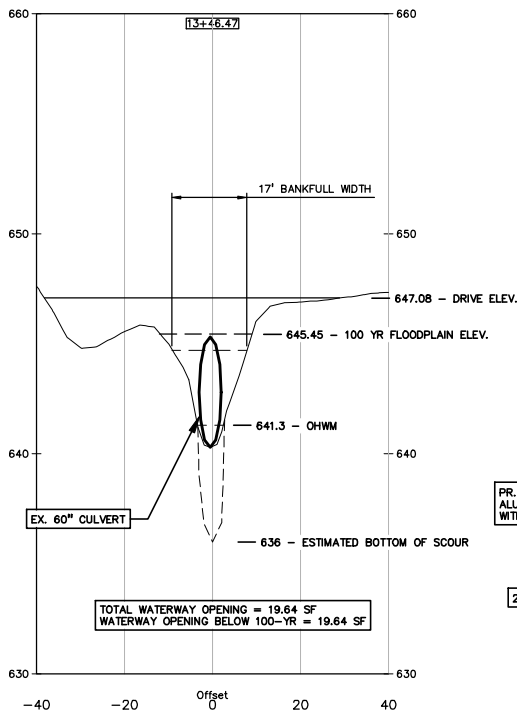
**PEA GROUP**  
t: 844.813.2949  
www.peagroup.com



SCALE: 1" = 10'

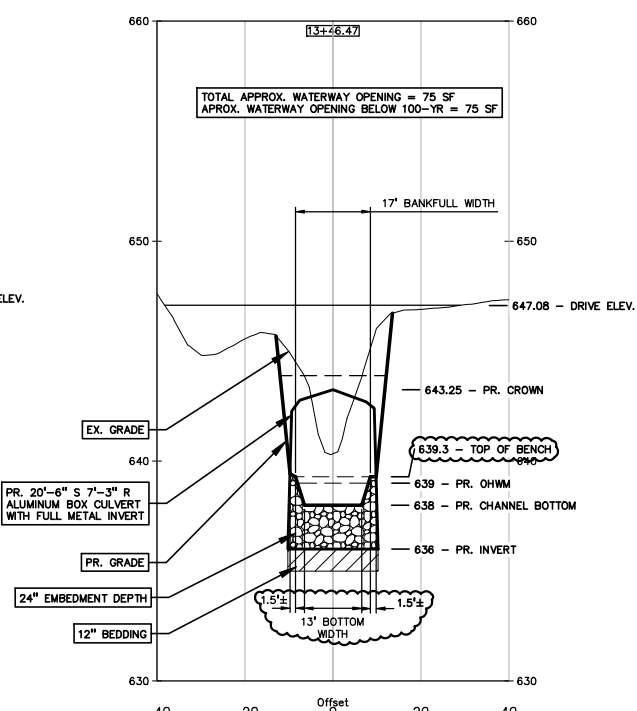


CAUTION!!  
THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THE DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS OTHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OF ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.



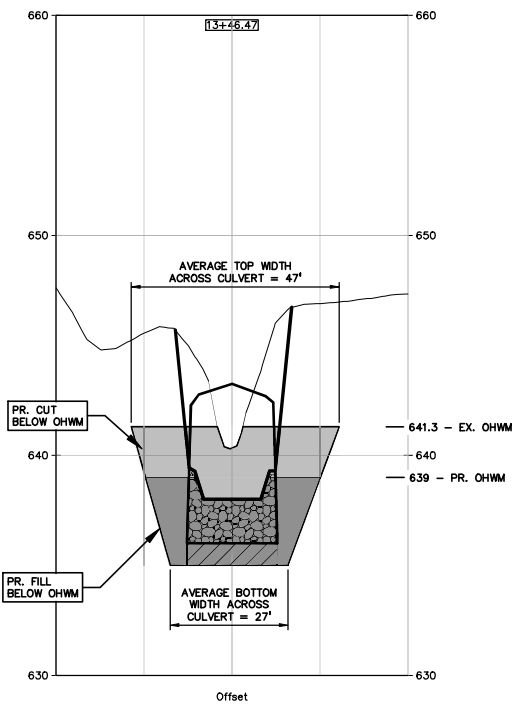
A-A EX. CROSS SECTION

HORIZ: 1" = 20'  
VERT: 1" = 4'



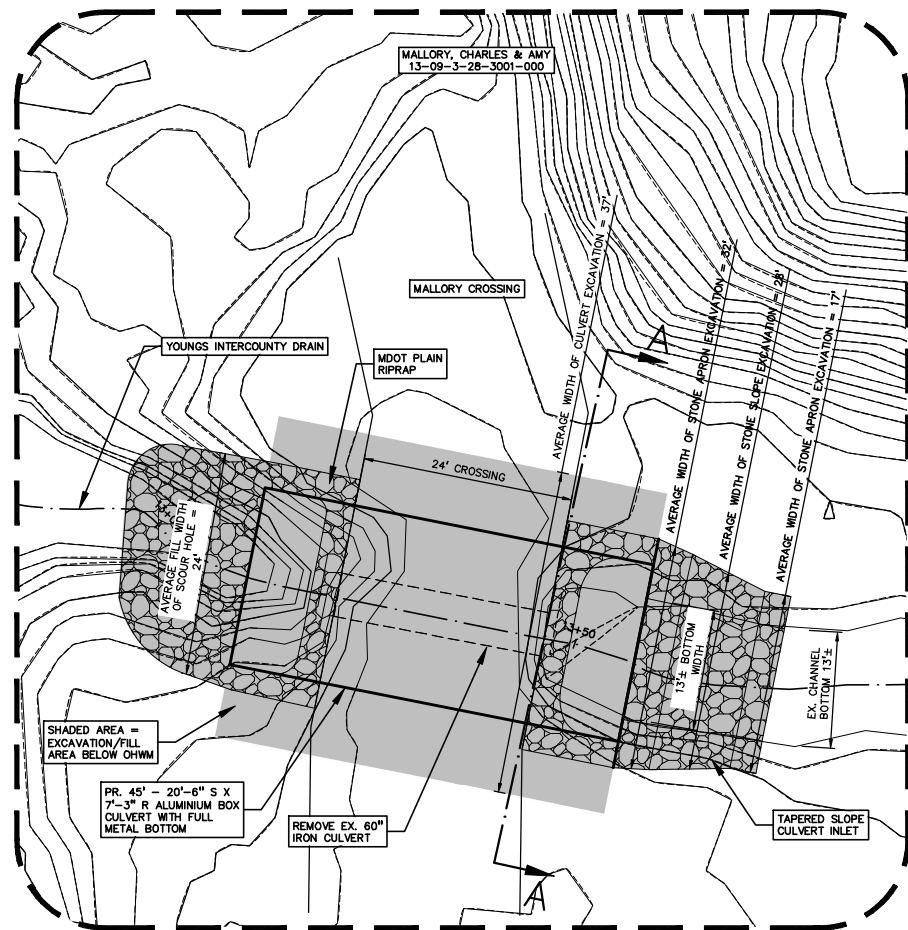
A-A PR. CROSS SECTION

HORIZ: 1" = 20'  
VERT: 1" = 4'



A-A CUT-FILL CROSS SECTION

HORIZ: 1" = 20'  
VERT: 1" = 4'



IMPROVEMENT AREA #2

NOT FOR CONSTRUCTION

CLIENT  
**YOUNGS INTERCOUNTY DRAINAGE BOARD**

MICHIGAN DEPARTMENT OF AGRICULTURE  
MICHAEL GREGG  
SAGINAW COUNTY PUBLIC WORKS  
COMMISSIONER  
BRIAN WENGLING  
SHAWASSEE COUNTY DRAIN  
COMMISSIONER  
BRIAN GIBBS

PROJECT TITLE  
**YOUNGS INTERCOUNTY DRAIN**  
CHESAMING TOWNSHIP, SAGINAW COUNTY, MI  
NEW HAVEN TOWNSHIP, SHAWASSEE COUNTY, MI

REVISIONS  
FOR EGLE REVIEW 12/19/2024  
FOR EGLE REVIEW 03/11/2025

ORIGINAL ISSUE DATE:  
NOVEMBER 1, 2024

DRAWING TITLE  
**IMPROVEMENT AREA #2**

PEA JOB NO. 2021-1694

P.M. ADB

DN. AJR

DES. GKL

DRAWING NUMBER:

C-1.1