

**SECTION 00 01 00  
CONTRACT DOCUMENTS**

**2026 - 2028 CCTV PROGRAM**

City of Ecorse  
3869 W Jefferson Ave, Ecorse, MI, 48229  
Ecorse, MI, 48229

10-08-2025



25251 Northline Road, Taylor MI, 48180

**ECO 2005-01T**

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**SECTION 00 11 13  
ADVERTISEMENT FOR BIDS**

**2026 - 2028 CCTV Program**

City of Ecorse has implemented online project bidding using **MITN Purchasing Group (MITN)** to view and download the plans and specifications for this project.

Sealed Bids will be received by the City of Ecorse at the Clerk's Office, 3869 W Jefferson Ave, Ecorse, Michigan, 48229, until 10:00 am, Local Time, 11-18-2025, at which time and place said Bids will be opened and publicly read aloud.

Bids will be received for the following Work:

TV and cleaning of sanitary and storm sewers across the City of Ecorse over a three-year period

Contract Documents may be examined at the following locations:

[https://www.ecorsemi.gov/government/bids\\_and\\_proposals.php](https://www.ecorsemi.gov/government/bids_and_proposals.php)

Plans and specifications are also available for viewing (not to be used for bidding purposes) at no cost online at: [www.wadetrim.com/resources/bid-tab/](http://www.wadetrim.com/resources/bid-tab/)

- A. Documents downloaded from our website will bear a watermark on various signature pages and will be considered unofficial copies for bidding purposes; copies obtained from anywhere other than Wade Trim will be considered unofficial copies and will not be considered a responsible bid.

Contract Documents for bidding purposes are only available from Bidnet/MITN starting on 10-08-2025.

- A. There is no cost to downloading the Contract Documents in pdf format. Bidders must download the Documents from Bidnet/MITN to be included on the Plan Holders List and to receive any Addenda posted for the project.

Each Bid will be accompanied by a bid bond, in the amount of at least **five (5)** percent of the amount bid, drawn payable to City of Ecorse as security for the proper execution of the Agreement.

City of Ecorse reserves the right to accept or reject any or all bids and to waive any informality in any bids should it consider same to be in its best interest.

Bids may not be withdrawn for the period of 60 days after date of receiving bids.

Inquiries will be directed to Shawn Keough, Engineer at Phone: (734) 947-2622 or email: [skeough@wadetrim.com](mailto:skeough@wadetrim.com).

## SECTION 00 21 13 - INSTRUCTIONS TO BIDDERS

### PART 1 GENERAL

#### 1.01 DEFINED TERMS

- A. Terms used in these Instructions to Bidders have the meanings assigned to them in the General Conditions.
- B. The term "Bidder" means one who submits a Bid to Owner as distinct from a subbidder who submits a Bid to a Bidder.
- C. The term "Successful Bidder" means the lowest, qualified, responsible Bidder to whom the Owner makes an award.
- D. The term "Owner" means City of Ecorse, 3869 W Jefferson Ave, Ecorse, MI, 48229, a Municipal Corporation and being a party of the first part of this Contract.
- E. The term "Engineer" means Wade Trim Associates, Inc., 25251 Northline Road, Taylor MI, 48180, or a duly authorized representative.

#### 1.02 BIDDERS QUALIFICATIONS

- A. No Bid will be considered from any Bidder unless known to be skilled and regularly engaged in work of a character similar to that covered by the Contract Documents. In order to aid the Owner in determining the responsibility of any Bidder, the Bidder, within 48 hours after being requested in writing by the Owner to do so, must furnish evidence, satisfactory to the Owner, of the Bidder's experience and familiarity with Work of the character specified, and Bidder's financial ability to properly prosecute the proposed Work to completion within the specified time. The evidence requested may include the following:
  - 1. Address and description of the Bidder's plant or permanent place of business.
  - 2. Bidder's performance records for all Work awarded to or started by Bidder within the past three years.
  - 3. An itemized list of the Bidder's equipment available for use on the proposed Contract.
  - 4. Bidder's financial statement, including statement of ownership of equipment necessary to be used in executing Work under Contract.
  - 5. Evidence that the Bidder is authorized to do business in the state in which the project is located, in case of a corporation organized under the laws of any other state; and,
  - 6. Such additional information as will satisfy the Owner that the Bidder is adequately prepared to fulfill the Contract.

#### 1.03 EXAMINATION OF CONTRACT DOCUMENTS AND SITE

- A. It is the responsibility of each Bidder before submitting a Bid, to:
  - 1. Examine the Contract Documents thoroughly,
  - 2. Visit the site to familiarize himself with local conditions that may in any manner affect cost, progress or performance of the Work,

3. Consider federal, state, and local Laws and Regulations that may affect cost, progress, performance, or furnishing of the Work; and
  4. Study and carefully correlate Bidder's knowledge and observations with the Contract Documents and such other related data; and
  5. Promptly notify the Engineer in writing of conflicts, errors, ambiguities or discrepancies which Bidder has discovered in or between Contract Documents and such related documents.
  6. Purchase official Procurement Documents from the Engineer in order to be included on the project Plan Holder List and be considered eligible for bidding.
- B. Reference is made to the Supplementary Conditions for the identification of those reports of investigations and tests of subsurface and latent physical conditions at the site or otherwise affecting cost, progress or performance of the Work which have been relied upon by the Engineer in preparing the Contract Documents.
1. If such reports are not included as appendices to the Contract Documents, the Owner will make copies available to any Bidder requesting them. These reports are included for reference only and are not guaranteed as to accuracy or completeness, nor are they part of the Contract Documents.
  2. Bidder may rely upon the general accuracy of the "technical data" contained in such reports but not upon other data, interpretations, opinions or information contained in such reports or otherwise relating to the subsurface conditions at the site, nor upon the completeness thereof for bidding or construction purposes.
  3. Before submitting their Bid each Bidder will, at Bidder's own expense, make such additional investigations and tests as the Bidder may deem necessary to determine Bidder's Bid for performance of the Work in accordance with the time, price and other terms and conditions of the Contract Documents.
- C. On request, the Owner will provide each Bidder access to the site to conduct such investigations and tests as each Bidder deems necessary for submission of their Bid. Bidder must fill all holes and clean up and restore the site to its former conditions upon completion of such investigations and tests.
- D. The lands upon which the Work is to be performed, rights-of-way for access thereto and other lands designated for use by the Contractor in performing the Work are identified in Section 01 11 00 - Summary of Work, or on the Plans.
- E. The locations of utilities as shown on the Plans are taken from sources believed to be reliable. Neither the Owner nor the Engineer will be responsible for any omissions of, or variations from, the indicated location of existing utilities which may be encountered in the Work.
1. The submission of a Bid will constitute an incontrovertible representation by the Bidder that the Bidder has complied with every requirement of this Article, that without exception the Bid is based 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, indicated or required by the Contract Documents, that Bidder has given the Engineer written notice of all conflicts, errors, ambiguities and discrepancies that Bidder has discovered in Contract Documents and the resolution by the

Engineer is acceptable to Bidder, and that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performing and furnishing the Work, and that the time stated in the Proposal is sufficient to complete the project.

#### **1.04 INTERPRETATIONS AND ADDENDA**

- A. Should any prospective bidder find discrepancies in, or omissions from the Plans, Specifications or other parts of the Contract Documents, the prospective bidder may submit a written request to the Engineer for an interpretation thereof. The person submitting the request will be held responsible for its prompt delivery at least seven (7) days prior to the date for opening of Bids. Questions received less than seven (7) days prior to the date for opening of bids will not be answered. Any interpretation of inquiry will be made by Addendum duly issued to all prospective bidders.
- B. Any change in or addition to the Contract Documents deemed necessary by the Owner must be made in the form of an Addendum issued to all prospective bidders who have taken out Contract Documents and all such Addenda will become a part of the Contract Documents as though same were incorporated into same originally. Oral explanations and information do not constitute official notification and are not binding.

#### **1.05 BID SECURITY**

- A. Bid Security must be made payable to the Owner, in an amount of **five (5)** percent of the Bidder's maximum Bid price, as indicated in Section 00 11 13 - Advertisement for Bids. Bid Bonds, if indicated as acceptable in Section 00 11 13, will be issued on the form included in the Contract Documents by a Surety meeting the requirements of paragraph 5.01 of Section 00 72 00 - General Conditions.
- B. Bid Security of the Successful Bidder will be retained until such Bidder has executed Section 00 52 00 - Agreement and furnished the required Contract Security, whereupon it will be returned; if the Successful Bidder fails to execute and deliver the Agreement and furnish the required Contract Security within 15 days of the Notice of Award, the Owner may annul the Notice of Award and the Bid Security of that Bidder will be forfeited.
- C. Bid Security of any Bidder whom the Owner believes to have a reasonable chance of receiving the award may be retained by the Owner until the earliest of the seventh day after the "Effective Date of Agreement" (which term is defined in the General Conditions) or the expiration of the hold period on the Bids. Bid Security of other Bidders will be returned within 14 days of the Bid opening, unless indicated otherwise in the Advertisement.

#### **1.06 CONTRACT TIME**

- A. The number of days within which, or the date by which, the Work is to be Substantially Completed, if applicable, and also completed and ready for final payment (the Contract Time) are set forth in the Agreement.

#### **1.07 SUBSTITUTE AND "OR-EQUAL" ITEMS**

- A. The Contract, if awarded, will be on the basis of materials and equipment described in the Plans or specified in the Specifications without consideration of possible substitute or "or-equal" items.

- B. Whenever it is indicated in the Plans or specified in the Specifications that a substitute or an "or-equal" item of material or equipment may be furnished or used by the Contractor if acceptable to the Engineer, application for such acceptance will not be considered by the Engineer until after the effective date of the Agreement.
- C. In addition, in no case will the Engineer's denial of the Contractor's application give rise to any claim for additional cost, it being understood by the Contractor that acceptance of substitute or an "or equal" item of material is at the sole discretion of the Engineer.

#### **1.08 RECEIPT AND FORM OF BID**

- A. Bids must be submitted at the time and place indicated in the Advertisement for Bids and must be accompanied by the Bid Security and other required documents.
  - 1. Bids must be in an opaque sealed envelope, marked with the Project title and name and address of the Bidder and accompanied by the Bid Security and other required documents.
  - 2. If the Bid is sent through the mail or other delivery system, the sealed envelope must be enclosed in a separate envelope with the notation "BID ENCLOSED" on the face thereof.
- B. Bids received after the scheduled time and place indicated in the Advertisement for Bids will be returned unopened.
- C. Owner invites bids on the Proposal and any other form(s) attached thereto.
- D. The complete set of Contract Documents must be used in preparing Bids; neither the Owner nor the Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Contract Documents.
- E. The quantities as shown in Section 00 42 43 - Proposal are approximate only and will be used as a basis of comparison of Bids, and award of Contract(s).
  - 1. Payment will be made on basis of actual quantities of Work performed in accordance with the Contract Documents.
- F. Unit Prices must include such amounts as the Bidder deems proper for overhead, profit, taxes, General Conditions and such other incidentals as noted in the Contact Documents.
- G. Bidder must acknowledge of receipt of Addenda as provided for in the electronic bidding platform. Failure to acknowledge Addenda will be cause for rejection of bid.
- H. The Legal Status of Bidder Form, located in Section 00 43 45 - Legal Status of Bidder, must be submitted with each Bid and must clearly state the legal position of a Bidder. In the case of a corporation, the home address, name and title of all officers must be given. In the case of a partnership, show names and home addresses of all partners. If an individual, so state. Any individual bid not signed by the individual must have attached, thereto, a power of attorney evidencing authority to sign.
- I. Other documents to be attached to the Proposal and made a condition thereof are identified in the Proposal.
- J. A tabulation of the amounts of the base bids and any alternates will be made available after the opening of Bids.

K. To obtain Contract Documents and submit a Bid, Bidders:

#### **1.09 MODIFICATIONS AND WITHDRAWAL OF BIDS**

- A. 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.
- B. If, within 24 hours after Bids are opened, any Bidder files a duly signed written notice with the Owner and promptly thereafter demonstrates to the reasonable satisfaction of the Owner that there was a material and substantial mistake in the preparation of their Bid, that Bidder may withdraw their Bid and the Bid Security will be returned.
  - 1. Thereafter, at the sole option of the Owner, that Bidder will be disqualified from further Bidding on the Work to be provided under the Contract Documents.

#### **1.10 AWARD OF CONTRACT**

- A. Owner reserves the right to reject any and all Bids for any reason, to waive any and all informalities not involving price, time, or changes in the Work and to negotiate contract terms with the Successful Bidder, and the right to disregard all nonconforming, non-responsive, unbalanced, or conditional Bids.
- B. Discrepancies between words and figures will be resolved in favor of words. Discrepancies in the multiplication of units of work and unit prices, will be resolved in favor of unit price.
- C. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.
- D. In evaluating Bids, the Owner will consider the qualifications of the Bidders, whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices and other data if requested in the Bid forms. It is the Owner's intent to accept alternates (if any are accepted) in the order in which they are listed in the Bid form but the Owner may accept them in any order or combination.
- E. Subject to the approval of the Owner, the Contract will be awarded to the lowest responsive and responsible Bidder. Responsibility of Bidder will be determined on basis of past performance and Work of similar character, equipment and labor available to do the Work and financial status.
- F. The Contract will be considered to have been awarded after the approval of the Owner has been duly obtained and a formal Notice of Award duly served on the Successful Bidder by the Owner.
- G. If the Contract is to be awarded, the Owner will give the Successful Bidder a Notice of Award within 60 days after the day of the Bid opening, unless such other time is specified in the Advertisement for Bids.
- H. The Contract will not be binding upon the Owner until the Agreement has been duly executed by the Bidder and the duly authorized officials of the Owner.

**1.11 SIGNING OF AGREEMENT**

- A. Within fifteen (15) days after the Owner gives a Notice of Award to the Successful Bidder, the Contractor must sign and deliver the specified number of counterparts of the Agreement to the Owner with all other Contract Documents attached.
- B. Within ten (10) thereafter, the Owner will deliver two (2) fully signed counterparts to the Contractor. Engineer will identify, date or correct those portions of the Contract Documents not fully signed, dated or executed by the Owner and the Contractor and such identification, dating or correction will be binding on all parties.

**PART 2 PRODUCTS (NOT USED)**

**PART 3 EXECUTION (NOT USED)**

**END OF SECTION**

**SECTION 00 42 43  
PROPOSAL**

Owner: City of Ecorse  
 Project: 2026 - 2028 CCTV Program  
 Project Location: Varies

**BIDDER INFORMATION**

Bidder Name: \_\_\_\_\_  
 By (Printed Name): \_\_\_\_\_  
 Signature: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone No: \_\_\_\_\_  
 Email: \_\_\_\_\_

Bidder proposes and agrees, if their Bid is accepted, to enter into an Agreement with the City of Ecorse in the form included in the Contract Documents to complete all Work as specified or indicated in the Contract Documents for the Contract Price and within the Contract Time indicated in the Agreement, and in accordance with the Contract Documents.

In submitting their Bid, Bidder represents, as more fully set forth in the Agreement, that:

Bidder has examined copies of Contract Documents, (consisting of Plans dated 10-08-2025 and Project Manual dated 10-08-2025) which Bidder understands and accepts as sufficient for the purpose, including any and all Addenda officially issued, the receipt of which has been acknowledged.

- A. Addendum \_\_\_\_\_ Acknowledged by: \_\_\_\_\_ Date: \_\_\_\_\_
- B. Addendum \_\_\_\_\_ Acknowledged by: \_\_\_\_\_ Date: \_\_\_\_\_
- C. Addendum \_\_\_\_\_ Acknowledged by: \_\_\_\_\_ Date: \_\_\_\_\_

Bidder has examined the surface and subsurface conditions where the Work is to be performed, the legal requirements and local conditions affecting cost, progress, furnishing or performance of the Work, and has made such independent investigations as Bidder deems necessary.

Bidder, by submitting a Bid, agrees that their 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 a corporation to refrain from bidding; and Bidder has not sought by collusion to obtain for himself any advantage over any other Bidder or over the Owner.

Bidder agrees to complete the Work, in accordance with the Contract Documents, for the following Contract Price:

No.	Description	Est. Quantity	Unit	Bid Unit Price	Bid Price
	<b>A. 2026 Cleaning and Inspection</b>				
1	Cleaning, Sanitary Sewer, 06 to 12 inch	46,175	LF	\$	\$
2	Cleaning, Sanitary Sewer, 15 to 21 inch	12,780	LF	\$	\$

3	Cleaning, Sanitary Sewer, 24 to 36 inch	5,550	LF	\$	\$
4	Cleaning, Sanitary Sewer, 42 inch	0	LF	\$	\$
5	Cleaning, Sanitary Sewer, 30x45 inch	0	LF	\$	\$
6	Cleaning, Sanitary Sewer, 32x48 inch	0	LF	\$	\$
7	Cleaning, Sanitary Structure	335	EA	\$	\$
8	Heavy Cleaning, Sanitary Sewer, 06 to 12 inch	5,130	LF	\$	\$
9	Heavy Cleaning, Sanitary Sewer, 15 to 21 inch	1,420	LF	\$	\$
10	Heavy Cleaning, Sanitary Sewer, 24 to 36 inch	615	LF	\$	\$
11	Heavy Cleaning, Sanitary Sewer, 42 inch	0	LF	\$	\$
12	Heavy Cleaning, Sanitary Sewer, 30x45 inch	0	LF	\$	\$
13	Heavy Cleaning, Sanitary Sewer, 32x48 inch	0	LF	\$	\$
14	Television Inspection, 06 to 12 inch Sanitary Sewer	510	LF	\$	\$
15	Television Inspection, 15 to 21 inch Sanitary Sewer	140	LF	\$	\$
16	Television Inspection, 24 to 36 inch Sanitary Sewer	60	LF	\$	\$
17	Television Inspection, 42 inch Sanitary Sewer	0	LF	\$	\$
18	Television Inspection, 30x45 inch Sanitary Sewer	0	LF	\$	\$
19	Television Inspection, 32x48 inch Sanitary Sewer	0	LF	\$	\$
20	Mineral Cutting, Sanitary Sewer	100	EA	\$	\$
21	Intruding Lateral Cutting, Sanitary Sewer	30	EA	\$	\$
22	Cleaning, Storm Sewer, 06 to 12 inch	46,045	LF	\$	\$
23	Cleaning, Storm Sewer, 15 to 21 inch	12,545	LF	\$	\$
24	Cleaning, Storm Sewer, 24 to 36 inch	9,685	LF	\$	\$
25	Cleaning, Storm Sewer, 42 to 48 inch	0	LF	\$	\$
26	Cleaning, Storm Sewer, 54 to 60 inch	0	LF	\$	\$

27	Cleaning, Storm Sewer, 72 to 84 inch	0	LF	\$	\$
28	Cleaning, Storm Sewer, 32x36 to 32x48 inch	0	LF	\$	\$
29	Cleaning, Storm Structure	800	EA	\$	\$
30	Heavy Cleaning, Storm Sewer, 06 to 12 inch	5,116	LF	\$	\$
31	Heavy Cleaning, Storm Sewer, 15 to 21 inch	1,395	LF	\$	\$
32	Heavy Cleaning, Storm Sewer, 24 to 36 inch	1,075	LF	\$	\$
33	Heavy Cleaning, Storm Sewer, 42 to 48 inch	0	LF	\$	\$
34	Heavy Cleaning, Storm Sewer, 54 to 60 inch	0	LF	\$	\$
35	Heavy Cleaning, Storm Sewer, 72 to 84 inch	0	LF	\$	\$
36	Heavy Cleaning, Storm Sewer, 32x36 to 32x48 inch	0	LF	\$	\$
37	Television Inspection, 06 to 12 inch Storm Sewer	455	LF	\$	\$
38	Television Inspection, 15 to 21 inch Storm Sewer	140	LF	\$	\$
39	Television Inspection, 24 to 36 inch Storm Sewer	110	LF	\$	\$
40	Television Inspection, 42 to 48 inch Storm Sewer	0	LF	\$	\$
41	Television Inspection, 54 to 60 inch Storm Sewer	0	LF	\$	\$
42	Television Inspection, 72 to 84 inch Storm Sewer	0	LF	\$	\$
43	Television Inspection, 32x36 to 32x48 inch Storm Sewer	0	LF	\$	\$
44	Mineral Cutting, Storm Sewer	100	EA	\$	\$
45	Intruding Lateral Cutting, Storm Sewer	10	EA	\$	\$
	<b>2026 Cleaning and Inspection Total</b>				<b>\$</b>
	<b>B. 2027 Cleaning and Inspection</b>				
46	Cleaning, Sanitary Sewer, 06 to 12 inch	32,450	LF	\$	\$
47	Cleaning, Sanitary Sewer, 15 to 21 inch	12,780	LF	\$	\$
48	Cleaning, Sanitary Sewer, 24 to 36 inch	5,550	LF	\$	\$

49	Cleaning, Sanitary Sewer, 42 inch	5,220	LF	\$	\$
50	Cleaning, Sanitary Sewer, 30x45 inch	1,260	LF	\$	\$
51	Cleaning, Sanitary Sewer, 32x48 inch	5,220	LF		
52	Cleaning, Sanitary Structure	335	EA	\$	\$
53	Heavy Cleaning, Sanitary Sewer, 06 to 12 inch	3,605	LF	\$	\$
54	Heavy Cleaning, Sanitary Sewer, 15 to 21 inch	1,420	LF	\$	\$
55	Heavy Cleaning, Sanitary Sewer, 24 to 36 inch	615	LF	\$	\$
56	Heavy Cleaning, Sanitary Sewer, 42 inch	580	LF	\$	\$
57	Heavy Cleaning, Sanitary Sewer, 30x45 inch	140	LF	\$	\$
58	Heavy Cleaning, Sanitary Sewer, 32x48 inch	580	LF	\$	\$
59	Television Inspection, 06 to 12 inch Sanitary Sewer	360	LF	\$	\$
60	Television Inspection, 15 to 21 inch Sanitary Sewer	140	LF	\$	\$
61	Television Inspection, 24 to 36 inch Sanitary Sewer	60	LF	\$	\$
62	Television Inspection, 42 inch Sanitary Sewer	60	LF	\$	\$
63	Television Inspection, 30x45 inch Sanitary Sewer	15	LF	\$	\$
64	Television Inspection, 32x48 inch Sanitary Sewer	60	LF	\$	\$
65	Mineral Cutting, Sanitary Sewer	100	EA	\$	\$
66	Intruding Lateral Cutting, Sanitary Sewer	30	EA	\$	\$
67	Cleaning, Storm Sewer, 06 to 12 inch	31,045	LF	\$	\$
68	Cleaning, Storm Sewer, 15 to 21 inch	12,545	LF	\$	\$
69	Cleaning, Storm Sewer, 24 to 36 inch	9,685	LF	\$	\$
70	Cleaning, Storm Sewer, 42 to 48 inch	8,570	LF	\$	\$
71	Cleaning, Storm Sewer, 54 to 60 inch	6,900	LF	\$	\$
72	Cleaning, Storm Sewer, 72 to 84 inch	1,670	LF	\$	\$

73	Cleaning, Storm Sewer, 32x36 to 32x48 inch	1,180	LF	\$	\$
74	Cleaning, Storm Structure	800	EA	\$	\$
75	Heavy Cleaning, Storm Sewer, 06 to 12 inch	3,447	LF	\$	\$
76	Heavy Cleaning, Storm Sewer, 15 to 21 inch	1,395	LF	\$	\$
77	Heavy Cleaning, Storm Sewer, 24 to 36 inch	1,075	LF	\$	\$
78	Heavy Cleaning, Storm Sewer, 42 to 48 inch	950	LF	\$	\$
79	Heavy Cleaning, Storm Sewer, 54 to 60 inch	765	LF	\$	\$
80	Heavy Cleaning, Storm Sewer, 72 to 84 inch	185	LF	\$	\$
81	Heavy Cleaning, Storm Sewer, 32x36 to 32x48 inch	130	LF	\$	\$
82	Television Inspection, 06 to 12 inch Storm Sewer	455	LF	\$	\$
83	Television Inspection, 15 to 21 inch Storm Sewer	140	LF	\$	\$
84	Television Inspection, 24 to 36 inch Storm Sewer	110	LF	\$	\$
85	Television Inspection, 42 to 48 inch Storm Sewer	95	LF	\$	\$
86	Television Inspection, 54 to 60 inch Storm Sewer	75	LF	\$	\$
87	Television Inspection, 72 to 84 inch Storm Sewer	20	LF	\$	\$
88	Television Inspection, 32x36 to 32x48 inch Storm Sewer	15	LF	\$	\$
89	Mineral Cutting, Storm Sewer	100	EA	\$	\$
90	Intruding Lateral Cutting, Storm Sewer	10	EA	\$	\$
	<b>2027 Cleaning and Inspection Total</b>				<b>\$</b>
	<b>C. 2028 Cleaning and Inspection</b>				
91	Cleaning, Sanitary Sewer, 06 to 12 inch	46,175	LF	\$	\$
92	Cleaning, Sanitary Sewer, 15 to 21 inch	12,780	LF	\$	\$
93	Cleaning, Sanitary Sewer, 24 to 36 inch	5,550	LF	\$	\$
94	Cleaning, Sanitary Sewer, 42 inch	0	LF	\$	\$

95	Cleaning, Sanitary Sewer, 30x45 inch	0	LF	\$	\$
96	Cleaning, Sanitary Sewer, 32x48 inch	0	LF	\$	\$
97	Cleaning, Sanitary Structure	335	EA	\$	\$
98	Heavy Cleaning, Sanitary Sewer, 06 to 12 inch	5,130	LF	\$	\$
99	Heavy Cleaning, Sanitary Sewer, 15 to 21 inch	1,420	LF	\$	\$
100	Heavy Cleaning, Sanitary Sewer, 24 to 36 inch	615	LF	\$	\$
101	Heavy Cleaning, Sanitary Sewer, 42 inch	0	LF	\$	\$
102	Heavy Cleaning, Sanitary Sewer, 30x45 inch	0	LF	\$	\$
103	Heavy Cleaning, Sanitary Sewer, 32x48 inch	0	LF	\$	\$
104	Television Inspection, 06 to 12 inch Sanitary Sewer	510	LF	\$	\$
105	Television Inspection, 15 to 21 inch Sanitary Sewer	140	LF	\$	\$
106	Television Inspection, 24 to 36 inch Sanitary Sewer	60	LF	\$	\$
107	Television Inspection, 42 inch Sanitary Sewer	0	LF	\$	\$
108	Television Inspection, 30x45 inch Sanitary Sewer	0	LF	\$	\$
109	Television Inspection, 32x48 inch Sanitary Sewer	0	LF	\$	\$
110	Mineral Cutting, Sanitary Sewer	100	EA	\$	\$
111	Intruding Lateral Cutting, Sanitary Sewer	30	EA	\$	\$
112	Cleaning, Storm Sewer, 06 to 12 inch	46,045	LF	\$	\$
113	Cleaning, Storm Sewer, 15 to 21 inch	12,545	LF	\$	\$
114	Cleaning, Storm Sewer, 24 to 36 inch	9,685	LF	\$	\$
115	Cleaning, Storm Sewer, 42 to 48 inch	0	LF	\$	\$
116	Cleaning, Storm Sewer, 54 to 60 inch	0	LF	\$	\$
117	Cleaning, Storm Sewer, 72 to 84 inch	0	LF	\$	\$
118	Cleaning, Storm Sewer, 32x36 to 32x48 inch	0	LF	\$	\$

119	Cleaning, Storm Structure	800	EA	\$	\$
120	Heavy Cleaning, Storm Sewer, 06 to 12 inch	5,116	LF	\$	\$
121	Heavy Cleaning, Storm Sewer, 15 to 21 inch	1,395	LF	\$	\$
122	Heavy Cleaning, Storm Sewer, 24 to 36 inch	1,075	LF	\$	\$
123	Heavy Cleaning, Storm Sewer, 42 to 48 inch	0	LF	\$	\$
124	Heavy Cleaning, Storm Sewer, 54 to 60 inch	0	LF	\$	\$
125	Heavy Cleaning, Storm Sewer, 72 to 84 inch	0	LF	\$	\$
126	Heavy Cleaning, Storm Sewer, 32x36 to 32x48 inch	0	LF	\$	\$
127	Television Inspection, 06 to 12 inch Storm Sewer	455	LF	\$	\$
128	Television Inspection, 15 to 21 inch Storm Sewer	140	LF	\$	\$
129	Television Inspection, 24 to 36 inch Storm Sewer	110	LF	\$	\$
130	Television Inspection, 42 to 48 inch Storm Sewer	0	LF	\$	\$
131	Television Inspection, 54 to 60 inch Storm Sewer	0	LF	\$	\$
132	Television Inspection, 72 to 84 inch Storm Sewer	0	LF	\$	\$
133	Television Inspection, 32x36 to 32x48 inch Storm Sewer	0	LF	\$	\$
134	Mineral Cutting, Storm Sewer	100	EA	\$	\$
135	Intruding Lateral Cutting, Storm Sewer	10	EA	\$	\$
	<b>2028 Cleaning and Inspection Total</b>				<b>\$</b>
	<b>Total Contract Price</b>			<b>\$</b>	

Bidder, by submitting a Bid, thereby certifies that Bidder or a qualified designated person in Bidder's employ has examined the Contract Documents provided by the Owner for bidding purposes. Further, they certify that Bidder or Bidder's qualified employee has reviewed the Bidder's proposed construction methods and finds them compatible with the conditions which Bidder anticipates from the information provided for Bidding.

Bidder, by submitting a Bid, agrees to complete the Work under any job circumstances or field conditions present and/or ascertainable prior to bidding. In addition, Bidder agrees to complete the Work under whatever conditions Bidder may create by Bidder's own sequence of construction, construction methods, or other conditions he may create, at no additional cost to the Owner.

Bidder, by submitting a Bid, declares that Bidder has familiarized them self with the location of the proposed Work and the conditions under which it must be constructed. Also, Bidder has carefully examined the Plans, the Specifications, and the Contract Documents, which Bidder understands and accepts as sufficient for the purpose, and agrees that Bidder will Contract with the Owner to furnish all labor, material, tools, and equipment necessary to do all Work specified and prescribed for the completion of the Project.

Bidder will provide a bid bond, in the amount of at least **five (5)** percent of the amount Bid, drawn payable to City of Ecorse as security for the proper execution of the Agreement.

Bidder, by submitting a Bid, agrees that if awarded Contract, to sign the Agreement and submit satisfactory bonds and certificates of insurance coverage and other evidence of insurance required by the Contract Documents within 15 days after the date of Owner's Notice of Award.

Bidder, by submitting a Bid, agrees that time is of the essence and, if awarded Contract, that the Work will be Completed on or before the dates/days as specified in the Agreement.

Liquidated damages, as specified in the General Conditions, Supplementary Conditions and Agreement, will also apply to the Substantial Completion date.

Engineering and inspection costs incurred after the final completion date will be paid by the Contractor to the Owner as specified in the Conditions of the Contract and Agreement.

Proposals may not be withdrawn for a period of 60 days after bid opening.

The following documents are made a condition of this Proposal:

- A. Required Bid Security
- B. Legal Status of Bidder
- C. Non-Collusion Affidavit
- D. Statement of Qualifications

**SECTION 00 43 13  
BID BOND FORM**

KNOW ALL BY THESE PRESENT, that we, the undersigned, \_\_\_\_\_ as Principal, hereinafter called the Principal, a corporation duly organized under the laws of the State of \_\_\_\_\_, and duly authorized to transact business in the state of Michigan, as Surety, \_\_\_\_\_, hereinafter called the Surety, are held and firmly bound unto the Owner, hereinafter called Owner, in the sum of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_) for the payment of which sum well and truly to be made, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a Bid for 2026 - 2028 CCTV Program.

NOW, THEREFORE, if the Owner accepts the Bid of the Principal and the Principal will enter into a Contract with the Owner in accordance with the terms of such Bid, and give such Bond or Bonds as may be specified in the Contract Documents with good and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter such Contract and give such Bond or Bonds, if the Principal pays to the Owner the difference not-to-exceed the penalty hereof between the amount specified in said Bid and such larger amount for which the Owner may in good faith contract with another party to perform the Work covered by said Bid, then this obligation will be null and void, otherwise to remain in full force and effect.

Signed and sealed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
(Witness)

\_\_\_\_\_  
(Principal)

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

\_\_\_\_\_  
(Witness)

\_\_\_\_\_  
(Surety)

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

**SECTION 00 43 45  
LEGAL STATUS OF BIDDER**

(The Bidder should check the appropriate box and complete the information requested therein)

A corporation, duly authorized and doing business under the laws of the State of Michigan, for whom \_\_\_\_\_ whose signature is affixed to this Bid, is duly authorized to execute contracts.

A limited liability company, duly authorized and doing business under the laws of the State of Michigan, for whom \_\_\_\_\_, whose signature is affixed to this Bid, is duly authorized to execute contracts.

A partnership, all partners with their addresses are:

_____	_____
_____	_____
_____	_____

An individual, whose signature is affixed to this Bid.

_____	_____
-------	-------

**SECTION 00 45 13  
STATEMENT OF BIDDER'S QUALIFICATIONS**

This Proposal is submitted in the name of:

(Print) \_\_\_\_\_

The undersigned hereby designates the following business address to which all notices, directions or other communications may be served or mailed:

Street: \_\_\_\_\_ City: \_\_\_\_\_

State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

The undersigned hereby declares their legal status as checked below:

- Sole Proprietor
- Sole Proprietor doing business under an assumed name
- Co-partnership

The Assumed Name of the Co-Partnership is registered in the County of \_\_\_\_\_,

- Corporation incorporated under the laws of the State of \_\_\_\_\_.

The Corporation is:

- authorized to conduct business in the State of \_\_\_\_\_
- not now authorized to conduct business in the State of \_\_\_\_\_
- possess all required licenses for the work being bid
- limited liability corporation

The name, titles, and home addresses of all persons who are officers or partners in the organization are as follows:

Name: \_\_\_\_\_ Title: \_\_\_\_\_

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

Signed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_

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

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

**SECTION 00 45 19  
NON-COLLUSION AFFIDAVIT OF PRIME BIDDER**

State of \_\_\_\_\_)

) ss:

County of \_\_\_\_\_)

\_\_\_\_\_, being first duly sworn, deposes and says that:

They are the of \_\_\_\_\_ (Position) of \_\_\_\_\_ (Firm), the Bidder that has submitted the attached Bid;

They are fully informed with respect to the preparation and contents of the attached Bid and of all pertinent circumstances respecting such Bid;

Such Bid is genuine and is not a collusive or sham bid;

Neither the Bidder nor any of its officers, partners, members, managers, owners, agents, representatives, employees or parties in interest, including this affiant, has in any way colluded, conspired, connived or agreed, directly or indirectly, with any other Bidder, entity or person to submit a collusive or sham bid in connection with the Contract Documents for which the attached Bid has been submitted or to refrain from bidding in connection with the Contract Documents or has in any manner, directly or indirectly, sought by agreement, collusion, communication or conference with any other Bidder, entity or person to fix the price or prices in the attached Bid or that of any other Bidder or to fix any overhead, profit or cost element of the Bid price or the Bid price of any other Bidder or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against City of Ecorse, or any person or other entity interested in the proposed Contract Documents; and

The price or prices quoted in the attached Bid are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees or parties having interest, including this affiant.

Name of Bidder: \_\_\_\_\_

Signed By: \_\_\_\_\_

Title: \_\_\_\_\_

Subscribed and sworn to me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

\_\_\_\_\_ Notary Public

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

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

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

Notary Seal

**SECTION 00 51 00  
NOTICE OF AWARD**

Attention: \_\_\_\_\_

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

Project: 2026 - 2028 CCTV Program

Pursuant to the provisions of Article 1.11 of the Instructions to Bidders (Section 00 21 13), you are hereby notified that the \_\_\_\_\_ (Owner) during a \_\_\_\_\_ Meeting held on \_\_\_\_\_, \_\_\_\_\_, 20\_\_ has directed the acceptance of your Bid for the above referenced Project in the amount of \_\_\_\_\_ Dollars (\$\_\_\_\_\_).

This Project consists of: TV and cleaning of sanitary and storm sewers across the City of Ecorse over a three-year period as delineated in your Bid submitted to City of Ecorse on 11-18-2025.

Please comply with the following conditions within 15 days of the date of this Notice of Award; that is by \_\_\_\_\_, 20\_\_\_\_\_.

Deliver to Engineer \_\_\_\_\_ (\_\_\_\_\_) fully executed counterparts of the Agreement (Section 00 52 00) including all the Contract Documents.

Deliver with the executed Agreement the Contract Security (Bonds), on the form included in the Contract Documents, as specified in the General Conditions (Article 5, Section 00 72 00).

Deliver with the executed Agreement the Insurance Certificates (and other evidence of insurance) as specified in the General Conditions (Article 5, Section 00 72 00).

Please do not date Agreement and Contract Security (Bonds), as these will be dated by the Owner when executed by them.

It is important to comply with these conditions and time limits as 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 2 fully signed counterparts of the Agreement with the Contract Documents attached.

In accordance with paragraph 2.05 of the General Conditions (Section 00 72 00), please submit to Engineer the required schedules prior to the scheduling of a Pre-Construction Meeting.

Owner: \_\_\_\_\_

Authorized Signature: \_\_\_\_\_

**Copy to Wade Trim Associates, Inc.**

**SECTION 00 52 00  
AGREEMENT**

This Agreement, made and entered into this \_\_\_\_\_ day of \_\_\_\_\_ in the year 20\_\_\_\_, by and between City of Ecorse hereinafter called Owner, and \_\_\_\_\_ hereinafter called Contractor, in consideration of the mutual covenants hereinafter sent forth, agree as follows:

Contractor will complete the Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

TV and cleaning of sanitary and storm sewers across the City of Ecorse over a three-year period. The Work will be substantially completed on or before **02-16-2028**, and completed and ready for final payment in accordance with paragraph 14.11 of Section 00 72 00 - General Conditions on or before **03-17-2028**.

Engineering and inspection costs incurred after the specified final completion date will be paid by the Contractor to the Owner prior to final payment authorization.

Charges will be made at such times and in such amounts as the Engineer will invoice the Owner, provided however said charges will be in accordance with the Engineer's current rate schedule at the time the costs are incurred.

The costs of the Engineer incurred after the specified final completion date will be deducted from the Contractor's progress payments.

Owner and Contractor recognize that time is of the essence of this Agreement and that the Owner will suffer financial loss if the Work is not Substantially Complete within the time specified in paragraph 1.03.A above, plus any extensions thereof allowed in accordance with Article 12 of Section 00 72 00. They also recognize the delays, expense and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by the Owner if the Work is not Substantially Complete on time. Accordingly, instead of requiring any such proof, the Owner and the Contractor agree that as liquidated damages for delay (but not as penalty) the Contractor will pay the Owner Five Hundred Dollars (\$500.00) for each day that expires after the time specified in paragraph 1.03.A above for Substantial Completion until the Work is Substantially Complete.

Liquidated damages charged will be deducted from the Contractor's progress payment.

Owner will pay Contractor as provided in the attached Proposal for performance of the Work in accordance with the Contract Documents.

Progress payments and retainage under this Contract are governed by the provisions of PA 1980, No. 524 (MCLA 125.1561 et seq.). That Act is incorporated herein by reference and made a part of this Contract. Without excluding any provisions of the Act from this Contract, but in order to comply therewith and summarize certain provisions, the following will apply:

Person representing the Contractor who will submit written requests for progress payments will be:

\_\_\_\_\_

Person representing the Owner to whom requests for progress payments are to be submitted will be:

\_\_\_\_\_

Contractor's representative, listed above, will submit Applications for Payment on the form provided in the Contract Documents in accordance with Article 14 of Section 00 72 00. Applications for Payment will be processed as provided in Section 00 72 00.

In order to induce the Owner to enter into this Agreement, the Contractor makes the following representations:

Contractor has considered the nature and extent of the Contract Documents, Work, locality, and all local conditions and federal, state and local laws, and regulations that may affect cost, progress, performance, or furnishing of the Work.

Contractor has studied carefully all reports of investigations and tests of subsurface and latent physical conditions at the site or otherwise affecting cost, progress or performance of the Work which were relied upon in the preparation of the Plans and Specifications and which have been identified in the Supplementary Conditions (Section 00 73 00).

Contractor has made or caused to be made examinations, investigations and tests and studies of such reports and related data in addition to those referred to above as the Contractor deems necessary for the performance of the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents; and no additional examinations, investigations, tests, reports or similar data are or will be required by the Contractor for such purposes.

Contractor has correlated the results of such observations, examinations, investigations, tests, reports and data with the terms and conditions of the Contract Documents.

Contractor has given Engineer written notice of conflicts, errors or discrepancies that Engineer has discovered in the Contract documents and the written resolution thereof by Engineer is acceptable to the Contractor.

The Contract Documents which comprise the entire Contract between the Owner and the Contractor are attached to this Agreement, made a part hereof, and consists of the following:

Procurement Requirements (including the Advertisement for Bids, Instructions to Bidders, Proposal, Legal Status of Bidder, and other Documents listed in the Table of Contents thereof).

This Agreement

Performance and other Bonds

Notice of Award

Notice to Proceed (if issued)

Conditions of the Contract (including Section 00 72 00 - General Conditions and Section 00 73 00 - Supplementary Conditions, if any)

Specifications contained within Division 01 through 49 of the Project Manual

Plans bearing the following general title: 2026 - 2028 CCTV Program

Addenda numbers \_\_\_\_\_ to \_\_\_\_\_, inclusive

Documentation submitted by the Contractor prior to Notice of Award

Any Modification, including Change Orders, duly delivered after execution of Agreement.

Terms used in this Agreement which are defined in Article 1 of Section 00 72 00 will have the meanings indicated in Section 00 72 00.

No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on any other party without the written consent of the party sought to be bound; and specifically but without limitation, monies that may become due and monies 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.

Owner and Contractor each binds them self, partners, successors, assigns and legal representatives to the other party hereto, their partners, successors, assigns and legal representatives in respect to all covenants, agreements and obligations contained in the Contract Documents.

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 the Owner and the Contractor, who 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.

IN WITNESS WHEREOF, the parties hereto have signed this Agreement in three counterparts. One counterpart each has been delivered to Owner and Contractor, and one counterpart has been delivered to the Engineer. The Contract Documents have been signed or identified by Owner and Contractor.

This Agreement will be effective on \_\_\_\_\_, 20\_\_\_\_.

Owner: City of Ecorse

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

Authorized Signature: \_\_\_\_\_

Attest: \_\_\_\_\_

Address for giving notices:

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

Contractor: \_\_\_\_\_

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

Authorized Signature: \_\_\_\_\_

Attest: \_\_\_\_\_

Address for giving notices:

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

License No. \_\_\_\_\_

Agent for service of process: \_\_\_\_\_

**SECTION 00 55 00  
NOTICE TO PROCEED**

To: \_\_\_\_\_  
\_\_\_\_\_

Date: \_\_\_\_\_, 20\_\_\_\_\_

Attention: \_\_\_\_\_

Project: 2026 - 2028 CCTV Program

Please note that the Contract Time under the above Contract will commence to run on \_\_\_\_\_, 20\_\_\_\_. Within **ten (10)** days of this date you are to start performing the Work. The dates of Substantial Completion and Final Completion are set forth in the Agreement: they are \_\_\_\_\_, and \_\_\_\_\_, respectively.

The following conditions must be met by Contractor:

In accordance with Article 2.05 of Section 00 72 00 - General Conditions, please submit to the Engineer the required Schedules prior to the scheduling of a Pre-Construction Meeting.

In accordance with Article 2.05 of Section 00 72 00 - General Conditions, please request a Pre-Construction Meeting from the Engineer prior to delivery of any materials or start of any construction.

Notify the Engineer a minimum of **three (3)** full working days' notice to schedule a Pre-Construction Meeting.

Work at the site must be started by \_\_\_\_\_, 20\_\_\_\_\_.

Owner: \_\_\_\_\_

Authorized Signature: \_\_\_\_\_

COPY TO Wade Trim Associates, Inc.

## **SECTION 00 60 00 - PROJECT FORMS**

### **PART 1 GENERAL**

#### **1.01 AVAILABLE FORMS**

A. The following Project Forms are available for use by Owner, Contractor and/or Engineer for this project and are located in Exhibit 1 of the Contract Documents:

1. Certificate of Substantial Completion
2. Change Order
3. Change Proposal
4. Construction Change Requisition / Work Change Directive
5. Field Order
6. Non-Compliance Notice / Order to Remove Defective Work
7. Open Items List
8. Request for Final Inspection
9. Request for Information
10. Substitution Request Form
11. Warranty Data Sheet

### **PART 2 PRODUCTS (NOT USED)**

### **PART 3 EXECUTION (NOT USED)**

**END OF SECTION**





# CHANGE ORDER NO. \_\_\_\_\_

305.08  
(Rev. 042020)

Prepared By: \_\_\_\_\_

Date of Issuance: \_\_\_\_\_

WT Project No.:		Project Name:	
Owner / Municipality:			
Owner Project No.:		Department:	
Project Location:			
Contractor:		Subcontractor:	

The Contract Documents are modified as follows upon execution of this Change Order:

Attachments: (List documents supporting change):

### CHANGE IN CONTRACT PRICE

### CHANGE IN CONTRACT TIME

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

from previously approved Change  
Orders No. \_\_\_\_\_ to No. \_\_\_\_\_ :  
\$ \_\_\_\_\_

Contract Price prior to this Change Order:  
\$ \_\_\_\_\_

of this Change Order:  
\$ \_\_\_\_\_

Contract Price incorporating this Change Order:  
\$ \_\_\_\_\_

Original Contract Times:  
Working Days    Calendar Days  
Substantial Completion (date):  
Ready for final payment (date):

from previously approved Change  
Orders No. \_\_\_\_\_ to No. \_\_\_\_\_ :  
Substantial Completion (days):  
Ready for final payment (days):

Contract Times prior to this Change Order:  
Substantial Completion (date):  
Ready for final payment (date):

of this Change Order:  
Substantial Completion (days):  
Ready for final payment (days):

Contract Times with all approved Change Orders:  
Substantial Completion (date):  
Ready for final payment (date):

RECOMMENDED:  
By: \_\_\_\_\_  
*Engineer (Authorized Signature)*

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

ACCEPTED:  
By: \_\_\_\_\_  
*Owner (Authorized Signature)*

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

ACCEPTED:  
By: \_\_\_\_\_  
*Contractor (Authorized Signature)*

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

**Change Order becomes effective upon date of final signature.**



# CHANGE PROPOSAL NO. \_\_\_\_\_

305.01  
(Rev. 04/2020)

Prepared By: \_\_\_\_\_

Date of Issuance: \_\_\_\_\_

WT Project No.:		Project Name:	
Owner / Municipality:			
Owner Project No.:		Department:	
Project Location:			
Contractor:		Subcontractor:	

**This Change Proposal is submitted in accordance with Paragraph 10.06 of the General Conditions.**

If this Change Proposal is accepted, either in whole or in part, a Change Order will be issued to modify the Contract Documents accordingly.

### Detailed Description of Proposed Change:

### Attachments: (List documents attached supporting requested change):

<p><b><u>CHANGE IN CONTRACT PRICE</u></b> of this requested Proposal:</p> <p>\$ _____</p>	<p><b><u>CHANGE IN CONTRACT TIME</u></b> of this requested Change Proposal:</p> <p>Substantial Completion (days): _____ Ready for final payment (days): _____</p>
---	---

### Engineer's Decision on Change Proposal:

ENGINEER:	OWNER:	CONTRACTOR:
By: _____ <i>Engineer (Authorized Signature)</i>	By: _____ <i>Owner (Authorized Signature)</i>	By: _____ <i>Contractor (Authorized Signature)</i>
Date: _____	Date: _____	Date: _____



# CONSTRUCTION CHANGE REQUISITION WORK CHANGE DIRECTIVE

No. 305.05  
(Rev. 04/2020)

Prepared By: \_\_\_\_\_

Date: \_\_\_\_\_  
Page: \_\_\_\_\_ of \_\_\_\_\_

WT Project No.:		Project Name:	
Owner / Municipality:			
Owner Project No.:		Department:	
Project Location:			
Contractor:		Subcontractor:	

Description or Work:

Reason:

Item No.	Description	Unit	Quantity Increase (Decrease)	Unit Price	Amount Increase (Decrease)
				Net Cost	

Request for Contract Time Extension: Add \_\_\_\_\_ Days Not Applicable

\_\_\_\_\_  
Contractor (Representative)                      Date                      Wade Trim (Representative)                      Date





FIELD ORDER NO. \_\_\_\_\_

305.04

(Rev. 04/2020)

Page:  1  of      

<b>WT Project No.:</b>		<b>Project Name:</b>	
<b>Owner / Municipality:</b>			
<b>Owner Project No.:</b>		<b>Department:</b>	
<b>Project Location:</b>			
<b>Contractor:</b>		<b>Subcontractor:</b>	
<b>Date:</b>			
<b>Prepared by:</b>			
<b>Subject / Description:</b>			

<b>Classification:</b>	Clarification or Interpretation of Contract Documents
	Minor Change in Work (No Change in Contract Price and/or Time)
	Minor Change in Addition to Work (Requires Change in Contract Price and/or Time)

Reason:

\_\_\_\_\_  
Resident Project Representative                      Date

\_\_\_\_\_  
Contractor's Authorized Representative                      Date



# NON-COMPLIANCE NOTICE / ORDER TO REMOVE DEFECTIVE WORK NO. \_\_\_\_\_

**330.06**  
(Rev. 01/2018)

Job No.: \_\_\_\_\_

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

Project: \_\_\_\_\_  
\_\_\_\_\_

Time: \_\_\_\_\_

Attention: \_\_\_\_\_

You are hereby notified that:

\_\_\_\_\_ does not conform to the Contract Requirements. The Specification violated in Section \_\_\_\_\_, Article \_\_\_\_\_, Drawing No. \_\_\_\_\_. Under the provisions of the Contract, the requirements are \_\_\_\_\_

Non-complying work may be required to be removed and replaced at no cost to the Owner.

Non-complying work may be removed and replaced at no cost to the Owner. No work shall continue until the defective work has been removed.

It shall be the Contractor's responsibility to determine the corrective action plan necessary to bring the work into compliance. This action plan shall be submitted to the Owner and his authorized representative for their review and concurrence that said corrective action will adequately address the deficiency. If you refute the initial findings, it is your responsibility to make your position known to the Owner and his representative with sufficient documentation that your position can be evaluated. All actions described above shall be done in writing as near to the date of the Notice as possible, but no later than ten (10) days after the issuance of said Notice.

\_\_\_\_\_  
Resident Project Representative (Signature)

### ***Non-Compliance Notice Received By Contractor***

Received On: \_\_\_\_\_  
Date

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

Title: \_\_\_\_\_

Corrective action to be taken by Contractor: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
Date

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

### **Owner's Acknowledgement**

Accepted

Accepted as Noted

Unacceptable

Pricing

\_\_\_\_\_  
Date

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





# REQUEST FOR FINAL INSPECTION

350.06  
(Rev. 04/2020)

<b>WT Project No.:</b>		<b>Project Name:</b>	
<b>Owner / Municipality:</b>			
<b>Owner Project No.:</b>		<b>Department:</b>	
<b>Project Location:</b>			
<b>Contractor:</b>		<b>Subcontractor:</b>	

The project to which this request applies has been inspected by authorized representatives of CONTRACTOR and ENGINEER, and the Work is hereby declared to be substantially complete to a point that a project punch list should be prepared in accordance with the following schedule:

**Develop Preliminary Punch List** **Date:** \_\_\_\_\_

Responsibility: Owner, Contractor and Engineer  
Engineer shall have 2 weeks to prepare the punch list.

**Complete Preliminary Punch List Items** **Date:** \_\_\_\_\_

Responsibility: Contractor  
Contractor shall have 2 weeks to complete the items on the punch list.

**Develop Final Punch List (if needed)** **Date:** \_\_\_\_\_

Responsibility: Owner, Contractor and Engineer  
If needed, a second and final punch list will be prepared within 2 weeks by Engineer.

**Complete Final Punch List Items** **Date:** \_\_\_\_\_

Responsibility: Contractor  
Contractor shall have 2 weeks to complete the items on the second and final punch list.

**Process Final Payment** **Date:** \_\_\_\_\_

Engineer will have 2 weeks to review and submit final pay request documents from Contractor to the Owner for final payment upon satisfactory completion of punch list items by Contractor.

This notice signed and dated through mutual agreement of CONTRACTOR and ENGINEER will initiate the time sequence for the approved execution of finalizing \_\_\_\_\_

Contract in \_\_\_\_\_, Michigan, dated \_\_\_\_\_.

**COPY: OWNER**

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

\_\_\_\_\_  
ENGINEER's Representative

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

\_\_\_\_\_  
CONTRACTOR's Representative

[Contractor to  
Insert logo here]

# REQUEST FOR INFORMATION (RFI) NO. \_\_\_\_\_

311-01  
(Rev. 04/2020)

Page:  1  of      

WT Project No.:		Project Name:	
Owner / Municipality:			
Owner Project No.:		Department:	
Project Location:			
Contractor:		Subcontractor:	

RFI Subject:			
Division:		Spec Section:	
Plan Sheet No(s).:			
Date Received:		Requested Response Date:	
Returned to Contractor:			

Is there potential for impacting Contract Price and/or Schedule?

Contract Price Impact:

Contract Schedule Impact:

## Information Requested

## Attachments

**Response****Attachments**

Response by: \_\_\_\_\_ Date: \_\_\_\_\_

**THIS REPLY IS GIVEN WITH THE EXPRESSED UNDERSTANDING THAT IT DOES NOT CONSTITUTE BASIS FOR CHANGE IN PRICE OR TIME OF THE CONTRACT UNLESS OTHERWISE INDICATED.**



# SUBSTITUTION REQUEST FORM

310.06  
(Rev. 04/2019)

<b>WT Project No.:</b>		<b>Project Name:</b>	
<b>Owner / Municipality:</b>			
<b>Owner Project No.:</b>		<b>Department:</b>	
<b>Project Location:</b>			
<b>Contractor:</b>		<b>Subcontractor:</b>	

Specification Section: \_\_\_\_\_ Article No.: \_\_\_\_\_  
 Specified Product: \_\_\_\_\_  
 Proposed Substitution: \_\_\_\_\_

Does specified product exceed in any respect, proposed substitution?	Yes	No
Does substitution affect dimensions shown on Plans?	Yes	No
Does substitution affect other trades more than original product?	Yes	No
Does warranty differ from that specified?	Yes	No
Does substitution affect cost to OWNER?	Yes	No
Does substitution result in any license fee or royalty?	Yes	No

If you indicated "Yes" to any of the items above, attach thorough explanation for the following:

1. Explain any differences between proposed substitution and specified product.
2. Summarize experience with product and manufacturer in Project area.
3. Attach complete technical data and literature.

The undersigned states that the function, appearance, and quality of the proposed substitution is equivalent or superior to the specified item, and that all information above and attached is true and correct.

Submitted by: \_\_\_\_\_ Date Submitted: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Telephone: \_\_\_\_\_ Email: \_\_\_\_\_  
 Signature: \_\_\_\_\_

ACTION STATUS	
ENGINEER'S REVIEW	RESPONSE REQUIRED OF CONTRACTOR
1. Approved (A) 2. Approved as Noted (AN) 3. Revise and Resubmit (RR) 4. Not Approved - See Remarks (NA)	None Confirm Resubmit
<p>Engineer's review is for general conformance with the design concept and contract documents. Markings or comments should not be construed as relieving the contractor from compliance with the project requirements, nor departures therefrom. The contractor remains responsible for details and accuracy, for confirming and correlating all quantities and dimensions, for selecting fabrication processes, for techniques of assembly, and for performing his work in a safe manner.</p> <p style="text-align: center;">WADE TRIM</p> <p>By: _____ Date: _____</p>	



# WARRANTY DATA SHEET

350.07  
(Rev. 04/2020)

Date: \_\_\_\_\_  
Page: \_\_\_\_\_ of \_\_\_\_\_

<b>WT Project No.:</b>		<b>Project Name:</b>	
<b>Owner / Municipality:</b>			
<b>Owner Project No.:</b>		<b>Department:</b>	
<b>Project Location:</b>			
<b>Contractor:</b>		<b>Subcontractor:</b>	
<b>Contractor Address:</b>		<b>Phone:</b>	

Project Description:

Supplier/Vendor: \_\_\_\_\_ Phone: \_\_\_\_\_  
Address: \_\_\_\_\_

Manufacturer: \_\_\_\_\_ Serial No. \_\_\_\_\_

Manufacturer Part No.: \_\_\_\_\_ Asset / Part Name: \_\_\_\_\_

Location: \_\_\_\_\_ Owner ID No.: \_\_\_\_\_

Warranty Provider: \_\_\_\_\_

Warranty Type (labor, parts, parts and labor, etc.) \_\_\_\_\_

Warranty Description:

Warranty Class/Limitations:      Limited                      1 year                      2 year  
Other: \_\_\_\_\_

Warranty Date: \_\_\_\_\_ Initial Reading: \_\_\_\_\_

Warranty Expiration Date: \_\_\_\_\_ Maximum Reading: \_\_\_\_\_

Exclusions:

Comments:

Attachment: Copy of Warranty

**SECTION 00 61 12.13  
LABOR AND MATERIAL PAYMENT BOND FORM**

Bond No. \_\_\_\_\_

KNOW ALL BY THESE PRESENT, That we, \_\_\_\_\_, a corporation organized and existing under the laws of the State of, and duly authorized to transact business in the State of Michigan, hereinafter called the "Principal," and \_\_\_\_\_, a corporation organized and existing under the laws of the State of \_\_\_\_\_, and duly authorized to transact business in the State of Michigan, as Surety, hereinafter called "Surety", are held and firmly bound unto \_\_\_\_\_, as Obligee, and hereinafter called "Obligee," in the just and full sum of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_) lawful money of the United States of America, to be paid to the said Obligee, to which payment well and truly to be made, we bind ourselves, our heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITIONS OF THIS OBLIGATION is such that, WHEREAS, the above Principal has entered into a contract with the said Obligee, dated the day of \_\_\_\_\_, 20\_\_\_\_, for \_\_\_\_\_

Herein referred to and made a part hereof as fully and to the same extent as if the same were entirely written herein, and

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

AND WHEREAS, this Bond is given in compliance with and subject to the provisions of Act No. 213 of the Public Acts of Michigan for the year 1963, as amended, including all notices, time limitation provisions and other requirements set forth therein, which are incorporated herein by reference.

AND THE SAID SURETY, for value received, hereby stipulates and agrees that no change, extension of time, or any other forbearance, alteration or addition to the terms of the contract or to the Work to be performed thereunder or the Contract Documents accompanying the same will in anywise affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, or any other forbearance, alteration or addition to the terms of the contract or to the Work or to the Contract Documents.

NOW, THEREFORE, the condition of this obligation is such that if all claimants as defined in Act No. 213 of the Public Acts of Michigan for the year 1963, as amended, are timely paid for all labor and material used or reasonably required for use in the performance of the contract, then this obligation will be void; otherwise, it will remain in full force and effect.

Signed and sealed this day of \_\_\_\_\_, 20\_\_\_\_\_.

Signed, sealed and delivered in the presence of:

Witness for Contractor: \_\_\_\_\_

\_\_\_\_\_ (Principal)

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

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

Witness for Surety: \_\_\_\_\_

\_\_\_\_\_ (Surety)

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

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

\_\_\_\_\_ (Attorney-in-Fact)

Seal

Address of Surety: \_\_\_\_\_

Telephone: \_\_\_\_\_

**SECTION 00 61 13.13  
PERFORMANCE BOND FORM**

Bond No. \_\_\_\_\_

KNOW ALL BY THESE PRESENT, That we, \_\_\_\_\_, a corporation organized and existing under the laws of the State of, and duly authorized to transact business in the State of Michigan, hereinafter called the "Principal," and \_\_\_\_\_, a corporation organized and existing under the laws of the State of \_\_\_\_\_, and duly authorized to transact business in the State of Michigan, as Surety, hereinafter called "Surety", are held and firmly bound unto \_\_\_\_\_, as Obligee, and hereinafter called "Obligee," in the just and full sum of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_) lawful money of the United States of America, to be paid to the said Obligee, to which payment well and truly to be made, we bind ourselves, our heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITIONS OF THIS OBLIGATION is such that, WHEREAS, the above Principal has entered into a contract with the said Obligee, dated the day of \_\_\_\_\_, 20\_\_\_\_, for \_\_\_\_\_

\_\_\_\_\_.

Herein referred to and made a part hereof as fully and to the same extent as if the same were entirely written herein, and

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

AND THE SAID SURETY, for value received, hereby stipulates and agrees that no change, extension of time, or any other forbearance, alteration or addition to the terms of the contract or to the work to be performed thereunder or the Contract Documents accompanying the same will in anywise affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, or any other forbearance, alteration or addition to the terms of the contract or to the Work or to the Contract Documents.

NOW, THEREFORE, if the above Principal will in all respects comply with the terms and conditions of said contract, and their obligations thereunder, including the Contract Documents therein referred to and made a part thereof, and such alteration as may be made in such contract or Contract Documents, as herein or therein provided for, then this obligation will be void; otherwise, this bond and obligation will be and remain in full force and effect.

Signed and sealed this day of \_\_\_\_\_, 20\_\_\_\_\_.

Signed, sealed and delivered in the presence of:

Witness for Contractor: \_\_\_\_\_

\_\_\_\_\_ (Principal)

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

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

Witness for Surety: \_\_\_\_\_

\_\_\_\_\_ (Surety)

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

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

\_\_\_\_\_ (Attorney-in-Fact)

Seal

Address of Surety: \_\_\_\_\_

Telephone: \_\_\_\_\_

**SECTION 00 61 19.13  
MAINTENANCE AND GUARANTEE BOND FORM**

Bond No. \_\_\_\_\_

KNOW ALL BY THESE PRESENT, That we, \_\_\_\_\_, a corporation organized and existing under the laws of the State of, and duly authorized to transact business in the State of Michigan, hereinafter called the "Principal," and \_\_\_\_\_, a corporation organized and existing under the laws of the State of \_\_\_\_\_, and duly authorized to transact business in the State of Michigan, as Surety, hereinafter called "Surety", are held and firmly bound unto \_\_\_\_\_, as Oblige, and hereinafter called "Obligee," in the just and full sum of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_) lawful money of the United States of America, to be paid to the said Oblige, to which payment well and truly to be made, we bind ourselves, our heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITIONS OF THIS OBLIGATION is such that, WHEREAS, the above Principal has entered into a contract with the said Oblige, dated the day of \_\_\_\_\_, 20\_\_\_\_, for \_\_\_\_\_

\_\_\_\_\_

Herein referred to and made part hereof as fully and to the same extent as if the same were entirely written herein, and

NOW THEREFORE, the condition of this obligation is that under the Contract Documents, Contractor has agreed with Owner that for a period of one (1) year from the date of payment of the Final Estimate, Contractor will keep in good order and repair any defect in the Work, either by Contractor or its Subcontractors that may develop or be discovered during said one (1) year period due to improper materials, defective equipment, workmanship, or arrangements and any other work affected in making good such imperfections. Contractor also agreed to promptly make such repairs as directed by Owner for replacement of the Work, without cost to Owner, except for such parts of the Work as may have been disturbed without the consent of Contractor after the final acceptance of the Work, whenever directed so to do by notice from Owner. If Contractor fails to make such repair within one (1) week from the date of receipt of such notice, then Owner will have the right to purchase such materials and employ such labor and equipment as may be necessary for the purpose and to undertake, to and make such repairs and charge the cost thereof to Contractor and receive payment for the same promptly from the Contractor or Surety.

If any repair is necessary to be immediately made to protect persons or property then, and in such event, Owner may, but will not be required to, take immediate steps to repair such defects without notice to Contractor. In such event, Owner will not be required to obtain the lowest bid for the performance of the Work or any part thereof, and all sums actually paid therefore will be charged to the Contractor or Surety. In this regard, the judgment of Owner will be final and conclusive. Contractor will, for a period of one (1) year from the date of payment of the Final Estimate, keep the Work in good order and repair, except for such parts of the Work which may have been disturbed without the consent of Contractor after the final acceptance of the Work. Contractor will further, whenever notice is given as hereinbefore specified, promptly proceed to make the repair as in said notice directed or reimburse Owner for any cost incurred by Owner in making such repairs.



**SECTION 00 62 75  
ENGINEER'S CERTIFICATE FOR PAYMENT**

Job Number: \_\_\_\_\_ Certificate Number: \_\_\_\_\_ Date: \_\_\_\_\_

Owner: \_\_\_\_\_ Contractor: \_\_\_\_\_

Project: \_\_\_\_\_

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

Substantial Completion: \_\_\_\_\_ Extended To: \_\_\_\_\_

Final Completion: \_\_\_\_\_ Extended To: \_\_\_\_\_

\*\*\*\*\*

Original Contract Price: \_\_\_\_\_ Total Earned To Date: \_\_\_\_\_

Adjustments to Quantities: \_\_\_\_\_ Retention: \_\_\_\_\_

Extras: \_\_\_\_\_ Deductions: \_\_\_\_\_

Total Change Orders: \_\_\_\_\_ Total Withheld: \_\_\_\_\_

Amended Contract Price: \_\_\_\_\_ Total Net Due: \_\_\_\_\_

Less Total Net Due: \_\_\_\_\_ Less Previous Certificates: \_\_\_\_\_

Balance on Contract: \_\_\_\_\_ Balance Due This Certificate: \_\_\_\_\_

\*\*\*\*\*

**ENGINEER'S CERTIFICATE FOR PAYMENT**

In accordance with the Contract Documents, based on the data comprising the above application, the Engineer to the best of Engineer's knowledge, information, and belief and subject to the limitations stated in the Contract Documents certifies to the Owner that: (1) Work has progressed to the point indicated, (2) that the quality of the Work is in accordance with the Contract Documents, and (3) Contractor is entitled to payment of the TBalance Due This Certificate.

Certified By: \_\_\_\_\_ Date: \_\_\_\_\_

**SECTION 00 62 76  
CONTRACTOR'S APPLICATION FOR PAYMENT**

Job Number: \_\_\_\_\_ Application No: \_\_\_\_\_ Date: \_\_\_\_\_

Owner: \_\_\_\_\_ Contractor: \_\_\_\_\_

Project: \_\_\_\_\_

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

Period of this Application: \_\_\_\_\_ to \_\_\_\_\_

\*\*\*\*\*

Total Earned To Date: \_\_\_\_\_ Less Total Earned to Due: \_\_\_\_\_

Previous Certificate: \_\_\_\_\_ Total Earned this Application: \_\_\_\_\_

**CONTRACTOR'S CERTIFICATION**

The undersigned Contractor certifies that to the best of Contractor's knowledge, information, and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by Contractor for Work for which previous Certificates for Payment were issued and payments received from Owner, and that current payment shows herein is now due.

By: \_\_\_\_\_ Title: \_\_\_\_\_

**CONTRACTOR'S DECLARATION**

I hereby declare that I have not, during the period covered by this Application, performed any work, furnished any material, sustained any loss, damage, or delay for any reason, including soil conditions encountered or created, or otherwise done anything for which I will ask, demand, sue for, or claim compensation from the Owner or its agents, and the Engineer or its agents, in addition to the regular items set forth in the Contract as dated above executed between myself and the Owner and in the Change Orders for Work issued by the Owner in writing as provided thereunder, except as I hereby make claim for additional compensation and/or extension of time, as set forth on the itemized statement attached hereto.

By: \_\_\_\_\_ Title: \_\_\_\_\_

**SECTION 00 65 20  
SWORN STATEMENT**

State of Michigan

County of \_\_\_\_\_}

being duly sworn, deposes and says:

That the following is a statement of each Subcontractor and Supplier and laborer, for which the payment of wages or fringe benefits and withholdings is due but unpaid, with whom the (Contractor) (Subcontractor) has (contracted) (subcontracted) for performance under the contract with the Owner or lessee thereof, and that the amounts due to the persons as of the date hereof are correctly and fully set forth opposite their names, as follows:

Name of Subcontractor/ Supplier/ Laborer	Type of Improvement Furnished	Total Contract Price	Amount Already Paid	Amount Currently Owing	Balance to Complete (optional)	Amount of Laborer Wages Due but Unpaid	Amount of Laborer Fringe Benefits and Withholdings Due But Unpaid
<b>TOTALS:</b>							

(Some columns are not applicable to all persons listed)

Contractor has not procured material from, or subcontracted with, any person other than those set forth on the reverse side and owes no money for the improvement other than the sums set forth on the reverse side.

Deponent further says that they make the foregoing statement as the (Contractor) (Subcontractor) or as \_\_\_\_\_ of the (Contractor) (Subcontractor) for the purpose of representing to the Owner or lessee of the described on the reverse side premises and their agents that the property described on the reverse side is free from claims of construction liens, or the possibility of construction liens, except as specifically set forth on the reverse side and except for claims of construction liens by laborers which may be provided pursuant to Section 109 of the Construction Lien Act, Act No. 497 of the Public Acts of 1980, as amended, being section 570.1109 of the Michigan Compiled Laws.

**Warning to Owner:** Owner or Lessee of the property described herein may not rely on this Sworn Statement to avoid claim of a Subcontractor, supplier or laborer who has provided a Notice of Furnishing pursuant to Section 109 of the Construction Lien Act to the Designee or to the Owner or Lessee if the Designee is not named or has died.

**Warning to Deponent:** A person, who with intent to defraud, gives a false Sworn Statement, is subject to criminal penalties as provided in Section 110 of the Construction Lien Act, Act No. 497 of the Public Acts of 1980, as amended, being Section 570.1110 of the Michigan Compiled Laws.

\_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

Notary Public: \_\_\_\_\_

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

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

**INSTRUCTIONS**

A Sworn Statement in the preceding form must be provided before any Contractor or Subcontractor can file a Complaint, Cross-Claim, or Counter-Claim to enforce a construction lien.

An Owner or lessee may withhold payment to a Contractor or Subcontractor who has not provided a Sworn Statement. Owner or lessee may withhold from a Contractor or Subcontractor who has provided a Sworn Statement the amount sufficient to pay all sums shown on the statement as owing Subcontractors, Suppliers, and laborers, or the amount shown to be due to lien claimants who have provided Notices of Furnishing pursuant to the Construction Lien Act of 1980.

Owner or lessee may rely on a Sworn Statement to avoid a lien claim unless the lien claimant has provided the Owner or lessee with a Notice of Furnishing pursuant to the Construction Lien Act of 1980.

If the contract provides for payments by the Owner to the Contractor, if any, in the normal course of construction, but the Owner elects to pay lien claimants directly, the first time the Owner elects to make payment directly to a lien claimant they will provide at least 5 business days' notice to the Contractor of the intention to make direct payment. Subsequent direct disbursements to lien claimants need not be preceded by the 5-day notice provided in this section unless the Owner first returns to the practice of paying all sums to the Contractor.

## SECTION 00 72 00 - GENERAL CONDITIONS

### ARTICLE 1 DEFINITIONS

#### 1.01 DEFINED TERMS

- A. Wherever used in these General Conditions or in the other Contract Documents, the following terms have the meanings indicated which are applicable to both the singular and plural thereof:
1. Addenda -- Written or graphic instruments issued prior to the opening of Bids which clarify, correct or change the Contract Documents.
  2. Agreement -- The written Agreement between Owner and Contractor covering the Work to be performed; other Contract Documents are attached to the Agreement and made a part thereof as provided therein.
  3. Application and Certificate for Payment -- The form included in the Contract Documents which is to be used by Contractor in requesting progress or final payment and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
  4. Bid -- The offer or proposal of the bidder submitted on the prescribed form setting forth the price(s) for the Work to be performed.
  5. Bidding Requirements -- The Advertisement for Bids, Instructions to Bidders, Supplementary Instructions to Bidders, Proposal, Legal Status of Bidder, Bid Bond, and any other documents identified in the Proposal, to be submitted with the Bid.
  6. Bonds -- Bid, Performance and Payment bonds and other instruments of security.
  7. Change Order -- A written order to Contractor, reviewed by Engineer and signed by Owner, issued after execution of the Contract, authorizing a change in the Work or an adjustment in the Contract Price or the Contract Time. The Contract Price and Contract Time may be changed only by Change Order. A Change Order signed by Contractor indicates Contractor's agreement therewith, including that the Change Order constitutes a final adjustment in the Contract Price or Contract Time for all issues addressed or described in the Change Order.
  8. 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.
  9. Claims --
    - 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, 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.
10. Constituents 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.
  11. Contract -- The entire and integrated written contract between Owner and Contractor concerning the Work.
  12. Contract Documents -- Those items so designated in the Agreement, and which together comprise the Contract.
  13. Contract Price -- The monies or other considerations payable by Owner to Contractor for completion of acceptable Work in accordance with the Contract Documents as stated in the Agreement.
  14. Contract Time -- The number of days or the date stated in the Agreement:
    - a. to achieve Substantial Completion of all or any specified portions of the Work, and;
    - b. to complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment in accordance with paragraph 14.11.
  15. Contractor -- The person, firm or corporation with whom Owner has entered into the Agreement.
  16. 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 in paragraph 12.01.
  17. Day -- A calendar day of 24 hours measured from midnight to the next midnight.
  18. Defective -- An adjective which when modifying the word Work refers to Work that is unsatisfactory, faulty or deficient, in that it does not conform to the Contract Documents or does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents, or has been damaged prior to Engineer's recommendation of final payment.
  19. Drawings -- See Plans.

20. Effective Date of Agreement -- The date indicated in the Agreement on which it becomes effective, but if no such date is indicated it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.
21. 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.
22. 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.
23. Engineer -- The person, firm, or corporation identified in the Supplementary Instructions to Bidders hired by Owner to prepare Plans and Specifications for the Project and to assist Owner in interpreting Plans and Specifications during the performance of the Work. Engineer's authority and responsibility are set forth in the Contract between Owner and Engineer. Contractor acknowledges and agrees that Engineer's obligations and duties under Engineer's contract with Owner are obligations and duties to Owner only, and Engineer has no independent obligation to Contractor of any kind, including but not limited to providing services, or to take any action or to refrain from taking action on behalf of Contractor or any Subcontractor, Sub-Subcontractor or Supplier.
24. Field Order -- A written order issued by Engineer which clarifies or interprets the Contract Documents or orders minor changes in the Work in accordance with paragraph 9.04 and paragraph 9.05 but which does not involve a change in the Contract Price or the Contract Time.
25. Hazardous Environmental Conditions -- 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.

26. Laws and Regulations; Laws or Regulations -- Any and all applicable laws, rules, regulations, ordinances, codes and orders of any and all governmental bodies, agencies, authorities and courts having jurisdiction.
27. Lump Sum -- Construction Work where Owner pays a single stipulate price (Lump Sum) for the entire scope of Work; plus or minus alternates and/or allowances. However, unit prices may be required for individual items of Work for the purposes of changes, additions, or deletions.
28. Milestone -- A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of the Work.
29. Notice of Award -- The written notice by Owner to the apparent successful Bidder stating that, upon compliance by the apparent successful Bidder with the conditions precedent enumerated therein, within the time specified, Owner will sign and deliver the Agreement.
30. Notice to Proceed -- A written notice given by Owner to Contractor (with a copy to Engineer) fixing the date on which the Contract Time will commence to run and on which Contractor will start to perform Contractor's obligation under the Contract Documents.
31. Owner -- The public body or authority, corporation, limited liability company, association, partnership, or individual with whom Contractor has entered into the Agreement and for whom the Work is to be provided and as identified in the Supplementary Instructions to Bidders.
32. Partial Utilization -- Use by Owner of a substantially completed part of the Work for the purpose for which it is intended (or a related purpose) prior to Substantial Completion of all the Work.
33. Plans -- The part of the Contract Documents which graphically show the extent, character and Scope of the Work to be furnished and performed by Contractor and which have been prepared or approved by Engineer or Owner; sometimes also referred to as Drawings.
34. 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.
35. Project -- The total construction of which the Work to be provided under the Contract Documents may be the whole or a part as indicated elsewhere in the Contract Documents.
36. Project Manual -- The volume assembled for the Project which may include, among other parts, Procurement Requirements, Contracting Requirements and Specifications.
37. Proposal -- The offer or bid of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
38. Radioactive Material -- Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 as amended.
39. Resident Project Representative -- The authorized representative of Engineer who may be assigned to the Site or any part thereof.

40. Samples -- Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.
41. Schedule of Submittals -- A schedule, prepared and maintained by Contractor, of required Submittals and the time requirements for Engineer's review of the Submittals.
42. 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.
43. Shop Drawings -- All drawings, diagrams, illustrations, schedules and other data or information required by the Contract Documents which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate material or equipment for some portion of the Work.
44. 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.
45. Specifications -- That part of the Contract Documents which consist of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work and certain administrative details applicable thereto.
  - a. Project Specifications are those portions of the Contract Documents which have been prepared specifically for this Project and which are identified by the job number in the lower right-hand corner of each page.
  - b. Standard Specifications are Specification sections that are the same from Project to Project as of the revision date shown in the lower left-hand corner of the page.
46. Subcontractor -- An individual, firm or corporation having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.
47. 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.
48. Substantial Completion -- The Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer as evidenced by the Certificate of Substantial Completion, it is sufficiently complete, in accordance with the Contract Documents, so that the Work (or specified part) can be utilized for the purposes for which it was intended; or if

no such certificate is issued, when the Work is complete and ready for final payment as evidenced by Engineer's written recommendation of final payment in accordance with paragraph 14.11. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

49. Supplementary Conditions -- The part of the Contract Documents which amends or supplements these General Conditions.
50. Supplementary Instructions to Bidders -- The part of the Contract Documents which amends or supplements the Instructions to Bidders.
51. Supplier -- A manufacturer, fabricator, supplier, distributor, material man, or vendor having a direct contract with Contractor, or with any Subcontractor, or with Owner, to furnish materials or equipment to be incorporated in the Work by Contractor or any Subcontractor.
52. Unit Price -- Construction Work where Owner pays a fixed sum (Unit Price) per each completed unit of Work. Units are listed on the Proposal Form.
53. Utilities -- Underground or above ground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments, and any structures or encasements containing such facilities, which have been installed to furnish any of the following services or materials: electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems, water or other liquids or chemicals.
54. Work -- The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Work includes and is the result of performing or furnishing labor and furnishing and incorporating materials and equipment into the construction, and performing or furnishing services and furnishing documents, all as required by the Contract Documents.
55. Work Change Directive -- A written directive to Contractor, issued on or after the Effective Date of the Agreement and signed by Owner and reviewed by Engineer, ordering an addition, deletion or revision in the Work, or responding to differing or unforeseen physical conditions under which the Work is to be performed as provided in paragraph 4.03 or to emergencies under paragraph 6.18. A Work Change Directive will not change the Contract Price or Contract Time but is evidence that the parties expect that the change directed or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Time as provided in paragraph 10.01.

## 1.02 TERMINOLOGY

- A. The following words, terms, or phrases are not defined but, when used in the Contract Documents, have the following meaning:
  1. Whenever in the Contract Documents the terms "as ordered," "as directed," "as required," "as allowed," "as approved" or terms of like effect or import are used; or the adjectives "reasonable," "suitable," "acceptable," "proper" or "satisfactory" or adjectives of like effect or import are used to describe a requirement, direction, review or judgment of Engineer as to the Work, it is intended that such requirement, direction, review or judgment will be solely to evaluate, in general, the completed Work for compliance with the technical requirements

of and information in the Contract Documents and conformance with the design concept of the completed 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 will not be effective to assign to Engineer any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 9.10 or any other provision of the Contract Documents.

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

## **ARTICLE 2 PRELIMINARY MATTERS**

### **2.01 DELIVERY OF BONDS AND INSURANCE**

- A. When Contractor delivers the executed Agreement to Owner, Contractor will also deliver to Owner such Bonds and Insurance Certificates and other evidence of Insurance requested as Contractor may be required to furnish in accordance with Article 5. No Work at the site may begin or progress payments made to Contractor until all Bonds and Insurance Certificates in the form and substance required in Article 5 have been submitted and approved by Owner.

### **2.02 COPIES OF DOCUMENTS**

- A. Owner will furnish to Contractor up to five (5) copies of the Contract Documents (including at least one fully signed counterpart of the Agreement) as are reasonably necessary for the execution of the Work. Additional copies will be furnished, upon request, at the cost of reproduction.

### **2.03 COMMENCEMENT OF CONTRACT TIME; NOTICE TO PROCEED**

- A. Time is of the essence in the performance of the Work. The Contract Time will commence to run on the 30th day after the effective date of the Agreement, or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the effective date of the Agreement. In no event will the Contract Time commence to run later than the 30th day after the effective date of the Agreement. Time limits stated in the Contract Documents are of the essence of the Agreement.

**2.04 STARTING THE PROJECT**

- A. Contractor will start to perform the Work within 10 days of when the Contract Time commences to run, but no Work will be done at the Site prior to the date on which the Contract Time commences to run. Contractor will notify Engineer at least 3 working days in advance of the time Contractor intends to start Work.

**2.05 PRECONSTRUCTION MEETING**

- A. Within 10 days of the Effective Date of the Agreement and prior to the delivery of materials or the start of any construction, Contractor will request a Preconstruction Meeting from Engineer. A minimum of 3 full working days' notice will be required.
- B. Prior to the scheduling of the Preconstruction Meeting, Contractor will submit to Engineer for review:
  - 1. A preliminary Progress Schedule indicating the starting and completion dates of the various stages of the Work, including any Milestones specified in the Contract Documents;
  - 2. A preliminary Schedule of Submittals which will list each required Submittal and the times for submitting, reviewing and processing such Submittal;
  - 3. An estimated monthly payment schedule, and a preliminary Schedule of Values for all of the Work.
- C. The Preconstruction Meeting will be held for review and acceptance of the schedules, to establish procedures for handling Shop Drawings and other Submittals, for processing Applications for Payment, and to establish a working understanding among the parties as to the Work.

**2.06 ELECTRONIC TRANSMITTALS**

- A. Except as otherwise stated elsewhere in the Contract, Owner, Engineer, and Contractor may send, and will accept, Electronic Documents transmitted by Electronic Means.
- B. If the Contract does not establish protocols for Electronic Means, then Owner, Engineer, and Contractor will 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 AND 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; or
  - 3. any obligation on the part of Engineer to Contractor.

### **3.02 REFERENCE TO STANDARDS AND SPECIFICATIONS OF TECHNICAL SOCIETIES**

- A. Reference to standards, specifications, manuals or codes of any technical society, organization or association, or to the Laws or Regulations of any governmental authority, whether such reference be specific or by implication, will mean the latest standard, specification, manual, or Laws or Regulations in effect at the time of opening of Bids or, on the effective date of the Agreement if there were no Bids, except as may be otherwise specifically stated in the Contract Documents.
- B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents. Any Work, materials, or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be furnished and performed whether or not it is specifically called for.
- C. No provision of any standard, specification, manual, code or instruction will be effective to change the duties and responsibilities of Owner, Contractor or Engineer, or any of their Subcontractors, consultants, agents, or employees from those set forth in the Contract Documents, nor will it be effective to assign to Owner, Engineer or any of Engineer's consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of paragraph 9.10 or any other provision of the Contract Documents.

### 3.03 REPORTING AND RESOLVING DISCREPANCIES

- A. Before undertaking each part of the Work, Contractor will carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor has a duty to and will promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor should reasonably have discovered and will obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.
- B. If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity or discrepancy within the Contract Documents or between the Contract Documents and any provision of any Law or Regulation applicable to the performance of the Work or of any standard, specification, manual or code, or of any instruction of any Supplier, Contractor will report it to Engineer in writing at once, and, Contractor will not proceed with the Work affected thereby (except in an emergency as authorized by paragraph 6.18) until receiving written instruction or clarification from Engineer or Owner. However, Contractor will not be liable to Owner or Engineer for failure to report any such conflict, error, ambiguity or discrepancy unless Contractor knew or reasonably should have known thereof.
- C. Except as otherwise specifically stated in the Contract Documents or as may be provided by amendment or supplement issued by one of the methods indicated in paragraph 3.05, the provisions of the Contract Documents will take precedence in resolving any conflict, error, ambiguity or discrepancy between the provisions of the Contract Documents and;
  - 1. the provisions of any standard, specification, manual, code or instruction (whether or not specifically incorporated by reference in the Contract Documents); or
  - 2. 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 CONTRACT DOCUMENTS

- A. During the performance of the Work and until final payment, Contractor and Owner will submit to 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 paragraph 11.01.

### **3.05 ORDER OF PRECEDENCE**

- A. In resolving conflicts, errors or discrepancies between Plans and Specifications,
  1. Figured dimensions will govern over scaled dimensions;
  2. Plans will govern over Standard Specifications;
  3. Project Specifications will govern over Standard Specifications and Plans.

### **3.06 AMENDING AND SUPPLEMENTING CONTRACT DOCUMENTS**

- A. The Contract Documents may be amended to provide for additions, deletions and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways:
  1. a Field Order (pursuant to paragraph 9.05), or,
  2. a Change Order (pursuant to paragraph 10.01.A.1), or
  3. a Work Change Directive Order (pursuant to paragraph 10.01.A.2)
- B. In addition, the requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, in one or more of the following ways:
  1. a Field Order (pursuant to paragraph 9.05),
  2. Engineer's review of a Shop Drawing or Sample (pursuant to paragraph 6.21), or
  3. Engineer's written interpretation or clarification (pursuant to paragraph 9.04).

### **3.07 REUSE OF DOCUMENTS**

- A. Neither Contractor nor any Subcontractor, manufacturer, fabricator, Supplier, distributor, or other person or organization performing or furnishing any of the Work under a direct or indirect contract with Owner:
  1. will have or acquire any title to or ownership rights in any of the Plans, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or Engineer's Consultant, and
  2. they will not reuse any of such Plans, Specification, other documents or copies on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer.

### **3.08 ELECTRONIC DATA**

- A. Except as otherwise stated elsewhere in the Contract Documents, Owner, Engineer and Contractor may transmit, and will accept, Project-related correspondence, text, data, documents, drawings, information and graphics, including but not limited to Shop Drawings and other Submittals, in electronic media or digital format, either directly or through access to a secure Project website.

- B. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

## **ARTICLE 4 AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; REFERENCE POINTS**

### **4.01 AVAILABILITY OF LANDS**

- A. Owner will furnish, as indicated in the Contract Documents and not later than the established date for beginning Work on the Contract, the lands upon which the Work is to be performed, rights of way and easements for access thereto, and such other lands which are designated for the use of Contractor. Owner will identify any encumbrances or restrictions not of general application but specifically related to use of lands so furnished with which Contractor will have to comply in performing the Work. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by Owner, unless otherwise provided in the Contract Documents. Contractor will provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment unless otherwise provided in the Contract Documents.

### **4.02 SUBSURFACE AND PHYSICAL CONDITIONS; INVESTIGATIONS AND REPORTS**

- A. Reference is made to the Supplementary Conditions for identification of those reports of investigations and tests of subsurface and physical conditions at the Site or otherwise affecting cost, progress or performance of the Work which have been reviewed in preparation of the Contract Documents. Such reports are not guaranteed as to accuracy or completeness and are not part of the Contract Documents.
- B. The locations of utilities or other physical conditions relating to existing surface or subsurface structures at or contiguous to the Site as shown on the Plans are taken from drawings from sources believed to be reliable. Neither Owner nor Engineer will be responsible for any omissions of, or variations from, the indicated location of existing utilities which may be encountered in the Work.
- C. Contractor will draw its own conclusions as to the general accuracy of the "technical data" contained in such reports and drawings, and confirms such reports and drawings are not Contract Documents. Contractor may not rely upon or make any Claim against Owner, Engineer or any of Engineer's Consultants with respect to:
  1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto, or
  2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings, or
  3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such data, interpretations, opinions or information.
- D. The cost of all the following will be included in the Contract Price and Contractor will have full responsibility for:

1. reviewing and checking all such information and data,
2. locating all Utilities during construction,
3. coordination of the Work with the owners of such Utilities, and
4. the safety and protection of all such Utilities as provided in paragraph 6.15 and repairing any damage thereto resulting from the Work.

#### **4.03 UNFORESEEN PHYSICAL CONDITIONS**

- A. If Contractor discovers one or both of the following physical conditions of surface or subsurface at the Project or improvement Site, before disturbing the physical condition, Contractor will immediately notify Owner and Engineer of the physical condition; and follow up within 48 hours in writing:
  1. A subsurface or a physical condition at the Site differing materially from those indicated in the Contract Documents, or
  2. An unknown physical condition at the Site of a nature differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for the improvement project.
- 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 the necessity of Owner's obtaining 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 4.03.A above; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding 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 will 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. Possible Price and Times Adjustments:
  1. Contractor will be entitled to an equitable adjustment in Contract Price or Contract Times, or both, 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 4.03.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 12.03; and

- c. 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 pursuant to paragraph 10.05.
2. Contractor will 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; or
    - 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 as required by paragraph 4.03.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, or both, then any such adjustment will be set forth in a Change Order or Work Change Directive.
  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, or both, no later than 30 days after Owner's issuance of Owner's written statement to Contractor regarding the subsurface or physical condition in question.

#### **4.04 UTILITIES**

- A. Contractor's Responsibilities. The information and data shown or indicated in the Contract Documents with respect to existing Utilities at or adjacent to the Site, if any, is based on information and data furnished to Owner or Engineer by the owners of such Utilities, including Owner, or by others.
  1. Owner and Engineer do not warrant or guarantee the accuracy or completeness of any such information or data provided by others; and
  2. the cost of all of the following will be included in the Contract Price, and Contractor will have full responsibility for:
    - a. reviewing and checking all information and data regarding existing Utilities at the Site;
    - b. locating all Utilities shown or indicated in the Contract Documents as being at the Site;
    - c. coordination of the Work with the owners (including Owner) of such Utilities, during construction; and
    - d. the safety and protection of all existing Utilities at the Site, and repairing any damage thereto resulting from the Work.
- B. Notice by Contractor. If Contractor believes that an Utilities that is uncovered or revealed at the Site was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, then Contractor will, promptly after becoming aware thereof and before

further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by paragraph 6.18), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer.

- C. Engineer's Review. Engineer will:
1. promptly review the Utilities and conclude whether such Utilities was not shown or indicated in the Contract Documents,
  2. or was not shown or indicated with reasonable accuracy;
  3. obtain any pertinent cost or schedule information from Contractor;
  4. prepare recommendations to Owner regarding Contractor's resumption of Work in connection with the Utilities in question;
  5. 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 Utilities;
  6. and advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- D. During such time, Contractor will be responsible for the safety and protection of such Underground Facility.
- E. Owner's Statement to Contractor Regarding Utilities. After receipt of Engineer's written findings, conclusions, and recommendations, Owner will issue a written statement to Contractor (with a copy to Engineer) regarding the Utilities 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.
- F. Possible Price and Times Adjustments:
1. Contractor will be entitled to an equitable adjustment in the Contract Price or Contract Times, or both, to the extent that any existing Utilities at the Site that was not shown or indicated in the Contract Documents, 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. Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated the existence or actual location of the Utilities in question;
    - 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 12.03;
    - c. 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; and
    - d. Contractor gave the notice required in paragraph 4.04.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, or both, 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, or both, no later than 30 days after Owner's issuance of Owner's written statement to Contractor regarding the Underground Facility in question.

#### **4.05 REFERENCE POINTS**

- A. Owner will provide engineering surveys for construction to establish property corners, monuments, bench marks and similar reference points which in Contractor's judgment are necessary to enable Contractor to proceed with the Work. Contractor will be responsible for the preservation of established reference points and will make no changes or relocations without the prior written approval of Owner. Contractor will report to Engineer whenever any reference point is lost or destroyed or requires relocation because of necessary changes in grades or locations. Reference points destroyed by negligence of Contractor will be replaced by Owner at the expense of Contractor. Construction Staking will be furnished by Owner as provided in Division 01 of the Specifications.

#### **4.06 CONSTITUENTS OF CONCERN**

- A. Owner will be responsible for any Constituents of Concern uncovered or revealed at the Site which was not shown or indicated in Plans or Specifications or identified in the Contract Documents to be within the scope of the Work and which may present a substantial danger to persons or property exposed thereto in connection with the Work at the Site. Owner will not be responsible for any such materials brought to the Site by Contractor, Subcontractor, Suppliers or anyone else for whom Contractor is responsible.
- B. Upon discovering any such material, Contractor will immediately:
  1. stop all Work in connection with such Hazardous Environmental Condition and in any area affected thereby (except in emergency as required by paragraph 6.18), and
  2. notify Owner and Engineer (and thereafter confirm such notice in writing). Owner will promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such Hazardous Environmental Condition or take corrective action, if any.
- C. Contractor will not be required to resume Work in connection with such Hazardous Environmental Condition or in any such affected areas until after Owner has obtained any required permits related thereto and delivered to Contractor special written notice:
  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.
- D. If Owner and Contractor cannot agree as to entitlement to, or the amount, or extent of an adjustment, if any, in Contract Price or Contract Terms as a result of such Work stoppage or such special conditions under which Work is agreed by Contractor to be resumed, either party may make a Claim therefor as provided in paragraph 11.01.

- E. If after receipt of such special 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 such portion of the Work that is in connection with such condition, or in such affected area, to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to, or the amount, or extent of an adjustment, if any, in Contract Price or Contract Time as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in paragraph 11.01. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with paragraph 7.01.
- F. To the fullest extent permitted by Laws and Regulations, Owner will indemnify and hold harmless Contractor, Subcontractors, Engineer, Engineer's Consultants and the officers, directors, employees, agents, other consultants and subcontractors of each and any of them from and against all claims, costs, losses, damages and expenses arising out of or resulting from such condition per this paragraph 4.06, provided that:
  - 1. any such claim, cost, loss or damage is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, and
  - 2. nothing in this paragraph 4.06 will obligate Owner to indemnify any person or entity from and against the consequences of that person's or entity's own negligence.
- G. The provisions of paragraph 4.03 are not intended to apply to the presence of Constituents of Concern or Hazardous Environmental Conditions uncovered or revealed at the Site.

## **ARTICLE 5 BONDS AND INSURANCE**

### **5.01 PERFORMANCE AND OTHER BONDS**

- A. Contractor will furnish performance and payment Bonds, on the form included in the Contract Documents, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These Bonds will remain in effect at least until 1 year after the date when final payment becomes due, except as otherwise provided by Laws and Regulations or as specified in the Contract Documents or Bond. Contractor will also furnish such other Bonds as are required by the Supplementary Conditions.
- B. All Bonds will be in the forms prescribed by the Contract Documents and be executed by such Sureties as
  - 1. are licensed to conduct business in the state where the Project is located, and
  - 2. are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the U.S. Department of Treasury, Financial Management Service, Surety Bond Branch.
- C. Bonds signed by an agent must be accompanied by a certified copy of such agent's authority to act.
- D. If Surety on any Bond furnished by Contractor is declared as bankrupt or becomes insolvent, or its right to do business is terminated in any state where any part of the Project is located, or it ceases to meet the requirements of clauses (1) and (2) of paragraph 5.01, Contractor will

within 5 days thereafter substitute another Bond and Surety, both of which will be acceptable to Owner.

## 5.02 LICENSED INSURERS AND SURETIES

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

## 5.03 INSURANCE

- A. Contractor will purchase and maintain during the term of the Project such insurance as will protect him, Owner(s) and Engineer(s) from Claims arising out of the Work described in this Contract and performed by Contractor, Subcontractor(s) or Sub subcontractor(s) consisting of:
1. Workers' Compensation Insurance including Employer's Liability to cover employee injuries or disease compensable under the Workers' Compensation Statutes of the states in which Work is conducted under this Contract; disability benefit laws, if any; or Federal compensation acts such as U.S. Longshoremen or Harbor Workers', Maritime Employment, or Railroad Compensation Act(s), if applicable. Self-insurance plans approved by the regulatory authorities in the state in which Work on this Project is performed are acceptable.
  2. An occurrence form Commercial General Liability policy to cover bodily injury to persons other than employees and for damage to tangible property, including loss of use thereof, plus appropriate endorsements to protect Owner and Engineer against Claims, demands, and lawsuits from employees of Contractor and Subcontractors, including the following exposures:
    - a. All premises and operations.
    - b. Explosion, collapse and underground damage.
    - c. Contractor's Protective coverage for independent contractors or Subcontractors employed by him.
    - d. Broad form blanket, contractual liability for the obligation assumed in the Indemnification or Hold Harmless agreement found in the General Conditions or Supplementary Conditions of this Contract.
    - e. Personal Injury Liability endorsement with no exclusions pertaining to employment.
    - f. Products and Completed Operations coverage. Coverage will extend through the Contract guarantee period.
    - g. Broad form property damage.
    - h. Cross liability endorsement.
    - i. For design professional additional insureds, ISO Endorsement CG 20 32 04 13, "Additional Insured-Engineers, Architects or Surveyors Not Engaged by the Named Insured" or its equivalent.

3. Comprehensive Automobile Liability policy to cover bodily injury and property damage arising out of the ownership, maintenance or use of any motor vehicle, including owned, non-owned and hired vehicles. Comprehensive General Liability and the Comprehensive Auto Liability will be written by the same insurance carrier, though not necessarily in one policy.
4. Contractor will purchase for Owner an Owner's Protective Liability 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, the Subcontractor(s) or the Sub subcontractor(s) under this Contract.
5. When a limit of liability is identified in the Supplementary Conditions, Contractor will purchase a Builder's Risk Installation Floater in a form acceptable to Owner covering property of the Project for the full cost of replacement as of the time of any loss which will include, as named insureds,
  - a. Contractor,
  - b. all Subcontractors,
  - c. all Sub subcontractors,
  - d. Owner, and Engineer(s) or Architect(s), as their respective interests may prove to be at the time of loss, covering insurable property which is the subject of this Contract, whether in place, stored at the Site, stored elsewhere, or in transit at the risk of the insured(s).
  - e. Coverage will be effected on an "All Risk" form including, but not limited to, the perils of fire, wind, vandalism, collapse, theft, flood and earthquake, with removal of passive design error exclusion. Except as may otherwise be required by Owner, Contractor may arrange for such deductibles as Contractor deems to be within Contractor's ability to self-assume, but Contractor will be held solely responsible for the amount of such deductible and for any co-insurance penalties. Any insured loss will be adjusted with Owner and Contractor and paid to Owner and Contractor as Trustee for the other insureds.
6. Umbrella or Excess Liability:
  - a. Contractor is granted the option of arranging coverage under a single policy for the full limit required or by a combination of underlying policies with the balance provided by an Excess or Umbrella Liability policy equal to the total limit(s) requested. Umbrella or Excess policy wording will be at least as broad as the primary or underlying policy(ies) and will apply both to Contractor's General Liability and Automobile Liability Insurance and will be written on an occurrence basis.
7. Railroad Protective Liability:
  - a. Where any of the Work is within a railroad right-of-way or where a limit of liability is identified in the Supplementary Conditions, Contractor will provide coverage in the name of each railroad company having jurisdiction over rights of way across which Work under the Contract is to be performed. The form of policy and the limits of liability will be determined by the railroad company(ies) involved. See Section 00 73 00 - Supplementary Conditions for limits and coverage requested.

8. Contractor's Professional Liability Insurance:
- a. If Contractor will provide or furnish professional services under this Contract through a delegation of professional design services or otherwise, then Contractor will be responsible for purchasing and maintaining applicable professional liability insurance. This insurance will provide protection against Claims arising out of performance of professional design or related services caused by a negligent error, omission, or act for which the insured party is legally liable. It will be maintained throughout the duration of the Contract and for a minimum of two years after Substantial Completion. If such professional design services are performed by a Subcontractor, and not by Contractor itself, then the requirements of this paragraph may be satisfied through the purchasing and maintenance of such insurance by such Subcontractor.
- B. Owner's responsibilities in respect of purchasing and maintaining insurance are set forth below:
1. Owner will assume responsibility for such boiler and machinery insurance as may be required or considered to be necessary by Owner in the course of construction, testing or after completion.
    - a. Owner will assume responsibility for such insurance as will protect Owner against any loss of use of Owner's property due to those perils insured pursuant to paragraph 1 above.

#### **5.04 LIMITS OF LIABILITY**

- A. The required limits of liability for insurance coverages required in paragraphs 5.03 will be not less than those specified in Section 00 73 00 - Supplementary Conditions .

#### **5.05 NOTICE OF CANCELLATION OR INTENT NOT TO RENEW**

- A. Policies will be endorsed to provide that at least 30 days written notice will be given to Owner and to Engineer of cancellation, intent not to renew, or material modification of the coverage.

#### **5.06 EVIDENCE OF COVERAGE**

- A. Prior to commencement of the Work, Contractor will furnish to Owner and Engineer, Certificates of Insurance in force on current Accord® Certificate of Insurance form. Other forms of Certificate are acceptable only if;
1. they include all of the items prescribed in the current Accord® Certificate of Insurance form, including agreement to cancellation provisions outlined in paragraph 5.05 above; and
  2. they have approval of Owner and Engineer.
- B. Prior to the commencement of the Work, Contractor will furnish to Owner complete "originally signed" copies of the Owner's Protective Liability Policy. The number of copies will be the same as the number of counterparts of the Agreement. Owner reserves the right to request complete copies of other policies if deemed necessary to ascertain details of coverage not provided by the certificates. Such policy copies will be "Originally Signed Copies," and so designated.

**5.07 QUALIFICATION OF INSURERS**

- A. In order to determine financial strength and reputation of insurance carriers, all companies providing the coverages required will be licensed or approved by the Insurance Bureau of the state in which the Project is located and will have a financial rating not lower than XI and a policyholder's service rating no lower than B+ as listed in A.M. Best's Key Rating Guide, current edition. Companies with ratings lower than B+:XI will be acceptable only upon written consent of Owner.

**5.08 DAMAGE CLAIMS - ACKNOWLEDGMENT AND REPORTS**

- A. Contractor will furnish to Owner an acknowledgment receipt from the insurance carrier for each damage claim against the Project. The receipt will include the insurance carrier's assigned claim number.
- B. Upon request, Contractor or Contractor's insurance carrier will also furnish to Owner a status report on all damage claims. This report will include inspections made, the disposition of claims, and what action has been taken towards settlement of each claim.
- C. Failure of Contractor to comply with this paragraph 5.08 may result in the amount of such damage claims being withheld from Contractor's monthly pay estimate. Such withholding will be reimbursed in the monthly pay estimate following compliance with this paragraph.

**5.09 COST OF INSURANCE**

- A. The unit cost of the insurance herein specified will not be a specific bid item, but the cost of such insurance will be included by Contractor in the various prices bid.

**5.10 WAIVER OF RIGHTS**

- A. Owner and Contractor intend that all policies purchased in accordance with paragraph 5.03 will protect Owner, Contractor, Subcontractors, Engineer, Engineer's Consultants (and all other persons or entities identified in the Supplementary General Conditions to be listed as insureds or additional insureds in such policies) and will provide primary coverage for all losses and damages caused by the perils covered thereby. Such policies will contain provisions to
- B. the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or additional insureds thereunder.
- C. Owner and Contractor waive all rights against each other and their respective officers, directors, employees and agents for all losses and damages caused by, arising out of or resulting from any of the perils covered by such policies and any other property insurance applicable to the Work; and in addition, waive all such rights against Subcontractors, Engineer, Engineer's Consultants and any other persons or entities identified in the Supplementary General Conditions to be listed as insureds or additional insureds under such policies for loss and damages so caused. None of the above waivers will extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.

**5.11 RECEIPT AND APPLICATION OF INSURANCE PROCEEDS**

- A. Any insured loss under the policies of insurance required by paragraph 5.03.A.5 will be adjusted with Owner and made payable to Owner as fiduciary for the insureds, as their interests may appear, subject to the requirements of any applicable mortgage clause. If no

other special agreement is reached the damaged Work will be repaired or replaced, the monies so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order, Field Oder or Work Change Directive.

- B. Owner as fiduciary will have power to adjust and settle any loss under the policies required by paragraph 5.03.A.5 with the insurers unless one of the parties in interest will object in writing within fifteen days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary will make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary will adjust and settle the loss with the insurers.

## **ARTICLE 6 CONTRACTOR'S RESPONSIBILITIES**

### **6.01 SUPERVISION AND SUPERINTENDENCE**

- A. Contractor will supervise and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor will be solely responsible for the means, methods, techniques, sequences and procedures of construction. Contractor will be responsible to see that the finished Work complies with the Contract Documents. However, if specific means, methods, techniques, sequences and procedures of construction are prescribed in the Plans or Specifications, Contractor will be responsible to comply therewith, but may implement such prescribed Work in a manner of Contractor's choosing so long as the Work complies with the requirements of the Plans and Specifications.
- B. At all times during the progress of the Work, Contractor will assign and maintain a competent superintendent who will not be replaced without written notice to Owner and Engineer except under extraordinary circumstances. Any superintendent or foreman who neglects to have Work done in accordance with the Plans and Specifications will be removed from the Project. The superintendent will be Contractor's representative at the Site and will have authority to act on behalf of Contractor. All communications given to the superintendent will be as binding as if given to Contractor.

### **6.02 LABOR AND WORKING HOURS**

- A. Contractor will provide competent, suitably qualified personnel in their various duties. Contractor will at all times maintain good discipline and order at the Site. Except as otherwise required for the safety or protection of persons, the Work, property at the Site or adjacent thereto, and except as otherwise indicated in the Contract Documents, all Work at the Site will be performed during regular working hours (7:00 a.m. to 7:00 p.m.), and Contractor will not permit the performance of Work on Sunday or any legal holiday without Owner's written consent given after prior written notice to Engineer.

### **6.03 SERVICES, MATERIALS AND EQUIPMENT**

- A. Unless otherwise specified in the Contract Documents, Contractor will furnish 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 furnishing, performance, testing, start up and completion of the Work.

- B. All materials and equipment will be of good quality and new, except as otherwise provided in the Contract Documents. All warranties and guarantees specifically called for by the Contract Documents will expressly run to the benefit of Owner. If required by Engineer, Contractor will furnish satisfactory evidence, (including reports of required tests) as to the kind and quality of materials and equipment to be incorporated in the Work. Contractor will not use material in the Work until Shop Drawing or Submittals have been reviewed by Engineer. All materials which do not meet the requirements of the Specifications at the time they are to be used will be rejected, and unless otherwise permitted by Engineer, will be plainly marked and removed immediately from the Work.
- C. All materials and equipment will be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable manufacturer, fabricator, Supplier or distributor, except as otherwise provided in the Contract Documents.

#### **6.04 SUBSTITUTES AND “OR-EQUALS”**

- A. Whenever an item of materials or equipment is specified or described in the Contract Documents for installation in the Work by using the name of a proprietary item or the name of a particular manufacturer, fabricator, supplier or distributor; or means, methods, techniques, sequences and procedures of construction are prescribed in the Plans or Specifications; the specification or description is intended to establish the type, function and quality required or the means, methods, techniques, sequences and procedures of construction required. Unless the specification or description contains or is followed by words indicating that no like, equivalent or “or-equal” item or no substitution is permitted, other items of material or equipment or materials or equipment of other manufacturers, fabricators, suppliers or distributors; or other means, methods, techniques, sequences and procedures of construction may be accepted by Engineer under the following circumstances:
  - 1. “Or-Equal”: If in Engineer’s sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an “or-equal” item, in which case review and approval of the proposed item may, in Engineer’s sole discretion, be accomplished without compliance with some or all of the requirements for acceptance of proposed substitute items.
  - 2. Substitute Items: If in Engineer’s sole discretion an item of material or equipment proposed by Contractor does not qualify as an “or-equal” item under paragraph 6.04.A; or a proposed means, methods, techniques, sequences and procedures of construction are different from what is prescribed in the Plans or Specifications, it will be considered a proposed substitute item.
- B. Contractor will submit sufficient information as provided below to allow Engineer to determine that the item of material or equipment or means, methods, techniques, sequences and/or procedures proposed is essentially equivalent to that named and an acceptable substitute therefor. The procedure for review by Engineer will include the following, as supplemented in the Specifications, and as Engineer may decide is appropriate under the circumstances. Requests for review of substitute items of material and equipment will not be accepted by Engineer from anyone other than Contractor.

- C. If Contractor wishes to furnish or use a substitute, Contractor will make written application to Engineer on the Substitution Request Form provided for acceptance thereof, certifying that the proposed substitute will:
1. perform adequately the functions and achieve the results called for by the general design,
  2. be similar in substance to that specified,
  3. and be suited to the same use and capable of performing the same function as that specified.
  4. The application will state the extent, if any, to which the evaluation and acceptance of the proposed substitute will prejudice Contractor's achievement of Substantial Completion on time, whether or not acceptance of the proposed substitute for use in the Work will require a change in the Contract Documents (or in the provisions of any other direct contract with Owner for work on the Project) to adapt the design to the proposed substitute, and whether or not incorporation or use of the substitute in connection with the Work is subject to payment of any license fee or royalty.
- D. All variations of the proposed substitute from that specified will be identified in the application and available maintenance, repair and replacement service will be indicated. The application will also contain an itemized estimate of all costs or credits that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other contractors affected by the resulting change, all of which will be considered by Engineer in evaluating the proposed substitute. Engineer may require Contractor to furnish additional data about the proposed substitute.
- E. All data to be provided by Contractor in support of any proposed "or-equal" or substitute item will be at Contractor's expense. Engineer will be the sole judge of acceptability, and Engineer's determination will be final and binding, may not be reversed through an appeal under any provisions of the Contract Documents, and no "or-equal" or substitute will be ordered, installed or utilized without Engineer's prior written acceptance. Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any "or-equal" or substitute which has been approved by Engineer.
- F. Engineer will record time required by Engineer and Engineer's consultants in evaluating substitutions proposed by Contractor and in making changes in the Contract Documents occasioned thereby. Whether or not Engineer accepts a proposed substitute, Contractor will reimburse Owner for the charges of Engineer and Engineer's consultants for evaluating any proposed substitute and in making any changes in the Contract Documents resulting therefrom.

#### **6.05 CONCERNING SUBCONTRACTORS**

- A. Contractor will not employ any Subcontractor, Supplier or other person or organizations, including those who are to furnish the principal items of materials or equipment, whether initially or as a substitute, against whom Owner or Engineer may have reasonable objection. Contractor will furnish Engineer a complete list of any Subcontractor, Supplier or other person or organization furnishing principal items of material or equipment within 4 days of request. Failure to object to any Subcontractor, Supplier, other person or organization by Owner or Engineer will not constitute a waiver of any right of Owner or Engineer to reject defective Work.

- B. If Owner or Engineer, after due investigation, has reasonable objection to any Subcontractor, Supplier, other person or organization proposed by Contractor after the Notice of Award, Contractor will submit an acceptable substitute and the Contract Price will be increased or decreased by the difference in cost occasioned by such substitution, and an appropriate Change Order will be issued. Contractor will not be required to employ any Subcontractor, Supplier, other person or organization against whom Contractor has reasonable objection.
- C. Contractor will not award Work to Subcontractor(s), in excess of 50% of the Contract Price, without prior written approval of Owner.
- D. Contractor will be fully responsible for all acts and omissions of Contractor's Subcontractors, Suppliers and of persons and organizations performing or furnishing any of the Work under a direct or indirect contract with Contractor just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents will create for the benefit of any such Subcontractor, Supplier or other person or organization any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other person or organization, nor will it create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any Subcontractor, Supplier or other person or organization. Owner or Engineer may furnish to any Subcontractor, Supplier or other person or organization, to the extent practicable, evidence of amounts paid to Contractor on account of specific Work done.
- E. Contractor will be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with Contractor. Contractor will require all Subcontractors, Suppliers and such other persons and organizations performing or furnishing any of the Work to communicate with Engineer through Contractor.
- F. If the amount of the subcontract or the nature of the Work to be performed thereunder warrants, Owner may require Subcontractor to furnish, for the benefit of Owner and Contractor jointly, Bonds in an amount proportioned to the amount of Subcontractor's subcontract, and for the same purpose and under the same specifications as those of the general Contract. The Surety on the general Contract will not be eligible to furnish such Subcontract Bonds.
- G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as an additional insured on the property insurance provided in paragraph 5.03.A.5, the agreement between Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, Engineer, Engineer's Consultants and all other additional insureds for all losses and damages caused by, arising out of or resulting from any of the perils covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same. Contractor will file a true copy of such agreement with Owner.

#### **6.06 PATENT FEES AND ROYALTIES**

- A. Contractor will pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process,

product or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product or device is specified in the Contract Documents for use in the performance of the Work and if to the actual knowledge of Owner or Engineer its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights will be disclosed by Owner in Contract Documents.

- B. To the fullest extent permitted by Laws and Regulations, Contractor will defend, indemnify and hold harmless Owner and Engineer and anyone directly or indirectly employed by either of them from and against all claims, costs, losses, damages and expenses arising out of or resulting from 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, and will defend all such claims in connection with any alleged infringement of such rights.

#### **6.07 PERMITS AND LICENSES**

- A. Contractor will obtain and pay for all construction permits and licenses. Owner will assist Contractor, when necessary, in obtaining such permits and licenses. Contractor will pay all governmental charges, permit, review, and inspection fees necessary for the prosecution of the Work, which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Contractor will pay all charges of utility owners for connections to the Work.

#### **6.08 LAWS AND REGULATIONS**

- A. Contractor will give all notices and comply with all laws, ordinances, rules, and regulations applicable to furnishing and performance of the Work. Neither Owner nor Engineer will be responsible for monitoring Contractor's compliance with any Laws, ordinances, rules, and Regulations.
- B. If Contractor performs any Work that is contrary to such laws, ordinances, rules and regulations, Contractor will bear all claims, costs, losses, damages and expenses caused by, arising out of, or resulting therefrom. However, it will not be Contractor's primary responsibility to make certain that the Specifications and Plans are in accordance with such laws, ordinances, rules, and regulations, but this will not relieve Contractor of Contractor's obligations under paragraph 3.03.
- C. Owner or Contractor may give 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 notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

#### **6.09 TAXES**

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

**6.10 USE OF PREMISES**

- A. Contractor will confine construction equipment, the storage of materials and equipment and the operations of workers to the Project Site and land and areas identified in and permitted by the Contract Documents and other land and areas permitted by Laws and Regulations, rights of way, permits and easements, and will not unreasonably encumber the premises with construction equipment or other materials or equipment. Contractor will assume full responsibility for any damage to any such land or area or to the owner or occupant thereof or of any adjacent land or areas resulting from the performance of the Work. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor will promptly settle with any such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law. Contractor's continuing obligations under paragraph 6.24 will be applicable to any claim hereunder.

**6.11 REMOVAL OF DEBRIS AND CLEANING**

- A. During the progress of the Work, Contractor will keep the premises free from accumulations of waste materials, rubbish and other debris resulting from the Work. At the completion of the Work Contractor will remove all waste materials, rubbish and debris from and about the premises as well as all tools, appliances, construction equipment and machinery, and surplus materials, and will leave the Site clean and ready for occupancy by Owner at Substantial Completion of the Work. Contractor will restore to their original condition all property not designated for alteration by the Contract Documents. If Contractor will fail to keep the above noted areas cleaned of dust or debris resulting from Contractor's operations, Contractor will be so notified in writing by Engineer. If within 24 hours after receipt of such notice Contractor will fail to clean such areas satisfactorily, Owner may have such other agency as Ownerhe will designate, perform the work and all costs of such cleaning will be paid for by Contractor.

**6.12 LOADING STRUCTURES**

- A. Contractor will not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor will Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

**6.13 PROTECTION OF UTILITIES**

- A. When it is possible for construction operations to endanger any public or private utility, conduit, or structure, Contractor will notify the utility owner of this possibility, and safeguard and support such utilities, conduits, or structures. Where it is the policy of any utility owner to make its own repairs to damaged conduit or other structures, Contractor will cooperate to the fullest extent with the utility, and Contractor will see that Contractor's operations interfere as little as possible with these operations, and Contractor will assume the cost of any charge against Owner therefor. In cases where existing Utilities or Utility service connections are encountered, Contractor will perform Contractor's operations in such a manner that service will be uninterrupted, and the cost thereof will be at Contractor's expense, unless otherwise provided.

**6.14 RECORD DOCUMENTS**

- A. Contractor will maintain in a safe place at the Site 1 record copy of all Specifications, Plans, Addenda, Change Orders, Work Change Directives, and Field Orders, in good order and annotated to show all changes made during construction. These record documents together

with all Samples and all Shop Drawings will be available to Engineer for examination and will be delivered to Engineer for Owner upon completion of the Work.

#### **6.15 SAFETY AND PROTECTION**

- A. Contractor will be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Contractor will take all necessary precautions for the safety of, and will provide the necessary protection to prevent damage, injury or loss to:
  - 1. all persons on the Work Site or who may be affected by the Work,
  - 2. all the Work and materials or 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, and Utilities and not designated for removal, relocation or replacement in the course of construction.
- B. Contractor will comply with all applicable Laws and Regulations and orders of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss; and will erect and maintain all necessary safeguards for such safety and protection. Contractor will notify owners of adjacent property, Utilities, and utility owners when prosecution of the Work may affect them.
- C. Contractor will restore, at Contractor's own expense, any public or private property damaged or injured in consequence of any act or omission on Contractor's part, or on the part of Contractor's employees or agents, to a condition equal or better than that existing before such injury or damage was done. If Contractor neglects to restore or make good such damages or injury, Owner may, upon 48 hours' notice, proceed to restore or make good such damage or injury and to order the cost thereof deducted from any monies that are due, or may become due, to Contractor for this Work.
- D. Contractor's duties and responsibilities for the safety and protection of the Work will continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with paragraph 14.11 that the Work is Acceptable.
- E. Contractor will 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.
- F. Contractor will 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.
- G. 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 14.11 that the Work is acceptable, and Contractor has left the Site (except as otherwise expressly provided in connection with Substantial Completion).
- H. 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.

**6.16 SAFETY REPRESENTATIVE**

- A. Contractor will be responsible to designate for itself and its employees, and its Subcontractors a qualified and experienced safety representative at the Site whose duties and responsibilities will be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

**6.17 HAZARD COMMUNICATION PROGRAM**

- A. Contractor will be responsible for coordinating any exchange of 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 applicable Laws or Regulations.

**6.18 EMERGENCIES**

- A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor, without special instruction or authorization from Owner or Engineer, is obligated to act to prevent threatened damage, injury or loss. Contractor will give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued to document the consequences of such action.

**6.19 SHOP DRAWINGS AND SAMPLES**

- A. Contractor will submit Shop Drawings required by the Contract Documents to Engineer for review, in accordance with an accepted schedule. All Submittals will be identified as Engineer may require and in the number of copies specified in the Specifications. The data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials and similar data to show Engineer the materials and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by paragraph 6.21.
- B. Contractor will also submit all samples required by the Contract Documents to Engineer for review in accordance with an accepted schedule. Each Sample will be identified clearly as to material, Supplier, pertinent data such as catalog numbers, the use for which intended, and other data as Engineer may require to enable Engineer to review the Submittal for the limited purposes required by paragraph 6.21. The number of each sample to be submitted will be as specified in the Specifications.

**6.20 SUBMITTAL PROCEDURES**

- A. Before submitting each Shop Drawing or Sample, Contractor will have determined and verified:
  - 1. all field measurements, quantities, dimension, specified performance criteria, installation requirements, manufacturer's recommendations, material, catalog numbers and similar information with respect thereto,
  - 2. all materials with respect to intended use, fabrication, shipping, handling, storage, assembly and installation pertaining to the performance of the Work, and

3. all information relative to Contractor's responsibilities in respect of means, methods, techniques, sequences and procedures of construction and safety precautions and programs incident thereto.
- B. Contractor will have reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents.
  - C. Each Submittal will bear a stamp or specific written indication that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to review and approval of that Submittal.
  - D. At the time of each submission, Contractor will in writing call Engineer's attention to any deviations that the Shop Drawings or Samples may have from the requirements of the Contract Documents. This notice will be both a written communication separate from the Shop Drawing's or Sample submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review of each such variation.
  - E. Contractor will make corrections required by Engineer and will return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review. Contractor will direct specific attention in writing to revisions other than the corrections called for by Engineer on previous Submittals.
  - F. Contractor will furnish required Submittals with sufficient information and accuracy to obtain required approval of an item with no more than three submittals. Engineer will record Engineer's time for reviewing a fourth or subsequent submittal of Shop Drawings, sample, or other item requiring approval, and Contractor will be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges.
  - G. If Contractor requests a change of a previously approved Submittal item, Contractor will be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

#### **6.21 ENGINEER'S REVIEW**

- A. Engineer will review Shop Drawings and Samples in accordance with the Schedule of Submittals accepted by Engineer as required by paragraph 2.05. Engineer's review will be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents and will not extend to means, methods, sequences, techniques or procedures of construction or to safety precautions or programs incident thereto. The review of a separate item as such will not indicate review of the assembly in which the item functions.
- B. Engineer's review of Shop Drawings or samples will not relieve Contractor from responsibility for any variations from the Contract Documents unless Contractor has in writing called Engineer's attention to such variation at the time of submission and Engineer has given written concurrence to the specific variation, nor will any concurrence by Engineer relieve Contractor from responsibility for errors or omissions in the Shop Drawings. Engineer's review will not relieve Contractor from responsibility for complying with the requirements of paragraph 6.20.

- C. Where a Shop Drawing or sample is required by the Contract Documents or the Schedule of Submittals accepted by Engineer per paragraph 2.05, no related Work will be commenced until the Submittal has been reviewed by Engineer.

## **6.22 CONTINUING THE WORK**

- A. Contractor will 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, except as Contractor and Owner may otherwise agree in writing.

## **6.23 CONTRACTOR'S GENERAL WARRANTY AND GUARANTEE**

- A. Contractor warrants and guarantees to Owner, Engineer, and Engineer's Consultants that all work will be in accordance with the Contract Documents and will not be defective. Contractor's warranty and guarantee excludes defects or damage caused by:
  - 1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or their employees, agents, or representatives, or any person or entity for whom Contractor is responsible; or
  - 2. normal wear and tear under normal usage.
- B. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents will be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
  - 1. observations by Engineer;
  - 2. recommendation of any progress or final payment by Engineer;
  - 3. the issuance of a certificate of Substantial Completion or any payment by Owner to Contractor under the Contract Documents;
  - 4. use or occupancy of any part of the Work by Owner;
  - 5. any acceptance by Owner or failure to do so;
  - 6. any review or approval of a Shop Drawing or Sample Submittal or the issuance of a notice of acceptability by Engineer per paragraph 14.11;
  - 7. any inspection, test or approval by others; or
  - 8. any correction of defective Work by Owner.
- C. If Contract requires 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.
- D. Contractor will assign to Owner all warranties extended to Contractor by material Suppliers and Subcontractors. If an assignment of warranty requires the material Supplier or Subcontractor to consent to same, then Contractor will secure the material Supplier's or Subcontractor's consent to assign said warranties to Owner.

- E. The warranties provided in this section will be in addition to, and not in limitation of, any other warranty or remedy required by law.

#### **6.24 INDEMNIFICATION**

- A. To the fullest extent permitted by law, Contractor will indemnify, defend (with counsel acceptable to Owner) and hold harmless Owner, Engineer and any additional indemnitees identified in the Supplementary Conditions and their respective directors, officers, members, partners, affiliates, employees, agents and successors, from and against any and all liabilities, claims, causes of action, lawsuits, liens, injuries, damages, losses and expenses (collectively "Demands") to the extent caused by, arising out of, resulting from or occurring in connection with:
1. Contractor's breach of, or failure to comply with, the Agreement, the Contract Documents, or any other contract that it enters into regarding the Work, including any default in performance; or
  2. Personal injury or death to any person (including, but not limited to, Contractor, Contractor's employees, Subcontractors, Subcontractors' employees, and material Suppliers) or injury to or destruction of property (including claims for loss of use) caused by, arising out of, resulting from, or in any way connected with
    - a. the Work,
    - b. any activity associated with the Work, or
    - c. the operations or acts of commission or omission of Contractor, Contractor's employees, Subcontractors, Subcontractors' employees, material suppliers, or anyone for whom Contractor is legally liable in the performance of Work, whether arising before or after completion of the Work.
- B. To the extent caused by, arising out of, resulting from, or occurring in connection with the provisions of the above paragraph 6.24.A, Contractor's indemnity obligations under this Agreement will include, but are not limited to:
1. Indemnity for all damages and judgment interest, all costs and fees, including, but not limited to, all defense costs, expenses and actual attorneys' fees, and all settlement payments relating to, arising out of, resulting from or in any way connected with any demand requiring indemnity by this Agreement;
  2. All expenses, including but not limited to, costs, expenses and actual attorneys' fees, incurred in securing and enforcing indemnity from Contractor if Contractor fails or refuses promptly to fulfill any of the indemnity obligations under this Agreement;
  3. All indemnification obligations imposed upon Owner or Engineer, or both, arising out of or in connection with the Work; and
  4. Indemnification for any penalties and/or fines arising or resulting from Contractor's or any Subcontractor's failure to comply with laws and/or regulations applicable to its/their Work.
- C. Contractor's duty to indemnify under subpart A.2. of paragraph 6.24 is limited to the negligence of Contractor, Contractor's employees, Subcontractors, Subcontractor's employees, material Suppliers, or anyone for whom Contractor is legally liable in the performance of the Work, whether arising before or after the completion of the Work.

- D. The indemnification rights under this Agreement will not be construed to negate, abridge, or otherwise reduce any other right or obligations of indemnity which would otherwise exist.
- E. Owner, at its option, may select counsel to defend any demand brought against it without impairing any obligation of Contractor to provide indemnification.
- F. The indemnification provisions under this Agreement will survive the completion or termination of this Agreement.
- G. In the case of claims by any employee of Contractor, anyone directly or indirectly employed by Contractor, or anyone for whose acts Contractor may be liable, the indemnification obligations under this Agreement 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 under workers' compensation acts. Such obligations will not be construed to negate, abridge or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Agreement.
- H. Indemnification, additional insured and hold harmless obligations of Contractor and Subcontractor under the Contract Documents will survive the termination of this Agreement.
- I. Contractor and Subcontractors will compel their insurance company to waive subrogation against Owner, Engineer and Contractor and Subcontractors identified as additional insureds in the Contract Documents, including any municipal entity now existing or newly created during the term of the Contract Documents.

#### **6.25 DELEGATION OF PROFESSIONAL DESIGN SERVICES**

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences or procedures. Contractor will not be required to provide professional services in violation of applicable Laws and Regulations.
- B. If professional design services or certifications by a design professional related to systems, materials, equipment, structures, means, methods, techniques or sequences of construction are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor will cause such services or certifications to be provided by a professional properly licensed in the state in which the project is located, whose signature and seal will appear on all drawings, calculations, specifications, certifications, and other Submittals prepared by such professional. Shop Drawings and other Submittals related to the Work designed or certified by such professional, if prepared by others, will bear such professional's written approval when submitted to Engineer.
- C. Owner and Engineer will be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, or approvals performed by such design professionals.
- D. Pursuant to this paragraph 6.25, Engineer's review or approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review or approval of Shop Drawings and other Submittals (except design calculations and design drawings) will be only for the purpose stated in paragraph 6.21.

- E. Contractor will not be responsible for the adequacy of the performance or design criteria specified by Owner or Engineer.

## **ARTICLE 7 WORK BY OTHERS**

### **7.01 RELATED WORK AT SITE**

- A. In addition to and apart from the Work under the Contract Documents, 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 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 any part of Contractor's Work depends on proper execution or results upon the work of any such other contractor or utility owner, Contractor will inspect and promptly report to Engineer in writing any delays, defects or deficiencies in such other work that render it unavailable, or unsuitable for such proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of the other work as fit and proper for integration with Contractor's Work except for latent or non-apparent defects and deficiencies in the other work.
- C. Contractor will afford each contractor who is party to such a direct contract, and each utility owner, (and Owner, if Owner is performing the additional work with Owner's employees), proper and safe access to the Site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work and will properly connect and coordinate the Work with theirs. Unless otherwise provided in the Contract Documents, Contractor will do all cutting, fitting and patching of Contractor's Work that may be required to make its several parts come together properly and integrate with such other work. Contractor will not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of Engineer and the others whose work will be affected.
- D. If the performance of additional work by other contractors, utility owner, or Owner was not noted in the Contract Documents, written notice thereof will be given to Contractor prior to starting any such additional work. If Contractor believes that the performance of such additional work by Owner or others involves additional expense to Contractor, or requires an extension of the Contract Time, Contractor may make a Claim therefor as provided in paragraph 11.01. Claims for delay or inconveniences due to operations of such other parties for work noted in the Contract Documents will not be allowed.

## **ARTICLE 8 OWNER'S RESPONSIBILITIES**

### **8.01 COMMUNICATION TO CONTRACTOR**

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

### **8.02 REPLACEMENT OF ENGINEER**

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

**8.03 FURNISHING DATA**

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

**8.04 PAY WHEN DUE**

- A. Owner will make payments to Contractor promptly after they are due as provided in paragraphs 14.05 and 14.11.

**8.05 LANDS AND EASEMENTS; REPORTS AND TESTS**

- A. Owner's duties in respect to providing lands and easements and providing engineering surveys to establish reference points are set forth in paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner's identifying and making available to Contractor copies of reports of investigations and tests of subsurface and latent physical conditions at the Site.

**8.06 CHANGE ORDERS**

- A. In connection with Owner's rights to request changes in the Work in accordance with Article 10, Owner (especially in certain instances as provided in paragraph 10.01) is obligated to execute Change Orders.

**8.07 INSPECTIONS, TESTS, AND APPROVALS**

- A. Owner's responsibility in respect to certain inspections, tests and approvals is set forth in paragraph 13.02.

**8.08 LIMITATION ON OWNER'S RESPONSIBILITY**

- A. Owner will 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 furnishing or performance of the Work. Owner will not be responsible for Contractor's failure to perform or furnish the Work in accordance with the Contract Documents.

**8.09 UNDISCLOSED HAZARDOUS MATERIALS**

- A. Owner's responsibility in respect of undisclosed Constituents of Concern uncovered or revealed at the Site is set forth in Paragraph 4.06.

**8.10 OWNER'S DESIGNATED REPRESENTATIVE**

- A. Owner will designate a person to act as its representatives during the performance of the Work. Owner's designated representative will attend meetings and perform on behalf of Owner all obligations required of Owner under the provisions of the Contract Documents.

**ARTICLE 9 ENGINEER'S STATUS DURING CONSTRUCTION****9.01 OWNER'S REPRESENTATIVE**

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

**9.02 VISITS TO SITE**

- A. Engineer may make visits to the Site at intervals appropriate to the various stages of construction to observe the progress and quality of the executed Work, and to determine solely for the benefit of Owner, in general, if the Work is proceeding in accordance with the technical requirements of the Contract Documents. It will not be the responsibility of Engineer to make exhaustive or continuous on Site inspections to check the quality or quantity of the Work.

**9.03 RESIDENT PROJECT REPRESENTATIVE**

- A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more continuous observation of the Work. A Resident Project Representative will act as directed by and under the supervision of Engineer. Resident Project Representative's dealings in matters pertaining to the on Site Work will in general be only with Engineer and Contractor, and dealings with Subcontractors will only be through or with the full knowledge of Contractor. The Resident Project Representative's duties and responsibilities include:
1. Schedules:
    - a. Review the Progress Schedule, Schedule of Submittals and Schedule of Values prepared by Contractor.
  2. Conferences:
    - a. Arrange a schedule of progress meetings and other job conferences as required in consultation with Engineer and Owner, and notify those expected to attend in advance.
  3. Liaison:
    - a. Serve as Engineer's liaison with Contractor, working principally through Contractor's superintendent and assist him in understanding the intent of the technical aspects of the Contract Documents. Assist Engineer in serving as Owner's liaison with Contractor when Contractor's operations affect Owner's on Site operations.
  4. Shop Drawings and Samples:
    - a. Advise Engineer and Contractor, or Contractor's superintendent, immediately of the commencement of any Work requiring a Shop Drawing or Sample submission if the submission was identified on the schedule and has not been reviewed by Engineer.
  5. Review of Work, Rejection of Defective Work, Inspections, and Tests:
    - a. Conduct on Site observations of the Work and report to Engineer whenever Resident Project Representative believes that technical aspects of any executed Work is unsatisfactory, faulty or defective or does not meet the requirements of any inspections, tests or approval required to be made or has been damaged prior to final payment; and advise Engineer when Resident Project Representative believes that any partially completed portion of the Work should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.
    - b. Observe, record and report to Engineer appropriate details relative to test procedures and startups.

- c. Accompany visiting inspectors representing public or other agencies having jurisdiction over the Project, record the outcome of these inspections and report to Engineer.
- 6. Modifications:
  - a. Consider Contractor's suggestions for modifications in Plans or Specifications and report them to Engineer.
- 7. Reports:
  - a. Prepare periodic reports as required of progress of the Work and Contractor's compliance with the approved Progress Schedule and Schedule of Submittals.
- 8. Completion:
  - a. Verify that all items on final list of items requiring completion or correction have been completed or corrected and make recommendations to Engineer concerning acceptance.
- 9. Exceptions:
  - a. Resident Project Representative:
    - 1) Shall not authorize any deviation from the Contract Documents or approve any substitute materials or equipment.
    - 2) Shall not approve or accept any portion of the completed Work.
    - 3) Shall not undertake any of the responsibilities of Contractor, Subcontractors or Contractor's superintendent, or expedite the Work.
    - 4) Shall not advise on or issue directions relative to any aspect of the means, methods, techniques, sequences or procedures of construction unless such is specifically called for in the Contract Documents.
    - 5) Shall not advise on or issue directions as to safety precautions and programs in connection with the Work.
    - 6) Shall not advise on or issue directions regarding Contractor's failure to comply with Laws and Regulations applicable to the furnishing or performance of the Work.

#### **9.04 CLARIFICATIONS AND INTERPRETATIONS**

- A. Engineer will issue with reasonable promptness such written clarifications or interpretations of the Contract Documents as Engineer may determine necessary, which will be consistent with or reasonably inferable from the overall intent of the Contract Documents.

#### **9.05 AUTHORIZED VARIATIONS IN WORK - FIELD ORDER**

- A. Engineer may authorize minor adjustments in the Work to avoid obstructions or interferences which do not involve an adjustment in the Contract Price or the Contract Time, and which are consistent with the overall intent of the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner, and also on Contractor who will perform the change promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a request for a Change Proposal

may be made therefore as provided in paragraph 10.06 or a Claim may be submitted as set forth in paragraph 11.01.

#### **9.06 REJECTING DEFECTIVE WORK**

- A. Engineer will have authority to disapprove or reject completed portions of the Work which Engineer believes to be defective and will also have authority to require special inspection or testing of the Work as provided in paragraph 13.04, whether or not the Work is fabricated, installed or completed.

#### **9.07 SHOP DRAWINGS, CHANGE ORDERS, AND PAYMENTS**

- A. Engineer's responsibility for Shop Drawings and samples are set forth in paragraphs 6.19 through 6.21 inclusive.
- B. Engineer's responsibilities as to Change Orders are set forth in Articles 10, 11, and 12.
- C. Engineer's responsibilities in respect of Applications for Payment are set forth in Article 14.

#### **9.08 DETERMINATIONS FOR UNIT PRICE WORK**

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review Engineer's preliminary determinations with Contractor on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of paragraph 10.06.

#### **9.09 DECISIONS ON DISAGREEMENTS, CLAIMS**

- A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work performed thereunder. Claims, disputes and other matters relating to the acceptability of the Work, or the interpretation of the requirements of the Contract Documents pertaining to the execution and progress of the Work, will be referred initially to Engineer in writing with a request for a formal decision in accordance with this paragraph 9.09.
- B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believe that any such decision entitles them to an adjustment in the Contract Price, or Contract Times, or both, a Claim may be made under paragraph 11.01.
- C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of paragraph 11.01.
- D. In this capacity Engineer will not show partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

#### **9.10 LIMITATIONS ON ENGINEERS RESPONSIBILITIES**

- A. Neither Engineer's authority to act under this Article 9 or elsewhere in the Contract Documents, nor any decision made by Engineer in good faith either to exercise or not exercise such authority, will give rise to any duty or responsibility of Engineer to Owner or Contractor, any Subcontractor, any manufacturer, fabricator, Supplier, distributor, surety, or any other person, 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 furnishing or performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents. These limitations on authority and responsibility will also apply to Engineer's Consultant's, Resident Project Representative and assistants.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer will not be responsible to Contractor or any Subcontractor, or Supplier, or to their agents or employees for injuries, damages, claims, losses, or expenses (including attorney's fees) of whatsoever kind resulting from or caused by any act or omission of Engineer in preparation for, arising from, relating to, or concerning the Project. Such acts or omissions include, but are not limited to, Engineer's negligence, tortuous conduct, errors, omissions, strict liability, breach of contract, or breach of warranty. Engineer makes no representations to Contractor, Subcontractors, Suppliers or their agents or employees regarding or respecting any work performed by Engineer in preparation for, arising from, relating to, or concerning the Project.
- E. Neither Contractor, its agents or employees, nor any Subcontractors or Suppliers or their agents or employees, are intended beneficiaries of Engineer's agreement with Owner, nor are such parties intended beneficiaries of Engineer's duties or responsibilities arising therefrom. Engineer disclaims all duties to Contractor, Subcontractors, Suppliers or their agents or employees arising from, relating to, or concerning Engineer's involvement in the Project. Owner and Contractor further agree to notify all Contractor's, Subcontractors or Suppliers of this disclaimer of Engineer's liability and require them to abide by this disclaimer.

## **ARTICLE 10 AMENDING THE CONTRACT DOCUMENTS; CHANGES IN THE WORK**

### **10.01 AMENDING AND SUPPLEMENTING CONTRACT DOCUMENTS**

- A. The Contract Documents may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
  - 1. Change Orders:
    - a. If an amendment or supplement to the Contract Documents includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order. A Change Order also may be used to establish amendments and supplements of the Contract Documents that do not affect the Contract Price or Contract Times.
    - b. Owner and Contractor may amend those terms and conditions of the Contract Documents that do not 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, without the recommendation of Engineer. Such an amendment will be set forth in a Change Order.

2. 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 10.04 regarding change of Contract Price.
  - b. Contractor must submit any Change Proposal seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 30 days after the issuance of the Work Change Directive.
  - c. Owner must submit any Claim seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 60 days after issuance of the Work Change Directive.
3. 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 Contractor, which will perform the Work involved promptly.
  - b. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, then before proceeding with the Work at issue, Contractor will submit a Change Proposal as provided herein.

#### **10.02 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. Such changes will be supported by Engineer's recommendation, to the extent the change involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters. Such changes 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.
- B. Upon receipt of any such document, Contractor will 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 will be performed under the applicable conditions of the Contract Documents. Nothing in this paragraph 10.02 will obligate 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.

#### **10.03 UNAUTHORIZED CHANGES IN THE WORK**

- A. Contractor will 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 6.18 or in the case of uncovering Work as provided in paragraph 13.03.

**10.04 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 will comply with the provisions of paragraph 10.06. Any Claim for an adjustment of Contract Price will comply with the provisions of paragraph 11.01.
- 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 12.03); or
  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 10.04.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 12.01) plus a Contractor's fee for overhead and profit (determined as provided in paragraph 10.04.C).
- C. Contractor's Fee: When applicable, 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 paragraph 12.01.B.1 and 12.01.B.2, Contractor's fee will be 15 percent;
    - b. for costs incurred under paragraph 12.01.B.3, Contractor's fee will be five percent;
    - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of paragraphs 10.04.C.2.a and 10.04.C.2.b is that Contractor's fee will be based on:
      - 1) a fee of 15 percent of the costs incurred under paragraphs 12.01.B.1 and 12.01.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;
      - 3) 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 12.01.B.4, 12.01.B.5, and 12.01.C;

- e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to 5 percent of such net decrease; and
- f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee will be computed on the basis of the net change in accordance with paragraphs 10.04.C.2.a through 10.04.C.2.e, inclusive.

#### **10.05 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 will comply with the provisions of paragraph 10.06. Any Claim for an adjustment in the Contract Times will comply with the provisions of paragraph 11.01.
- B. An adjustment of the Contract Times will be subject to the limitations set forth in paragraph 12.04, concerning delays in Contractor's progress.

#### **10.06 CHANGE PROPOSALS**

- A. Contractor will submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; appeal an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; contest a set-off against payment due; or seeking other relief under the Contract. The Change Proposal will specify any proposed change in Contract Times or Contract Price, or both, 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.
  - 1. Procedures: Contractor will submit each Change Proposal to Engineer promptly (but in no event later than 5 days) after the start of the event giving rise thereto, or after such initial decision. Contractor will submit supporting data, including the proposed change in Contract Price or Contract Time (if any) to Engineer and Owner within 15 days after the submittal of the Change Proposal. The supporting data will 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. Engineer will advise Owner regarding the Change Proposal and consider any comments or response from Owner regarding the Change Proposal.
  - 2. Engineer's Action: Engineer will review each Change Proposal and, within 30 days after receipt of Contractor's supporting data, either deny the Change Proposal in whole, approve it in whole, or deny it in part and approve it in part. Such actions will 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 paragraph 11.01.
  - 3. Binding Decision: Engineer's decision will be final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under paragraph 11.01.

- B. 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 that 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 paragraph 11.01.

#### **10.07 EXECUTION OF CHANGE ORDERS**

- A. Owner and Contractor will execute appropriate Change Orders covering:
1. changes in the Contract Price or Contract Times which are agreed to by the Parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;
  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 10.02,
    - b. required because of Owner's acceptance of defective Work under paragraph 13.08 or Owner's correction of defective Work under paragraph 13.09, 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 in the Contract Price or Contract Times, or other changes, which embody the substance of any final and binding results under paragraph 10.06, or Article 16.
- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of this paragraph 10.07, it will be deemed to be of full force and effect, as if fully executed.

#### **10.08 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 11 CLAIMS**

#### **11.01 CLAIMS**

- A. Claims Process: The following disputes between Owner and Contractor will be submitted 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; and

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.
- B. Submittal of Claim: The party submitting a Claim will deliver it directly to the other party to the Contract promptly (but in no event later than 10 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 will also furnish a copy to Engineer, for its information only. The responsibility to substantiate a Claim will rest with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, or both, Contractor will 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 will review it thoroughly, giving full consideration to its merits. The two parties will 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 will 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 16 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 16 for 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 to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

## **ARTICLE 12 COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK**

### **12.01 COST OF 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 12.01 are used 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 prevailing in the locality of the Project, will not include any of the costs itemized in paragraph 12.01.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. Such employees will include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work will be apportioned on the basis of their time spent on the Work. Payroll costs will include, but not be limited to, salaries and wages plus the cost of fringe benefits, which will include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, 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. Costs 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 will 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 will 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 will obtain competitive bids from Subcontractors acceptable to Owner and Contractor and will deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee will be determined in the same manner as Contractor's Cost of the Work and fee as provided in this paragraph 12.01.
  4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.

5. Supplemental costs including the following:
- a. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
  - b. Rentals of all construction equipment and machinery, and the parts thereof, whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs will be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts will cease when the use thereof is no longer necessary for the Work.
    - 1) The rental rate established for each piece of Contractor owned equipment, including appurtenances and attachments to the equipment, used will be determined by use of the Rental Rate Blue Book for Construction Equipment, Volume 1, 2 or 3, as applicable; the edition which is current at the time the Work was started will apply. The established rental rate will be equal to the "Monthly" rate divided by 176; modified by the rate adjustment factor and the applicable map adjustment factor, plus the "Estimated Operating Costs per Hour."
    - 2) For equipment not listed in the Rental Rate Blue Book, Volume 1, 2 or 3, the rental rate will be determined by using the rate listed for a similar piece of equipment or by proportioning a rate listed so that the capacity, size, horsepower, and age are properly considered.
    - 3) For equipment for which there are no comparables in the Rental Rate Blue Book, Volume 1, 2 or 3, the monthly rate will be reasonable, but not more than 5 percent of the current list price, or invoice, of the equipment. The base hourly rate will then be determined by dividing the monthly rate by 176 to which 20 percent will be added to the sum which will account for adjustments and operating costs.
  - c. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by laws and regulations.
  - d. 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.
  - e. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with paragraph 5.03), 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 will 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:

- 1) The cost of utilities, fuel, and sanitary facilities at the Site.
  - 2) 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 will not include any of the following items:
1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in paragraph 12.01.B.1 or specifically covered by paragraph 12.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by Contractor's fee.
  2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
  3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
  4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
  5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraph 12.01.B.
- D. Contractor's Fee: When the value of any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee will be determined as set forth in paragraph 10.04.C.
- E. Documentation: Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 12, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer on a daily basis, an itemized cost breakdown together with supporting data.

## 12.02 ALLOWANCES

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and will 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 of the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the

Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

- C. Contingency Allowance: Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price will be correspondingly adjusted.

### **12.03 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 Proposal.
- 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 Engineer's preliminary determinations with Contractor on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of the following paragraph 12.03.E.
- E. Within 30 days of Engineer's written decision under the preceding paragraph 12.03.D, Contractor may submit a Change Proposal, or Owner may file a Claim, seeking an adjustment in the Contract Price if:
  1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimate quantity of such item indicated in the Proposal (in no event will any change in quantities of less than 25% be considered a material or significant change from the estimated quantities); and
  2. there is no corresponding adjustment with respect to any other item of Work.

### **12.04 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 will be entitled to request an equitable adjustment in the Contract Times and Contract Price. However, Contractor's entitlement to an adjustment of the Contract Times or Contract Price is expressly conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- B. Contractor will 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 will 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 and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor will be entitled to an equitable adjustment in Contract Times. 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. 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 only the following:
1. severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;
  2. acts or failures to act of utility owners (other than those performing other works at or adjacent to the Site by arrangement with Owner, as specified in paragraph 7.01); and
  3. 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 will 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 will 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 10.
- 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 10.04.
- F. Contractor will 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.

- G. 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 paragraphs 4.03 and 4.06.
- H. Paragraph 7.01 governs 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.
- I. Contractor will not be entitled to any adjustment in Contract Price or Contract Times 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.
- J. Contractor must submit any Change Proposal seeking an adjustment in Contract Price or Contract Times under this paragraph within 5 days of the commencement of the delaying, disrupting, or interfering event.
- K. Where Contractor is prevented from completing any part of the Work within the Contract Time (or Milestones) due to delay beyond the control of both Owner and Contractor, an extension of the Contract Times (or Milestones) in an amount equal to the time lost due to such delay will be Contractor's sole and exclusive remedy for such delay. In no event will Owner or Engineer be liable to Contractor, any Subcontractor, any Supplier, or any other person or organization, or to any surety or employee or any agent of them, for 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 resulting from:
  1. delays caused by or within the control of Contractor (or Subcontractor or Supplier);
  2. delays beyond the control of both Owner and Contractor, including but not limited to fires, floods, epidemics, abnormal weather conditions, acts of God, or acts of neglect by utility owners or other contractors performing other work;
- L. Nor will Owner or Engineer or each of them 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.
- M. Nothing in this paragraph 12.04 bars a change in Contract Price to compensate Contractor due to delay, interference, or disruption directly attributable to actions or inactions of Owner or anyone for whom Owner is responsible. Except for an adjustment to the Contract Times and Contract Price, Contractor will not be entitled to and hereby waives any and all damages that it may suffer by reason of such delay or for any Act of God, including but not limited to lost profits, overhead, and other consequential damages.

## **ARTICLE 13 TESTS AND INSPECTION; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK**

### **13.01 ACCESS TO WORK**

- A. Owner, Engineer and Engineer's representatives, other representatives of Owner, testing agencies and governmental agencies with jurisdictional interests will have access to the Work

at reasonable times for their observation, inspection and testing. Contractor will provide proper and safe conditions for such access and advise Owner and Engineer of Contractor's Site safety procedures and programs so that Owner and Engineer may comply therewith as applicable.

### **13.02 TESTS AND INSPECTIONS**

- A. Contractor will give Engineer and testing agency at least 24-hour notice, unless otherwise specified, of readiness of the Work for all required inspections, tests or approvals, and will cooperate with inspection and testing personnel to facilitate required inspections or tests.
- B. If any Law and Regulation, code, or order of any public body having jurisdiction requires any Work or part thereof to specifically be inspected, tested or approved, Contractor will assume full responsibility therefor, pay all costs in connection therewith and furnish Engineer the required certificates of inspection, testing or approval.
- C. Contractor will also be responsible for and will pay all costs in connection with any inspection or testing required in connection with Owner's or Engineer's acceptance of a manufacturer, fabricator, Supplier or distributor of materials or equipment proposed to be incorporated in the Work, or of materials or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.
- D. The cost of all other inspections, tests and approvals required by the Contract Documents will be paid by Owner unless otherwise specified.
- E. All inspections, tests or approvals other than those required by law, ordinance, rule, regulation, code or order of any public body having jurisdiction will be performed by organizations acceptable to Owner and Contractor or by Engineer if so specified.
- F. Cost of materials to be used in inspection and transportation costs will be paid for by Contractor.
- G. Neither observations by Engineer nor inspections, tests or approvals by others will relieve Contractor from Contractor's obligations to perform the Work in accordance with the Contract Documents.

### **13.03 UNCOVERING WORK**

- A. If any Work that is to be tested, inspected or approved is covered without written concurrence of Engineer, or contrary to the written request of Engineer, it will, if requested by Engineer, be uncovered by Contractor for Engineer's observation. Such uncovering will be at Contractor's expense unless Contractor has given Engineer timely written notice of Contractor's intention to cover such Work and Engineer has not acted with reasonable promptness in response to such notice.
- B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, will uncover, expose or otherwise make available for observation, inspection or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment. Except as otherwise specified in paragraph 13.04, the cost of Work will be paid for as follows:
  - 1. If it is found that such Work is defective, Contractor will bear all the expenses of such uncovering, exposure, observation, inspection and testing, and of satisfactory

reconstruction, (including, but not limited to, fees and charges of engineers, architects, attorneys, and other professionals) and an appropriate deductive Change Order will be issued. If the parties are unable to agree as to the amount or extent of any change in Contract Price or Contract Time, Owner may make a Claim as provided in paragraph 11.01.

2. If, however, such Work is not found to be defective, Contractor will be allowed an increase in the Contract Price or an extension of the Contract Time or both, directly attributable to such uncovering, exposure, observation, inspection, testing, and reconstruction. If the parties are unable to agree as to the amount or extent of any change in Contract Price or Contract Time, Contractor may make a Claim as provided in paragraph 11.01.

#### **13.04 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.

#### **13.05 OWNER MAY STOP THE WORK**

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

#### **13.06 CORRECTION OR REMOVAL OF DEFECTIVE WORK**

- A. If required by Engineer or Owner, Contractor will promptly either correct all defective Work, whether or not fabricated, installed or completed, or if the Work has been rejected by Engineer, remove it from the Site and replace it with non-defective Work. Contractor will pay all claims, costs, losses, damages and expenses caused by or resulting from such correction or removal (including, but not limited to all costs of repair or replacement of work of others) and will take no action that would void or otherwise impair Owner's special warranty or guarantee, if any, on such Work.

#### **13.07 GUARANTEE PERIOD**

- A. If within 1 year after the date of Substantial Completion (or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the Contract Documents), or by any specific provision of the Contract Documents, any Work is found to be defective, Contractor will promptly, without cost to Owner and in accordance with Owner's written instructions:
  1. repair defective land or areas;
  2. correct such defective Work;
  3. if the defective Work has been rejected by Owner, remove it from the Site and replace it with Work that is not defective, and

4. satisfactorily correct or repair or remove and replace any damage to other Work or the work of others or other land or areas resulting therefrom.
- B. If Contractor does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or the rejected Work removed and replaced, and all claims, costs, losses, damages and expenses caused by or resulting from such removal and replacement (including but not limited to all costs of repair or replacement or work of others) will be paid by Contractor.
- C. Repair or replacements made under the guarantee will bear an additional 1 year guarantee dated from the acceptance of repair or replacement.

### **13.08 ACCEPTANCE OF DEFECTIVE WORK**

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, also Engineer) prefers to accept it, Owner may do so. Contractor will pay all claims, costs, losses, damages and expenses attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness). In such case, if acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner will be entitled to an appropriate reduction in the Contract Price. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

### **13.09 OWNER MAY CORRECT DEFECTIVE WORK**

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer in accordance with paragraph 13.06, or if Contractor fails to perform the Work in accordance with the Contract Documents (including any requirements of the Progress Schedule), Owner may, after 48 hours' written notice to Contractor and Contractor's Surety without prejudice to any other remedy Owner may have, correct and remedy any such deficiency.
- B. In exercising Owner's rights and remedies under this paragraph 13.09, Owner will proceed expeditiously. To the extent necessary to complete corrective and remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work, and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor will allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer's consultants such access to the Site as may be necessary to enable Owner to exercise Owner's rights and remedies under this paragraph 13.09.
- C. All claims, costs, losses, damages and expenses incurred or sustained by Owner in exercising such rights and remedies will be charged against Contractor and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work. Owner will be entitled to an appropriate reduction in the Contract Price equivalent to such claims, costs, losses, damages and expenses including 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 will not be allowed an extension of the Contract Time because of any delay in performance of the Work attributable to the exercise by Owner of Owner's rights under this Article 13.

## **ARTICLE 14 PAYMENTS TO CONTRACTOR AND COMPLETION**

### **14.01 SCHEDULES**

- A. At least 10 days prior to submitting the first Application for Payment, Contractor will submit to Engineer a final Schedule of Submittals, and, where applicable, a Schedule of Values for the Work. These schedules will be satisfactory in form and substance to Engineer as provided in Article 2.
- B. The Schedule of Values will include quantities and unit prices aggregating the Contract Price and will subdivide the Work into component parts. Each unit cost so established will include its proportionate share of Contractor's general operating charges such as profit, overhead, supervision, insurance, bond premiums, interest, equipment cost, depreciation and rental, contingencies, expendable tools, equipment and supplies. The total cost of the items and quantities Contractor lists in the Schedule of Values will equal the total Contract Price established in the Proposal.
- C. The Schedule of Values will include a complete set of detailed work sheets on bid take off and bid summary covering estimated general conditions expense (field overhead), general overhead, profit mark ups and revisions leading to the final bid amount.
- D. When the Schedule of Values is approved by Engineer, it will become part of the Agreement and will be used as the basis for Contractor progress payments.
- E. Progress payments based upon Unit Price Work will be based upon the number of units completed.

### **14.02 APPLICATION FOR PROGRESS PAYMENT**

- A. At least 20 days before each Application for Payment falls due (but not more often than once a month), Contractor will submit to Engineer for review an Application for Payment, Contractor's Declaration, Payment Schedule, and updated Progress Schedules indicating the anticipated completion dates of the various stages of the Work and estimated payments during the next 3 months. Contractor's Application for Payment will be filled out on the form provided in the Contract Documents and signed by Contractor covering the Work completed as of the date of the Application for Payment and accompanied by such supporting documentation as is required by the Contract Documents and as Engineer or Owner may reasonably require. The Payment Schedule will be on the form provided in the Contract Documents or in a format acceptable to Engineer or Owner. On the second and all subsequent payments, partial Waivers of Lien and Sworn Statement will be required for all Work completed and paid for on previous certificates.
- B. 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 will also be accompanied by such data, satisfactory to Owner, as will establish Owner's title to the material and equipment and protect Owner's interest therein, including applicable insurance. A receipted vendor's invoice showing the quantities of materials and the amounts paid will be required and will accompany the Application for Payment.

- C. Retainage with respect to progress payments will be in accordance with paragraph 14.03, and it will be retained until after completion of the entire Work and its final acceptance. When the amount to be retained is reduced to less than 10 percent, Contractor will file with Owner the written consent of the Surety to such reduction and will furnish an affidavit that all Contractor's indebtedness by reason of the Contract has been paid.

#### **14.03 RETAINAGE**

- A. On Contracts with a dollar value of \$30,000 and greater or on Contracts that provide for more than 3 progress payments, progress payments and retainage will be governed by the provisions of any statutes, rules or regulations regarding retention and these are incorporated herein by reference and made a part of this Contract.
- B. If there are no statutes, rules, or regulations applicable to retention, retainage will be 10%, or such an amount as Owner deems necessary.

#### **14.04 REVIEW OF APPLICATIONS FOR PROGRESS PAYMENT**

- A. Engineer will, within 10 days after receipt of each Contractor's Application for Payment and Payment Schedule, including each resubmittal, either indicate in writing a recommendation of payment and present an Engineer's Certificate for Payment to Owner, or may 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.
- B. Engineer's recommendation of any payment requested in Contractor's Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's review of the Contractor's Application for Payment and Certificate for Payment and the accompanying data and schedules, as an experienced and qualified design professional that to the best of Engineer's knowledge, information and belief;
  1. the Work has progressed to the point indicated;
  2. the quality of the Work is in accordance with the technical aspects of the Contract Documents subject to an evaluation of the Work as a functioning Project upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for any Unit Price Work under paragraph 12.03, and any qualifications stated in the recommendation; and
  3. 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.
- C. However, by recommending any such payment Engineer will not thereby be deemed to have represented that:
  1. exhaustive or continuous on-Site inspections have been made to check the quality or the quantity of the Work; or
  2. involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or
  3. 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.

- D. Neither Engineer's review of Contractor's Work for the purpose of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
1. to supervise, direct or control the Work;
  2. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto;
  3. for the failure of Contractor to comply with Laws and Regulations applicable to the furnishing or performance of Work;
  4. for any failure of Contractor to perform or furnish Work in accordance with the Contract Documents;
  5. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price;
  6. to determine that title to any Work, materials, or equipment has passed to Owner free and clear of Liens.
- E. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make such representations as stated above to Owner. Engineer may also refuse to recommend any such payment, or, because of subsequently discovered evidence or the results of subsequent inspections or tests, nullify any such payment previously recommended to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:
1. the Work is defective, or completed Work has been damaged requiring correction or replacement;
  2. the Contract Price has been reduced because of Change Orders;
  3. Owner has been required to correct defective Work in accordance with paragraph 13.09, or has accepted defective Work in accordance with paragraph 13.08;
  4. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
  5. Engineer has actual knowledge of the occurrence of any of the events enumerated in paragraph 15.02.

#### **14.05 PAYMENT BECOMES DUE**

- A. Thirty (30) days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of paragraph 14.05.B) become due, (or only if Owner is a public agency, within 15 days after Owner receives the funds which are to be provided by a department or agency of the federal or state government, whichever is later, or in accordance with any time periods required by any applicable statute, rule or regulation) and when due will be paid by Owner to Contractor.
- B. Owner may refuse to make payment of the full amount recommended by Engineer because:
1. 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,

2. adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;
  3. 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;
  4. Contractor has failed to provide and maintain required bonds or insurance;
  5. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
  6. 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;
  7. The Work is defective, requiring correction or replacement;
  8. Owner has been required to correct defective Work in accordance with paragraph 13.09, or has accepted defective Work pursuant to paragraph 13.08;
  9. The Contract Price has been reduced by Change Orders;
  10. An event has occurred that would constitute a default by Contractor and therefore justify a termination for cause;
  11. Liquidated or other damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;
  12. 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;
  13. there are other items as set forth in the Contract Documents entitling Owner to a set off against the amount recommended; or
  14. Owner has actual knowledge of the occurrence of any of the events enumerated in paragraphs 14.04.E.1 through 14.04.E.5.
- C. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner will promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor corrects, to Owner's satisfaction, the reasons for such action. The reduction imposed will be binding on Contractor unless Contractor duly submits a Change Proposal contesting the reduction.
- D. If it is subsequently determined that Owner's refusal of payment was not justified, the amount wrongfully withheld will be treated as an amount due as determined by paragraph 14.05.

**14.06 CONTRACTOR'S WARRANTY OF TITLE**

- A. Contractor warrants and guarantees that title to all Work, materials and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner at the time of payment free and clear of all Liens, claims, security interests and encumbrances (hereafter in these General Conditions referred to as "Liens").

**14.07 SUBSTANTIAL COMPLETION**

- A. When Contractor considers the entire Work ready for its intended use Contractor will notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a Certificate of Substantial Completion. Contractor will 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 will 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. Once 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 will attach to the certificate a punch list of items to be completed or corrected before final payment. Owner will 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 therefore. 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 will 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 Contractor will 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 will 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.

**14.08 PARTIAL UTILIZATION**

- A. Use by Owner of completed portions of the Work may be accomplished prior to Substantial Completion of all the Work subject to the following:
1. Owner at any time may request Contractor in writing to permit Owner to use any part of the Work which Owner believes to be substantially complete and which may be so used without significant interference with construction of the other parts of the Work. If Contractor agrees, Contractor will certify to Owner and Engineer that said part of the Work is substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work. Within a reasonable time thereafter Owner, Contractor and Engineer will make an inspection of that part of the Work to determine its status of completion.
    - a. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving reasons therefor.
    - b. If Engineer considers that part of the Work to be substantially complete, Engineer will execute and deliver to Owner and Contractor a certificate to that effect, fixing the date of Substantial Completion for that part of the Work, attaching thereto a punch list of items to be completed or corrected before final payment.
  2. Prior to issuing a certificate of Substantial Completion for that part of the Work, Engineer will deliver to Owner and Contractor a written recommendation as to the division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, maintenance, utilities and insurance for that part of the Work, which will become binding upon Owner and Contractor at the time of issuing the definitive certificate of Substantial Completion for that part of the Work unless Owner and Contractor will have otherwise agreed in writing and so informed Engineer.
  3. Owner will have the right to exclude Contractor from any part of the Work which Engineer has so certified to be substantially complete, but Owner will allow Contractor reasonable access to complete or correct items on the punch list.
  4. In lieu of the issuance of a certificate of Substantial Completion as to part of the Work, Owner may take over operation of a facility constituting part of the Work whether or not it is Substantially Complete if such facility is functionally and separately usable; provided that prior to any such takeover, Owner and Contractor have agreed as to the division of responsibilities between Owner and Contractor for security, operation, safety, maintenance, correction period, heat, utilities and insurance with respect to such facility.

**14.09 FINAL INSPECTION**

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

**14.10 FINAL APPLICATION FOR PAYMENT**

- A. After Contractor has completed all corrections to the satisfaction of Engineer and delivered all maintenance and operating instructions, schedules, guarantees, Bonds, certificates of

inspection, marked up record documents and other documents (all as required by the Contract Documents), and after Engineer has indicated that the Work is acceptable, subject to the provisions of paragraph 14.13, Contractor may make application for final payment following the procedure for progress payments.

- B. The final Application for Payment will be accompanied by all documentation called for in the Contract Documents and such other data and schedules as Engineer may reasonably require, consent of Surety, if any, to final payment, together with complete and legally effective releases or waivers, satisfactory to Owner, of all Liens arising out of or filed in connection with the Work.
- C. In lieu of the releases or waivers of Lien, if approved by Owner, Contractor may furnish receipts or releases in full; an affidavit of Contractor that the releases and receipts include all labor, services, material and equipment for which a Lien could be filed, and that all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner or Owner's property might in any way be responsible, have been paid or otherwise satisfied.
- D. If any Subcontractor, manufacturer, fabricator, Supplier or distributor fails to furnish a release or receipt in full, Contractor may furnish a Bond or other collateral satisfactory to Owner to indemnify Owner against any Claim or Lien.

#### **14.11 FINAL PAYMENT AND ACCEPTANCE**

- A. 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 (all as required by the Contract Documents), Engineer is satisfied that to the best of Engineer's knowledge, information and belief as a design professional that the Work has been completed and Contractor has fulfilled all of Contractor's obligations under the Contract Documents, Engineer will, within 10 days after receipt of the final Application for Payment, indicate in writing Engineer's Certificate for Payment and present the application to Owner for payment. At that time Engineer will give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of paragraph 14.13.
- B. Otherwise, Engineer will return the Application to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor will make the necessary corrections and resubmit the Application.
- C. If the Application and accompanying documentation are appropriate as to form and substance, Owner will, within 45 days (or within the time period required by any applicable statute, rule or regulation) after receipt thereof pay Contractor the amount recommended by Engineer less any amounts of Owner claimed set-offs allowed under the Contract Documents, including but not limited to any applicable liquidated damages as determined by Owner. If Owner rejects the Application, Owner will do so in writing stating the appropriate sections of the Contract Documents upon which the rejection is based. Contractor may take the necessary remedial actions and resubmit the Application.

#### **14.12 FINAL COMPLETION DELAYED**

- A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner will, upon receipt of Contractor's final Application for Payment and recommendation of Engineer, and without terminating the Agreement, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining

balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if Bonds have been furnished as required in paragraph 5.01, the written consent of the Surety to the payment of the balance due for that portion of the Work fully completed and accepted will be submitted by Contractor to Engineer with the Application for such payment. Such payment will be made under the terms and conditions governing final payment, except that it will not constitute a waiver of Claims.

#### **14.13 WAIVER OF CLAIMS**

- A. The making and acceptance of final payment will constitute:
1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to paragraph 14.09, or from failure to comply with the Contract Documents or the terms of any special guarantees specified therein; and will not constitute a waiver by Owner of any rights in respect of Contractor's existing or continuing obligations under the Contract Documents; and,
  2. a waiver of all Claims by Contractor against Owner other than those previously made in writing and still pending in accordance with Article 16.

#### **14.14 LATE PAYMENTS**

- A. Monies not paid when due hereunder, except monies involving Federal and/or State Loans, Grants, or other sources which are delinquent because of no fault of Owner, will bear interest at the maximum rate allowed by law at the time and place of the Project.

### **ARTICLE 15 SUSPENSION OF WORK AND TERMINATION**

#### **15.01 OWNER MAY SUSPEND WORK**

- A. Owner may, at any time and without cause, suspend the Work or any portion thereof for a period as Owner may deem necessary by notice in writing to Contractor and Engineer. If it should become necessary to stop work for an indefinite period, Contractor will store all materials in such manner that they will not become an obstruction, nor become damaged in any way, and Contractor will take every precaution to prevent damage or deterioration of the Work performed; provide suitable drainage by opening ditches and drains, and erect temporary structures where necessary. Contractor may request an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to any suspension if Contractor makes a Claim therefor as provided in paragraph 11.01.

#### **15.02 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 commences a voluntary case under any chapter of the Bankruptcy Code (Title 11, United States Code), as now or hereafter in effect, or if Contractor takes any equivalent or similar action by filing a petition or otherwise under any other federal or state law in effect at such time;
  2. a petition is filed against Contractor under any chapter of the Bankruptcy Code as now or hereinafter in effect at the time of filing, or if a petition is filed seeking any such equivalent or similar relief against Contractor under any other federal or state law in effect at the time relating to bankruptcy or insolvency;

3. Contractor makes a general assignment for the benefit of creditors;
  4. a trustee, receiver, custodian or agent of Contractor is appointed under applicable law or under contract, whose appointment or authority to take charge of property of Contractor is for the purpose of enforcing a Lien against such property or for the purpose of general administration of such property for the benefit of Contractor's creditors;
  5. Contractor admits in writing an inability to pay its debts generally as they become due;
  6. Contractor persistently fails to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under paragraph 2.05 as revised from time to time);
  7. Contractor disregards Laws and Regulations of any public body having jurisdiction;
  8. Contractor disregards the authority of Engineer or Owner; or,
  9. Contractor otherwise violates any provisions of the Contract Documents.
- B. Owner may, after giving Contractor (and the Surety, if there be one) 7 days' written notice, and to the extent permitted by Laws and Regulations, terminate the services of Contractor, exclude Contractor from the Site, take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the site and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion), incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, finish the Work as Owner may deem expedient, and/or enforce the rights available to Owner under any applicable Performance Bond.
- C. In such case, Contractor will not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, damages and expenses sustained by Owner arising out of or resulting from completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, damages and expenses exceed such unpaid balance, Contractor will pay the difference to Owner. Such claims, costs, losses, damages and expenses incurred by Owner will be reviewed as to reasonableness by Engineer and when so approved, incorporated in a Change Order, but when exercising any rights or remedies under this paragraph, Owner will not be required to obtain the lowest price for the Work performed.
- D. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor or its Surety then existing or which may thereafter accrue. Any retention or payment of monies due Contractor by Owner will not release Contractor from liability.

### **15.03 TERMINATION 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, elect to terminate the Agreement. In such case, Contractor will be paid (without duplication of any items):
1. for completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination;

2. for actual 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; and
  3. for reasonable expenses directly attributable to protecting work as a result of termination.
- B. Contractor will not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.
- C. Upon such termination, Contractor will:
1. Immediately discontinue Work on the date and to the extent specified in the notice except to the extent necessary to protect Work in place;
  2. Place no further orders for materials, services, or facilities, other than as may be necessary or required for completion of such portion of Work under the Contract that is not terminated;
  3. Promptly make every reasonable effort to obtain cancellation upon terms reasonably satisfactory to Owner of all purchase orders and subcontracts to the extent they relate to the performance of Work terminated or assign to Owner those orders and subcontracts and revoke agreements specified in such notice;
  4. Reasonably assist Owner, as specifically requested in writing, in the maintenance, protection and disposition of property acquired by Owner under the Contract Documents, as may be necessary;
  5. Complete performance of any Work which is not terminated; and
  6. Deliver to Owner an affidavit regarding the identity of potential unpaid Subcontractors or Suppliers and the amounts due to each.

#### **15.04 CONTRACTOR MAY STOP WORK OR TERMINATE**

- A. If Owner has failed to pay Contractor any sum finally determined to be due in accordance with the time limits specified in paragraph 14.05, Contractor may upon 7 days' written notice to Owner and Engineer, stop the Work until payment of all amounts then due.
- B. If through no act or fault of Contractor, the Work is suspended for a period of more than 90 days by Owner, or under an order of court or other public authority, then Contractor may, upon 7 days written notice to Owner and Engineer and provided Owner or Engineer does not remedy such suspension or failure within that time, terminate the Agreement and recover from Owner payment on the same terms as provided in paragraph 15.03.
- C. The provisions of this paragraph 15.04 will not relieve Contractor of Contractor's obligations under paragraph 6.22 to carry on the Work in accordance with the Progress Schedule and without delay during disputes and disagreements with Owner.

### **ARTICLE 16 FINAL RESOLUTION OF DISPUTES**

#### **16.01 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; and
  2. Disputes between Owner and Contractor concerning the Work or obligations under the Contract Documents and arising 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; or
  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, the following dispute resolution process will be followed:
    - a. The parties will submit the dispute to mediation under the mediation procedures outlined in the Construction Industry Arbitration Rules and Mediation Procedures of the American Arbitration Rules.
    - b. If the dispute is not resolved by mediation, the parties will proceed to resolve the dispute by arbitration in accordance with the Construction Industry Arbitration Rules and Mediation Procedures of the American Arbitration Association. The decision of the arbitrator(s) will be final and binding and is enforceable in a court of competent jurisdiction.

## **ARTICLE 17 MISCELLANEOUS**

### **17.01 GIVING NOTICE**

- A. Whenever any provision of the Contract Documents requires the giving of written notice to Owner, Engineer, or Contractor, it will be deemed to have been validly given only if delivered:
1. in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended;
  2. by registered or certified mail postage prepaid to, the last business address known to the giver of the notice;
  3. or delivered in person to such person by a commercial courier service or otherwise to the recipient's place of business; or
  4. by secure file transfer with receipt documentation or other document control software.

### **17.02 COMPUTATION OF TIME**

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

### **17.03 GENERAL**

- 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 will not 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 Law or Regulation, by special warranty or guarantee, or by other provisions of the Contract Documents. The provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right and remedy to which they apply.

- B. All representations, warranties and guarantees made in the Contract Documents will survive final payment and termination or completion of this Agreement.

#### **17.04 PROFESSIONAL FEES AND COURT COSTS INCLUDED**

- A. Whenever reference is made to "claims, costs, losses, damages and expenses," it will include in each case, but not be limited to, all fees and charges of engineers, architects, attorneys and other professionals and all court or arbitration or other dispute resolution costs.

#### **17.05 NONDISCRIMINATION OF EMPLOYMENT**

- A. Contractor will agree not to discriminate against any employee or applicant for employment, to be employed in the performance of this Contract, with respect to Contractor's hire, tenure, terms, conditions or privileges of employment, or any matter directly or indirectly related to employment, because of race, color, sex, age, religion, national origin or ancestry, height, weight, or marital status, or any other classification protected by law, and to require a similar covenant on the part of any Subcontractor employed in the performance of the Contract.

#### **17.06 POST COMPLETION DATE ENGINEERING AND INSPECTION COSTS**

- A. All engineering and inspection costs incurred after the specified completion date will be paid by Contractor to Owner prior to final payment authorization. However, Contractor will not be charged with any post completion date engineering and inspection costs when the delay in completion of the Work is due to the following and Contractor has promptly given written notice of such delay to Owner or Engineer:
1. to any preference, priority or allocation order duly issued by Owner;
  2. to unforeseeable causes beyond the control and without the fault or negligence of Contractor, including but not restricted to, acts of God, or of the public enemy, acts of Owner, acts of another contractor in the performance of a Contract with Owner, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and abnormal and unforeseeable weather; and,
  3. to any delays of Subcontractors or Suppliers occasioned by any of the causes specified in this Article.
- B. Charges after the specified completion date will be made at such times and in such amounts as Engineer will invoice Owner, provided, however said charges will be in accordance with Engineer's current rate schedule at the time the costs are incurred. Engineering and inspection costs so incurred will be deducted from Contractor's progress payments.

#### **17.07 WAIVER OF CONSEQUENTIAL DAMAGES**

- A. Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract or the Work. This mutual waiver includes but is not limited to:

1. damages incurred by Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and
  2. damages incurred by Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit in connection with any other project or anticipated project.
- B. This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination or default. Nothing contained in this Section will be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents. Contractor also waives any Claim for consequential damages against Engineer where such Claims arise out of or relate in any way to the Project or the Contract Documents.

**17.08 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.

**17.09 CONTROLLING LAW**

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

**17.10 HEADINGS**

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

**END OF SECTION**

## SECTION 00 73 00 - SUPPLEMENTARY CONDITIONS

### PART 1 GENERAL

#### 1.01 SUMMARY

- A. These Supplementary Conditions amend and supplement Section 00 72 00 - General Conditions and other provisions of Contract Documents as indicated below. Provisions that are not so amended or supplemented remain in full force and effect.
- B. The terms used in these Supplementary Conditions that are defined and have the meanings assigned to them in Section 00 72 00 - General Conditions.

#### 1.02 MODIFICATIONS TO GENERAL CONDITIONS

##### A. SGC-1.01 Defined Terms

1. The definition for "As-Built Drawings" in Section 00 72 00 - General Conditions will be added as follows:

As-Built Drawings -- Revised construction documents prepared by the Contractor that reflect all modifications made during the construction process. These include changes due to material availability, constructability issues, or design optimizations. These drawings serve as a contractual record to prove compliance with project requirements.

2. The definition for "As-Built Drawings" in Section 00 72 00 - General Conditions will be added as follows:

Record Drawings -- Clean, finalized sets of drawings compiled by the Engineer using the Contractor's as-built drawings and they incorporate all approved changes into the original design documents and represent the project's final state as documented; these drawings may not be based on field verification.

3. The definition for "Substantial Completion" in Section 00 72 00 - General Conditions will be revised as follows:

Substantial Completion -- The Work (or a specified part thereof) has progressed to the point where, in the opinion of the Engineer as evidenced by the Certificate of Substantial Completion, it is sufficiently complete, in accordance with the Contract Documents, so that the Work (or specified part) can be utilized for the purposes for which it was intended; or if no such certificate is issued, when the Work is complete and ready for final payment as evidenced by the Engineer's written recommendation of final payment in accordance with Article 14.11 of Section 00 72 00 - General Conditions. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

##### B. SGC-4.05 Reference Points

1. Delete Article 4.05 of Section 00 72 00 - General Conditions and replace it with the following:

Contractor will be responsible for the preservation of established reference points and will make no changes or relocations without the prior written approval of Owner. Contractor will report to Engineer whenever any reference point is lost or destroyed or

requires relocation because of necessary changes in grades or locations. Reference points destroyed by negligence of Contractor will be replaced by Owner at the expense of Contractor. Construction Staking will be furnished by Contractor as provided in Division 01 of the Specifications.

**C. SGC-5.03 Additional Insured**

1. Add the following language as a new Article 5.03.A.9 of Section 00 72 00 - General Conditions:

City of Ecorse, Wade Trim Associates, Inc., and Wade Trim Associates, Inc. 's Subconsultant(s), and any other person or entity required to be named as an additional insured under the Contract Documents, including each of the aforementioned's respective parent companies, affiliates, subsidiaries, officers, directors, employees, and agents, are required to be designated as additional insureds on all policies of insurance required by Article 5.03 of the Section 00 72 00 - General Conditions and elsewhere in the Contract Documents (except for Worker's Compensation insurance and Professional Liability insurance, unless otherwise specifically required by the Contract Documents).

**D. SGC-5.04 Limits of Liability**

1. The required limits of liability for insurance coverages requested in Article 5.03 of Section 00 72 00 - General Conditions will be not less than the following:

SGC-5.04.A Worker's Compensation

Coverage A – Compensation: Statutory

Coverage B – Employer's Liability

Each Accident: \$100,000

Disease – Policy Limit: \$100,000

Disease – Each Employee: \$500,000

SGC-5.04.B Comprehensive General Liability

General Aggregate: \$2,000,000

Products – Com/Ops Aggregate: \$2,000,000

Personal and Advertising Injury: \$1,000,000

Each Occurrence: \$1,000,000

SGC-5.04.C Comprehensive Automobile Liability

Bodily Injury: \$1,000,000

Property Damage: \$1,000,000

SGC-5.04.D Owner's Protective

General Aggregate:\$1,000,000

Each Occurrence: \$1,000,000

SGC-5.04.E Builder's Risk-Installation Floater

Cost to Replace at Time of Loss

SGC-5.04.F Umbrella or Excess Liability: \$2,000,000

**E. SGC- 12.04 Lump Sum Work**

1. Add the following new paragraph after Article 12.03 of Section 00 72 00 - General Conditions, which is to read as follows:

**12.04 LUMP SUM WORK**

- a. When additional work or deletion of work, which is covered by a lump sum item, is required due to a modification, not a normal overrun or underrun in estimated quantities, payment or credit for the work will be based upon apparent unit prices which will be derived by dividing the lump sum price by the estimated plan quantities.
- b. Renumber subsequent paragraphs accordingly.

**F. SGC-18 Liquidated Damages**

1. Liquidated damages, if applicable, are referenced in the Proposal and Agreement. The requirements for liquidated damages should be included herein.

**ARTICLE 18 LIQUIDATED DAMAGES**

- a. If the Contractor fails to Substantially Complete the Work within the Contract Time, or extension of time granted by the Owner, then the Contractor will pay to the Owner the amount for liquidated damages as specified in the Agreement for each calendar day that the Contractor will be in default after the time stipulated in the Contract Documents. The liquidated damages charged will be deducted from the Contractor's progress payments.
- b. Contractor will not be charged with liquidated damages or any excess cost when the delay in Substantial Completion of the Work is due to the following and the Contractor has given written notice of such delay within seven (7) calendar days to Owner or Engineer.
  - 1) To any preference, priority or allocation order duly issued by the Owner.
  - 2) To unforeseeable causes beyond the control and without the fault or negligence of the Contractor, including but not restricted to, acts of God, or of the public enemy, acts of the Owner, acts of another Contractor in the performance of a Contract with the Owner, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and abnormal and unforeseeable weather; and
  - 3) To any delays of subcontractors occasioned by any of the causes specified in paragraph "a" and "b" of this Article.

**PART 2 PRODUCTS (NOT USED)**

**PART 3 EXECUTION (NOT USED)**

**END OF SECTION**

## SECTION 01 11 00 - SUMMARY OF WORK

### PART 1 GENERAL

#### 1.01 WORK COVERED BY CONTRACT DOCUMENTS

- A. This project includes TV and cleaning of sanitary and storm sewers across the City of Ecorse over a three-year period. The contractor is required to document the condition of each catch basin and storm structure as part of the cleaning program in order to meet EGLE requirements.

#### 1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 01 33 00 - Submittal Procedures
- B. Section 01 50 00 - Temporary Facilities and Controls

#### 1.03 WORK BY OTHERS

- A. Infrastructure work will be ongoing throughout the city during this project. Contractor should expect some coordination with the other ongoing projects to ensure the orderly completion of the work and the timely completion of the Contract.

#### 1.04 RIGHT-OF-WAY JURISDICTION/PERMITS

- A. Jefferson Ave, Outer Dr, and Southfield Rd are under the jurisdiction of the Wayne County Department of Public Services.
- B. Other roads and streets in the vicinity of the Project are under the jurisdiction of the City of Ecorse.
- C. Work in the Wayne County Department of Public Services right-of-way requires a permit from the Wayne County Department of Public Services. Contractor will obtain the permit and pay all fees in connection with obtaining the permit. The fees for the permit are based upon a permit fee, plan review fee, and an inspection deposit.
  - 1. Cost of all inspection including any necessary soil compaction tests and concrete testing performed by Wayne County Department of Public Services on this Project will be deducted from the inspection deposit. A cash inspection deposit (along with the permit fee and the plan review fee) will be required to be paid by the Contractor prior to obtaining the permit.
  - 2. Contractor is cautioned that the deposit is based upon the estimated cost. The actual cost of the inspection fee will be the actual costs incurred by Wayne County Department of Public Services for inspection on the Project. Contractor will be responsible for any additional costs over and above the fee calculated above and will be refunded any excess amounts.
- D. Detroit River is under the jurisdiction of the Michigan Department of Environment, Great Lakes, and Energy (EGLE).
- E. Soil erosion and sedimentation control is under the jurisdiction of the Wayne County Department of Environment, Land Resource Management Division.
- F. Contractor will secure any permits required by the agency having jurisdiction, will abide by all rules and regulations of each, and will pay all costs in connection with the permits. Contractor

will pay for all permit and inspection fees as the agencies may charge to ensure compliance with their requirements.

**1.05 COORDINATION**

- A. It will be the responsibility of the Contractor to coordinate Contractor's operations and those of the Contractor's subcontractors in such a manner so as to avoid interference and delays in the areas of common construction activities.

**1.06 CONTRACTOR'S USE OF PREMISES**

- A. Contractor will maintain construction operations within the presently existing road rights-of-way and easements throughout the Project area. In the event that the Contractor deems it necessary or advisable to operate beyond the limits of the existing rights-of-way or easements, Contractor will be responsible for making special written agreements with the property owners and will furnish such copies of agreement to the Owner.

**1.07 PHOTOGRAPHS**

- A. Photographs as specified in Section 01 33 00 - Submittal Procedures will be required for this Project.

**PART 2 PRODUCTS (NOT USED)**

**PART 3 EXECUTION (NOT USED)**

**END OF SECTION**

## **SECTION 01 22 00 UNIT PRICES**

### **PART 1 GENERAL**

#### **1.01 SCOPE OF WORK**

- A. This Section describes the method of measurement and basis of payment for items of Work included in the Contract and specified in Section 00 42 43 - Proposal. Contractor will provide labor, material, tools, equipment and services required to complete the Work specified herein and indicated on the Plans.
- B. The scope and quantity of Work estimated in the Proposal is the best estimate of the Engineer. It is anticipated that the quantity of Work to be completed will vary from the estimated quantities in Section 00 42 43 - Proposal.
- C. Owner will make no allowances for items not included in Section 00 42 43 - Proposal.

#### **1.02 ITEMS OF THE PROPOSAL**

##### **A. Sewer Cleaning**

- 1. Sewer cleaning, regardless of size, will be paid for at the Contract Unit Price per linear foot unit basis. Price paid shall be payment in full for all labor, material, and equipment necessary for cleaning sewer pipe and shall include, but is not limited to, removal of all dirt, debris, sand, sludge, grease, mud, rocks, stones, roots and miscellaneous materials from the sewer; cleaning all manholes, removal and disposal of all resultant debris, restoration of any damage, obtaining access to sewers, sewer flow control, and any other items necessary to complete the work whether specifically mentioned or implied.
- 2. Measurement for sewer cleaning shall be from center of manhole to center of manhole for the sewer section cleaned. Payment for cleaning of a sewer section shall be made one time during the project. Any heavy cleaning required after initial cleaning will be paid instead of and not in addition to any light cleaning already performed.

##### **B. Structure Cleaning**

- 1. Manhole/Structure cleaning, regardless of size, will be paid for at the Contract Unit Price per manhole/structure. Price paid shall be payment in full for all labor, material, and equipment necessary for cleaning manhole/structure and shall include, but is not limited to, removal of all dirt, debris, sand, sludge, grease, mud, rocks, stones, roots and miscellaneous materials from the sewer; cleaning all manholes, removal and disposal of all resultant debris, restoration of any damage, obtaining access to sewers, sewer flow control, and any other items necessary to complete the work whether specifically mentioned or implied.
- 2. Payment for cleaning of a manhole/structure shall be made one time during the project.

##### **C. Television Inspection**

- 1. Television inspection, regardless of size, will be paid for at the Contract Unit Price per linear foot unit basis. Price paid shall be payment in full for all labor, materials, and equipment required to do a complete closed-circuit television inspection and shall include, but is not limited to, color video with audio description, sewer flow control, obtaining access to sewers, restoration of any damage, PACP coding, GIS database integration, preparation of a written condition report, preparation of data base, delivery of report and one copy of the video to the Owner, and all items necessary to complete job whether specifically mentioned or implied.
- 2. Payment for television inspection for each sewer reach will be paid one time during the project. Any necessary re-televising or remobilization required to complete the television inspection for a sewer reach is considered incidental to the Project.

3. Television inspection of sewer is not paid for separately when being paid for CIPP lining of sewers.

D. **Miscellaneous**

1. Cutting and removal of roots, minerals, and intruding laterals will be paid for at the Contract Unit Price per each. Price paid shall be payment in full for all labor, material, and equipment required for robotically trimming roots and minerals from inside the sewer, and shall include, but is not limited to all non-man entry access; cutting roots and minerals with a remote operated cutting tool; removal and disposal of all resultant debris; protection of existing improvements; repairing any damage; all restoration, traffic control, and all other items necessary to complete the job, whether specifically mentioned or implied.
2. Measurement for cutting and removal of roots, minerals, and intruding laterals will be determined by CCTV footage.

**PART 2 PRODUCTS (NOT USED)**

**PART 3 EXECUTION (NOT USED)**

## SECTION 01 31 19 - PROJECT MEETINGS

### PART 1 GENERAL

#### 1.01 PRECONSTRUCTION MEETING

- A. Prior to the delivery of materials or the start of any construction, the Contractor will request a Preconstruction Meeting from the Engineer. A minimum three (3) working days' notification to meeting participants will be required.
- B. Schedule:
  - 1. Engineer will establish the meeting place, time and date, distribute agenda, notify participants, and administer the meeting. Contractor will notify major Subcontractors.
- C. Attendance:
  - 1. Owner
  - 2. Engineer
  - 3. Contractor
    - a. Major Subcontractors
  - 4. Utility Companies
  - 5. Safety Representatives
  - 6. Governmental Agencies
- D. Agenda:
  - 1. Distribution by the Contractor and discussion, review and acceptance of:
    - a. List of names and telephone numbers for superintendent, foreman and other key personnel.
    - b. List of major Subcontractors and Suppliers.
    - c. Projected construction preliminary progress schedules.
    - d. Preliminary schedule of Shop Drawings and Sample submittals.
    - e. Estimated monthly payment schedule and schedule of values
  - 2. Critical Work sequencing.
  - 3. Major equipment deliveries and priorities.
  - 4. Project coordination.
  - 5. Responsibilities of Owner, Engineer, Contractor and other agencies.
  - 6. Procedures and processing of:
    - a. Field decisions.
    - b. Proposal requests.

- c. Submittals.
  - d. Change Orders.
  - e. Applications for Payment.
7. Adequacy of distribution of Contract Documents.
  8. Procedures for maintaining Record Documents.
  9. Use of premises.
  10. Construction facilities, controls and construction aids.
  11. Temporary utilities.
  12. Safety and first aid procedures.
  13. Security procedures.
  14. Housekeeping procedures.
  15. Testing
- E. Minutes:
1. Engineer will prepare and distribute copies to participants within seven (7) days of meeting. Participants will report corrections and comments within ten (10) days of receipt of minutes.

## **1.02 PROGRESS MEETINGS**

- A. Periodic Progress Meetings will be held as required by the progress of the Work.
- B. Schedule:
1. Engineer will establish the meeting place, time and date, distribute agenda, notify participants and administer the meeting. Contractor will notify major Subcontractors.
- C. Attendance:
1. Engineer
  2. Contractor
  3. Subcontractor as appropriate to the agenda.
  4. Suppliers as appropriate to the agenda.
  5. Others
- D. Agenda:
1. Review minutes of previous meeting.
  2. Review of work progress since previous meeting.
  3. Review field observations, problems, conflicts.
  4. Review problems which impede Construction Schedules.

5. Review of off-site fabrication, delivery schedules.
  6. Review corrective measures and procedures to regain projected schedule.
  7. Review revisions to Construction Schedules.
  8. Review plan progress, schedule, during succeeding Work period.
  9. Review coordination of schedules.
  10. Review submittal schedules; expedite as required.
  11. Review maintenance of quality standards.
  12. Review proposed changes for:
    - a. Effect on Construction Schedule and on completion date.
    - b. Effect on other Contracts of the Project.
  13. Other business.
- E. Minutes:
1. Engineer will prepare and distribute copies to participants and the Owner within seven (7) days of meeting for review at the next meeting.

**PART 2 PRODUCTS (NOT USED)**

**PART 3 EXECUTION (NOT USED)**

**END OF SECTION**

## SECTION 01 32 16 - CONSTRUCTION PROJECT SCHEDULE

### PART 1 GENERAL

#### 1.01 SCOPE OF WORK

- A. Contractor will be responsible for the Project construction schedule for the full Contract Time, including without limitation the following:
  - 1. Contractor's construction schedule updates will be submitted on a monthly basis, or as requested by Owner.
  - 2. Contractor's short-term look-ahead schedule submitted at each progress meeting and as required by the Owner.

#### 1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 01 33 00 - Submittal Procedures

#### 1.03 DEFINITIONS

- A. Activity: A discrete part of a project that is identified in the Contractor's planning, scheduling, executing, monitoring, and controlling of the construction Project. Activities included in a construction schedule consume time and resources.
- B. Critical Activity: An activity on the critical path of the construction schedule.
- C. Predecessor Activity: An activity that precedes another activity in the network.
- D. Successor Activity: An activity that follows another activity in the network.
- E. Cost Loading: The allocation to each activity within the Critical Path Method (CPM) Schedule of the portion of the Contract Price reflecting the Contractor's anticipated costs to perform that portion of the Work, including a proportional share of overheads and profit. The sum of costs for all activities must equal the total Contract Sum. The cost loaded CPM Schedule will be referenced to the contract, purchase order line item, and bid breakdown item.
- F. Critical Path Method (CPM): Scheduling method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path to complete the Work of the Project within the specified Contract Times and interim completion milestones.
- G. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.
- H. Event: The starting or ending point of an activity.
- I. Free Float: is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.
- J. Total Float: is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date. Float time is not for the exclusive use or benefit of either Owner or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.

- K. **Contract Float:** is the measure, in calendar days, of leeway between the Contractor's anticipated date for completion of all or any part of the Work and the corresponding specified Contract Time regardless of the float values calculated by the software used to produce the CPM Schedule.
- L. **Resource Loading:** The allocation of labor and equipment necessary for completing an activity as scheduled.
- M. **Work Breakdown Structure (WBS):** A deliverable-oriented breakdown of a project into smaller components. A work breakdown structure is a key project deliverable that organizes the team's work into manageable sections.
- N. **Detailed Cost Breakdown (DCB):** An itemized breakdown of the Work and Contract Amount detailing quantities and dollar amounts for each pay item, developed by summarizing the cost-loaded CPM schedule to a level of detail appropriate for use in progress payment estimates. The sum of all pay items will equal the Contract Price.
- O. **Milestone:** The date of a significant event, used to monitor schedule performance and define Contract deadlines.
- P. **Data Date:** The reporting cut-off date through which progress is incorporated into a schedule.
- Q. The term "day" as used in these Contract Documents will mean calendar day unless otherwise specifically designated. Contract Time computations will be made in Days. Total Float and Contract Float values computed in Working Days will be converted to Days when such computations are made for the purpose of calculating changes in Contract Time.

#### **1.04 CPM SCHEDULE**

- A. Contractor's approach to prosecution of the Work will be disclosed by submission of computerized, cost-and-resource loaded CPM Schedules as required herein. These requirements are in addition to, and not in limitation of, those imposed elsewhere in the Contract Documents.
- B. CPM Schedule Submittals are intended to show:
  1. the priority and sequencing by which the Contractor intends to execute the Work (or Work remaining) to comply with the Contract Times, those sequences of Work indicated in or required by the Contract Documents and any other requirements of the Contract Documents;
  2. how the Contractor anticipates foreseeable events, site conditions and all other general, local and prevailing conditions that may in any manner affect cost, progress, schedule, performance and furnishing of the Work;
  3. how the Means and Methods chosen by the Contractor translate into Activities and sequencing;
  4. the actual timing and sequencing of completed Work; and
  5. the allocation of the Contract Price and construction craft labor hours to the Activities.
- C. CPM Schedule will clearly define the prosecution of the Work from Date of Commencement of the Contract Time to Final Completion by using separate CPM Activities for, but not limited to:

Notice to Proceed, submittal, resubmittal, review and approval of basis of design, preliminary design and final design (applicable for design/build contracts); construction/installation; permitting (by the Contractor and Owner); workshops (instrumentation, software, and controls), submittal preparation; submittal review and return, resubmission and re-review; mechanical, electrical, controls systems and information systems layout drawings; procurement and fabrication; deliveries to the site or storage; Owner-furnished items; interfaces with other work (other contractors, public utilities, etc.); planned shutdowns or other impacts to Owner's operating equipment or facilities; start-up and testing of the equipment/system; Field Acceptance Test (FAT); Site Acceptance Test (SAT) for controls; Substantial Completion, final inspection; Owner training; O&M and Training Manuals; punch list; final clean-up; submittal of as-built drawings and other record documents; close-out; and Final Completion.

- D. The CPM Schedule will detail CPM Activities and logic ties as required to demonstrate the Contractor's approach to all the Work. CPM Activity durations will equate to the days required to complete the associated Work. Activities will not combine:
1. separate items of Unit Price or lump sum Work;
  2. distinct classes of Work (e.g., CSI Divisions or equivalent);
  3. Work in separate areas, structures or facilities and, if requested by Engineer, Work in separate locations or elevations within an area, structure or facility; or
  4. rough-in and finish Work.
- E. Start-to-finish relationships and negative lags will not be utilized unless approved in advance by the Engineer. Activities will be cost and resource loaded.
- F. The activities will form a complete network wherein all activities (except for the start and completion milestones) will have at least one predecessor and one successor. Each activity will have as many predecessor or successor activities as is necessary to accurately reflect the requirements to complete the work. The number of activities and level of detail in the schedule will be subject to the Engineer's review.
- G. Schedule calendars must be developed to accurately reflect the working times for each activity based on the specific requirements of the project. If not specified, assume 5 calendar days and 40 hours per week. Observed federal, state and non-work holidays should be included, as appropriate.
- H. Installation CPM Activities will last from 15 to 45 days unless a shorter or longer duration is required to properly depict the Work. The schedule will provide not less than 30 days for each submittal review or re-review activity and for each submittal will include separate activities for review, re-submittal, and re-review. Submittal, delivery and start-up CPM Activities may combine materials and equipment in the same class of Work, based on the detail of related installation CPM Activities. Furnish, install, and test will be separate activities. Contractor will include weather contingencies and other anticipated/foreseeable events/conditions in the schedule and the schedule narrative.
- I. Contractor will refrain from constraining activity dates in the schedule other than Contract milestones. If the Contractor feels constraints are necessary, the Contractor will detail the reasons for the constraints to the Engineer and in the schedule narrative and will require approval of their use.

- J. Activities will be assigned consistent descriptions, activity identification, Work Breakdown Structure, and activity codes consistent with schemes provided by the Engineer or, if none is provided, with the Engineer's approval. For each activity, separate activity codes will be provided for work location, phase of work, responsible firm (Contractor, a Subcontractor or a Supplier), system, specification section, and DCB item. Constraint dates/basis will be explained.
- K. The CPM Schedule will be prepared using the latest version of Oracle Corporation Primavera P6 Project Management Software unless the Contractor proposes a similar software that can be used for scheduling that is acceptable to the Engineer or \_\_\_\_\_.
- L. Unless otherwise approved by the Engineer, CPM schedule calculations will be performed:
1. utilizing retained logic in lieu of progress override;
  2. using expected finish dates;
  3. with critical activities defined as the longest path;
  4. with total float defined as the smallest of start float or finish float; and
  5. with the predecessor calendar used for lags.
- M. In preparing CPM Schedules, it is the Contractor's responsibility to:
1. request interpretations from the Engineer, as warranted
  2. point out to the Engineer, by specific, separate notation, any aspects of the CPM Schedule that may reflect variations from the Contract Documents
  3. work with Subcontractors and Suppliers in finalizing Activities and logic ties.
- N. Early Dates in the CPM Schedule will be based on proceeding with all or part of the Work exactly on the date when the corresponding Contract Time commences to run. Late Dates will be based on completing all or part of the Work exactly on the corresponding Contract Time, regardless of whether the Contractor anticipates early completion or not. If sequences of Work are indicated in or required by the Contract Documents, the CPM Schedule will show in detail the Contractor's approach to conforming with those sequences.
- O. A narrative will accompany all CPM Schedule submittals which will:
1. Discuss the Contractor's planning and approach to the Project and any changes therein;
  2. Identify planned staffing, resources, and work hours;
  3. Identify the basis for any constraints incorporated into the CPM schedule;
  4. Itemize shifts, non-Working Days and any multiple calendars applied to the CPM Activities;
  5. Compare current activity dates and the Contract Times;
  6. Recap progress and days gained or lost vs. the As-Planned Schedule;
  7. Provide activity reporting based on the CPM Schedule discussing progress by CPM Activity;

8. Detail Contractor's Site Management Plan, Construction Equipment Usage, Labor Buildup over first three months and de-staffing plans (when applicable);
  9. Describe all changes in resources to be used on remaining Work;
  10. Identify delays and causes and any actions taken to mitigate impact;
  11. Explain the basis for any logic ties other than finish-to-start (FS), and for each lag incorporated into the schedule;
  12. Define abbreviations used in the schedule;
  13. Itemize any revisions made in the activities or Work sequences, and
  14. Identify all approved logic changes.
- P. The narrative will include monthly and cumulative plots of planned and actual manpower and payments, in a form acceptable to the Engineer, comparing the Contractor's anticipated rate of progress in the most current CPM Schedule Submittal and that anticipated in the As-Planned Schedule.
- Q. CPM Schedule submittals will include:
1. Electronic copies of the Contractor's native P6 schedule files (.xer);
  2. A narrative;
  3. Activity report/Gantt charts including CPM Activity code, description, duration, calendar, Early and Late Dates (calendar dates), Total Float, labor man-hours, cost, and sort codes. The Late Finish Date (or the Early Start Date) of any CPM Activity highlighting a Contract Time (or commencement of all or any part of the Work) will equal the corresponding Contract Time (or Contract date). Provide PDF file (11-inch x 17-inch printable, with headers and footers).
  4. S-curves showing projected early and late earnings and earnings to date;
  5. Total contract earnings report detailing contract value to date, total contract earnings to date and current period earnings by activity, sorted and subtotaled by responsibility, with actual, early start, early finish, late start and late finish dates;
  6. Total Float report
  7. Critical path
  8. Other reports and Gantt charts as designated by the Engineer
  9. Three (3) color copies and an electronic pdf copy of all of the above items.
  10. Critical paths with zero or negative Total Float will be shown in red. If the Contractor plans to finish the work earlier than the Substantial Completion Date and Final Completion Date, then the activities with minimum Total Float will be identified in red color as the near critical path.
  11. Schedule update reports will include the prior update baseline.

- R. Each CPM Schedule Submittal will bear the Contractor's stamp or written indication of approval as representation to the Owner that the Contractor has determined or verified all data on that CPM Schedule, and that the Contractor and the Subcontractors and Suppliers have reviewed and coordinated the sequences in that CPM Schedule with the requirements of the Work. CPM Schedule Submittals are not Contract Documents.
- S. Owner's review of CPM Schedule Submittals may result in comments relating to conformance with:
1. the Contract Times,
  2. those sequences of Work indicated in or required by the Contract Documents
  3. any other Contract Document requirements that may have a significant bearing on the use of CPM Schedule Submittals to resolve issues affecting Contract Price and/or Contract Time. The review of CPM Schedule Updates may, in addition result in comments as to whether the Contractor's scheduling of Work remaining continues to conform with the Contract Times and those sequences of Work indicated in or required by the Contract Documents. Review comments may also respond to Contractor's proposed schedule recovery plans, when and as appropriate, and to Contractor requests for extensions in Contract Time. CPM Schedule review comments may also result in the selection of Targets and recording of Target Times.
- T. The review of CPM Schedule Updates may, in addition result in comments as to whether the Contractor's scheduling of Work remaining continues to conform with the Contract Times and those sequences of Work indicated in or required by the Contract Documents. Review comments may also respond to Contractor's proposed schedule recovery plans, when and as appropriate, and to Contractor requests for extensions in Contract Time. CPM Schedule review comments may also result in the selection of Targets and recording of Target Times.
- U. No CPM Schedule review by the Engineer will relieve the Contractor from the responsibility to:
1. comply with the Contract Times and any sequences of Work indicated in or required by the Contract Documents
  2. complete omitted Work within the Contract Times.
- Nor will any such CPM Schedule review by the Engineer lead to approval of, or consent to, any variation from the Contract Documents.
- V. CPM Schedule reviews will not impose on the Owner any responsibility for:
1. the means, methods, sequences or techniques by which the Contractor plans and executes the Work;
  2. verifying whether Work is omitted;
  3. Activity durations are reasonable;
  4. the adequacy of the level of labor, materials and construction equipment;
  5. the reasonableness of the Contractor's chosen Means and Methods; or
  6. whether Work sequences and Activity timing are practicable.

Even if any comments or objections are noted from the reviews of CPM Schedule Submittals, no such reviews or objections noted will be effective or construed to create or impose on the Owner or Engineer any responsibility for the timing, planning, scheduling or execution of the Work or for the correctness of any such CPM Schedule details. The correctness of the CPM Schedule will remain the sole responsibility of the Contractor.

- W. The initial CPM Schedule is known as Revision 0 (Rev. 0) and, once approved by the Engineer, becomes the As-Planned Schedule and the initial Record Baseline Schedule. Within 30 days following the Contract Start Work Date, Contractor will provide the Rev. 0 cost-loaded CPM Schedule Submittal and a list of all project submittals for Engineer’s review and approval.
  - 1. The Rev. 0 Submittal will reflect Contractor’s plan for the Work as awarded in full accordance with the Contract, and will not include any delays, changes, Change Orders, Construction Change Directives or substitutions, or “or-equals”. Activity durations and Work sequences in the CPM Schedule Rev. 0 Submittal will be based on furnishing named or specified materials/equipment nominated in the Contract and the means and methods indicated in or required by the Contract Documents. No activity durations or Work sequences in the Rev. 0 CPM Schedule will be based on or-equals or substitutions even if the Contractor intends to pursue such under the provisions of the Specifications. Any additional modifications to the contract dates, scope, or costs are managed through approval of subsequent CPM Schedule Submittals.
  - 2. Contractor will cause Work covered by Allowances as well as specified Unit Price Work and contingent Unit Price Work to be done within the Contract Times. Contractor will be responsible for completing, within the Contract Time for Substantial Completion, up to one hundred twenty-five percent (125%) of the estimated quantities for each specified item of Unit Price Work. The CPM Schedule will incorporate within the limits of the Contract Times:
    - a. Contractor’s best estimate of the activities and logic ties required by Cash Allowances and Work to be authorized under any Provisionary Allowances and under any contingent Unit Price Work; and,
    - b. Activities relating to requisite tasks of Owner, and to interfaces with other work, based on the information given in the Contract Documents, and if not given, as indicated by the Engineer. Provisionary Allowance activity will be for the entire duration of the Contract. In any case, Contractor will allow not less than the times indicated in the Contract, or if no times are indicated, 15 days or such greater time as is reasonable under the circumstances for each required action by Engineer, Owner or other contractors.
    - c. The Rev. 0 schedule will allow sufficient time to accommodate Owner activities as well as time for facility operational constraints that may affect the ability to obtain equipment shutdowns. Required durations for Owner submittal review will be not less than those referenced in Section 01 33 00 - Submittal Procedures.
    - d. Planned durations for weather-exposed activities will include sufficient time allowances to accommodate without delay the loss, within each calendar month, of not less than the number of work-days specified below due solely to adverse weather.

<b>Monthly Required Allowance for Workdays Lost Due to Adverse Weather</b>											
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

5	5	5	6	6	6	8	5	8	4	5	4
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No extension in Contract Time will be justified due to adverse weather except to the extent that the number of work days lost in a calendar month due solely to adverse weather exceeds the number of days specified in the table above.

3. Contractor will cost and resource load the activities within the CPM schedule by allocating to each activity the applicable portion of the Contract Price proportionate to the Work required to perform the activity. The cost-loaded CPM Schedule will tabulate schedule activity number, quantities (for Unit Price Items), required craft labor hours, and activity cost value for each activity. Contractor may add non-work activities to the CPM schedule as necessary to account for all elements within the total Contract price. Activities for submittals and other non-construction activities (excluding mobilization and design deliverables under design/build delivery) will not be cost-loaded within the CPM Schedule. Activities for bonds, builders risk insurance and stored materials will be cost loaded at invoiced cost (excluding any general conditions, overheads or profit). The cost-loaded schedule will include activities and costs for specific deliverables within the following categories:
  - a. CPM schedules; (b) testing, start-up, commissioning; (c) operation and maintenance manuals; (d) training; (e) delivery of updated as-built record documents; (f) clean-up, and (g) punch list work for each trade or subcontractor in an amount not less than 1% of the total Work of that trade or subcontractor. The aggregate total of all activity costs within the cost-loaded schedule will equal the Contract Price. Delivery activities will be cost loaded if the Contractor intends to request payment for materials properly stored on-site. Costs shown for each activity in the cost-loaded CPM Schedule will reflect a share of the Contract Price that is proportionate to the estimated costs to perform the associated Work, including a proportional share of Contractor's and subcontractor's mark-ups, and will be an accurate and correct allocation of the Contract Price.
  - b. testing, start-up, commissioning;
  - c. operation and maintenance manuals;
  - d. training;
  - e. delivery of updated as-built record documents;
  - f. clean-up, and
  - g. punch list work for each trade or subcontractor in an amount not less than 1% of the total Work of that trade or subcontractor.
4. The aggregate total of all activity costs within the cost-loaded schedule will equal the Contract Price. Delivery activities will be cost loaded if the Contractor intends to request payment for materials properly stored on-site. Costs shown for each activity in the cost-loaded CPM Schedule will reflect a share of the Contract Price that is proportionate to the estimated costs to perform the associated Work, including a proportional share of Contractor's and subcontractor's mark-ups, and will be an accurate and correct allocation of the Contract Price.
5. Unless otherwise approved by the Engineer activity cost amounts within the cost-loaded schedule will be summarized into payment items comprising a Detailed Cost Breakdown

(DCB) to be used to prepare Progress Payment Estimates. In such case each schedule activity will be cross-referenced to one and only one summary payment item through assignment of a payment item code. A single DCB payment item may include one or more schedule activities. The aggregate total of all DCB payment items will equal the Contract Price. Separate DCB items and cost-loaded schedule activities will be provided for furnishing, installing and testing of equipment.

6. The cost-loaded CPM Schedule and DCB will be submitted for Engineer's review and approval in accordance with the requirements of the General Conditions and will:
  - a. show the allocation of the Contract Price among activities representing the various components of the Work, in sufficient detail as the Engineer may require;
  - b. divide the Work into activities by significant Sections of the Specifications within areas, structures and Facilities, or Work Breakdowns, or vice versa;
  - c. identify total amounts for each Work activity;
  - d. segregate work by the various subcontractors and identify the subcontractor performing each element of the work; and
  - e. for Unit Price Items only, tabulate quantities and unit prices.
7. Contractor will hold a baseline schedule presentation meeting for the Owner and Engineer. This meeting is meant for the Contractor to present, in detail, the schedule plan.
  - a. Examples of items for presentation include but are not limited to work breakdown structure, a description of each activity name, basis for durations, general work sequence, the critical path, and weather assumptions. This meeting could also take place during schedule updates, if requested.
8. **The first Progress Payment will not be finalized until the Engineer returns to the Contractor the Rev. 0 CPM Schedule Submittal (including the DCB) as "Approved" or "Approved As Noted."** Once the Rev. 0, or Rev. 0A, etc. CPM Schedule Submittal is returned by the Engineer as "Approved" or "Approved As Noted", it will represent the As-Planned Schedule, and will be used for Payment Submittals until revisions to the CPM Schedule are approved by the Engineer. If Engineer does not approve the cost-loaded CPM Schedule or the DCB, Contractor will address Engineer's comments, revise and resubmit until approved by the Engineer. The cost-loaded CPM Schedule report and the DCB will include spaces for signatures of Engineer and Contractor to confirm the approval of each party. Once the Rev. 0 cost-loaded CPM Schedule and DCB are approved, the Contractor will not modify any activity value or pay item, unless otherwise authorized by the Engineer in writing. Engineer may require reallocation of costs for uninstalled material, amounts not expended for bonds or insurances, or to properly reflect authorized Change Directives or Change Orders. Contractor represents and warrants to Owner that the final cost-loaded CPM Schedule and DCB provide an accurate and correct allocation of the Contract Price.
9. CPM Schedule Updates. After approval of the Rev. 0 CPM Schedule Contractor will update the CPM Schedule monthly (or at shorter intervals if deemed necessary by the Engineer) using as a data date the first day of each calendar month. Each CPM Schedule Update will show the actual status of the Project as of the date of the updated CPM Schedule. CPM

Schedule Updates will progress the Record Schedule, and will be due five (5) days after the closing of each Progress Payment period, whether the As-Planned Schedule has been established or not. Each CPM Schedule Update submittal will be accompanied by the following power point slides in a format acceptable to the Engineer: (1) Project milestone date trending; (2) Summary schedule; (3) Project activity progress (number of activities earlier or later than scheduled last month); (4) Project total float (mean and median total float trend each month); (5) Labor hour resources planned loading each month; and Actual Labor Count weekly history (from daily reports).

- a. Each update will include the actual dates each activity is commenced and the date that the activity is completed sufficiently to allow subsequent activities to commence, delays and other significant events occurring since the previous Payment Submittal.
  - b. Contractor may revise schedule logic in each CPM Schedule Update provided that such revisions comply with Contract requirements, are identified in the accompanying narrative, and are acceptable to Engineer. Schedule logic and/or activities will be revised as necessary to accurately address out-of-sequence progress (e.g., successor activities started before completion of predecessor).
  - c. Subject to review and approval of Engineer, Contractor will update the physical percent complete for each activity started or in progress, based on realistic assessment of earned value and work remaining. Contractor will revise percent complete as required by Engineer. Activities which are complete but for remaining minor punch list work and which do not restrain the initiation of successor activities may be declared 100 percent complete. Punch list activities may be declared 100 percent complete upon completion and correction of punch list work identified during Owner's pre-final inspection.
  - d. Contractor will include the CPM Schedule Update with its monthly Payment Submittal, which will also include Contractor's certification that it has not been delayed or adversely impacted, as of the cut-off date, by any acts or omissions of Owner or Engineer, except as otherwise specifically stated.
  - e. The most recent CPM Schedule "Approved" or "Approved as Noted" by the Engineer will be the current Record Schedule and will be used by the Owner and Contractor to monitor progress against Contract Times and resolve issues affecting Contract Prices and Contract Times and the assessment of liquidated damages.
  - f. If the Early Dates in any CPM Schedule update submittal forecast any slippage in the Contract Times, the Contractor will indicate such overrun(s) by reporting negative Total Floats. Owner reserves the right not to approve schedules that do not reflect completion within the Contract Time.
10. Short-term look-ahead Schedules will subdivide CPM Activities into detailed tasks and cover the prior two (2) weeks and the next four (4) weeks. Each installation task will be cross-referenced to a CPM Activity and will not combine the Work for more than one crew.
  11. Submittals will segregate preparation from review and will not combine items furnished by separate Suppliers.

## **1.05 CONTRACTOR'S SCHEDULER**

- A. Contractor will appoint a project scheduler with the following minimum qualifications (unless otherwise modified by the Owner or Engineer): At least 5 years of experience using a recent version of Primavera P6 Professional Project Management software, and scheduling for at least three construction projects with cost and responsibility loaded CPM schedules. If the appointed project scheduler fails to perform to an adequate professional and technical standard or if Engineer, in the reasonable exercise of its discretion, objects to the appointed project scheduler, the Contractor will use a replacement project scheduler having the required qualifications, at no increase in Contract Price and/or Contract Time. Submit the scheduler qualifications and experience for Engineer review and approval.
- B. Contractor's scheduler will prepare the Baseline schedule, all schedule updates, look ahead schedules, time impact analysis, and recovery schedules required by the Contract Documents. Contractor's scheduler will attend all project meetings where scheduling input is necessary, as well as attend the meetings and perform the duties set out in the other Contract Documents. Owner and Engineer will be invited to all Contractor Scheduling meetings.

## **PART 2 PRODUCTS (NOT USED)**

## **PART 3 EXECUTION**

### **3.01 PROGRESS AND COMPLETION**

- A. Time limits stated in the Contract Documents are of the essence of the Agreement. Contractor will begin the Work on the date of commencement indicated in the Notice to Proceed. It will carry the Work forward expeditiously with adequate resources, will at all times adhere to the CPM Schedule, and will achieve Substantial Completion and Final Completion within the time limits set forth in Project Calendar stated in the Contract Documents, as extended by change orders.
- B. The construction and completion of the Project will be undertaken and completed in accordance with the cost loaded CPM Schedule described in the Contract Documents. The parties will use the CPM Schedule for planning and monitoring the progress of the Work. If the Contractor will fail to adhere to the CPM Schedule, as revised pursuant to the Contract, it must promptly request Engineer's approval to work outside of normal working hours and will work such additional time over regular hours, including Saturdays, Sundays and holidays and/or supply such additional workmen as may be required to bring the Work on schedule, without additional cost or expense to Owner, including claims for inefficiency due to the use of overtime. In the event of such failure of Contractor to adhere to the CPM Schedule, Contractor may alternatively propose revisions to the CPM schedule to recover the delay for Engineer's review and approval. If Engineer agrees that such revisions are feasible and likely to recover the delay, Contractor will promptly implement the measures necessary to recover the delay.
- C. If Contractor is late in achieving Substantial Completion, Final Completion, or if Contractor fails to adhere to the approved CPM Schedule or submits a CPM Schedule update which forecasts delay in achieving any of the Contract Times, or if Engineer reasonably determines based on an evaluation of Contractor's rate of progress that there is a substantial probability of delay in achieving any of the Contract Times, Engineer may provide Contractor a notice to cure, request that Contractor submit a schedule recovery plan, and withhold liquidated damages in accordance with the applicable provisions of the Agreement.

- D. Upon receipt of a request for a schedule recovery plan:
1. To the extent that Contractor believes that it is entitled to an increase in Contract Time under the terms of the Contract, Contractor will comply with paragraphs 3.02 and 3.03 in providing notice, demonstration of entitlement, delay analysis, and supporting documentation demonstrating the number of days of Contract Time extension to which Contractor believes it is entitled.
  2. To the extent that delay exceeds any time extension to which Contractor is entitled, Contractor will submit a schedule recovery plan and immediately take measures necessary to recover delay. Contractor's schedule recovery plan will describe the cause of schedule slippage or delayed progress and the actions proposed and taken by the Contractor to recover schedule. Contractor will meet with the Engineer and present the Contractor's written schedule recovery plan. If, upon evaluation of the Contractor's schedule recovery plan, the Engineer determines that there is sufficient cause to withhold liquidated damages, the Owner may deduct from Requests for Payment the Owner's estimate of the liquidated damages then due using the Engineer's estimate of late completion of the Work.
- E. Contractor will carry on the Work with due diligence during all disputes or disagreements with the Owner. No Work will be delayed or postponed pending resolution of any disputes or disagreements. Contractor will exercise reasonable precautions, efforts and measures to avoid or mitigate situations that would cause Delays.

### **3.02 SUSPENSIONS AND DELAYS**

- A. In accordance with the General Conditions the Engineer may order the Contractor in writing to suspend, defer, stop, delay, interrupt, slow down, or extend all or any part of the Work for such period as it may determine to be appropriate for the convenience of Owner.
1. To the extent practical, the Contractor will consult with Engineer and will mitigate the cost of suspensions and delays by reducing the size of its Project staff and demobilizing equipment to the extent practicable upon notice from the Engineer of any Owner caused delay or interruption which is likely to exceed seven (7) days. Upon the termination of the delay or as otherwise directed by Owner, the Contractor will restore the Project staff to the appropriate size.
- B. Contractor will provide Owner the opportunity to prevent or mitigate delays by Contractor's promptly furnishing of written notice of potential delay to Engineer before Contractor incurs actual delay or additional costs, and in any case not later than three (3) days after the occurrence of any of the following that Contractor believes: (a) to be within the responsibility of the Owner, and (b) may result in critical path delay to any of the Contract Times required by the Project Calendar included in the Contract Documents:
1. (i) Construction Change Directives or Change Orders issued by Owner; (ii) the Contractor receives a notice of a change in the Agreement or extra work to be performed; (iii) the Engineer provides a clarification or notice of a no-cost change or minor change as provided in the General Conditions; or (iv) Owner or Engineer directs a change in the Work in accordance with the changes provisions of the General Conditions that Contractor believes will result in critical path delay to any Contract Time;
  2. Contractor encounters concealed conditions in accordance with the provisions of the General Conditions that it believes will result in critical path delay to any Contract Time;

3. Contractor believes that any act or failure to act by Owner or Engineer or any of Owner's other contractors or consultants, or any variation in quantities for unit price work, will cause performance of all or any part of the Work to be delayed, deferred, stopped, slowed down, suspended or interrupted beyond the reasonable time for such actions as allowed under the Contract Documents and the CPM schedule, resulting in potential critical path delay to any Contract Time.
- C. Contractor will promptly provide written notice to Engineer before Contractor incurs actual delay or additional costs, and in any case not later than three (3) days after the occurrence of any event that (a) is not within the responsibility of either the Owner or the Contractor, and (b) may result in critical path delay to any Contract Time including without limitation:
1. Uncontrollable Circumstance as provided in the General Conditions
  2. Adverse weather within a calendar month that causes the loss of more work-days than specified herein.
  3. Conditions affecting Owner's facilities, that result in constraints to Contractor's work or impede shutdowns of Owner's systems at the times requested by Contractor, including without limitation operational effects of weather, plant conditions, ongoing maintenance, other work affecting available facilities, equipment failures or outages, requirements to maintain sufficient processing capacity, or other regulatory or operational issues affecting Owner's facilities, provided that such conditions are outside the reasonable control and reasonable advance planning of both Owner and Contractor.
  4. Delays caused by regulatory authorities, governmental agencies, public utilities, and other third parties.
- D. Contractor will promptly provide written notice to Engineer, in any case not later than three (3) days, after the start of any delay that is within the responsibility of the Contractor and will immediately take such action as is necessary to mitigate and recover the delay.
1. Contractor will provide notice and promptly take appropriate action to recover schedule whenever the Contractor anticipates, or any CPM Schedule Submittal demonstrates, that the scheduled early completion date for any required CPM Activity has slipped, due to acts or omissions within the control of the Contractor, beyond any Contract Time. If the Contractor is not responsible for such schedule slippage, the Contractor will give prompt written notice of a delay justifying a Contract Time extension in accordance with paragraph 3.02.B or 3.02.C.
  2. If schedule recovery is required, the Contractor will enclose with the next Schedule Update Submittal a schedule recovery plan consisting of (a) a narrative describing the cause of schedule slippage and the actions taken to recover schedule within the shortest reasonable time, and (b) a Recovery Schedule with the corresponding revisions in Activities and logic ties and other adjustments intended to recover the schedule. Appropriate schedule recovery actions may include: assignment of additional labor, Subcontractors or construction equipment; Work during other than normal working hours; resequencing of the Work; increasing the concurrency of sequential Work activities; expediting of Submittals and deliveries; and any combination of any of these or other similar actions. Activity shortening and overlapping will be explained as to their basis (and be supported by increases in resources).

3. Contractor's failure, refusal or neglect to take appropriate schedule recovery action or, in the alternative, give written notice of a delay with a timely and properly supported Time extension request, and, in either case, to follow up with a timely CPM Schedule will be reasonable evidence that the Contractor is not prosecuting the Work with due diligence. Any such Contractor failure, refusal or neglect will give sufficient basis to the Owner, to elect any of the following:
    - a. demand adequate, written assurance of due performance, as provided in the General Conditions,
    - b. withhold liquidated damages, and
    - c. in the Owner's sole discretion, direct alternate schedule recovery actions.
- E. Each Subcontractor will be bound by the foregoing provisions.

### **3.03 DELAYS AND EXTENSIONS OF TIME**

- A. Extensions of the Contract Time will not be granted except as expressly provided for in the General Conditions and this Specification Section.
- B. If the Contractor determines that critical path delay will occur to any Contract Time due to the events identified in paragraphs 3.02.A, 3.02.B or 3.02.C, Contractor may request a commensurate adjustment in the affected Contract Times (but only to the minimum extent reasonably forced on the parties by the event) by submitting to the Engineer a properly supported written request for extension of Time no more than three (3) days after Contractor provides notice of a concealed condition as provided in the General Conditions, or the extent of the delay becomes known, or the Engineer requests such submittal, whichever is sooner, or if the delay continues for more than 30 days, submit requests for Time extension at 30 day intervals until the delay has ended. Requests for Time extension in connection with weather delays will be made on a monthly basis within three (3) days from the end of each month. Claims for adjustment in any of the Contract Times or Contract Price will be waived if not properly submitted in accordance with all requirements of the General Conditions and this Specification Section within the time limit required or if timely notice of delay was not submitted in accordance with paragraphs 3.02.A, 3.02.B or 3.02.C.
- C. No extension in Contract Time will be justified unless the Contractor demonstrates, through a detailed analysis of the CPM Schedule using the procedures specified in this paragraph 3.03, the occurrence of Delay which (a) is not reasonably foreseeable under the circumstances, (b) arises from unforeseeable causes, (c) is not caused in whole or in part by any act or omission within the control of the Contractor, and (d) necessarily extends the Work beyond the overall Contract Time (or a portion of the Work beyond a pertinent Contract Time).
- D. Properly supported requests for extension of Time will include:
  1. Explanation of the cause and duration of the delay together with identification of which schedule activities were affected.
  2. Justification for entitlement to a time extension under the Contract Documents.
  3. Identification of all concurrent delays with an explanation of their causes and which party is responsible for each.

4. Critical path analysis, using the latest Record Schedule approved by the Engineer before the start of the delay, demonstrating the number of calendar days by which each of the Contract Times has been delayed due to each cause. Analysis will be accompanied by native electronic XER files and will be verifiable by an independent, objective evaluation by the Engineer, using the electronic files and data furnished by the Contractor. Unless otherwise required by the Engineer, prospective analysis will be prepared in accordance with ACEI Recommended Protocol RP-29, method implementation protocol MIP-3.6 (“Modeled / Additive / Single Base”) and as specified herein, by using the most recent Engineer approved Record Schedule prior to the date that the delay commenced, incorporating any schedule review comments provided by Engineer, then updating the schedule with actual progress to the start of the delay and noting the updated dates calculated for achievement of each of the Contract Times before commencement of the delay.
    - a. Modeling of each delay will be accomplished by inserting into the updated pre- delay Record Schedule appropriate activities for each delay, with duration, constraints and logic accurately reflecting the actual delay and its impact on other activities.
    - b. If more than one delay is concurrently in progress at any time after the start of the delay the analysis will be conducted in the following sequential steps:
      - 1) Delays under paragraph 3.02.C will be incorporated into the schedule that also includes the delays under paragraph 3.02.D, a copy of the schedule preserved, and resulting dates calculated for achievement of each of the Contract Times will be noted to determine the extent of delays that are not within the responsibility of the Owner.
      - 2) Using the same schedule containing all delays that are not within the responsibility of the Owner, all delays under paragraphs 3.02.A and 3.02.B will then be incorporated into the schedule, a copy of the schedule preserved, and the resulting further extension evaluated based on the dates calculated for achievement of each of the Contract Times.
    - c. Reasonable delay mitigation to the extent commercially practicable will be incorporated into the schedule containing all delays by revising or deleting non- mandatory schedule logic, and increasing activity concurrency where practicable, and noting the resulting dates calculated for achievement of each of the Contract Times reflecting the effects of all schedule delays and commercially practicable mitigation.
    - d. Extensions for each of the Contract Times will not exceed the difference in time between the dates calculated under paragraph 3.03.D.4.c and those calculated under paragraph 3.03.D.4.b.1.
    - e. Unless otherwise required by the Engineer, retrospective delay analysis will be prepared in accordance with ACEI Recommended Protocol RP-29, method implementation protocol MIP-3.9 (“Modeled / Subtractive / Multiple Base”)
- E. Engineer may perform or obtain an independent evaluation of delays. Engineer will review timely submitted, properly supported, requests for extension of Time and will determine the extent to which each of the Contract Times is to be revised by Change Order.

- F. Minor Delays: No adjustment in any of the Contract Times will be justified as a result of (a) any delay of less than twenty-four (24) hours duration, or (b) delays to activities that are not on the critical path controlling the calculated date for achievement of any of the Contract Times, or (c) Contractor's failure to allow sufficient time in schedules in accordance with contract requirements.
- G. No adjustments to the Contract Price or Contract Time will be made under the provisions of the General Conditions or this paragraph 3.03 for any suspension, delay or interruption (i) to the extent that performance would have been so suspended, delayed or interrupted by any other cause, including the fault or negligence of the Contractor; or (ii) for which an equitable adjustment is provided or excluded under any other provision of the Agreement. Further, no suspension of Work or delay will justify an increase in Contract Price or Contract Time unless the resulting Delay exceeds the time allowed in the Contract Documents for the act or failure to act.
- H. To the extent that compensation for delays is permitted under the General Conditions, for critical path delays to any of the Contract Times due solely to the causes specified under paragraph 3.02.A or 3.02.B, and to the extent that the Work would not have been delayed due to any cause not within the responsibility of the Owner, Contractor may include in its timely properly supported requests for extension of time a Request for Change Order in accordance with the applicable provisions of the Contract General Conditions requesting compensation for additional costs incurred solely due to such critical path delays. However, no request or claim by the Contractor under this paragraph 3.03.H for an adjustment in Contract Time or for compensation for additional costs will be allowed (a) for any Delay or costs incurred more than three (3) Days before the Contractor gives written notice (except for Engineer's written orders to Contractor provided under the provisions of the General Conditions), or (b) if made after final payment. Delay for which compensation may be requested will be calculated as the difference between the dates for achievement of the Contract Times for Substantial Completion and for Final Completion calculated under paragraph 3.03.D.4.c and those calculated under paragraph 3.03.D.4.b.2. Compensation for such delays will be calculated in accordance with the General Conditions and applicable Specification Sections.
- I. Owner's exercise of any of its rights under the Agreement and its Contract Documents, including requirement of correction or re-execution of the Work, regardless of the extent, number or frequency of Owner's exercise of such rights or remedies, will not under any circumstances be construed as interference with the Contractor's performance of the Work or as providing grounds for the Contractor to seek extensions of Contract Time or damages for delay of the Project.
- J. Extension of the Contract Time will be the Contractor's sole remedy for any delay due to any of the causes identified under paragraph 3.02.C. In no event will the Contractor be entitled to any compensation or recovery of any damages in connection with any delay under paragraph 3.02.C, including, without limitation, extended overheads, extended general conditions, consequential damages, lost opportunity costs, impact damages or other similar remuneration.
- K. For delays due to any of the causes identified under paragraph 3.02.D, or for acceleration to overcome such delays, Contractor will not be entitled to any increase in Contract Price and/or Contract Time, and the Contractor will assume all resulting direct, indirect and consequential costs, of both the Owner and Contractor.

- L. If Contractor fails to complete the Work within any of the Contract Times due to delays within the responsibility of the Contractor, Owner may in its sole discretion (a) proceed to terminate the Contract for cause in accordance with the provisions of the General Conditions or (b) unilaterally issue a Change Order that both increases the Contract Time to the extent that Engineer determines necessary for completion of the Work, and provides a commensurate reduction in the Contract Price calculated as the cumulative total of the product of the number of days by which each Contract Time is extended due to delay within the responsibility of the Contractor times the daily liquidated damage rate that would have been applicable under the Contract had the Contract Time not been extended; or (c) execute a bilateral Change Order mutually agreed upon between Owner and the Contractor, to extend the Contract Time and compensate Owner for its damages; or (d) exercise any other rights available to the Owner under the Contract or by law or equity. If a Change Order or Construction Change Directive results in reduction of the Contract Price to an amount less than the cumulative total paid by Owner, Contractor will provide to the Owner a cash refund of the excess amount paid.
- M. To the extent that the Owner authorizes (a) changes in the Work or (b) agrees to changes in Contract-required constraints or sequences, or (c) takes other actions that result in critical path reductions in the Time required to perform the Work, Owner will be entitled to commensurate reductions in the Contract Time and the Contract Price, or alternatively, if so directed by the Engineer, a period of Owner's float may be incorporated into the CPM Schedule for the Owner's exclusive use to mitigate delays within the responsibility of the Owner. Owner will provide notice to Contractor together with a critical path schedule analysis demonstrating the extent of reduction in any of the Contract Times, or the quantum of Owner's float created.
- N. Notwithstanding anything contained herein to the contrary, Contractor acknowledges that no extensions of the Contract Time or increase to the Contract Price will be permitted except as approved in advance by Owner's execution of a Change Order in accordance with the executed Contract.
- O. Each Subcontractor and supplier/vendor will be bound by the foregoing provisions.

#### **3.04 ACCELERATION OF PERFORMANCE**

- A. Owner may direct acceleration of performance in accordance with the provisions of the General Conditions. Upon receipt of a written order from the Engineer directing acceleration of performance for the Owner's convenience, Contractor will consult with the Engineer regarding measures available to accelerate the work and will take such measures as the Engineer will direct, including for example resequencing of the CPM schedule, increasing concurrency of activities, increasing staff, accelerating submittals and material deliveries, and employing overtime work as so ordered.
- B. If Contractor believes that schedule recovery is necessary due to delays that are not within the responsibility of the Contractor, the Contractor will provide prompt notice and a request for Time extension in accordance with paragraphs 3.02 and 3.03. Before acting to accelerate the work, Contractor will furnish to Engineer a written notice of planned acceleration specifying the actions that Contractor intends to take and the reasons therefor. Owner will bear no responsibility for costs incurred by the Contractor for schedule recovery efforts:
  1. before providing such notice to the Engineer; or
  2. to the extent of delays that are within the responsibility of the Contractor.

In any case, when performing efforts to recover delays that Contractor believes are the responsibility of the Owner, Contractor will maintain cost records in accordance with applicable requirements of the General Conditions and will submit for Engineer's signature daily time sheets showing overtime premiums paid. To the extent that Contractor demonstrates to Engineer's satisfaction that

1. Contractor had timely submitted a request for Contract Time extension justifying an extension of Time;
2. an extension of Time was justified under the Contract but not granted by Owner;
3. that the cause of the delay was not mitigated;
4. Contractor provided notice as specified before undertaking acceleration; and
5. that Contractor incurred additional overtime costs to accelerate its Work solely to recover such delay, Owner will reimburse as additional compensation only the premium cost of such overtime work, as shown on the time slips checked and approved each day by the Engineer, and no overhead, profits, costs, commissions, claims for inefficiencies or otherwise, or other costs or claims will be charged or due with respect to use of overtime work or the acceleration of performance.

C. Each Subcontractor will be bound by the foregoing provisions.

### **3.05 USE OF FLOAT**

- A. Total Float and Contract Float, whether expressly disclosed or implied by the use of float suppression techniques, are not for the exclusive benefit of the Contractor or Owner and will be available to both the Contractor and Owner.
- B. The amount of Total Float available for sharing by the Owner will not be artificially reduced through the Contractor's unreasonable use of float suppression techniques. Total Float hidden using such techniques as preferential sequencing, late starts of follow-up trades, small crews, extended durations, imposed dates, scheduling Work not required for a Contract Time as if it were required Work, and so forth will be Total Float otherwise available for sharing with the Owner.
- C. If the Engineer determines that the Contractor is utilizing unreasonable float suppression techniques and preferential sequencing (including, but not limited to late starts of follow-on trades, unreasonably small crews, extended durations, imposed dates, or scheduling Work not required) in violation of the float sharing provisions of the Contract Documents, the Contractor will not be entitled to any changes in Contract Price or Contract Time.

- D. Early Completion Schedules: Contractor's bid and the Contract Price will be premised upon completion exactly on the Contract Time, without any contemplation of early completion. Contractor will not have a right to finish early. Submittal of a CPM Schedule having an early completion date for any Contract Milestone that is before the corresponding Contract Time will constitute Contractor's agreement that all days between the scheduled early completion date and the Contract Time constitute contract float available to both parties to absorb delays that occur due to any cause. Delays that do not extend the Work beyond the Contract Time will not justify an extension of Contract Time nor will the Owner have any liability under any circumstances for any delay from a planned early completion date.

**END OF SECTION**

## **SECTION 01 33 00 - SUBMITTAL PROCEDURES**

### **PART 1 GENERAL**

#### **1.01 GENERAL REQUIREMENTS**

- A. Contractor will submit Shop Drawings, product data, and samples, as required by the individual Specification sections, to the Engineer for review in accordance with the provisions of Section 00 72 00 - General Conditions.

#### **1.02 PROGRESS SCHEDULES**

- A. Contractor will submit one (1) electronic copy in PDF format of Progress Schedules indicating the starting and completion dates of the various stages of the Work and estimated payments to the Engineer.
  - 1. Submit proposed Progress Schedules to the Engineer prior to the Pre-Construction Meeting.
  - 2. Distribute hard copies of the Progress Schedules to attendees during the Pre-Construction Meeting for discussion.
  - 3. Update the Progress Schedule submit electronically (in PDF format) to the Engineer as a part of applications for progress payments, through completion of the Work. Failure to update Progress Schedule may be the basis for rejection of Applications for Progress Payments.

#### **1.03 SHOP DRAWING SCHEDULE**

- A. Submit one (1) electronic copy in PDF format of the Shop Drawing Schedule indicating the individual items and submission dates to the Engineer.
  - 1. Submit a preliminary Shop Drawing Schedule in accordance with the requirements in Section 00 72 00 prior to the Pre-Construction Meeting.
  - 2. Distribute hard copies of the Shop Drawing Schedule during the Pre-Construction Meeting for discussion.
  - 3. Submit a final electronic copy of the Shop Drawing Schedule (in PDF format) at least 10 calendar days prior to submitting the first Application for a Payment.

#### **1.04 SCHEDULE OF VALUES**

- A. Submit one (1) electronic copy in PDF format Schedule of Values of the Work to the Engineer.
  - 1. Submit a preliminary Schedule of Values prior to the Pre-Construction Meeting.
  - 2. Distribute hard copies of the Schedule of Values during the Pre-Construction Meeting or discussion.
  - 3. Prepare a final Schedule of Values (in PDF format) in accordance with the Section 00 72 00 in sufficient detail to serve as the basis for payments during construction. Submit the Schedule of Values to the Engineer for review at least 10 calendar days prior to submitting the first Application for Payment.

**1.05 APPLICATIONS FOR PAYMENT**

- A. Submit one (1) electronic copy in PDF format Applications for Payment to the Engineer in accordance with the provisions of Article 14 of Section 00 72 00.
- B. Applications for Payment will be made on forms provided by or approved by the Engineer.
  - 1. Samples of the Contractor's Application for Payment, Payment Schedule and Engineer's Certificate for Payment forms are included in the Contract Documents and can be obtained in digital format from the Engineer.
  - 2. Copies of these forms, with Project specific information completed by the Engineer, will be given to the Contractor at the preconstruction meeting or, if applicable, after approval of the final Schedule of Values.
- C. Submit a completed Payment Schedule with an executed Contractor's Application for Payment and Contractor's Declaration to the Engineer not more than once per month.
- D. Engineer will certify payments with the use of Engineer's Certificate for Payment.

**1.06 SHOP DRAWINGS**

- A. Shop Drawings will be presented in a clear and thorough manner. Details will be identified by reference to plan sheet number, detail number if applicable, and specification Section number, and article number.

**1.07 PRODUCT DATA**

- A. Present Product Data in a clear and thorough manner identified the same as the Shop Drawings. Included with the information will be performance characteristics and capacities depicting dimensions and clearances required.
- B. Manufacturer's standard schematic drawings and diagrams will be modified to delete information which is not applicable to the Work. Manufacturer's standard information will be supplemented to provide information specifically applicable to the Work.

**1.08 SAMPLES**

- A. Samples will be of sufficient size and quantity to clearly illustrate functional characteristics of the product with integrally related parts and attachment devices depicting full range of color, texture and pattern.

**1.09 SUBMISSION REQUIREMENTS**

- A. Make Submittals in accordance with the approved Submittal Schedule, and in such sequence as to cause no delay in the Work or in the work of any other contractor. No damages will be awarded, or extension of time granted, due to the Shop Drawing and product data review process.
- B. Submit an entire package of Shop Drawings and Product Data information for major items of Work so that the Engineer can review the package as a unit.
- C. Submit one (1) electronic copy in PDF format of Shop Drawings and Product Data information containing the following information at a minimum:
  - 1. Field dimensions clearly identified as such.

2. Relation to adjacent or critical features of the Work or materials.
  3. Applicable standards, such as ASTM or Federal Specification Numbers.
  4. Identification of deviations from Contract Documents.
  5. Identification of revisions on resubmittals.
  6. Project Title, Date of Submission, Date of Previous Submission, and Specification Section number.
- D. Contractor must initial or sign Shop Drawings and Product Data submittals, certifying the Contractor's review and approval of Submittal per Section 00 72 00; verification of products, field measurements, field construction criteria, and coordination of the information within the submittal with requirements of the Work and of Contract Documents.
- E. Engineer will initial or sign Shop Drawings and Product Data submittal and will indicate the status of the Submittal, or requirements for resubmittal. Engineer will return to the Contractor one (1) electronic copy of the Shop Drawing and/or Product Data submittal (in PDF format) for distribution or for resubmission.

#### **1.10 ENGINEER'S REVIEW**

- A. Upon receipt of any Submittal defined above, the Engineer will:
1. Check each for completeness, clarity, correctness, cohesiveness, legibility, and reproducibility.
  2. Review each only for general conformity with the Contract Documents as specified in Section 00 72 00.
- B. After review of any Submittal, the Engineer will appropriately affix a stamp, electronic notation box or other means, signifying the Submittal as having received full consideration and review.
- C. The "status" of any such Submittal or portion thereof, as appropriate, will be evidenced by any one or more of the following notations clearly signified by a "X" or other similar mark placed in the box adjacent to the notation:
1. Notations for Engineer's Review:
    - a. Approved
    - b. Approved as Noted
    - c. Revise and Resubmit
    - d. Rejected - See Remarks
    - e. For Record Only
  2. Notations for Response Required by Contractor:
    - a. None
    - b. Confirm
    - c. Resubmit

D. Notation Meanings:

1. Elements marked "Approved" indicate that the Contractor may commence with construction, fabrication or purchase of such items.
2. Elements marked "Approved as Noted" may require further action by the Contractor before commencing with construction, fabrication or purchase:
  - a. Contractor proceeds in strict accordance with the Engineer's notes and/or required corrections/deletions/additions indicated thereon;
  - b. Contractor provides an appropriate response as may be noted by the Engineer.
3. Elements marked "Revise and Resubmit" indicate that further comments or explanations have been affixed to the Submittal, which may require action(s) by the Contractor before Engineer will mark the Submittal "Approved" or "Approved as Noted."
4. Elements marked "Rejected - See Remarks" indicate that the Contractor must make the required corrections as shown or noted and resubmit such items to the Engineer for further review.
5. Elements marked "For Record Only" indicate that the Engineer has not reviewed the Submittal and will maintain the information submitted as part of the project record.
6. Elements marked "None" indicate that the Submittal requires no further action by the Contractor.
7. Elements marked "Confirm" requires the Contractor to provide affirmation to the Engineer regarding comments, notes, markings, etc. made by the Engineer, and to affirm that the Contractor will comply with the comments, notes, markings, etc.
8. Elements marked "Resubmit" indicate that the Contractor may not commence with construction, fabrication or purchase of such items, and that the Contractor must resubmit items for review that comply with the Contract Documents in the event that those originally submitted do not, or with any comments, notes, markings, etc. made by the Engineer.

**1.11 RESUBMISSION REQUIREMENTS**

- A. Contractor will make corrections or changes in the Submittals required by Engineer and resubmit. Contractor will indicate any changes which have been made other than those requested by the Engineer.

**1.12 MANUFACTURER'S OPERATION AND MAINTENANCE DATA**

- A. Submit one (1) electronic copy in PDF format and one (1) bound copy of all operation and maintenance data required per the various Specification sections.
  1. Prior to 50% completion of the Project, Contractor will have submitted one (1) acceptable copy to the Engineer for review.
- B. Final copies of the operation and maintenance data will be bound in a suitable number of 3-inch or 4-inch, 3-ring hard cover binders. Permanently imprinted on the cover will be the words "Manufacturer's Operation and Maintenance Data", Project title, location of the Project, and the date. A table of contents will be provided in the front of each binder to list the various sections in the manual.

- C. The information to be provided in each section of the manual, for each piece of equipment and project component will include, but not be limited to, detailed equipment drawings; sections cut through all of the major equipment and sub-assemblies; installation and operational procedures; complete wiring and piping schematics; lubrication materials and procedures; maintenance procedures; and parts lists complete enough to permit identification of parts by nomenclature, manufacturer's part number and use.
- D. At the front of each section a maintenance schedule will be provided for each piece of equipment in the section.
  - 1. The schedule will display the daily, weekly, monthly, semi-annual, annual or fraction thereof, lubrication and preventative maintenance required in order to meet warranty conditions and the manufacturer's recommendations for optimum performance and life of the unit.
  - 2. A common schedule format is to be developed and used for all of the sections. Photocopies or reproductions of the manufacturer's literature will not be accepted.

### 1.13 AUDIO/VIDEO ROUTE SURVEY

- A. When required in Section 00 42 43 - Proposal or Section 01 11 00 - Summary of Work, furnish the Engineer with an "Audio/Video Route Survey" record of the existing conditions prior to the start of construction. Contractor must enlist the services of a firm having a minimum of one (1) year experience in audio/video recording of construction projects.
- B. Prior to beginning the audio/video recording, review with Engineer the Project requirements to ensure that the audio/video is adequate for its intended purpose. Owner will have the authority to designate areas for which coverage may be added or omitted. The audio/video recording will be done prior to placement of materials or equipment on the construction area and furnished one (1) week prior to the pre-construction meeting.
- C. Format:
  - 1. Audio/Video route survey will be submitted in the format(s) as specified in Section 01 11 00.
    - a. Audio/video route survey submission will be on USB media
    - b. Format: USB – Video
    - c. Video Encoding: Highest available bit rate (6-9 Megabit), 60 fields per second interlaced video
    - d. Audio Encoding: Uncompressed stereo wave or stereo Dolby Digital (256 kilobit or better)
    - e. Aspect Ratio: 4x3 (720x480 pixels)
    - f. No Macrovision or other copy protection encoding. No region code or region code 1.
- D. Complete coverage will include surface features located within the public right-of-way, easement areas and adjacent private properties up to building line when such properties lie within the zone of influence of construction and will be supported by appropriate audio description made simultaneously with video coverage. Such coverage will include, but not be

limited to, existing driveways, sidewalks, curbs, ditches, roadways, landscaping, trees, culvert, headwalls, retaining walls, and buildings located within such zone of influence. Video coverage will be clear enough to identify cracks, depressions, holes and other defects in existing surfaces.

- E. Houses and buildings will be identified visually by house number, when visible, in such a manner that structures of the proposed system can be located by reference. In all instances, however, location will be identified by audio or visual means at intervals not-to-exceed 100 linear feet (30 m) in the general direction of travel.
- F. When conventional wheeled vehicles are used, the distance from the camera lens to the ground will be not less than 12 feet (3.5 m) to ensure proper perspective. The rate of speed in the general direction of travel of the conveyance used during recording will not exceed 30 feet/minute (10 m/min). Panning rates and zoom-in, zoom-out rates will be controlled sufficiently such that stop action during play-back will produce clarity of detail of the object viewed.
- G. Video recordings must, by electronic means, display continuously and simultaneously generated transparent digital information in the upper left hand third of the screen to include the date and time of recording, as well as the corresponding engineering stationing numbers as shown on the Contract Drawings.
  1. The date information will contain the month, day, and year. For example, mm/dd/yy, and be placed directly below the time information.
  2. The time information will consist of hours, minutes, and seconds, separated by colons. For example, hh:mm:ss.
- H. Engineering stationing numbers must be continuous, accurate and correspond to the Project stationing and must include the standard engineering symbols. For example, Station 14+84.
- I. Recording will be done during times of good visibility. No recording will be done during periods of visible precipitation, or when more than ten (10) percent of the ground area is covered with snow or standing water, unless otherwise authorized by the Owner.
- J. In some instances, audio/video coverage may not be suitable for recording necessary details. In such instances, the Owner may specify still photographs to provide coverage. One (1) color photograph will be provided in accordance with this Section with a suitable description of the photograph's location.
- K. Any portion of the Audio/Video Route Survey of insufficient quality as determined by the Engineer will be redone by the Contractor at no additional cost to the Owner.
- L. Each USB will be properly identified with the Project Title, location, time, and date in a manner acceptable to the Owner.

#### **1.14 PHOTOGRAPHS**

- A. When required in Section 00 42 43 - Proposal or Section 01 11 00 - Summary of Work, furnish the Engineer with a total of 6 to 10 digital color photographs each month during construction of the Project, unless some other number and times is specified in Section 01 11 00 - Summary of Work.

- B. Photos will be in digital format (i.e., JPEG, TIFF, GIF, PNG or PDF) and will have a minimum resolution of 300 dpi.
- C. The following information will be placed on the photo itself or embedded in the digital file:
  - 1. Project Title
  - 2. Contract Number
  - 3. Description of photo's content
  - 4. Date and Time of photo
- D. Submit photographs monthly along with the Application for Payment as described in Article 14 of Section 00 72 00.

**PART 2 PRODUCTS (NOT USED)**

**PART 3 EXECUTION (NOT USED)**

**END OF SECTION**

## **SECTION 01 45 00 - QUALITY CONTROL**

### **PART 1 GENERAL**

#### **1.01 GENERAL REQUIREMENTS**

- A. Sampling of materials will be made by the Engineer in accordance with the methods designated by the Specifications. Contractor will furnish such facilities as the Engineer may require for collecting, storing, and forwarding samples to the Laboratory. Contractor will furnish the required samples to the Owner without charge.

#### **1.02 TESTS OF MATERIALS**

- A. Materials in the Work will meet the requirements of the Contract Documents.
- B. Tests of materials will be made as specified herein. Engineer will at all times have access to materials intended for use in the Work as well as to the plants where such materials are produced. Plant inspection may be made if the quantities are sufficient to warrant such inspection and if it is to the best interest of the Owner. In any case materials may be either inspected or tested when received on the Project.
- C. Materials will not be used until approval has been received from the Engineer. Approval of materials at the producing plant does not constitute a waiver of the Engineer's right for re-examination at the Project site.
- D. The standards for testing materials unless otherwise specified, will be as established by the American Society for Testing and Materials (ASTM). Tests of materials will be made in accordance with the methods described or designated in the Specifications.
- E. The sampling and testing of all materials not specifically mentioned will be done by generally accepted methods, unless otherwise specified by the Engineer.

#### **1.03 CERTIFICATION OF MATERIALS**

- A. At the request of the Engineer, the Contractor will provide the Engineer with certification that the various materials to be used conform to the standards referred to in the Contract Documents.

#### **1.04 SOURCE QUALITY CONTROL**

- A. Testing identified in the Contract Documents for quality control, which is required to establish quality of materials, equipment or fabricated items, will be paid for by the Contractor unless otherwise noted.

### **PART 2 PRODUCTS (NOT USED)**

### **PART 3 EXECUTION (NOT USED)**

**END OF SECTION**

## **SECTION 01 50 00 - TEMPORARY FACILITIES AND CONTROLS**

### **PART 1 GENERAL**

#### **1.01 SITE ACCESS AND PARKING**

- A. Contractor will locate roads, drives, walks and parking facilities to provide uninterrupted access to construction offices, mobilization, Work, storage areas, and other areas required for execution of the Contract. Access drives and parking areas will be hard surfaced unless otherwise approved by the Engineer.
- B. Contractor will maintain driveways a minimum of 15 feet (5 meters) wide between and around combustible materials in storage and mobilization areas.
- C. Contractor will maintain traffic areas as free as possible of excavated materials, construction equipment, products, snow, ice, and debris.
- D. Contractor will not utilize existing parking facilities for construction personnel or for Contractor's vehicles or equipment, unless written permission from owner of parking facility is obtained.

#### **1.02 TRUCKING ROUTE AND PUBLIC ROAD MAINTENANCE**

- A. Prior to the start of construction, the Contractor will submit for review a schedule and list indicating the streets and roads within the municipality that Contractor's equipment will use off the Project site.
- B. Contractor will comply with safety requirements, weight restrictions and speed limits.
- C. Gravel and dirt roads or streets used will be maintained by grading, placing dust palliatives and maintenance gravel in sufficient quantities to eliminate dust and maintain traffic.
- D. Paved streets will be maintained in a reasonable state of cleanliness and the Contractor will remove accumulations of debris, dirt or mud caused by Contractor's operations. Removal will be done in such a manner as to prevent the release of dust. This will be done at least every day at the close of each day's operation or additionally when requested by the Engineer.
- E. Roads or streets damaged by the Contractor's operations, will be repaired or removed and replaced to satisfactions of the agency having jurisdiction at no additional cost to the Project.
- F. Contractor will not store any equipment, supplies, construction material or excess excavated material on any roads or streets unless otherwise approved by the Engineer.

#### **1.03 EMERGENCY ACCESS**

- A. Contractor will at all times provide emergency access to property in the vicinity of the construction for police vehicles, fire equipment, ambulances or other emergency vehicles to protect life, health and property. Areas damaged by emergency vehicles will be restored by the Contractor at no additional cost to the Owner.

#### **1.04 PRIVATE OR PUBLIC ROADS, SIDEWALKS, AND PARKING AREAS**

- A. Where public roads, driveways, parking areas and sidewalks are encountered throughout the community, the Contractor will maintain those portions affected by the construction operations in a passable condition until such time as final restoration of these improvements can be made as specified.

1. If, in the opinion of the Engineer, the public safety is in danger or the necessity exists for maintaining traffic, the Engineer may direct that backfilling be completed immediately.
  2. In the event that the necessary backfill material and equipment are not available when direction is given for immediate backfill, the trench will be backfilled with native material to provide for the necessary maintenance of traffic and safety; however, the native material will be removed within 48 hours and the trench properly backfilled as specified.
- B. Contractor will provide written notice to residences and businesses of driveway access interruption 72 hours in advance of interruptions.
1. Written notices require approval for distribution from the Engineer.
  2. Contractor will provide the Engineer with copies of notices at least five (5) working days in advance of their distribution for review and approval.
- C. Where private roads are encountered throughout the community, the Contractor will maintain those portions affected by its construction operations in a passable condition. These roads will be maintained by the use of 21A road maintenance gravel, stone or slag.
1. In the event the original subbase has been destroyed, the Contractor will furnish and install 1-inch to 2-inch aggregate to stabilize the existing subbase.
- D. Upon completion of the construction activities, the Contractor will shape and regrade these roads leaving them in a condition as good as or better than original, and adequate for normal travel.

#### **1.05 WORK WITHIN RAILROAD COMPANY RIGHT-OF-WAY**

- A. Contractor will be responsible for complying with the requirements of the Railroad Company for all Work of the Project and/or temporary crossings for trucking routes. Unless otherwise provided by an item of these Specifications, the Contractor will bear costs and expenses incidental thereto, including, but not limited to, protection, flagmen, construction engineering inspection by the railroad, and incidental work such as drainage facilities and removal, alteration and replacement of railroad fences.

#### **1.06 ROAD CLOSING**

- A. No street, road or section thereof will be closed to through traffic unless otherwise provided for on the Plans, Specifications, or authorized by the agency with jurisdiction over the roads. Prior to closing a street, road, or section thereof, the Contractor will provide the Engineer with a copy of a detour plan approved by the agency having jurisdiction over the roads.
- B. In the event roads or streets are to be closed, the Contractor will notify the local fire department, police department, local road authority, ambulance and emergency services, Department of Public Works, public transit authority and public school system daily as to what streets will be partly blocked or closed, the length of time the streets will be blocked or closed and when the streets will be reopened to traffic. Contractor will designate one responsible employee to carry out the requirements of this condition.
- C. During the time that the road is closed, the Contractor will make provision for trash, leaf, and rubbish (garbage) pickup.

**1.07 MAINTAINING TRAFFIC**

- A. Contractor will provide access for local traffic to property along the Project by means of temporary roads, drives, culverts or other means approved by the Engineer. Contractor will grade, add surfacing materials, and dust palliatives to such temporary roads and drives as necessary for the proper maintenance of traffic.
- B. Where the shoulder is used to maintain traffic, the shoulder will be graded, surfaced, treated for dust, constructed, or reconstructed, as specified herein or as shown on the Plans.
- C. If the construction work is suspended due to weather conditions, winter shut down or for any other reason, sufficient labor, materials and equipment will be ready for immediate use at all times for the proper maintenance of traffic. Surfacing materials and dust palliatives will be applied at such times and locations and in such amounts as necessary to safely maintain traffic and as determined by the Engineer.
- D. Where shoulders are low, high, soft or rough, adequate provisions will be taken to inform and protect the traveling public by means such as construction warning signs, barricades, lighted devices, etc. Such shoulder hazards will be eliminated as soon as practicable.
- E. Contractor will furnish, erect and maintain all signs, barricades, lights, and traffic regulators, in accordance with the requirements of the current "Michigan Manual of Uniform Traffic Control Devices".
  - 1. Furnish all flagmen and watchmen as are necessary to maintain and safeguard traffic along the entire Project. Failure to comply with these requirements may be cause for the Owner to issue a stop Work order, which will remain in effect until all necessary devices are in place and operational. The issuance of a stop Work order will not be reason for granting additional compensation or an extension to the Contract Time.
  - 2. Furnishing, installing, and maintaining traffic control devices will be incidental to the Project unless otherwise provided for in the Proposal.

**1.08 EXISTING SIGNS**

- A. No stop sign, traffic control or warning device or sign will be taken down until the agency having jurisdiction over the roads has been notified and arrangements for the immediate reinstallation has been made. Contractor will provide temporary signs, traffic control devices, warning devices, or watchmen continuously from the time the item is removed until it is reinstalled. Signs removed will be replaced with signs meeting requirements of the agency having jurisdiction over the roads.

**1.09 TEMPORARY ELECTRICITY AND LIGHTING**

- A. Contractor will be responsible for and pay all costs for the installation and removal of circuit and branch wiring, with area distribution boxes located so that power and lighting is available throughout the construction by the use of construction-type power cords and will pay all costs of electrical power used.
- B. Electrical wiring and distribution will conform to the National Electrical Code as adopted by the State of Michigan.

**1.10 TELEPHONE**

- A. Contractor is required by MIOSHA regulations to provide telephone service for contacting emergency services. Such emergency telephone service will also be available for the use of the Owner and Engineer whether or not a field office is required for the Project. Emergency phone numbers are required to be posted per MIOSHA regulations
- B. Contractor will pay all costs for installation, maintenance and removal, and service charges for local calls to provide service for Contractor's construction site office as well as for the Engineer's field office. Toll charges for calls relating to Project business will be at the Contractor's expense.

**1.11 USE OF WATER**

- A. Contractor will acquire permits, post bonds and pay fees required by the local agency having jurisdiction prior to using any hydrant or any other source of water.
- B. Contractor will reimburse the local community for all water consumed during course of the Project at the current rate as set by the agency having jurisdiction.

**1.12 SANITARY PROVISIONS**

- A. Contractor will be responsible for installation, maintenance and removal of temporary sanitary facilities per MIOSHA regulations for use of construction personnel including the Owner and Engineer. Rules and regulations of the State and local health officials will be observed, with precautions taken to avoid creating unsanitary conditions.

**1.13 POTABLE WATER**

- A. Contractor will furnish a supply of potable water per MIOSHA requirements, available for use of construction personnel including the Owner and Engineer.

**1.14 MEDICAL SERVICES AND FIRST AID**

- A. Contractor will furnish first aid supplies and a person trained in first aid with a valid first aid certificate, per MIOSHA requirements, available for use of construction personnel including the Owner and Engineer. Contractor will also furnish a communication system for contacting emergency services. The telephone numbers of the physician, hospital, or emergency services will be conspicuously posted at the job site.

**1.15 POSTAL SERVICE**

- A. Residents in this Project area may receive their mail at roadside mailboxes. Since the postal service will not deliver mail to a resident without a mailbox or a mailbox that is not in its proper position, the Contractor will relocate, replace and repair all mailboxes and posts in a condition and height acceptable to the post office within 24 hours of the removal.
- B. If required, the Contractor will furnish new posts for the mailboxes if the existing posts are broken or rotted to the extent that they cannot be reused.
- C. Any mailbox damaged by the Contractor's operations or by anyone else while the box is down due to the Contractor's operation, will be replaced by the Contractor with a new mailbox meeting the postal officials' specifications and the resident's name and address neatly lettered with paint or other acceptable means to the satisfaction of the resident and postal authorities.

- D. The cost for relocating mailboxes will be incidental to the Project unless otherwise specified in Section 00 42 43 - Proposal.

#### **1.16 NEWSPAPER DELIVERY**

- A. Residents in this Project area may receive their newspapers at roadside tubes. Since the resident arranges for newspaper delivery, the Contractor will notify the resident 24 hours prior to removal of any newspaper tube.
- B. Newspaper tubes damaged by the Contractor while carrying out Contractor's operations or by anyone else while the tube is down due to the Contractor's operation, will be replaced as agreed between the Contractor and the newspaper who owns the damaged tube. The cost will be incidental to the Project.

#### **1.17 BUS STOPS AND SHELTERS**

- A. Prior to the start of any construction, the Contractor will notify the transit authority that has bus stops within the area of the Work. Removal, relocation and/or replacement of signs and/or benches will be the responsibility of the Contractor in accordance with any requirements of the transit authority. The cost will be incidental to the Project.

### **PART 2 PRODUCTS**

#### **2.01 BARRICADES, ARROW BOARDS, TEMPORARY PAVEMENT MARKINGS, AND TEMPORARY SIGNS**

- A. Barricades, arrow boards, temporary pavement markings, temporary signs, and other traffic control devices will be in accordance with the current edition of the MDOT Standard Specifications for Construction, and the current edition of the "Michigan Manual of Uniform Traffic Control Devices".

### **PART 3 EXECUTION (NOT USED)**

**END OF SECTION**

## SECTION 01 60 00 - PRODUCT REQUIREMENTS

### PART 1 GENERAL

#### 1.01 TRANSPORTATION AND HANDLING

- A. Contractor will provide for expeditious transportation and delivery of materials and equipment to the Project site in an undamaged condition and on a schedule to avoid delay of the Work. Materials and equipment will be delivered in original containers or packaging with identifying labels intact and legible.
- B. Contractor will provide equipment and personnel at the site to unload and handle materials and equipment in a manner to avoid damage. Materials and equipment must be handled only at designated lifting points by methods to prevent bending or overstressing.

#### 1.02 STORAGE AND PROTECTION

- A. Store materials and equipment immediately on delivery, and protect it until installed in the Work.
- B. Store products subject to damage by elements in weather-tight enclosures with temperature and humidity ranges as required by manufacturer's instructions.
- C. Store loose granular materials on solid surfaces to prevent mixing with foreign matter.
- D. Locate the place of storage so as to minimize interference with traffic and to provide easy access for inspection. Do not store materials closer than 5 feet (1.5 meters) to the edge of pavement or traveled way open to the public.
- E. Materials that have been stored are subject to retest and must meet the requirements of their respective specifications at the time they are to be used in the Work.
- F. Provide protection of stored or installed materials and equipment as necessary to prevent damage from traffic and subsequent operations.

#### 1.03 MANUFACTURER'S INSTRUCTIONS

- A. Obtain and distribute copies of manufacturer's instructions when the Contract Documents require that installation of Work to comply with manufacturer's instructions. Distribute copies of such instructions to parties involved in the installation, as well as at least 1 copy to the Engineer.
- B. Handle, install, connect, clean, condition and adjust products in strict accord with such instructions and in conformity with specified requirements. Should project conditions or specified requirements conflict with manufacturer's instructions, consult with Engineer for further instructions.

#### 1.04 PRODUCTS LIST

- A. Submit a complete list of major products to be used within 4 days, if requested by Engineer. The list will include the name of the manufacturer and the installing subcontractor, if applicable.

#### 1.05 CONTRACTOR'S PRODUCT OPTIONS

- A. Select any product meeting the standard for products specified only by reference standard.

- B. For products specified by naming several products or manufacturer's, select any one of the products or manufacturers named, which complies with the specifications.
- C. For products specified by naming one or more products or manufacturers and "or equal," submit a Substitution Request Form for any product or manufacturer not specifically named, in accordance with Section 00 72 00 - General Conditions.
- D. For products specified by naming only one product and manufacturer, there is no option.

#### **1.06 EQUIPMENT STARTUP AND TESTING**

- A. Perform a comprehensive startup and demonstration of equipment performance and compliance with the design requirements. When there is more than one mode of operation, the equipment will be operated in every mode to verify proper operation.
- B. When equipment is to operate in conjunction with other equipment as a system, each piece of equipment will be operated both by itself and automatically as a system to verify its proper operation.
- C. Contractor is to provide to the Engineer, in advance of startup, a schedule and listing of startup and testing procedures for review by the Engineer. Checklists and diagrams may be required to ensure adequate startup and testing. Engineer may recommend changes to the startup procedure as necessary.
- D. Equipment is to be inspected prior to operation for debris or other obstructions. Equipment is to be properly lubricated and calibrated prior to operation. Contractor will make adjustments necessary to ensure correct operation. When required, equipment installation and operation is to be witnessed and checked by manufacturer.
- E. When required, the Contractor will train the Owner's operation and maintenance personnel in the proper operation and maintenance of each piece of equipment and the system as a whole.
- F. Equipment startup is to be witnessed by the Owner and the Engineer.

#### **PART 2 PRODUCTS (NOT USED)**

#### **PART 3 EXECUTION (NOT USED)**

### **END OF SECTION**

## SECTION 01 71 23 - CONSTRUCTION LAYOUT

### PART 1 GENERAL

#### 1.01 RESPONSIBILITY FOR STAKING

- A. Owner will set stakes and markers showing the locations on the surface of various parts of the Work as outlined herein. Additional stakes will be provided at the expense of the Contractor. Contractor will furnish such labor and assistance as the Owner may require in setting the same.
- B. It will be the responsibility of the Contractor to transfer surface line and grade to the bottom of any tunnel or to the bottom of any other subsurface operations where ordinary surface line and grade is not feasible.
- C. Contractor will utilize lasers, or surveying instruments run by qualified competent personnel to control the construction installation Work. If the method being used by the Contractor fails to give proper alignment and grade control to the Work, the Owner will be empowered to order the Contractor to use such other method(s) as will provide adequate control.
- D. Engineer may require the Contractor, at the Contractor's expense, to provide such masts, scaffolds, batter-boards, straightedges, templates, or other devices as may be necessary to facilitate laying out, observing and constructing the Work.
- E. In the event the Contractor presumes a staking inconsistency, the Contractor will notify the Engineer immediately to assist in resolving the concern.

#### 1.02 STAKING SCHEDULE

- A. Contractor will submit a completed staking schedule on the form provided by the Engineer showing the order in which the Contractor proposes to conduct the construction operation prior to the preconstruction meeting. The schedule will be submitted to the Engineer a minimum of three (3) working days prior to the start of construction.
- B. During construction, the Contractor will to the extent possible, limit unnecessary staking requests and coordinate the construction schedule to provide for the efficient and effective use of the survey crew and eliminate excessive survey crew trips to the site.

#### 1.03 LINE AND GRADE

- A. Contractor will request, three (3) working days in advance, from the Engineer additional line and grade stakes as the Contractor may reasonably protect and preserve. Such request by the Contractor will be on a staking request form.

#### 1.04 RELOCATION AND RE-ESTABLISHMENT

- A. Construction Stakes:
  - 1. Where change of location of stakes has been requested by the Contractor, or where the Contractor fails to properly preserve construction survey stakes, such resetting or relocations of stakes will be done by the Engineer and paid for by the Contractor on the basis of time and materials for such re-staking.
- B. Survey Control Points:

1. Contractor will bear all expense involved in re-establishing and/or resetting any survey control point, land survey point or monument lost or disturbed during Contractor's construction operation. Such Work will be done under the direct supervision of a licensed land surveyor. Such survey control points will be marked and flagged by the Engineer prior to construction.

**PART 2 PRODUCTS (NOT USED)**

**PART 3 EXECUTION (NOT USED)**

**END OF SECTION**

## SECTION 01 77 00 - CLOSEOUT PROCEDURES

### PART 1 GENERAL

#### 1.01 CLEANING

- A. Contractor will perform periodic cleaning to keep the Work, the site and adjacent properties free from accumulations of waste materials, rubbish and wind-blown debris, resulting from construction operations.
- B. Waste material, debris and rubbish will be periodically removed from the site and disposed of at legal disposal areas away from the site.
- C. Prior to Owner acceptance, Contractor will conduct an inspection of sight-exposed interior and exterior surfaces, and Work areas, to verify that the entire Work is clean.
- D. Contractor will broom clean exterior paved surfaces and rake clean other exterior surfaces of the site.

#### 1.02 PROJECT RECORD DOCUMENTS

- A. Contractor will deliver one (1) copy of all Specifications, Plans, Addenda, Shop Drawings and Samples, annotated to show changes made during the construction process, to Engineer upon completion of the Work as record documents. Submittal of the record documents will be made with a transmittal letter containing:
  - 1. Date
  - 2. Project Title and Number
  - 3. Contractor's Name and Address
  - 4. Title and Number of each Record Document
  - 5. Certification that each Document as submitted is complete and accurate
- B. Record Documents will include:
  - 1. Annotations, including changes during the execution of the work resulting from Requests of Information, Field Orders, Change Directives, and the as-built conditions which differ from the proposed plans.
    - a. Annotations will include dimensional changes from the proposed plans. Where different from the proposed plans, strike through the proposed dimension and provide the as-built dimension. Changes will be clouded.
    - b. Annotations may also be accompanied by sketches, photos, etc., as appropriate, to demonstrate as-built information or conditions.
  - 2. Underground utilities installed as part of the Project and utilities exposed during execution of the Work. Underground utilities will be surveyed to record their location and elevation. Utility locations will be based upon available Project data (i.e., coordinate system, benchmarks, etc.).
    - a. The utility information will include:

- 1) Straight run data every 100-feet.
  - 2) Bends, valves, fittings, wyes/tees, hydrants, etc.
  - 3) Crossings of other utilities.
- C. Record documents will be in Portable Document Format (pdf), full size (i.e., 22" x 34"), in good order and in a legible condition.
- D. Prior to delivery of the project record documents, Contractor will submit draft updates on a monthly basis to Engineer for review.

#### **1.03 OPERATION AND MAINTENANCE DATA**

- A. Prior to final inspection or acceptance, Contractor will fully instruct Owner's designated operating and maintenance personnel in the operation, adjustment and maintenance of products, equipment and systems specified in the Contract Documents.
- B. Operation and maintenance data required by the individual Specification sections and the manufacturer's operation and maintenance data required in Section 01 33 00 - Submittal Procedures, will constitute the basis of such instruction.

#### **1.04 START UP**

- A. Contractor will coordinate efforts between Owner, Engineer, any equipment manufacturers, subcontractors and governing agencies in the start up of applicable portions of the Work.

#### **1.05 WARRANTIES**

- A. Provide written warranties from the manufacturer for major equipment supplied under this Contract. The manufacturer's warranty period will be concurrent with the Contractor's warranty period. The warranty from the manufacturer will not relieve the Contractor of the one-year warranty starting at the time of Project Substantial Completion. Owner can request written warranties for equipment not classified as major.

#### **1.06 SUBSTANTIAL COMPLETION**

- A. Certification that the Work is substantially complete will be in accordance with the General Conditions.

#### **1.07 FINAL PAYMENT AND ACCEPTANCE**

- A. The final inspection, final application for payment and acceptance will be in accordance with the General Conditions.

#### **PART 2 PRODUCTS (NOT USED)**

#### **PART 3 EXECUTION (NOT USED)**

**END OF SECTION**

## **SECTION 02 08 2 - REMOVAL AND DISPOSAL OF MATERIAL CONTAINING LEAD**

### **PART 1 GENERAL**

#### **1.01 SCOPE OF WORK**

- A. Provide labor, materials, equipment, services, and incidentals necessary for the removal of LBP and/or LCPs (LBP) and lead-containing paints (LCP) as required to permit the safe and lawful demolition, removal and disposal of the equipment, piping, conduit, and other items scheduled for demolition as shown on the Drawings or as specified. This will include all containment, environmental monitoring, laboratory testing, medical monitoring, and other measures necessary to perform the Work in accordance with all applicable Federal, State, and local regulations.
- B. In the absence of testing results, assume the presence of LBP and/or LCP on surfaces, equipment, piping, etc. that are scheduled for demolition as a part of this Work. Removal of LBP and/or LCP will be, at a minimum, 6 inches on all sides of the location proposed for cutting, burning, power tool use and/or other work which will disturb, affect, or demolish the paint.
- C. Work related to this Section, including but not limited to, environmental protection, worker protection, and Hazardous Waste disposal, will be in strict compliance with all applicable Federal, State, and local laws, codes, rules, and regulations.
- D. This Section presents minimum acceptable requirements for construction activities affecting materials, equipment, and structures coated with LBP and/or LCP. This includes:
  - 1. Perform the Work using methods commonly accepted, recognized by OSHA (OSHA pursuant to 29 CFR 1926.62), and demonstrated to prevent emissions of lead outside of the lead control area when used in accordance with manufacturer's recommendations.
  - 2. Perform the Work to minimize creation of airborne dust and vapors, particularly relative to LBP and/or LCP.
  - 3. Minimize the quantity of hazardous waste generated.
  - 4. Protect the health and safety of personnel at the Site.
  - 5. Avoid adverse environmental impacts.

#### **1.02 COORDINATION**

- A. Coordinate and review subsequent demolition work specified under other Sections and coordinate such work with the Work under this Section.

#### **1.03 REFERENCE STANDARDS**

- A. Except as modified by governing codes and by this Section, comply with the applicable provisions and recommendations of latest editions of the below listed references. Where the language in any of the documents referred to herein is in the form of a recommendation or suggestion, such recommendations or suggestions will be mandatory under this Contract unless otherwise directed by the Engineer.

- B. Conflicts: Conform to requirements of cited standard unless specified otherwise. In case of apparent conflict between standards, or between standards and the specifications herein, the more stringent will apply unless otherwise directed by the Engineer.
- C. Comply with all applicable Federal, State and Local regulations, standards, codes, and guidelines concerning the removal and disposal of material containing lead, including, but limited to the following:
  - 1. ANSI Z88.2, Respiratory Protection.
  - 2. Method E1553-93 – Standard Practice for Collection of Airborne Particulate Lead during Abatement and Construction Activities
  - 3. ASTM D3335, Test Method for Low Concentrations of Lead, Cadmium, and Cobalt in Paint by Atomic Absorption Spectroscopy.
  - 4. National Institute of Building Sciences (NIBS), Guideline Specifications for Reducing LBP and/or LCP Hazards.
  - 5. SSPC Guide 6, Guide for Containing Debris Generated During Paint Removal Operations.
  - 6. SSPC Guide 7, Guide for the Disposal of Lead-Contaminated Surface Preparation Debris.
  - 7. UL 586, High-Efficiency, Particulate, Air Filter Units.
  - 8. Occupational Safety and Health Administration (OSHA):
    - a. Lead Exposure in Construction: Interim Final Rule 29 CFR 1926.62.
  - 9. United States Environmental Protection Agency (EPA):
    - a. Resource Conservation and Recovery Act (RCRA) Section 3004 Hazardous and Solid Waste Amendments.
    - b. Toxicity Characteristics Leaching Procedure, EPA Method 1311.
    - c. USEPA SW-846, Method 3050, Acid Digestion of Sediments, Sludge, and Soils.
    - d. USEPA Method 7082, Test Methods for Evaluating Solid Wastes.

#### **1.04 TERMINOLOGY**

- A. The following words or terms are not defined but, when used in this Section, have the following meaning:
  - 1. "Abatement" indicates abatement of LBP and/or LCP, which involves removing LBP and/or LCP or replacing surfaces containing LBP and/or LCP or demolishing lead painted or lead-containing structures and materials.
  - 2. "Action level" is as defined in OSHA 29 CFR 1926.62, employee exposure without regard to use of respirators, to airborne concentrations of lead of "30 micrograms per cubic meter of air" refers to the action level.
  - 3. "Amended water" is water containing at least one ounce of five percent trisodium phosphate per gallon of water.

4. "Area monitoring" is sampling of lead concentrations within and outside the lead control area and inside the physical boundaries which is representative of the airborne lead concentrations which may reach the breathing zone of personnel potentially exposed to lead.
5. "Atomic absorption spectroscopy" is an analytical method of determining the lead content of a given sample.
6. "Certified industrial hygienist" or "CIH": As used in this Section, refers to an industrial hygienist employed by CONTRACTOR or Subcontractor and certified by the American Board of Industrial Hygiene (ABIH) in comprehensive practice.
7. "Change rooms" are rooms within the designated physical boundary around the lead control area set up to prevent cross-contamination and equipped with separate storage facilities for clean protective work clothing and equipment and for street clothes prevent cross contamination.
8. "Competent person" means a person capable of identifying existing and predictable lead hazards in the surrounding or working condition and who has authorization to take prompt corrective action to eliminate such hazards.
9. "Decontamination area" is an area for removal of contaminated personal protective equipment (PPE).
10. "High-efficiency particulate air filter equipment" or "HEPA filter equipment" means vacuuming equipment containing a UL 586 HEPA filter system capable of preventing passage of lead- contaminated paint dust with an efficiency of 99.97 percent of particles greater than 0.3 micron size.
11. "Inductively-coupled plasma atomic emission spectrometry" means an analytical laboratory method of determining the lead content of a given sample.
12. "Industrial hygiene technician" is a person trained and experienced in the use of environmental sampling equipment as applicable to this Project and who is under the direct supervision of the CIH.
13. "Lead" means metallic lead, inorganic lead compounds, and organic lead soaps. Excluded from this term are other organic lead compounds.
14. "Lead control area" is an emission control area to prevent the spread of lead dust, paint chips, and debris from lead-containing paint removal operations. Lead control area is isolated by physical boundaries to prevent unauthorized entry of personnel.
15. "Lead-based paint": Paint is considered to be lead-based when it contains detectable quantity of lead to the limit of detection using USEPA Method SW 846 Method 6010.
16. "Lead-containing paint": Any and all components, paints or surface coating material containing detectable concentrations of lead by weight in the dry solid (16 CFR 1303).
17. "Lead waste": Miscellaneous waste, dust or debris generated during removal of lead-containing materials, cleanup of a lead control area, or decontamination activities.
18. "Permissible exposure limit" or "PEL" is 50 micrograms per cubic meter of air as an eight-hour TWA as determined by OSHA 29 CFR 1926.62. If a person is exposed for more than

eight hours in a workday, determine the PEL by the following formula:  $PEL = 400$  micrograms per cubic meter of air/hours worked per day.

19. "Personal monitoring" means independent sampling by a qualified laboratory of lead concentrations within the breathing zone of a person to determine the eight-hour TWA concentration in accordance with 29 CFR 1926.62. Samples must be representative of the person's work tasks. Breathing zones will be considered an area in a hemisphere, forward of the shoulders, with a radius of six to nine inches and the center at the nose or mouth of the person.
20. "Physical boundary" is an area physically roped or partitioned off around a lead control area to limit unauthorized entry of personnel. As used in this Section, "outside boundary" means the same as "outside lead control area."
21. "Time-weighted average" or "TWA" is the airborne concentration of lead averaged over an eight-hour workday to which a person is exposed.
22. "Trigger activities": Activities that involve the disturbance of lead- containing materials will trigger requirements under the OSHA Lead In Construction standard for conducting personnel exposure assessment sampling, training, medical monitoring, respiratory protection and other requirements as specified in 29 CFR 1926.62. Examples of trigger activities include abrasive blasting, welding, cutting, torch burning, manual demolition of structures, manual scraping, manual sanding, heat gun application, rivet busting, and power tool cleaning.
23. "Wipe sampling" means clearance testing procedures used for determining the amount of existing LBP and/or LCP surface dust by atomic absorption spectroscopy analysis, or inductively coupled plasma emission spectrometry expressed in micrograms of lead. Whatman filters and deionized water must be used to sample a one square foot area.

#### **1.05 SUBMITTALS**

- A. Within sixty (60) days of the Notice to Proceed, submit a site and location-specific Work Plan indicating how Contractor will satisfy all applicable laws, codes, rules and regulations and the requirements of this Section including:

#### **1.06 PAINT REMOVAL, CONTAINMENT, VISIBLE EMISSIONS MONITORING, AND CLEAN-UP**

- A. At a minimum include drawings indicating the location, size, and details of lead dust control work areas, location and details of containment, decontamination facilities, sequencing of lead removal, work procedures, types of equipment, crew size, and emergency procedures for fire and medical emergencies in the Work Plan.

#### **1.07 WASTE HANDLING, TESTING, STORAGE, TRANSPORTATION, AND DISPOSAL**

- A. Worker protection, including but not limited to a Lead (Heavy Metal) Health and Safety Compliance Program, which at a minimum must address respirator protection that is in full compliance with 29 CFR 1910.134, OSHA personal exposure assessment, including regulated area monitoring, signs to be posted in work areas, protective clothing, engineering and administrative controls, hygiene facilities and practices, decontamination, housekeeping, medical surveillance (including biological monitoring), respiratory fit tests, training certifications, waste disposal and other items to satisfy OSHA standards.

- B. Submit copies of laboratory test results on wipe samples obtained for the work.
- C. Submit copies of waste shipment records and disposal site receipts documenting that any materials classified as hazardous materials were properly disposed of.
- D. Meeting minutes from Pre-Remediation Conference.

#### **1.08 QUALITY ASSURANCE**

- A. The persons performing lead abatement and their supervisor must be personally experienced in lead abatement work and have been regularly employed by a company performing lead abatement work for a minimum of 3 years. Submit evidence documenting worker training and experience to the Engineer. Obtain the services of a qualified Subcontractor, if necessary, to comply with the requirements of this Section.
- B. If a subcontractor is utilized to perform any of the work of this Section, the requirements of this Section will apply to the subcontractor as if specifically referred to herein and subcontractor must comply. Contractor's use of a subcontractor(s) will not relieve the Contractor of full responsibility for the work to be performed.

#### **1.09 PRE-REMEDATION CONFERENCE**

- A. Contractor and Subcontractor must meet with Engineer and Owner to discuss in detail the lead-paint remediation Work Plan including work procedures.
- B. Minimum Attendance: Conference must be attended by Contractor's and Subcontractor's project managers, site supervisors, safety supervisor; and by Engineer and Owner.
- C. Prepare and distribute minutes of the conference to all attendees, Engineer, and Owner within 7 calendar days of the conference.

### **PART 2 PRODUCTS**

#### **2.01 EQUIPMENT**

- A. General:
  - 1. Use only non-toxic, non-hazardous materials, and tools. Materials or equipment containing lead or Asbestos or other toxic or hazardous materials must not be brought to the Site.
- B. Waste Containers:
  - 1. Provide and use containers for storing and transporting Hazardous Waste, including LBP and/or LCP residue, that are approved by the state department of transportation or other applicable authority having jurisdiction.
- C. Respirators:
  - 1. Select and use respirators approved by NIOSH and the United States Department of Health and Human Services for use in areas containing LBP and/or LCP dust.
  - 2. Provide personnel engaged in the removal of LBP and/or LCP at a minimum with half-mask HEPA cartridge filter respirators or full face PAPR, until the CIH establishes the TWA.

3. After the TWA has been determined, Contractor may modify respiratory protection as outlined in 29 CFR 1926.62, but the use of half-mask, HEPA cartridge filter respirators, full face PAPR, or equivalent must be maintained at a minimum throughout all abatement and other operations involving lead-containing materials.
- D. Special Protective Clothing:
1. Furnish personnel who have potential of being exposed to lead-contaminated dust with appropriate disposable protective whole body clothing, head covering, gloves, and foot coverings.
  2. Tape sleeves at the wrist and secure foot coverings at the ankles.
  3. Furnish appropriate disposable plastic or rubber gloves to protect hands.
  4. Ear muffs or other protection must be provided and used during all removal operations with power tools unless it is demonstrated that noise levels are within OSHA/NIOSH standards.
  5. Eye protection must be worn and used throughout operations involving clean up and removal of lead-containing material. The level of protection may be adjusted upon completion of initial employee exposure assessment with approval of CIH but must be maintained at levels not less than those stated in this paragraph.
- E. Rental Equipment Notification:
1. When rental equipment will be used during demolition, removals, handling, and disposal materials containing lead or coated with LBP and/or LCP, notify rental entity in writing concerning the intended use of rented equipment.
- F. Filter Certifications:
1. HEPA Filters used in filtered vacuuming equipment must comply with UL 586 requirements and cutting tools manufacturers specifications and recommendations.
- G. Polyethylene Sheeting:
1. Provide polyethylene film in the largest size possible to minimize seams, and six (6) mil thick. Frosted, clear or black film may be used. Reinforced sheeting may be required when a contained area is exposed to the outside. Poly sheeting must be fire retardant.

## **2.02 LEAD PAINT REMOVAL EQUIPMENT**

- A. Use only products and tools complying with requirements presented below:
1. Use vacuum-assisted power tool system with demonstrated suitability and efficiency in preparing metal surfaces in accordance with SSPC SP-11 and with demonstrated effectiveness in maintaining lead emissions below 30 µg/m<sup>3</sup> during abatement operations. Such systems may include dustless needle guns, dustless automatically recirculating wheel blast (rotopeens), and right angle grinders which capture all dust and debris at the cutting tool edge and transport the material under vacuum conditions to an airtight disposal container. Dustless needle guns may be utilized on metal surfaces only.
    - a. System must removal and replacement of collection containers under negative pressure to prevent release of dust during removal and replacement operations.

- b. System must be equipped with feature to automatically shut off in the event of vacuum failure.
2. Monitor recovery/abrasive action tool at all times using a device capable of determining recovery at the face of each tool and automatically disabling the tool in the event recovery levels are insufficient.
3. As a minimum, monitor must have the following features: remote warning light, adjustable recovery set point, automatic equipment disabling capabilities, sensing range of zero to five psi, solid-state photohelic instrumentation, and remote sensing at the tool face.
4. Calibrate safe recovery point each day before start up, and each time a new tool or vacuum source is used.
5. Comply with manufacturers' recommendations relative to set-up and use of monitor.
6. Maintain a daily log identifying all calibrations of recovery levels and down time as a result of insufficient recovery levels.
7. Maintain manufacturer's operations and maintenance manual at the Site.
8. Do not use products containing crystalline silica, and do not introduce non-recoverable materials, and do not use cutting material, that introduces toxic or hazardous materials.
9. Cutting head for use on flat surfaces must be capable of cutting to within 1.5 inches of inside corners, molding, and edges and may include rotopeen scalers, and dustless needle guns. Tools for corners and moldings must be specifically designed for such purpose and must conform to all inside corners, outside corners, curved, flat, and angled surfaces to be abated under this Contract while maintaining vacuum control at the work surface/cutting head interface. Shrouded HEPA vacuum fitted needle guns may be used for non-flat surfaces in accordance with manufacturer recommendations. Vacuum-assisted finishing tools, such as right angle grinders, may be used to achieve SSPC SP-11 compliance but are not acceptable for primary removal.
10. Vacuum-assisted power tool systems complying with performance standards indicated in this Section may be used; upon request of Engineer submit performance documentation evidencing suitability for intended use.

### **2.03 LBP AND/OR LCP REMOVAL CHEMICAL STRIPPER SYSTEM**

- A. Use an environmentally safe chemical paint stripping system with demonstrated suitability and efficiency in preparing cast-in-place concrete, metals, cement, and plaster surfaces to achieve surfaces which are free of any visible residues of LBP and/or LCP and with demonstrated effectiveness in maintaining lead emissions below 30  $\mu\text{g}/\text{m}^3$  during abatement operations. Such systems may include non-alkaline or alkaline strippers which do not contain methylene chloride, and which provide the lowest possible level of toxicity consistent with the type of lead based paint to be removed. Neutralization procedures and products must be provided for alkaline stripping systems.
- B. More than one product may be required to strip LBP and/or LCP. Use of multiple products must be in accordance with acceptable use as recommended by the individual chemical paint stripping compounds.

- C. Provide all chemical paint stripping compounds in the manufacturer's unopened and original containers bearing accurate information on the product contained therein with all labels intact and completely legible. Materials that do not comply with requirements will immediately be removed from the Site and will not be used in the Work.

## **2.04 TEMPORARY FACILITIES**

- A. Coordinate use of Owner provided facilities with the Owner.
- B. Hook-ups to the Owner's existing utilities are the responsibility of the Contractor unless otherwise directed by Owner. Contractor will be responsible for utilizing licensed tradesman for installation of any electrical or water hook-ups required. Such hook-ups must not interfere, in any way, with the Owner's operations for occupied areas of the building and their associated utilities and facilities.
- C. Remove all temporary facilities and utilities after the Work is complete and return such facilities and utilities to their original condition.

## **PART 3 EXECUTION**

### **3.01 COORDINATION WITH THE OWNER'S OPERATION**

- A. Provide written notice to the Engineer and Owner prior to the start of any paint removal work.
- B. Make every effort to establish the containment areas such that access is maintained for Owner's personnel to operating equipment.

### **3.02 MONITORING, TESTING AND SAMPLING EQUIPMENT**

- A. Calibrate and supply the instrumentation needed for the monitoring of workers, including all equipment needed for its operation (e.g., generators, batteries, power cords, fuel, etc.) as required by OSHA.
- B. Use equipment that is free of loose dust and debris when brought onto each Work Site, and upon removal. Vacuum using HEPA (High Efficiency Particulate Air) filtered vacuum shrouds and/or wet wipe the equipment with an approved cleaning solution to assure that it is clean prior to removal from the work site.

### **3.03 WASTE CONTAINERS**

- A. Hazardous Waste:
  - 1. Provide USDOT-approved containers in accordance with 49 CFR 178 (e.g., 17H containers in the case of 55 gallon drums) of the appropriate size and type for the Hazardous Waste generated on the project. Use containers that are resistant to rust or corrosion (painted, if constructed of steel), that have tight fitting lids or covers, and which are water-resistant and leak proof.
  - 2. Provide the Engineer with a signed statement that the containers are labeled as required by applicable Federal, State and Local regulatory requirements.
- B. Non-Hazardous Waste:
  - 1. Provide containers for non-hazardous waste. Use containers that are free of loose debris when brought on-site. Containers must be watertight and corrosion resistant.

- C. Spent Solvents:
  - 1. Provide containers for spent solvents, whether the solvent is designated for reuse, or for disposal as hazardous waste, and do not mix spent solvents with spent abrasives, paint debris, water, or other waste. Containers must be watertight and corrosion resistant.
- D. Container Maintenance:
  - 1. Maintain containers in good operating condition with lids and closing mechanisms intact and operational to prevent the escape of debris, spilling of the contents, or access by unauthorized personnel. Observe all labeling requirements.

### **3.04 CONTAINMENT**

- A. Provide proper containment measures in all areas where LBP and/or LCP is to be removed. LBP must be removed without damage or contamination to adjacent areas, buildings, waterways, or the environment in any fashion. This includes any water runoff from wet removal methods. Water runoff from wet removal methods will not be discharged to plant drains.
- B. Prevent dust, paint chips, spent removal media, solvents, and other debris from entering any plant drain and immediately contain and clean up any materials which become deposited near or in any plant drain or come into contact with any standing or flowing water within the plant.
- C. Supply equipment and materials needed to contain emissions, releases, waste and/or debris in accordance with OSHA standards.
- D. Establish emergency and fire exits from the containment area. Provide first aid kits and two full sets of protective clothing and respirators for use by qualified emergency personnel outside of the work area.
- E. Provide a logbook throughout the entire term of the project. Persons who enter or leave the containment area must sign the logbook. Document any intrusion into the work area or other incident in the logbook.

### **3.05 REMOVAL OF LBP AND/OR LCP**

- A. Perform removal of LBP and/or LCPs in accordance with the approved LBP and/or LCP removal Work Plan.
- B. Use procedures and equipment as required to limit occupational and environmental exposure to lead when LBP and/or LCP is removed in accordance with referenced standards.
- C. Limit the production and dissemination of dust as much as possible.
- D. LBP and/or LCP must be removed to the extent required to perform the safe and lawful removal and disposal of the equipment or piping scheduled for demolition.
- E. Torch cutting, open flame burning, power tool use and/or other work which will disturb, affect, or demolish LBP and/or LCP will be permitted only after all visible paint has been removed from the substrate surface for a minimum distance of six (6) inches on all sides of the location proposed for cutting, burning, power tool use and/or other work which will disturb, affect, or demolish the paint.

### 3.06 WORK AREA CLEAN-UP AND MAINTENANCE

- A. Visually inspect, at the end of each work day, the entire work area for dust, paint chips, spent paint removal media, solvents, and other debris that have been deposited within the work area or surrounding surfaces, water or soil. If debris from the Contractor's operations is observed outside the initial inspection limits, the limits may be expanded to include additional areas as directed by the Engineer upon written request by the Contractor.
- B. Clean up visible dust, paint chips, spent paint removal media, solvents, and other debris at the end of each work day, or more frequently as directed by the Engineer.
- C. Clean all surfaces within the work area and surrounding areas at the end of each work day by wet vacuuming and/or wet wiping or washing, as directed by the Engineer.
  - 1. When wet vacuuming, use only vacuums that are equipped with HEPA filters. Conduct wipe sampling to verify that lead levels are below the required clearance criteria.
  - 2. If lead levels exceed this clearance criteria, repeat clean-up procedures as necessary until wipe sampling verifies that lead levels are below the clearance criteria.

### 3.07 HEALTH AND SAFETY

- A. Where in the performance of the work, workers, supervisory personnel or sub-contractors may encounter, disturb, or otherwise function in the immediate vicinity of contaminated items and materials, personnel will take appropriate continuous measures as necessary to protect all ancillary building occupants from the potential lead exposure.
  - 1. Such measures will include the procedures and methods described herein and must be in compliance with applicable regulations of Federal, State and Local agencies.
- B. Provide all necessary Personal Protective Equipment (PPE) and emergency response equipment needed for the Work as required by OSHA and the Michigan State Labor Law.
- C. Workers must wear protective suits, protective gloves, eye protection and a minimum of half-face respirator with HEPA filter cartridge for all projects. Respiratory protection must be in accordance with OSHA regulation 1910.134 and ANSI Z88.2.
- D. Workers must be trained as per OSHA and DOL requirements, have medical clearance and must have recently received pulmonary function test (PFT) and respirator fit tested by a trained professional.
- E. A personal air sampling program must be in place as required by OSHA.
- F. Use of respirators must follow a complete respiratory protection program as specified by OSHA.
- G. Provide medical monitoring necessary to comply with OSHA regulations.

### 3.08 CERTIFICATION

- A. At the completion of LBP and/or LCP removal operations, provide the services of a qualified laboratory to perform post-cleaning testing of surfaces within the work area and areas adjacent to the containment area to verify that lead-based dust and other debris generated by the Contractor's operations have been properly cleaned from the area. Engineer must be present during all wipe testing.

- B. Submit a letter to the Engineer certifying that the work areas have been properly cleaned.

### **3.09 PRE-DISPOSAL TESTING**

- A. Prior to disposal, test the removed materials for toxicity in accordance with EPA Method 1311, Toxicity Characteristic Leaching Procedure (TCLP).
  - 1. Test results indicating a value greater than 5 ppm lead classifies the removed material as "Hazardous Waste."
  - 2. Removed material must be classified according to the requirements of the receiving site and the agencies having jurisdiction.

### **3.10 DISPOSAL OF LBP AND/OR LCPS AND RELATED DEBRIS**

- A. Transport and dispose of LBP and/or LCPs and related debris classified as Hazardous Waste in accordance with the standards referenced in Part 1 of this Section.
- B. All generated waste removed from the site must be documented, accounted for, and disposed of in compliance with Federal, State, and local regulations.
- C. In addition to any requirements of the State of Michigan, comply with transportation and disposal requirements of the jurisdiction of the disposal site.

### **3.11 RESTORATION**

- A. Remove temporary decontamination facilities and restore the work area to its original condition or better.
- B. Restore any areas outside the work area damaged or contaminated by the Contractor's operations to their original condition or better.

### **3.12 RECORD KEEPING REQUIREMENTS**

- A. Comply with Federal, State, and local regulations regarding record keeping requirements concerning the handling and disposal of LBP and/or LCPs and related debris.
- B. Document the transportation and disposal of LBP and/or LCPs and related debris using four (4) copy manifests. Each manifest must be numbered and will document the contents of each waste container and chain of custody from the time the materials are removed from the site to the time of proper disposal.
- C. Provide one (1) copy of each to the Engineer immediately upon removal of any waste container from the site.
- D. Maintain One (1) copy of each manifest at the site that can be presented to any agency having jurisdiction upon demand. Manifests must be turned over to the Owner at the completion of the project.
- E. Submit a Certificate of Disposal within 30 days of the completion of disposal of lead-containing waste to the Engineer. The certificate will include:
  - 1. The identity of the recycling or disposal facility, by name, address, and EPA identification number.

2. The identity of the lead waste affected by the Certificate of Disposal including reference to the manifest number for the shipment.
3. A statement certifying the fact of disposal of the identified lead waste, including the date(s) of disposal, and identifying the disposal process used.
4. A copy of the relevant shipment manifest(s).

**END OF SECTION**

## **SECTION 33 01 30.11 - TELEVISION INSPECTION OF SEWERS**

### **PART 1 GENERAL**

#### **1.01 SCOPE OF WORK**

- A. This Section provides for the color closed-circuit television (CCTV) inspection and electronic recording of existing sewers for the purpose of locating and observing the condition and possible extraneous connections.
  - 1. The Work is to be performed by current NASSCO PACP certified operators, with current PACP coding, and delivered entirely in electronic format.
  - 2. Contractor shall note that CCTV software compatibility with Owner's software and databases is required, and a Pre-Inspection deliverable is required to be submitted and approved before beginning Work. See "Software Compatibility" below.

#### **1.02 RELATED WORK SPECIFIED ELSEWHERE**

- A. Section 01 22 00 - Unit Prices
- B. Section 01 50 00 - Temporary Facilities and Controls
- C. Section 01 89 00 - Site Construction Performance Requirements
- D. Section 33 01 30.41 - Cleaning of Sanitary Sewerage Utilities

#### **1.03 QUALITY ASSURANCE**

- A. Unless otherwise specified, the work for this Section shall conform to the applicable portions of the following standard specifications.
  - 1. NASSCO - National Association of Sewer Service Companies
  - 2. PACP - Pipeline Assessment Certification Program
- B. Qualifications
  - 1. All CCTV operators shall be NASSCO-PACP certified.
  - 2. Database shall be the latest version of NASSCO-PACP Certified Access Database unless otherwise approved by the Engineer.
  - 3. CCTV software shall be current NASSCO-PACP Certified.
  - 4. CCTV inspections (Video and Data Collected) will be delivered entirely in digital format.

#### **1.04 SOFTWARE COMPATIBILITY**

- A. Upon award of Contract, the Contractor shall CCTV inspect at least three (3) segments or 1,000 feet of pipe and submit the data to the Owner to verify that the CCTV database is compatible with the Owner's PACP Data Management software, GIS integrations software; and that the deliverables are acceptable to the Owner.
- B. The Owner shall verify acceptability of the deliverables within five (5) business days of receipt. The Contractor shall not begin Work on the Project until this software compatibility has been approved.

**1.05 SCHEDULE OF WORK**

- A. Contractor shall submit to the Owner prior to beginning television inspection a schedule for sequence of sewer lines designated to be televised.

**1.06 FINAL SUBMITTALS****A. Electronic Inspection:**

1. Work shall conform to the latest version of NASSCO, Pipeline Assessment and Certification Program (PACP) standards. The documentation of the work shall consist of NASSCO PACP CCTV Reports, NASSCO PACP database, logs, electronic reports, etc. noting defects and observations encountered during the inspection.
2. The importance of accurate distance measurements is emphasized to enable location of the defects for rehabilitation work.
3. Electronic Television Inspection shall also include:
  - a. Protruding services with extent of protrusion
  - b. Location of broken and/or collapsed pipes with beginning and ending distance, extent of damage, etc.
  - c. Percent of Ovality in deformed pipes
  - d. Percent of restriction for sewers with root intrusion, mineral deposits, etc.
4. CCTV inspections shall include complete and accurate PACP mandatory header information and report coding for all sections of sewer. In addition to the required header information, the following additional information is required for this Project:
  - a. Time
  - b. Pipe section reference
  - c. Pipe lining
  - d. Total Length
  - e. Length surveyed
5. Data shall be submitted on a single drive, as approved by the Owner, and shall be properly identified as to Project, location, time, and date in a manner acceptable to the Owner.

**B. Electronic Video Inspection Recordings:**

1. The purpose of video inspection recordings shall be to supply an electronic visual and audio record of problem areas of the lines that may be replayed. The CCTV inspection shall be entirely recorded in a PACP approved electronic format submitted with electronic links between the data and the video.

**C. Database Software:**

1. Provide database in a read-only format using PACP approved software. Also provide the read only version of software used for collection and encoding data, and for report

preparation. Videos and photos must also be in a readable format with standard PACP approved inspection management software.

D. GIS Integration:

1. Submit shape files of television and inspection records. Shape files shall include points along the mainline sewer indicating the location of factory taps, roots, failed joints, or any other feature where PACP code is recorded as a part of the sewer and manhole inspection.
2. The shape files shall include the following information: manhole number, observation date, observation time, PACP Code, PACP score, remarks or notes, name and certification number of the inspector, report sheet number, video number, and Client name/location.
3. In addition, pipe reports, screen shots or photos of the observation (factory taps, joints, plugging etc.), and videos shall be hyperlinked to the features in the shape files.

## 1.07 JOB CONDITIONS

A. Sewer Flow Control:

1. When sewer line depth of flow at the upstream manhole of the sewer section being worked is above the maximum allowable for television inspection, the flow shall be reduced to the level shown below by operation of pump stations, plugging or blocking of the flow, or by pumping and bypassing of the flow as specified. Sewer flow control shall be in accordance with Section 33 01 30.30 - Sanitary Sewerage Flow Control.
2. Depth of flow shall not exceed that shown below for the respective pipe sizes as measured in the manhole when performing television inspection.
  - a. Maximum Depth of Flow for Television Inspection of sewer
    - 1) 20% of pipe diameter
    - 2) 25% of pipe diameter
    - 3) 30% of pipe diameter
  - b. Plugging or Blocking
  - c. A sewer line plug shall be inserted into the line upstream of the section being worked. The plug shall be so designed that all or any portion of the sewage can be released. During CCTV inspection flow shall be reduced to within the limits specified above. After the work has been completed, flow shall be restored to normal.
  - d. Pumping and Bypassing
  - e. When pumping and bypassing is required the Contractor shall supply the pumps, conduits, and other equipment to divert the flow of sewage around the manhole section in which work is to be performed.
  - f. The bypass system shall be of sufficient capacity to handle existing flow plus additional flow that may occur during a rainstorm.
  - g. The Contractor will be responsible for furnishing the necessary labor and supervision to set up and operate the pumping and bypassing system.

- h. If pumping is required on a 24-hour basis, engines shall be equipped in a manner to keep noise to a minimum.

B. Flood Prevention:

1. When flow in a sewer line is plugged, blocked, bypassed, or in any other way restricted, sufficient precautions must be taken to protect the sewer lines from damage that might result from sewer surcharging. Further, precautions must be taken to ensure that sewer flow control operations do not cause flooding or damage to public or private property being served by the sewers involved.

## 1.08 VERIFICATION

- A. Verify that arrangements for pedestrian and equipment access to structures within rear yard easements have been made. Consideration shall be given to the rights of adjacent property owners.

## PART 2 PRODUCTS

### 2.01 TELEVISION CAMERA AND EQUIPMENT

- A. Television camera used for the inspection shall be one specifically designed and constructed for such inspection. Camera shall be color, pan, tilt and zoom; or a sidewall scanning (panoramic) camera specifically designed and constructed for sewer inspection.
- B. Lighting for the camera shall be suitable to allow a clear picture of the entire periphery of the pipe. The camera shall be operative in 100% humidity conditions.
- C. Camera, monitor, and other components of the video system shall be capable of producing picture quality to the satisfaction of the Engineer; and if unsatisfactory, equipment shall be removed and no payment will be made for an unsatisfactory inspection.
- D. The importance of accurate distance measurements is emphasized. Measurement for location of defects shall be above ground by means of a meter device. Marking on the cable, or the like, which would require interpolation for depth of manhole, will not be allowed. Accuracy of the distance meter shall be checked by use of a walking meter, roll-a-tape, or other suitable device, and the accuracy shall be within  $\pm 2$  feet.

## PART 3 EXECUTION

### 3.01 PREPARATION

- A. Locating the Work:
  1. Contractor shall locate all structures and note sewer diameter and direction of flow. Notify the Owner of detrimental access, structure, and/or sewer conditions which may adversely affect the progress of the Work.
  2. Manholes found that are not shown on the maps issued for the Project shall be identified as to exact location, distance and direction of adjoining manholes, sizes of connecting sewers, and shall be submitted in writing to the Engineer. Any manholes not found or found in a location different than as shown on the maps, shall also be similarly identified and located.
  3. Location data for found of misidentified manholes shall include:

4. State plane coordinates to horizontal accuracy of  $\pm 3$  feet or less
  5. Addresses as applicable with location at address (ie.: back yard, front yard in right-of-way, etc.).
- B. Cleaning Sewers:
1. Prior to the Contractor televising the existing sewers, it shall be the responsibility of the Contractor to clean each sewer line in accordance with Section 33 01 30.41 - Cleaning of Sanitary Sewerage Utilities.

### 3.02 PERFORMANCE

- A. After cleaning, the sewer sections shall be inspected by means of closed-circuit television. The inspection will be done one sewer section at a time and the flow in the section being inspected will be suitably controlled as specified.
- B. The camera shall be moved through the line in the direction of the flow (downstream) except when not physically possible or when doing a reverse inspection.
- C. The maximum rate of travel shall be 30 feet per minute unless otherwise approved by the Engineer. In all instances, the speed of travel shall be slow enough to inspect each pipe joint, tee connection, structural deterioration, inflow and infiltration (I&I) source and deposits.
- D. The camera shall pause, pan, and visually inspect all service connections, maintenance defects, structural defects, miscellaneous abnormal sewer conditions, and anywhere when necessary to permit proper documentation of the sewer's condition. If utilizing a side wall scanning camera, pausing, and panning of each lateral is not necessary if the image clearly depicts the inside of the lateral for post processing.
- E. If during the inspection operation, the television camera will not pass through the entire section of sewer from manhole to manhole, the Contractor shall set up his equipment so that the inspection can be performed from the opposite manhole (Reverse Inspection).
  1. If during the reverse inspection the television camera will not pass through the entire section of sewer, the inspection shall be considered complete.
  2. If however, root cutting, deposit cutting, or cutting intruding services is required to complete the inspection, this Work (upon approved by the Engineer prior to beginning the Work) shall be completed before the television inspection shall be considered complete.
- F. The camera shall be positioned in the line in such a manner so as it is always as near to the center of the line as possible.
- G. The image quality shall be adequate for post-inspection coding. The Contractor shall be required to repeat the inspection at the Contractor's expense if the image quality is unsuitable for any reason.
- H. If observed defects are such that further operations may compromise the structural integrity or cause damage to the pipe, the Contractor shall notify the Engineer in writing of the observed condition and reason(s) continued CCTV inspection would be harmful.

- I. Recording shall be done during times of good visibility. No recording shall be done during periods of visible fog or steam in the sewer, or when the camera lens is dirty, coated, or under water (as outlined below) unless otherwise authorized by the Owner.
- J. Television inspection reports shall be within +/- two (2) feet of the measured linear footage between manholes along the existing sewer centerline from the start of pipe to end of pipe.
- K. Owner and PACP required header information must be fully and accurately entered on all CCTV reports. Work not following these specifications may be rejected for payment and the Contractor may be required to re do the work.
- L. Contractor shall provide a PACP certified operator on site at all times during the entire CCTV inspection. If video is to be coded separately from the actual recording, both the onsite Operator and the individual performing the PACP coding shall be PACP certified.
- M. Any portion of the video inspection recording that is of insufficient quality as determined by the Engineer shall be redone by the Contractor at no additional cost to the Owner.

### **3.03 MAINTAINING TRAFFIC, RESTORATION, AND PROTECTION OF EXISTING IMPROVEMENTS**

- A. Contractor shall be responsible for maintaining traffic at all times in accordance with Section 01 50 00 - Temporary Facilities and Controls.
  - 1. The Contractor shall furnish, erect and maintain all signs, barricades, lights, and traffic regulators, in accordance with the requirements of the current "Michigan Manual of Uniform Traffic Control Devices". Furnish all flagmen and watchmen as are necessary to maintain and safeguard traffic during the Work. Furnishing, installing, and maintaining traffic control devices shall be incidental to the Project.
- B. Damage to any existing improvements including fences, utilities, landscaping, lighting, lawns, trees, structures or any other items, shall be restored to their original condition in accordance with Section 01 89 00 - Site Construction Performance Requirements.

### **3.04 USE OF PREMISES**

- A. Contractor shall not trespass upon or in any way disturb private property without first obtaining written permission from the property owner as appropriate to do so. A copy of such written permission shall be furnished to the Owner prior to accessing the site.
- B. It shall be the Contractor's responsibility to work equipment around poles, trees, or other obstructions and to do so at his own expense.
- C. If the Contractor finds it necessary to obtain additional working area, it shall be the Contractor's responsibility for its acquisition.
- D. Contractor shall, at no additional expense, restore such property to the original condition in the sole and unfettered opinion of the Owner. Contractor must take photographs and/or videos of existing properties prior to the disturbance of any property, and make a copy available to the Owner.
- E. Items within the street right-of-way or sewer easement shall be removed, removed and replaced, or restored as directed by the Owner.

- F. Contractor shall ensure all employees have a badge or visible identification during any time that they on the project site or within private property. This identification must be worn so that it is readily recognized and readable to the public.

**END OF SECTION**

## **SECTION 33 01 30.41 - CLEANING OF SANITARY SEWERAGE UTILITIES**

### **PART 1 - GENERAL**

#### **1.01 SCOPE OF WORK**

- A. Contractor shall provide materials, labor, equipment, and services necessary for sewer line cleaning, manhole cleaning, and internal obstruction removal.
  - 1. Cleaning shall remove sediment, rocks, debris, roots, grease accumulations and obstructions from length of sewer and manholes to be lined, as well as hydraulic root cutting and/or grinding/cutting protruding break-in service connections.
  - 2. Cleaning of sewer and manhole walls in vicinity of lining shall remove grease, scale, encrustation and loose mortar so that no foreign intrusion shall cause imperfections in lining (e.g., bumps, folds, dimples).
  - 3. Sewer cleaning methods shall be washing with high pressure water or other as approved by Engineer.

#### **1.02 RELATED WORK SPECIFIED ELSEWHERE**

- A. Section 33 01 30.11 - Television Inspection of Sewers

#### **1.03 SUBMITTALS**

- A. Methods:
  - 1. Contractor shall submit a letter that identifies methods that will be used to remove sediment, debris, grease, scale, encrustations, loose concrete, roots and break-in connections throughout section of sewer to be cleaned. Include the following:
    - a. Detailed explanation of cleaning process.
    - b. Schedule of activities.
    - c. References where identified cleaning method(s) has been used successfully in the past by the Contractor.
    - d. List of the actions to mitigate impact to Owner during cleaning operation.
- B. Schedule:
  - 1. Contractor shall submit a schedule that outlines the sequence in which Contractor proposes to conduct his operations and shall be approved by Owner before work is started. Original and updated schedules must be provided to Owner electronically.
  - 2. The schedule shall:
    - a. use a time-scaled logic diagram format;
    - b. provide a level of detail of activities that are clear and concisely communicate of the plan of work; and
    - c. at a minimum show initial mobilization, start-up, cleaning and televising, and any resultant point repairs shall be included.

3. The software used for producing the schedules must have the capability to tailor the form and format of schedules, and accompanying reports, to the Owner's requirements.
4. Owner may require additional updates to the schedule as changes occur. These additional updates will be submitted to Engineer within 24 hours of the request.
5. Changes to the schedule are subject to approval of the Owner.

## **PART 2 PRODUCTS**

### **2.01 MATERIALS**

- A. Do not use chemicals without written approval of the Professional. Do not use chemical which may be considered hazardous or detrimental to organisms or equipment of wastewater treatment plant.

### **2.02 EQUIPMENT**

- A. High-Velocity Hydraulic (Hydro-Cleaning) Equipment: Equipment shall be capable of removing dirt, grease rocks, sand, roots, and other materials and obstructions from sewer lines and manholes.
- B. Equipment shall have selection of two or more high-velocity nozzles. Nozzles shall be capable of producing scouring action from 15 to 45 degrees in all size lines designated to be cleaned, with nozzle capable of producing flows from fine spray to solid stream.
- C. Equipment shall carry its own water tank, auxiliary engines, and high-pressure water pump.
- D. Combination Unit Pump: Capable of pumping at least 80 gallons per minute (300 liters per minute) at 2,000 psi (13.8 MPa), measured at beginning of hose reel.
- E. Water Pump: Able to run at 2,000 psi (13.8 MPa) while pulling full vacuum, completely independent from vacuum system, with ability to vary vacuum without affecting water pressure.

### **2.03 WATER**

- A. When water from fire hydrants is necessary, apply to Owner for permission to use potable water source. When Contractor has been authorized to take water from fire hydrants:
- B. Water shall be conserved and not used unnecessarily.
- C. Only Owner-approved fire hydrant wrenches and shut off valves shall be used.
- D. A visible air gap shall be maintained between the discharge of the fire hose and the Contractor's water storage tank. The air gap shall be visible from the ground surface.
  1. If an air gap is not possible, Contractor shall provide a backflow preventer that has been approved by Owner.

### **2.04 NO FIRE HYDRANT SHALL BE OBSTRUCTED EXCEPT TO REFILL EMPTY WATER TANKS.**

- A. Contractor shall provide temporary piping, valves, certified reduced pressure backflow preventers, equipment, and other items for handling potable water and wastewater approved by Owner.
- B. Do not utilize water source until it has been approved for use by Owner.

## **PART 3 EXECUTION**

### **3.01 GENERAL**

- A. Contractor shall clean the sewer and associated manholes, including drop connections and benches, to remove Deposits Settled (DS), so that the sewer is ready for televising. This will require an unlimited amount of passes of a hydraulic flusher to remove all loose debris and collect it for removal in the downstream manhole. Debris must be removed from the sewer, including any debris that may have been washed up into any service connections (does not include known pre-existing conditions in service connections), drop connections or the bench wall of the manholes. This item does not include any root cutting, deposit removal, or grinding of protruding service connections.
- B. Cleaning shall be performed while the line segments are in service without the need for plugging or flow diversion unless previously approved by Engineer. If necessary, Contractor shall schedule the work to be performed late at night between the hours of 11:00 PM and 6:00 AM. Late night cleaning work shall not begin until Contractor has received approval from Owner for a nighttime traffic control plan submitted by Contractor.

### **3.02 MAINTENANCE OF TRAFFIC**

- A. Contractor shall be responsible for maintaining "local" traffic at all times and for notifying the proper authorities regarding the closing of the roads. Contractor will be responsible for obtaining all permits required for maintenance of traffic.
- B. Contractor shall not begin work until standard barricades and warning signs are in an acceptable position and the markers and signs conform to the traffic control plans detailed in the Contract Drawings and the latest edition of the Michigan Manual of Uniform Traffic Control Devices, and all applicable state and local requirements of the agency having authority over the roadways, or as directed by the Professional. Contractor assumes all responsibilities and liabilities regarding strict adherence to applicable sections for the maintenance of traffic and public safety as set forth in the Michigan Manual of Uniform Traffic Control Devices, and other applicable regulations. Traffic control devices must be in place prior to starting work.
- C. Contractor shall maintain local traffic at all times during all phases of this project in a manner causing the least amount of inconvenience to the abutting property owners. Temporary driveways, temporary roadways, or run around as may be necessary to provide vehicular access to and from the abutting properties shall be constructed, maintained, and subsequently removed by Contractor as directed by Owner and/or Engineer.
- D. The portion of the pavement not affected by the work shall be kept clear of all material and equipment. If at any time traffic has to be blocked (emergencies only), Contractor shall notify the nearest fire, police departments and service departments.
- E. The cost of maintenance of traffic shall be incidental to the contract and not measured for payment unless otherwise indicated.

### **3.03 EXISTING UTILITIES**

- A. Contractor must take the necessary precautions for the protection of any utility encountered on the project or the restoration of any utility damaged during the work.

- B. If an excavation is required, Contractor shall notify, at least 48 hours before breaking ground, all public or private service corporations having wire, poles, pipes, conduit, manholes, or other structures that may be affected by this operation, including all structures which are affected and not shown on these plans. Owners of underground utilities, which are members of the state's one call service, can be notified by calling. Non-member underground utility owners must be called directly.
- C. Maintenance, repair, and replacement of existing utilities shall be in accordance with the rules and regulations of the various utility companies having jurisdiction.
- D. Existing storm sewers, driveway drains, surface drain pipes and other property, removed or damaged during construction shall be repaired and reconnected by Contractor as directed by Owner at no additional cost.

### **3.04 MAINTAINING FLOW**

- A. It will be the responsibility of Contractor, throughout the tenure of this Contract, to provide and maintain sufficient flow at all times to pass any flash of flow and prevent any backwater flooding due to obstruction caused by cleaning equipment.
- B. Contractor shall be aware of flow conditions and be able to identify potential access problems to sewer access points.

### **3.05 SEWER CLEANING**

- A. Contractor shall provide equipment that is specifically designed and constructed for sewer cleaning. Solids and debris resulting from the cleaning operation shall be collected and removed from the downstream manhole and disposed of at a site selected by Owner and approved by appropriate jurisdictional personnel. Under no circumstances shall sewage solids be dumped onto the surface, street, or into ditches, inlets, or storm drains.
- B. Contractor shall use the manufacturer's recommended size tools for the various size pipes. Equipment recommended by the manufacturer to protect the manhole and pipe, such as pull-in slant jack rollers and roller and yoke assembly, roller manhole jacks, etc. shall be utilized.
- C. Contractor shall clean designated sewer lines using approved methods and equipment.
  1. Contractor shall have a CCTV camera in the sewer during all cleaning operations to verify that the cleaning equipment is not damaging the public sewer. The use of CCTV equipment shall be in accordance with Section 33 0130.16, Television Inspection of Sewer Pipelines.
  2. Remove internal obstructions such as roots or gaskets by trenchless techniques when obstruction encountered prevents further pipe cleaning.
    - a. Provide special attention during cleaning operation to assure almost complete removal of roots from joints.
    - b. Procedures to remove internal obstructions may include use of equipment such as rodding machines, root saws, bucket machines and winches using root cutters, porcupines, and jet machines equipped with hydraulically driven cutters.
  3. If cleaning of entire section cannot be successfully performed from one manhole, set up equipment at other manhole and attempt cleaning again.

- a. If successful cleaning cannot be performed or equipment fails to traverse entire sewer line section, it will be assumed that major blockage exists.
  - b. Temporarily suspend cleaning effort and immediately notify Owner and Engineer.
  - c. Upon removal of obstruction, complete cleaning operation.
4. Employ satisfactory precautions to protect sewer line from damage that might be inflicted by improper use of cleaning equipment.
    - a. Immediately notify Owner and Engineer if fresh soil, pieces of pipe, or other visible signs of potential problems occur during cleaning operation.
    - b. Ensure that water pressure created does not cause damage due to flooding of property being served by sewer section(s) involved.
  5. Contractor is required to submit documentation of the work that is performed and the type of debris removed, as well as landfill permits and disposal documentation.

### **3.06 MANHOLE CLEANING**

- A. Include entire manhole interior, including manhole benches and walls. Incorporate into line cleaning operation by scouring walls with high velocity nozzle after pipe segment cleaning operation is complete.

### **3.07 REMOVAL OF DEBRIS**

- A. Sludge, dirt, rocks, sand, grease and other solids or semisolid materials resulting from cleaning operations shall be trapped and removed at the downstream manhole of the section being cleaned.
- B. Passing materials from manhole section to manhole section, which could cause line stoppage, accumulations of sand in wet wells or damage to pumping equipment, shall not be permitted.
- C. Solids or semi-solid material removed from the wastewater collection system during the cleaning operation shall be removed from the site and disposed of in a lawful manner. Do not discharge sewage or solids removed from downstream manholes, onto streets, or into ditches, catch basins or storm drains.

### **3.08 PROPERTY DAMAGE**

- A. Contractor shall immediately investigate any and all reports of sewage backing up into fixtures served by the sewer section that is being cleaned or televised.
- B. Contractor will be required to notify both Owner and Engineer immediately if he causes any damage to private or public property caused by activities related to this contract. Contractor shall make repairs and/or clean the property immediately in a timeframe that is acceptable to Owner.

**3.09 CLEANUP**

- A. Contractor shall keep the work area in an uncluttered condition by the frequent removal of debris. Contractor shall remove all debris and unused material and leave the area in a condition similar to the condition of the area before any work was performed.

**END OF SECTION**