

**SECTION 00 01 00
CONTRACT DOCUMENTS**

CAPITAL PREVENTATIVE MAINTENANCE FOR EAST RUSSELL ROAD OVER RIVER RAISIN

City of Tecumseh
309 E. Chicago Boulevard
Tecumseh, Michigan 49286

08-07-2024



25251 Northline Road, Taylor MI, 48180

TEC 2064-01T



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SECTION 00 11 13
ADVERTISEMENT FOR BIDS

Capital Preventative Maintenance for East Russell Road Over River Raisin

City of Tecumseh has implemented online project bidding using the **Quest Construction Data Network (QuestCDN)**. Only electronic bids submitted through www.questcdn.com will be accepted for this project

Sealed Bids will be received by the City of Tecumseh through QuestCDN until 10:00am, Local Time, 08-27-2024. Shortly after the bid closing time a bid tabulation will be prepared and posted online.

Bids will be received for the following Work:

Preventative maintenance of the bridge over River Raisin on East Russell Road.

Contract Documents may be examined at the following locations:

1. City of Tecumseh, 309 E. Chicago Boulevard, Tecumseh, Michigan 49286
2. Wade Trim Associates, Inc., 25251 Northline Road, Taylor MI, 48180
3. Contract Documents for bidding purposes are only available from QuestCDN starting on 08-07-2024. Contract Documents can be viewed and downloaded by registering for free with QuestCDN online (www.questcdn.com) or by calling 952-233-1632. The QuestCDN Project Number for this project is 9256143 and may be used to look up the project.
 - A. There is a Twenty Two Dollars (\$22.00) nonrefundable fee for downloading the Contract Documents in pdf format. Bidders must download the Documents from QuestCDN to be included on the Plan Holders List and to receive any Addenda posted for the project.
 - B. Bids will be received electronically through QuestCDN as outlined in the Instructions to Bidders. There is a Forty Two Dollars (\$42.00) non-refundable fee for submitting a Bid.

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 Tecumseh as security for the proper execution of the Agreement.

City of Tecumseh 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Bids may not be withdrawn for the period of 60 days after date of receiving bids.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 Leon Solowjow, Jr., Engineer at Phone: (734) 947-2677 or email: lsolowjow@wadetrim.com.

1. Questions will be received until 08-12-2024 at 5:00 PM. No further questions will be answered after this date and time.

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 Tecumseh, 309 E. Chicago Boulevard, 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 _____ percent of the Bidder's maximum Bid price and in a form 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. The 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. The 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 submitted electronically as specified herein.
- 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. Bidder must acknowledge of receipt of all Addenda as provided for in the electronic bidding platform. Failure to acknowledge Addenda will be cause for rejection of bid.
- F. 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.

- G. Other documents to be attached to the Proposal and made a condition thereof are identified in the Proposal.
- H. A tabulation of the amounts of the base bids and any alternates will be made available after the opening of Bids.
- I. To obtain Contract Documents and submit a Bid, Bidders:
 - 1. Must proceed to the Wade Trim website at www.wadetrim.com/Resources and click on the QuestCDN link, which will direct Bidder to Wade Trim's QuestCDN electronic bidding project list.
 - a. Select the appropriate project from the list of projects (see the QuestCDN Project Number for this project is listed in Section 00 11 13).
 - b. Must register for a free membership on QuestCDN and download the Contract Documents in digital form under "Download Bid Documents." There is a non-refundable fee(s) as stated in Section 00 11 13 to download the documents and bid the project.
 - c. Prospective Bidders will be asked to sign into their account or create a free QuestCDN account by clicking the "Join" link. Contact QuestCDN at (952) 233-1632 or info@questcdn.com for assistance regarding membership registration, downloading the project, and vBid online bid submittal.
 - d. To access the Bid Form, click the online bidding button at the top of bid advertisement. The online bid button will be available when the project is published and open for bidding.
 - 1) Prospective Bidders that fail to complete the online Bid Form as it is provided through QuestCDN may be subject to rejection.
 - 2) If Prospective Bidders submit their own bid form and that form does not match the online Bid Form provided through QuestCDN in terms of bid items, quantities, alternatives, etc., the submitted bid may be subject to rejection.
 - e. Addenda will be issued through the QuestCDN electronic bidding site. **Prospective Bidders must download the bid documents to become a plan holder and receive addenda notices.** It is the sole responsibility of the Bidder to obtain and review all addenda.

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.

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- 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 00 21 13**

**SECTION 00 42 43
PROPOSAL**

Owner: City of Tecumseh

Project: Capital Preventative Maintenance for East Russell Road Over River Raisin

Project Location: East Russell Road at River Raisin

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 Tecumseh 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:

1. Bidder has examined copies of Contract Documents, (consisting of Plans dated August 7, 2024 and Project Manual dated August 7, 2024) 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: _____
2. 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.
3. 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.
4. 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
1	Mobilization, Max	1	Lump Sum	\$	\$
2	Erosion Control, Silt Fence	150	Foot	\$	\$
3	HMA Surface, Rem	833	Square Yard	\$	\$

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No.	Description	Est. Quantity	Unit	Bid Unit Price	Bid Price
4	HMA, 4EL	26	Ton	\$	\$
5	HMA, 5EL	69	Ton	\$	\$
6	Barricade, Type III, High Intensity, Double Sided, Lighted, Furn	7	Each	\$	\$
7	Barricade, Type III, High Intensity, Double Sided, Lighted, Oper	7	Each	\$	\$
8	Minor Traf Devices	1	Lump Sum	\$	\$
9	Plastic Drum, Fluorescent, Furn	13	Each	\$	\$
10	Plastic Drum, Fluorescent, Oper	13	Each	\$	\$
11	Sign Cover	1	Each	\$	\$
12	Sign, Type B, Temp, Prismatic, Furn	133	Square Foot	\$	\$
13	Sign, Type B, Temp, Prismatic, Oper	133	Square Foot	\$	\$
14	Sign, Type B, Temp, Prismatic, Spec, Furn	108	Square Foot	\$	\$
15	Sign, Type B, Temp, Prismatic, Spec, Oper	108	Square Foot	\$	\$
16	Expansion Joint Device	82	Foot	\$	\$
17	Reinforcement, Steel, Epoxy Coated	691	Pound	\$	\$
18	Membrane, Preformed Waterproofing	5,538	Square Foot	\$	\$
19	Conc Surface Coating	417	Square Yard	\$	\$
20	Substructure Horizontal Surface Sealer	34	Square Yard	\$	\$
21	Hand Chipping, Other Than Deck	149	Cubic Foot	\$	\$
22	Patch, Forming	446	Square Foot	\$	\$
23	Conc, Silica Fume Modified	8	Cubic Yard	\$	\$
24	Deck Joint, Rem	82	Foot	\$	\$
25	Structural Crack, Repr	190	Foot	\$	\$
26	Patching Conc, C-L	6	Cubic Yard	\$	\$

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No.	Description	Est. Quantity	Unit	Bid Unit Price	Bid Price
27	Embedded Galvanic Anode	1,530	Each	\$	\$
28	Bridge Cleaning (STR 5725)	1	Lump Sum	\$	\$
TOTAL CONTRACT PRICE				\$	

5. 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.
6. 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.
7. 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.
8. Bidder will provide a bid bond, in the amount of at least **five (5)** percent of the amount Bid, drawn payable to City of Tecumseh as security for the proper execution of the Agreement.
9. 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.
10. 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.
11. Liquidated damages, as specified in the General Conditions, Supplementary Conditions and Agreement, will also apply to the Substantial Completion date.
12. 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.
13. Proposals may not be withdrawn for a period of 60 days after bid opening.
14. The following documents are made a condition of this Proposal:
 - A. Required Bid Security
 - B. Legal Status of Bidder
 - C. Non-Collusion Affidavit

**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 Capital Preventative Maintenance for East Russell Road Over River Raisin.

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: _____

Name: _____ Title: _____

Address: _____

Name: _____ Title: _____

Address: _____

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:

1. They are the of _____ (Position) of _____ (Firm), the Bidder that has submitted the attached Bid;
2. They are fully informed with respect to the preparation and contents of the attached Bid and of all pertinent circumstances respecting such Bid;
3. Such Bid is genuine and is not a collusive or sham bid;
4. 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 Tecumseh, or any person or other entity interested in the proposed Contract Documents; and
5. 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: Capital Preventative Maintenance for East Russell Road Over River Raisin

Pursuant to the provisions of Article 1.11 of the Instructions to Bidders, 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: Preventative maintenance of the bridge over River Raisin on East Russell Road as delineated in your Bid submitted to City of Tecumseh on 08-27-2024.

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

1. Deliver to Engineer _____ (_____) fully executed counterparts of the Agreement including all the Contract Documents.
2. 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).
3. Deliver with the executed Agreement the Insurance Certificates (and other evidence of insurance) as specified in the General Conditions (Article 5).
4. 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 two (2) fully signed counterparts of the Agreement with the Contract Documents attached.

In accordance with paragraph 2.05 of the General Conditions, 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 Tecumseh 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:

Preventative maintenance of the bridge over River Raisin on East Russell Road

The Work will be substantially completed within **45 calendar days** after the date when the Contract Time commences to run as provided in paragraph 2.03 of Section 00 72 00, and completed and ready for final payment in accordance with paragraph 14.11 of Section 00 72 00 within **60 calendar days** after the date when the Contract Time commences to run.

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.

1. 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.
2. 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 Six Hundred Dollars (\$600.00) for each day that expires after the time specified in paragraph 1.03.A above for Substantial Completion until the Work is Substantially Complete.

1. 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:

1. The person representing the Contractor who will submit written requests for progress payments will be: _____
2. The person representing the Owner to whom requests for progress payments are to be submitted will be: _____
3. 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.

Capital Preventative Maintenance for East Russell Road Over River Raisin

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

1. 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.
2. 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.
3. 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.
4. Contractor has correlated the results of all such observations, examinations, investigations, tests, reports and data with the terms and conditions of the Contract Documents.
5. Contractor has given Engineer written notice of all conflicts, errors or discrepancies that he 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:

1. 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).
2. This Agreement
3. Performance and other Bonds
4. Notice of Award
5. Notice to Proceed (if issued)
6. Conditions of the Contract (including Section 00 72 00 - General Conditions and Section 00 73 00 - Supplementary Conditions, if any)
7. Specifications contained within Division 01 through 49 of the Project Manual
8. Plans bearing the following general title: Capital Preventative Maintenance for East Russell Road Over River Raisin
9. Addenda numbers _____ to _____, inclusive
10. Documentation submitted by the Contractor prior to Notice of Award
11. 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.

Capital Preventative Maintenance for East Russell Road Over River Raisin

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 Tecumseh

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: Capital Preventative Maintenance for East Russell Road Over River Raisin

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.

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.

Also, 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. A minimum of three (3) full working days' notice is required to set up the Pre-Construction Meeting. Also, please notify the Engineer three (3) full working days in advance of any staking requirements or other activity on the Project.

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 00 60 00**



CERTIFICATE OF SUBSTANTIAL COMPLETION

350.02

(Rev. 04/2020)

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

Contract Date.: _____ Date of Issuance: _____

Project or Designated Portion Shall include:

The Work performed under this Contract has been reviewed and found to be Substantially Complete. The date of Substantial Completion of the Project or portion thereof designated above is hereby established as _____ which is also the date of commencement of applicable warranties required by the Contract Documents except as stated below.

DEFINITION OF DATE OF SUBSTANTIAL COMPLETION

The date of Substantial Completion of the Work or designated portion thereof, is the date certified by ENGINEER when construction is sufficiently complete, in accordance with the Contract Documents, so OWNER can occupy or utilize the Work or designated portion thereof for the use for which it is intended, as expressed in the Contract Documents.

A list of items to be completed or corrected, which has been prepared by ENGINEER, is attached hereto. The failure to include any items on such list does not alter the responsibility of CONTRACTOR to complete all Work in accordance with the Contract Documents. The date of commencement of warranties for items on the attached list will be the date of final payment unless otherwise agreed to in writing.

The responsibilities of OWNER and CONTRACTOR for security, maintenance, heat, utilities, damage to the Work and insurance shall be as follows:

(Note - OWNER's and CONTRACTOR's legal and insurance counsel should determine and review insurance requirements and coverage; CONTRACTOR shall secure consent of surety company, if any.)

OWNER shall have 45 days after receipt of this certificate during which he may make written objection to ENGINEER and CONTRACTOR as to any provisions of the certificate or attached list. Such objection may be cause for this Certificate of Substantial Completion to be null and void.

Engineer's Signature

Print Name

Date



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:
\$ _____

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

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

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

Contract Price prior to this Change Order:
\$ _____

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

of this Change Order:
\$ _____

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

Contract Price incorporating this Change Order:
\$ _____

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

RECOMMENDED:

ACCEPTED:

ACCEPTED:

By: _____
Engineer (Authorized Signature)

By: _____
Owner (Authorized Signature)

By: _____
Contractor (Authorized Signature)

Date: _____

Date: _____

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><u>CHANGE IN CONTRACT PRICE</u> of this requested Proposal:</p> <p>\$ _____</p>	<p><u>CHANGE IN CONTRACT TIME</u> 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



CONSTRUCTION CHANGE REQUISITION WORK CHANGE DIRECTIVE

No. _____

(continued)

Date: _____

Page: _____ of _____

Work Order Authorization: Approved Approved as Noted Not Approved

If authorized, the Contractor agrees to do the work outlined above under the direction of the Engineer, and to accept as payment in full the basis of payment as indicated.

Contract Time: Add Time Extension of _____ Days Not Applicable

Accepted By: _____
Contractor (Representative) _____
Date

Recommended By: _____
Wade Trim (Representative) _____
Date

Approved By: _____
Owner (Representative) _____
Date



FIELD ORDER NO. _____

305.04

(Rev. 04/2020)

Page: 1 of

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

Classification:	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)



OPEN ITEMS LIST

350.01

(Rev. 01/2019)

Page: ____ of ____

Construction Start Date: _____

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

Item No.	Description of Item	Initials	Date	Actions to be Taken to Close	Verified by	
					Initials	Date

Close out of all items verified by Field Engineer: _____ Signature: _____ Date: _____

- Comments:**
- 1) This Open Items List is to be immediately inserted in the Inspection folder for each assignment by the assigned Inspector or the assigned Field Engineer.
 - 2) Anyone can make entries on this list, but each entry must be initialed and dated. Items(s) entered must be reported to the assigned Field Engineer immediately.
 - 3) Action to be taken should be confirmed with the assigned Field Engineer.
 - 4) Verification for completion can be initialed and dated by the assigned Inspector but must also be verified by the assigned Field Engineer.
 - 5) This form is not contractual to contract completion.



REQUEST FOR FINAL INSPECTION

350.06
(Rev. 04/2020)

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

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)

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

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 _____

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

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.

Capital Preventative Maintenance for East Russell Road Over River Raisin

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.

Capital Preventative Maintenance for East Russell Road Over River Raisin

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 Owner State, 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 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.

If Contractor or Surety fail to do as hereinbefore specified, they will jointly and severally indemnify, defend, and hold harmless Owner from and against all and any losses, costs, suits, and actions for damages of every kind and description brought or claimed against Owner for or on account of any injury or damage to persons or property received or sustained by any party or parties by or from any of the acts of omissions or through the negligence of Contractor, its Subcontractors, Suppliers, servants, agents, or employees in connection with the Work and then from any and all claims arising under the Workmen's Compensation Act of the State of Michigan.

Capital Preventative Maintenance for East Russell Road Over River Raisin

IN WITNESS WHEREOF, the parties hereto have caused this Maintenance and Guarantee Bond to be executed by their respective authorized officers this _____, 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 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 Total Balance 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 _____ is the (Contractor) (Subcontractor) for an improvement to the following described real property situated in _____ County, Michigan described as follows:

Insert Legal Description of Property

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
TOTALS:							

(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 his 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.

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- 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.

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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 shall 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 he 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 shall 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 shall 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 shall 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 shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor should reasonably have discovered and shall 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 shall report it to Engineer in writing at once, and, Contractor shall 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 shall 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 shall 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 shall 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 shall govern over scaled dimensions;
 - 2. Plans shall govern over Standard Specifications;
 - 3. and Project Specifications shall 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. shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.
- D. Possible Price and Times Adjustments:
1. Contractor shall 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 shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
 - a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise; 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 shall 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 shall 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 shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by paragraph 6.18), 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 shall 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 shall 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 shall 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 shall 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 shall provide engineering surveys for construction to establish property corners, monuments, bench marks and similar reference points which in his judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for the preservation of established reference points and shall make no changes or relocations without the prior written approval of Owner. Contractor shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall also furnish such other Bonds as are required by the Supplementary Conditions.
- B. All Bonds shall 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. All 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 shall within 5 days thereafter substitute another Bond and Surety, both of which shall 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 shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue Bonds or insurance policies for the limits and coverages so required.

5.03 INSURANCE

- A. Contractor shall 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 shall 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 shall be written by the same insurance carrier, though not necessarily in one policy.
 4. Contractor shall 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 shall 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 shall

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 shall 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 shall 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 shall be at least as broad as the primary or underlying policy(ies) and shall apply both to Contractor's General Liability and Automobile Liability Insurance and shall 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 shall 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 shall be responsible for purchasing and maintaining applicable professional liability insurance. This insurance shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall furnish to Owner complete "originally signed" copies of the Owner's Protective Liability Policy. The number of copies shall 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 shall 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 shall be licensed or approved by the Insurance Bureau of the state in which the Project is located and shall 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 shall furnish to Owner an acknowledgment receipt from the insurance carrier for each damage claim against the Project. The receipt shall include the insurance carrier's assigned claim number.
- B. Upon request, Contractor or his insurance carrier shall also furnish to Owner a status report on all damage claims. This report shall 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 shall 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 shall 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 shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.

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 shall 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 Order or Work Change Directive.
- B. Owner as fiduciary shall 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 shall 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 shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers.

ARTICLE 6 CONTRACTOR'S RESPONSIBILITIES

6.01 SUPERVISION AND SUPERINTENDENCE

- A. Contractor shall 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 shall be solely responsible for the means, methods, techniques, sequences and procedures of construction. Contractor shall 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 shall 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 shall assign and maintain a competent superintendent who shall 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 shall be removed from the Project. The superintendent will be Contractor's representative at the Site and shall have authority to act on behalf of Contractor. All communications given to the superintendent shall be as binding as if given to Contractor.

6.02 LABOR AND WORKING HOURS

- A. Contractor shall provide competent, suitably qualified personnel in their various duties. Contractor shall 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 shall 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 shall 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 shall 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 shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence, (including reports of required tests) as to the kind and quality of materials and equipment to be incorporated in the Work. Contractor shall 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, shall be plainly marked and removed immediately from the Work.
- C. All materials and equipment shall 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 shall 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 shall 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 shall be identified in the application and available maintenance, repair and replacement service shall be indicated. The application shall 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 shall 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 shall be final and binding, may not be reversed through an appeal under any provisions of the Contract Documents, and no "or-equal" or substitute shall 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 shall 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 shall 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 shall 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 shall 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 shall submit an acceptable substitute and the Contract Price shall be increased or decreased by the difference in cost occasioned by such substitution, and an appropriate Change Order shall be issued. Contractor shall not be required to employ any Subcontractor, Supplier, other person or organization against whom Contractor has reasonable objection.
- C. Contractor shall not award Work to Subcontractor(s), in excess of 50% of the Contract Price, without prior written approval of Owner.
- D. Contractor shall be fully responsible for all acts and omissions of his 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 shall create for the benefit of any such Subcontractor, Supplier of other person or organization any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other person or organization, nor shall 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 shall 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 shall 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 his subcontract, and for the same purpose and under the same specifications as those of the general Contract. The Surety on the general Contract shall 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 and 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 shall file a true copy of such agreement with Owner.

6.06 PATENT FEES AND ROYALTIES

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product or device is specified in the Contract Documents for use in the performance of the Work and if to the actual knowledge of Owner or Engineer its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in Contract Documents.
- B. To the fullest extent permitted by Laws and Regulations, Contractor shall 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 shall defend all such claims in connection with any alleged infringement of such rights.

6.07 PERMITS AND LICENSES

- A. Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges, 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 shall pay all charges of utility owners for connections to the Work.

6.08 LAWS AND REGULATIONS

- A. Contractor shall give all notices and comply with all laws, ordinances, rules, and regulations applicable to furnishing and performance of the Work. Neither Owner nor Engineer shall 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 shall bear all claims, costs, losses, damages and expenses caused by, arising out of, or resulting therefrom. However, it shall 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 shall 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 shall 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 shall 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 shall not unreasonably encumber the premises with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area or to the owner or occupant thereof or of any adjacent land or areas resulting from the performance of the Work. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall 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 shall be applicable to any claim hereunder.

6.11 REMOVAL OF DEBRIS AND CLEANING

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

6.12 LOADING STRUCTURES

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

6.13 PROTECTION OF UTILITIES

- A. When it is possible for construction operations to endanger any public or private utility, conduit, or structure, Contractor shall 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 shall cooperate to the fullest

extent with the utility, and he shall see that his operations interfere as little as possible with these operations, and Contractor shall assume the cost of any charge against Owner therefor. In cases where existing Utilities or Utility service connections are encountered, Contractor shall perform his operations in such a manner that service will be uninterrupted, and the cost thereof shall be at Contractor's expense, unless otherwise provided.

6.14 RECORD DOCUMENTS

- A. Contractor shall 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 shall be available to Engineer for examination and shall be delivered to Engineer for Owner upon completion of the Work.

6.15 SAFETY AND PROTECTION

- A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:
 - 1. all persons on the 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 shall 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 shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property, Utilities, and utility owners when prosecution of the Work may affect them.
- C. Contractor shall restore, at his own expense, any public or private property damaged or injured in consequence of any act or omission on his part, or on the part of his 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 shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with paragraph 14.11 that the Work is Acceptable.
- E. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. Any Owner's safety programs that are applicable to the Work are identified or included in the Supplementary Conditions or Specifications.
- F. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
- 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 shall 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 shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.17 HAZARD COMMUNICATION PROGRAM

- A. Contractor shall 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 shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby. 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous Submittals.
- F. Contractor shall 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 shall 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 shall 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 shall be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents and shall 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 shall 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 shall any concurrence by Engineer relieve Contractor from responsibility for errors or omissions in the Shop Drawings. Engineer's review shall 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 shall be commenced until the Submittal has been reviewed by Engineer.

6.22 CONTINUING THE WORK

- A. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as 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 shall be absolute. None of the following will constitute an acceptance of Work that is

not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:

1. observations by Engineer;
 2. recommendation 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 shall govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned Contract.
- D. Contractor shall 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 shall secure the material Supplier's or Subcontractor's consent to assign said warranties to Owner.
- E. The warranties provided in this section shall 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 shall 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 shall 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 shall 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 shall 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 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for Contractor under workers' compensation acts. Such obligations shall 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 shall 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 shall 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 shall 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 shall 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, shall bear such professional's written approval when submitted to Engineer.

- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, or approvals performed by such design professionals.
- 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 shall 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 shall 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 shall 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 shall 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 shall properly connect and coordinate the Work with theirs. Unless otherwise provided in the Contract Documents, Contractor shall 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 shall 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 shall 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 shall issue all communications to Contractor through Engineer.

8.02 REPLACEMENT OF ENGINEER

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

8.03 FURNISHING DATA

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

8.04 PAY WHEN DUE

- A. Owner shall 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 shall not supervise, direct or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the 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 shall 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 shall 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 and will confer with Engineer regarding his actions. Resident Project Representative's dealings in matters pertaining to the on Site Work shall in general be only with Engineer and Contractor, and dealings with

Subcontractors shall 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 shall 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 shall be binding on Owner, and also on Contractor who shall 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, shall 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, shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work shall be performed under the applicable conditions of the Contract Documents. Nothing in this paragraph 10.02 shall 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 shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents, as amended, modified, or supplemented, except in the case of an emergency as provided in paragraph 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 shall comply with the provisions of paragraph 10.06. Any

Claim for an adjustment of Contract Price shall 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 shall be determined as follows:
1. a mutually acceptable fixed fee; or
 2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. for costs incurred under paragraph 12.01.B.1 and 12.01.B.2, Contractor's fee shall be 15 percent;
 - b. for costs incurred under paragraph 12.01.B.3, Contractor's fee shall be five percent;
 - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of paragraphs 10.04.C.2.a and 10.04.C.2.b is that Contractor's fee shall 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 shall be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the Work;
 - d. no fee shall 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 shall 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 shall comply with the provisions of paragraph 10.06. Any Claim for an adjustment in the Contract Times shall comply with the provisions of paragraph 11.01.

- B. An adjustment of the Contract Times shall be subject to the limitations set forth in paragraph 12.04, concerning delays in Contractor's progress.

10.06 CHANGE PROPOSALS

- A. Contractor shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall also furnish a copy to Engineer, for its information only. The responsibility to substantiate a Claim shall 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 shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.
- C. Review and Resolution: The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim shall 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 shall 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 shall 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 shall resume as of the date of the conclusion of the mediation, as determined by the mediator.
 3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.
- E. Partial Approval: If the party receiving a Claim approves the Claim in part and denies it in part, such action shall 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 shall 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 shall 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 shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in paragraph 12.01.C, and shall include only the following items:
 1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, and vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.
 2. 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 shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
 3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from Subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this paragraph 12.01.

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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 shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
 - 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 shall be reasonable, but not more than 5 percent of the current list price, or invoice, of the equipment. The base hourly rate shall 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 shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining:
 - 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 shall not include any of the following items:

1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in paragraph 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 shall 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 shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.
- B. Cash Allowances: Contractor agrees that:
1. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
 2. Contractor's costs for unloading and handling 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 shall 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 and 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 shall 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 shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.
- C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. Contractor's entitlement to an adjustment of 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 shall 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 shall not be entitled to an adjustment in Contract Price for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor. Such a concurrent delay by Contractor shall not preclude an adjustment of Contract Times to which Contractor is otherwise entitled.
 3. Adjustments of Contract Times or Contract Price are subject to the provisions of Article 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 shall also furnish such additional supporting documentation as Owner or Engineer may require including, where appropriate, a revised Progress Schedule indicating all the activities affected by the delay, disruption, or interference, and an explanation of the effect of the delay, disruption, or interference on the critical path to completion of the Work.
- 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 shall 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 shall be Contractor's sole and exclusive remedy for such delay. In no event shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall assume full responsibility therefor, pay all costs in connection therewith and furnish Engineer the required certificates of inspection, testing or approval.
- C. Contractor shall also be responsible for and shall 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 shall 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 shall 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 shall be paid for by Contractor.
- G. Neither observations by Engineer nor inspections, tests or approvals by others shall relieve Contractor from his 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 shall, if requested by Engineer, be uncovered by Contractor for Engineer's observation. Such uncovering shall be at Contractor's expense unless Contractor has given Engineer timely written notice of his 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, shall uncover, expose or otherwise make available for observation, inspection or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment. Except as otherwise specified in paragraph 13.04, the cost of Work shall be paid for as follows:

1. If it is found that such Work is defective, Contractor shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall 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) shall be paid by Contractor.

- C. Repair or replacements made under the guarantee shall 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 shall 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 shall be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate reduction in the Contract Price. If the acceptance occurs after such recommendation, an appropriate amount shall 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 his Surety without prejudice to any other remedy he may have, correct and remedy any such deficiency.
- B. In exercising his rights and remedies under this paragraph 13.09, Owner shall 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 shall 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 his 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 shall be charged against Contractor and a Change Order shall be issued incorporating the necessary revisions in the Contract Documents with respect to the Work. Owner shall 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 shall 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 shall submit to Engineer a final Schedule of Submittals, and, where applicable, a Schedule of Values for the Work. These schedules shall be satisfactory in form and substance to Engineer as provided in Article 2.
- B. The Schedule of Values shall include quantities and unit prices aggregating the Contract Price and shall subdivide the Work into component parts. Each unit cost so established shall 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 shall equal the total Contract Price

established in the Proposal.

- C. The Schedule of Values shall 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 shall become part of the Agreement and shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall file with Owner the written consent of the Surety to such reduction and shall 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 shall 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 shall 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;

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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 shall 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 shall 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 shall 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 shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a Certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. Once Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary Certificate of Substantial Completion which shall fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have 7 days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons 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 shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.
- E. After Substantial Completion Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.
- F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

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 shall 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 his 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 shall 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 shall have otherwise agreed in writing and so informed Engineer.
 3. Owner shall have the right to exclude Contractor from any part of the Work which Engineer has so certified to be substantially complete, but Owner shall 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 shall 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 shall 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 his 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 his 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 shall make the necessary corrections and resubmit the Application.
- C. If the Application and accompanying documentation are appropriate as to form and substance, Owner shall, 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 shall 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 shall, 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 shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.13 WAIVER OF CLAIMS

- A. The making and acceptance of final payment shall 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 shall 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. All 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, shall 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 shall store all

materials in such manner that they will not become an obstruction, nor become damaged in any way, and Contractor shall 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 he 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.
- C. Upon such termination, Contractor shall:
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 shall not relieve Contractor of his 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 shall be followed:
 - a. The parties shall 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 shall 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) shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall covenant and agree not to discriminate against any employee or applicant for employment, to be employed in the performance of this Contract, with respect to his 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 shall be paid by Contractor to Owner prior to final payment authorization. However, Contractor shall 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 shall be made at such times and in such amounts as Engineer shall invoice Owner, provided, however said charges shall be in accordance with Engineer's current rate schedule at the time the costs are incurred. Engineering and inspection costs so incurred shall 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 shall 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 shall not constitute a waiver of that provision, nor shall 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 00 72 00

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 "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-4.02 Subsurface and Physical Conditions; Investigations and Reports

- 1. In the preparation of Plans and Specifications, the Engineer has relied upon the following reports and tests of subsurface and latent physical conditions at the site or otherwise affecting cost, progress or performance of the Work: None
- 2. Copies of the following reports and/or tests are attached as Exhibits: None

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 Tecumseh, 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

Capital Preventative Maintenance for East Russell Road Over River Raisin

Each Accident: \$100,000

Disease – Policy Limit: \$100,000

Disease – Each Employee: \$100,000

SGC-5.04.B Comprehensive General Liability

General Aggregate: \$1,000,000

Products – Com/Ops Aggregate: \$1,000,000

Personal and Advertising Injury: \$500,000

Each Occurrence: \$500,000

Fire Damage (any one fire): \$50,000

Medical Expense (any one person): \$5,000

SGC-5.04.C Comprehensive Automobile Liability

Bodily Injury: \$500,000

Property Damage: \$200,000

or combined single limit: \$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 00 73 00

ORDER OF PRECEDENCE

The specifications in this book shall be taken in the following order of preference. The number one specification supersedes all specifications below if there is a conflict between the specifications.

1. Special Provisions
2. Plans and Drawings
3. General Conditions
4. 2020 Michigan Department of Transportation Standard Specifications for Construction

This order shall hold throughout these specifications and shall be considered as part of the Contract Documents.

PROGRESS CLAUSE

The Engineer anticipates that construction can begin no earlier than 10 calendar days after award or as directed by the Engineer. In no case shall any work be commenced prior to receipt of formal notice of award by the Department.

The Contractor shall prepare and submit a complete, detailed, signed Progress Schedule to the Engineer. The Owner for this project is as follows:

Troy Rohrbach
DPW Director
City of Tecumseh Department of Public Works
601 East Cumming Street
Tecumseh, MI 49286
517-423-1443
trohrbach@tecumsehmi.gov

The entire project must be completed within **60** Work days. Work days will be charged on the date work starts, or on the date designated as the starting date in the Progress Schedule whichever occurs earlier.

Contractor shall not begin work until EGLE Permit, if applicable, is approved.

All contract work for the first bridge must be complete and the bridge fully open to traffic before work may start on the second bridge.

After award and prior to the start of work, the Contractor must attend a preconstruction meeting with the Owner and Engineer. The Engineer will determine the day, time and place for the preconstruction meeting. The meeting will be conducted after project award and may be rescheduled if there are delays in the award of the project.

The named subcontractor(s) for Designated and/or Specialty Items, as shown in the Proposal, should attend the preconstruction meeting if such items materially affect the work schedule.

Failure by the Contractor to meet interim completion, open to traffic, and/or final completion dates will result in the assessment of liquidated damages in accordance with subsections 108.10.C.1 and 108.10.C.2 of the Standard Specifications for Construction.

CITY OF TECUMSEH
SPECIAL PROVISION
FOR
MAINTAINING TRAFFIC

DES:WTA

1 of 4

08-06-24

a. Description. This work consists of all labor, materials and equipment required to maintain traffic in accordance with this special provision for bridge rehabilitation work on E Russell Rd/River Raisin in the City of Tecumseh in Lenawee County.

b. General. Maintain traffic throughout the project in accordance with the standard specifications, typicals, and supplemental specifications in the contract and as described on the plans for this project.

c. Construction Influence Area (CIA). The CIA includes the right-of-way of the following roadways, within the approximate limits described below:

1. On E Russell Road from approximately 1 mile west of River Raisin to Rogers Hwy.
2. In addition, the CIA includes the right-of-way of any designated detour route or alternate route, intersecting roads and ramps adjacent to the work zone for a distance of approximately 1/2 mile in advance of the work zone or as far as the construction or detour signing extends.

d. Traffic Restrictions.

1. Maintain traffic in accordance with the detour plan provided. Changes or adjustments to the detour may be necessary to fit field conditions, subject to approval of the Engineer or as determined by the Engineer.
2. Do not deliver material, or close lanes (other than approved closures) during the holiday periods as defined in Table 1.

Table 1: 2025 Holiday Periods

Holiday	Start Date and Time	End Date and Time
Memorial Day	3:00 pm Friday May 26	7:00 am Tuesday, May 27
Independence Day	3:00 pm Thursday, July 3	7:00 am Monday July 7
Labor Day	3:00 pm Friday August 29	7:00 am Tuesday, September 2

3. Do not deliver material, or close lanes (other than approved closures) during the Special Events as defined in Table 2.

Table 2: 2025 Special Events

Local Event	Start Dates and Time	End Date and Time
TBD		

4. Maintain access to all driveways as directed by the Engineer unless prior agreements are made with the respective property owners.

e. Traffic General.

1. For any lane open to traffic, provide a minimum lane width of 11 feet with 2 feet of shy distance on both sides unless identified otherwise on plans.

2. Do not close lanes or utilize traffic regulation sequences where work can be accomplished with a shoulder closure. Do not occupy any part of the active traffic lane with personnel or equipment when utilizing a shoulder closure. Place lane closures and traffic regulation operations only in areas as show on the plans unless otherwise directed by the Engineer.

3. Prior to shifting traffic onto shoulders or opening any lanes/shoulders and/or ramps, remove, by sweeping all accumulated debris that has collected within the shoulder and/or within the closed lane/shoulder.

4. A speed reduction will not be used.

5. Develop and submit to the Engineer an Internal Traffic Control Plan (ITCP) per subsection 104.11.B of the Standard Specifications for Construction. The requirements listed herein are the requirements for a Type A ITCP. Submit the Type A ITCP at the preconstruction meeting. The Engineer will have 7 calendar days to review the ITCP for approval or provide comments for revisions required to obtain approval. Include in the ITCP, at a minimum, the proposed ingress/egress locations for construction equipment and vehicles, traffic control devices that will be utilized to warn the motoring public of ingress/egress locations, and measures that will be taken to ensure compliance with the ITCP. Ensure that the ITCP minimizes conflicts between construction vehicles and motorists and maintains overall safety and mobility within the work zone. No work may begin prior to approval of the ITCP. Additional time required to obtain an approved ITCP will not be cause for delay or impact claims. All costs associated with obtaining an approved ITCP, providing and executing all parts of the approved ITCP including required traffic control devices, or resolving an incomplete or unacceptable ITCP will be borne by the Contractor.

6. Protect the work area at the end of each day. Close all open access points on the project to traffic with Type III barricades or other devices approved by the Engineer.

7. The Engineer will be responsible for notifying emergency services, transit agencies, law enforcement and schools prior to any lane closures, detours or major traffic shifts. In addition, the Contractor will be responsible for working with and complying with any coordination that is necessary with the Department and emergency services, transit agencies, law enforcement and schools. All costs associated with these coordination efforts will be considered included in the pay item "Minor Traf Devices".

8. Obtain all necessary permits from local governments within areas of local jurisdiction, including noise/dust ordinance waivers when required, prior to placing construction signing on local roads.

f. Detours.

1. Do not detour traffic until all proposed contract work on the detour route is completed, inspected, and approved by the Engineer.

2. Cover all detour signs installed prior to closing a road. Do not uncover detour signing until just before the closure is in effect. Immediately remove or cover all detour signing upon opening the road to traffic.

g. Pedestrian or Non-Motorized Facilities.

1. Maintain all facilities in accordance with *The Americans with Disability Act (ADA)* requirements. Provide facilities equivalent to or better than the route a person would have encountered prior to construction activities.

2. Submit an "ADA Work Plan" for sidewalk and ADA ramp construction prior to any sidewalk ramp closures or removals. The work plan must address pedestrian access and detours where possible. Plan will allow a ramp closure up to (96) hours. The Engineer will have 7 calendar days to review the plan for approval or provide comments for revisions required to obtain approval. Do not proceed with the work until the Engineer has approved the plan.

3. Keep sidewalk areas clear of any equipment or materials at all times the sidewalks are open to pedestrian traffic.

h. Traffic Control Devices. Ensure all traffic control devices are in accordance with the *MMUTCD* and must meet the "acceptable" criteria as defined in the *ATSSA* publication entitled "*Quality Guidelines for Temporary Traffic Control Devices and Features*" at the time of initial deployment and after each major stage change.

1. During non-working periods, place applicable advance signs and channelizing devices at specific locations, as directed by the Engineer, at no additional cost to the Department.

2. Notify the Engineer 24 hours in advance of when traffic control devices are being delivered to the project site, to allow for initial inspection of devices to take place.

3. Remove from the project site all traffic control devices (including detour signing) no longer needed for a particular operation and equipment for construction within 14 calendar days of reopening the shoulder/lane/roadway.

4. Channelizing Devices.

A. Ensure all devices have sufficient ballast to prevent moving or tipping. If moving or tipping occurs, place additional ballast, as directed by the Engineer, at no additional cost to the Department. No more than two ballasts are allowed on each channelizing device.

B. Do not use caution tape on channelizing devices for traffic control and/or pedestrian traffic control on this project.

5. Temporary Signs.

A. Additional W20-1 (ROAD WORK AHEAD) signs are included in the quantities to be placed on all intersecting or adjacent roads where construction activities may be encountered.

B. Fabricate, install, and remove temporary sign overlays on existing signs with the pay item for Sign, Type B, Temp, Prismatic, Furn. Attach the overlay in accordance with subsection 812.03.D.2 of the Standard Specifications for Construction.

i. Measurement and Payment.

Payment will be in accordance with the standard specifications unless otherwise specified. No additional payment will be made for the following activities:

1. Transporting traffic control items from site to site.
2. Providing sufficient vehicles and staff to make changes as-needed on site during work.
3. Providing sufficient vehicles and staff to remove closures from the roadway.

SIGN MATERIAL SELECTION TABLE

SIGN SIZE	SIGN MATERIAL TYPE		
	TYPE I	TYPE II	TYPE III
≤ 36" X 36"		X	X
>36" X 36" ≤ 96" TO WIDE		X	
> 96" WIDE TO 144" WIDE	X	X	
> 144" WIDE	X		


TYPE I ALUMINUM EXTRUSION
 TYPE II PLYWOOD
 TYPE III ALUMINUM SHEET

ROUNDING OF CORNERS IS NOT REQUIRED FOR TYPE I OR II SIGNS.
 VERTICAL JOINTS ARE NOT PERMITTED.
 HORIZONTAL JOINTS THROUGH SIGN LEGEND OR SYMBOLS ARE NOT PERMITTED.

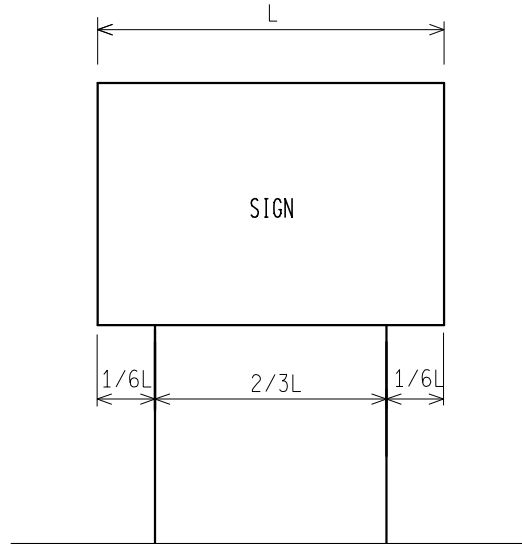
POST SIZE REQUIREMENTS TABLE

SIGN AREA (ft ²)	POST TYPE		
	U-CHANNEL STEEL	SQUARE TUBULAR STEEL	WOOD
≤ 9	1 - 3 lb/ft*	1 - 2" 12 or 14 GA*	N/A
9 ≤ 20	2 - 3 lb/ft	2 - 2" 12 or 14 GA	1 - 4" X 6"*
> 20 ≤ 30	N/A	N/A	2 - 4" X 6"
> 30 ≤ 60	N/A	N/A	2 - 6" X 8"
> 60 ≤ 84	N/A	N/A	3 - 6" X 8"

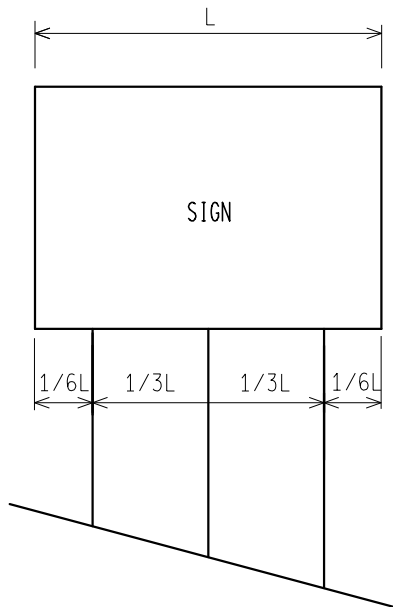
*SIGNS 4 FEET AND GREATER IN WIDTH REQUIRE 2 POSTS.
 SIGNS GREATER THAN 8 FEET IN WIDTH REQUIRE 2 OR 3 WOOD
 POSTS DEPENDING ON AREA OF SIGN.
 A MAXIMUM OF 2 POSTS WITHIN A 7' PATH IS PERMITTED.

 PREPARED BY DESIGN DIVISION	DEPARTMENT DIRECTOR Kirk T. Steudle APPROVED BY: _____ DIRECTOR, BUREAU OF FIELD SERVICES	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN FOR GROUND DRIVEN SIGN SUPPORTS FOR TEMP SIGNS		
	DRAWN BY: <u>CON/ECH</u> CHECKED BY: <u>AUG</u>	APPROVED BY: _____ DIRECTOR, BUREAU OF DEVELOPMENT	_____ F.H.W.A. APPROVAL	<u>11/2/2017</u> PLAN DATE

2 POST SIGN SUPPORT SPACING



3 POST SIGN SUPPORT SPACING



* FOR ALL 11' AND 12' LONG SIGNS ON 3 WOOD SUPPORTS, SPREAD POSTS SO AS TO HAVE A 8' MIN. TO 9' MAX. DISTANCE BETWEEN OUTSIDE POSTS.

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN

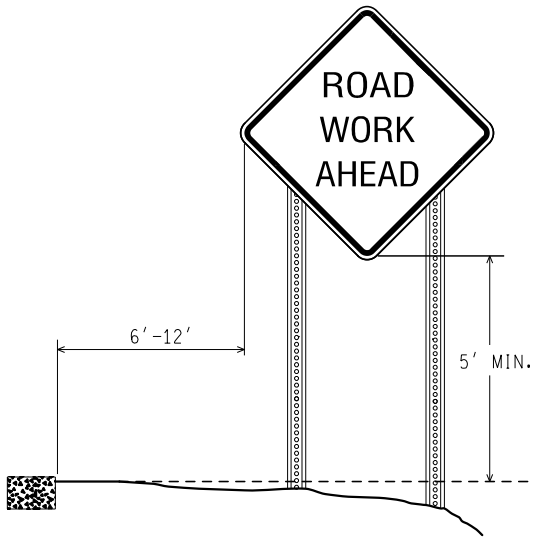
F.H.W.A. APPROVAL

11/2/2017
PLAN DATE

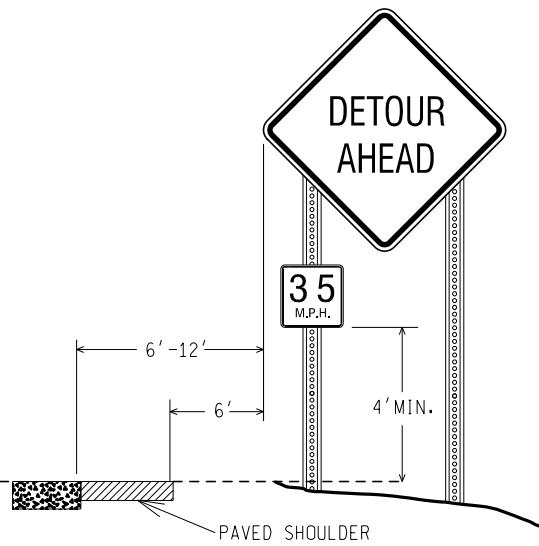
WZD-100-A

SHEET
2 OF 11

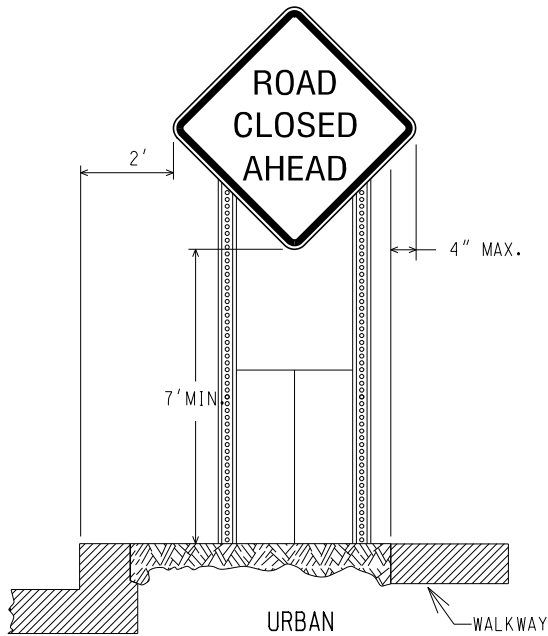
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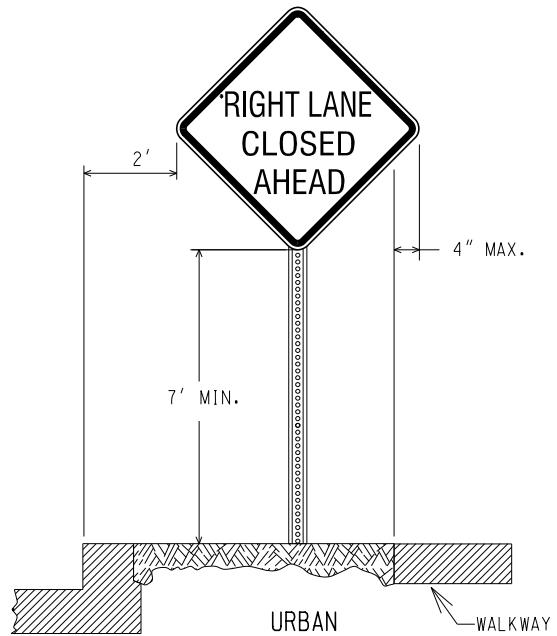
RURAL



RURAL WITH ADVISORY SPEED PLATE



(CURBED AREAS OR WHERE WALKWAYS ARE PRESENT)



(CURBED AREAS OR WHERE WALKWAYS ARE PRESENT)

BOTTOM HEIGHT AND OFFSET

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN

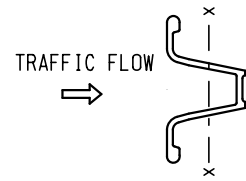
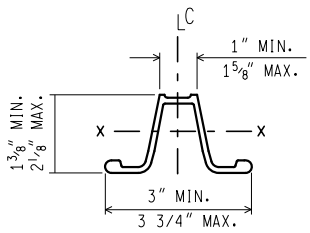
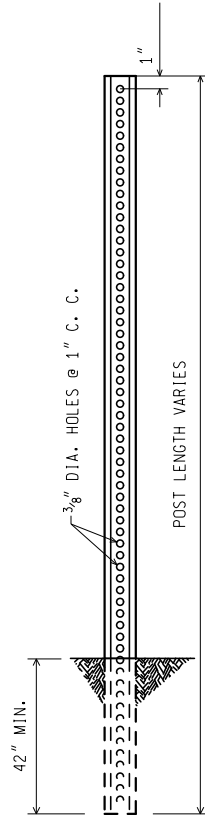
F.H.W.A. APPROVAL

11/2/2017
PLAN DATE

WZD-100-A

SHEET
3 OF 11

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WEIGHT = 3 lbs/ft
 SECT. MOD. X.-X. = 0.31 CUBIC INCHES MIN.

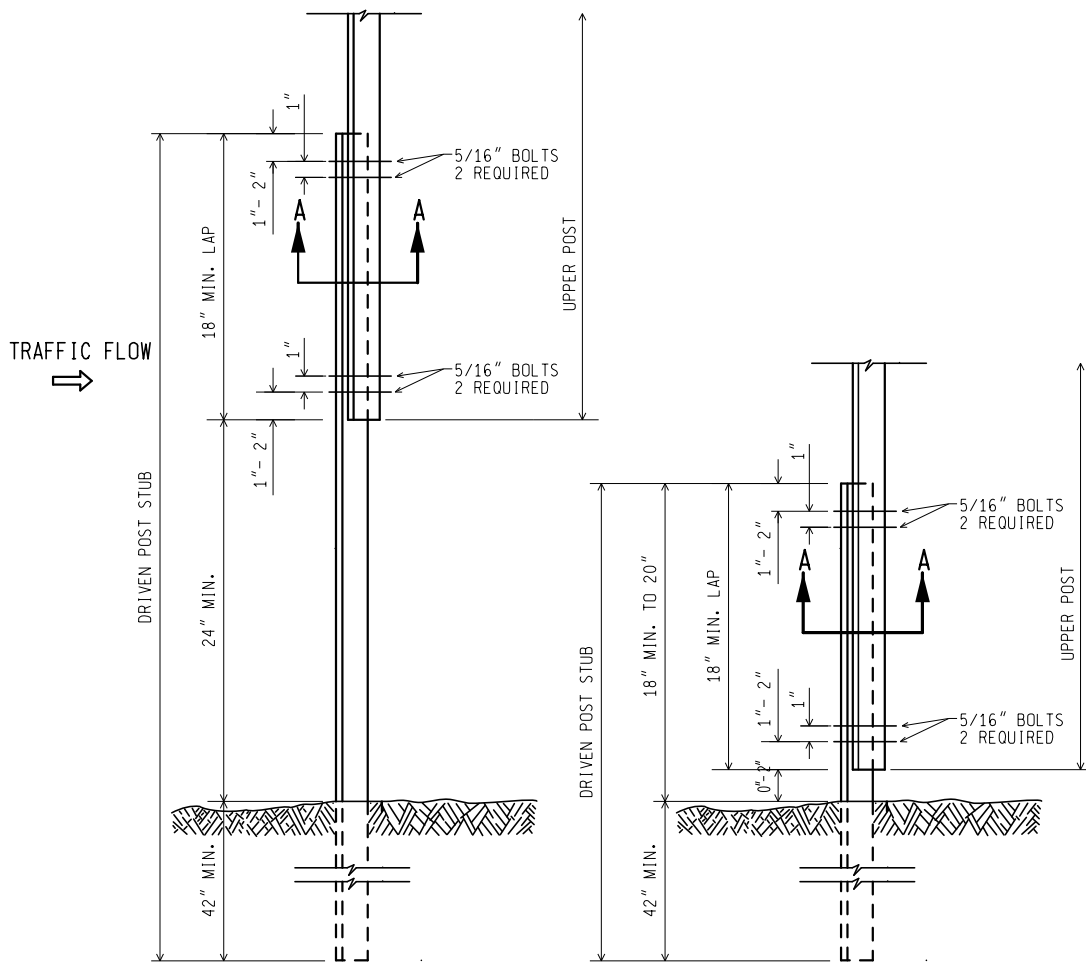
3 lb. U - CHANNEL STEEL POST
 (NO SPLICE)

MOUNT SIGN ON OPEN FACE OF
 U - CHANNEL STEEL POST

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN	F.H.W.A. APPROVAL	11/2/2017 PLAN DATE	WZD-100-A	SHEET 4 OF 11
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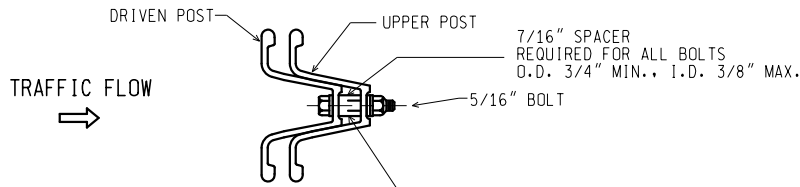
3 lb. U - CHANNEL STEEL POST
(WITH SPLICE)

MOUNT SIGN ON OPEN FACE OF
UPPER U - CHANNEL STEEL POST

NOT TO SCALE

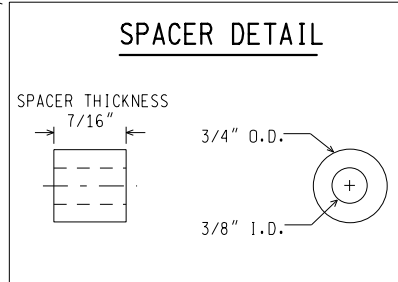
MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN	F.H.W.A. APPROVAL	11/2/2017 PLAN DATE	WZD-100-A	SHEET 5 OF 11
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SECTION A-A

7/16" SPACER
 REQUIRED FOR ALL BOLTS
 O.D. 3/4" MIN., I.D. 3/8" MAX.



NOTES:

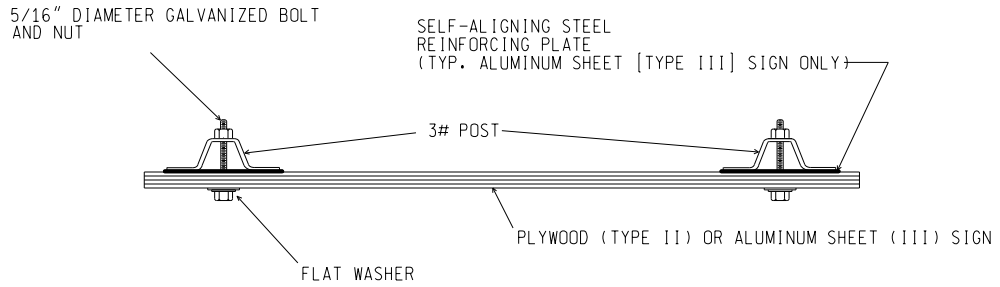
1. THE SPACER THICKNESS SHALL BE 1/16" LESS THAN THE GAP BETWEEN THE POST WHEN POSITIONED IN THE UNBOLTED CONFIGURATION.
2. THE EXTERIOR BOLT (CLOSEST TO LAP), SPACER, WASHER, AND NUT SHALL BE INSTALLED IN A PREPUNCHED HOLE 1" TO 2" FROM THE END OF THE LAP.
3. THE INTERIOR BOLT (FARTHEST FROM LAP), SPACER, WASHER, AND NUT SHALL BE INSTALLED IN THE NEXT PREPUNCHED HOLE.
4. THE DRIVEN POST SHALL ALWAYS BE MOUNTED IN FRONT OF THE UPPER POST WITH RESPECT TO THE ADJACENT ONCOMING TRAFFIC, REGARDLESS OF THE DIRECTION THE SIGN IS FACING.
5. THE SPLICE LAP SHALL BE FASTENED BY FOUR-5/16" DIA. GALVANIZED A449 BOLTS (SAE J429 GRADE 5) OR GALVANIZED A325 BOLTS.

3 lb. U - CHANNEL STEEL POST
 (WITH SPLICE)

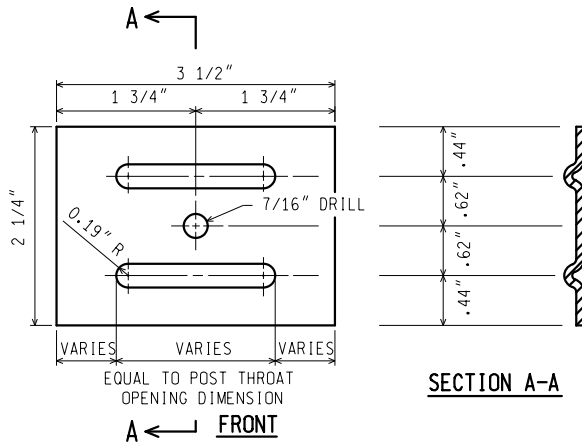
NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN	F.H.W.A. APPROVAL	11/2/2017 PLAN DATE	WZD-100-A	SHEET 6 OF 11
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SIGN TO 3 lb. POST CONNECTION



NOTES: (FOR STEEL SIGN REINF' PLATE)

1. MATERIAL: 12 GAUGE CARBON STEEL.
2. TOLERANCE ON ALL DIMENSIONS $\pm 0.0625"$
3. FINISH-AFTER STAMPING AND PUNCHING, GALVANIZE ACCORDING TO CURRENT SPECIFICATIONS FOR ZINC (HOT GALVANIZE) COATINGS ON PRODUCTS FABRICATED FROM PLATES OR STRIPS

STEEL SIGN REINFORCING PLATE
REQUIRED FOR TYPE III SIGNS ONLY

3 lb. U - CHANNEL STEEL POST SIGN CONNECTION

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN

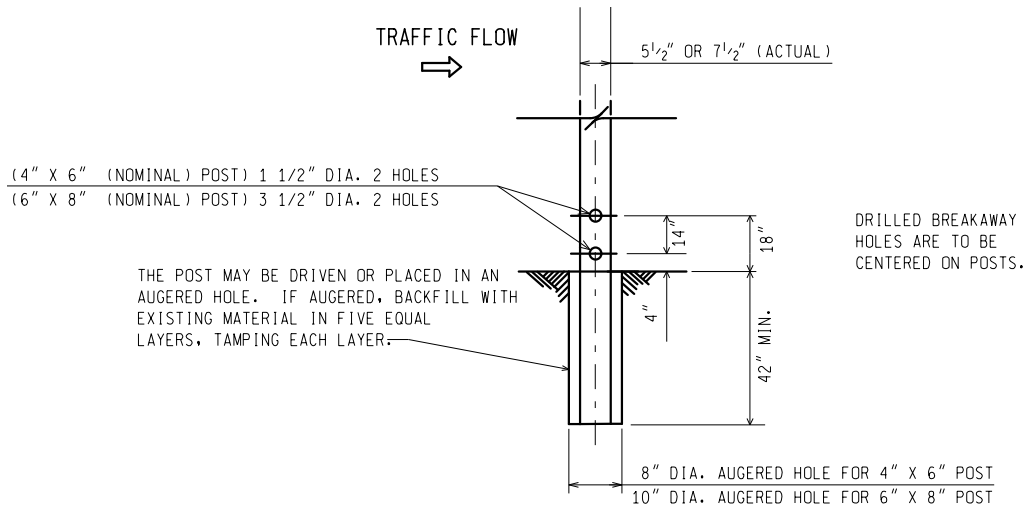
F.H.W.A. APPROVAL

11/2/2017
PLAN DATE

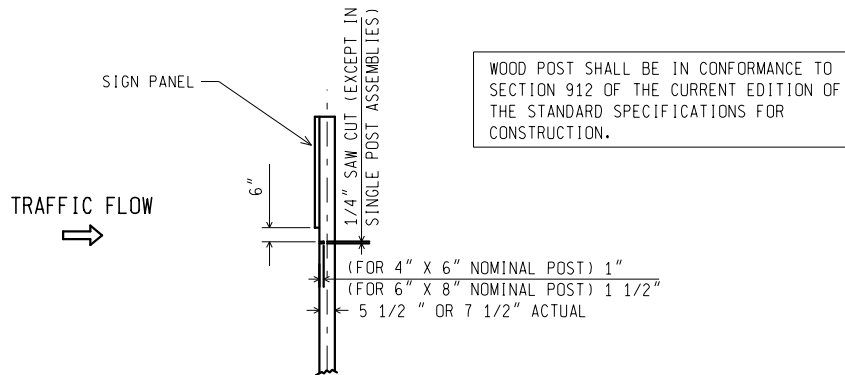
WZD-100-A

SHEET
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**WOOD POST BREAKAWAY HOLES/
DIRECT EMBEDMENT DETAILS**



**SAW CUT DETAIL
(MULTIPLE POST INSTALLATIONS)**

WOOD POST DETAILS

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN

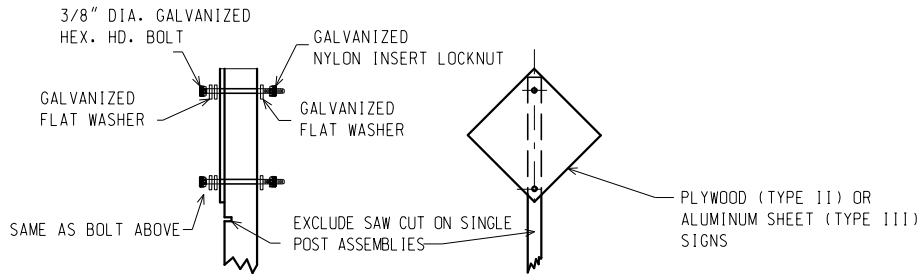
F.H.W.A. APPROVAL

11/2/2017
PLAN DATE

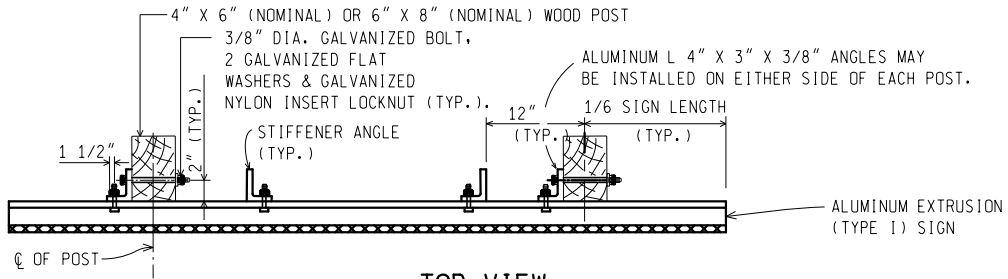
WZD-100-A

SHEET
8 OF 11

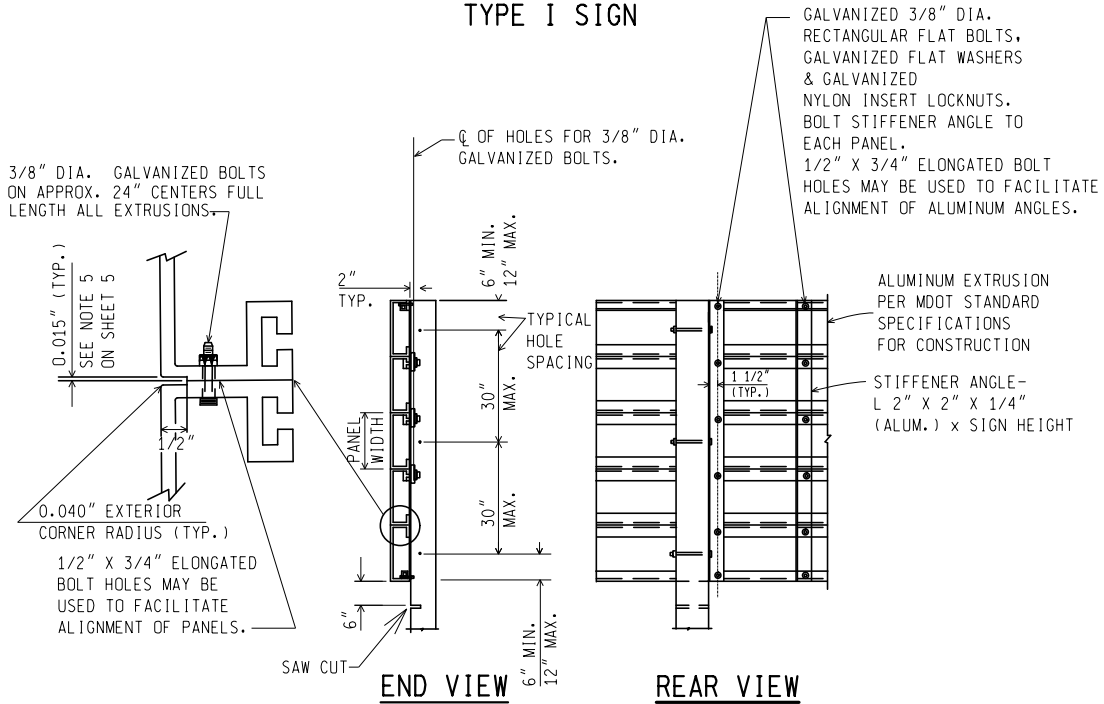
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TYPE II AND TYPE III SIGNS



**TOP VIEW
TYPE I SIGN**



TYPE I SIGN - ERECTION DETAILS

WOOD POST CONNECTIONS

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN

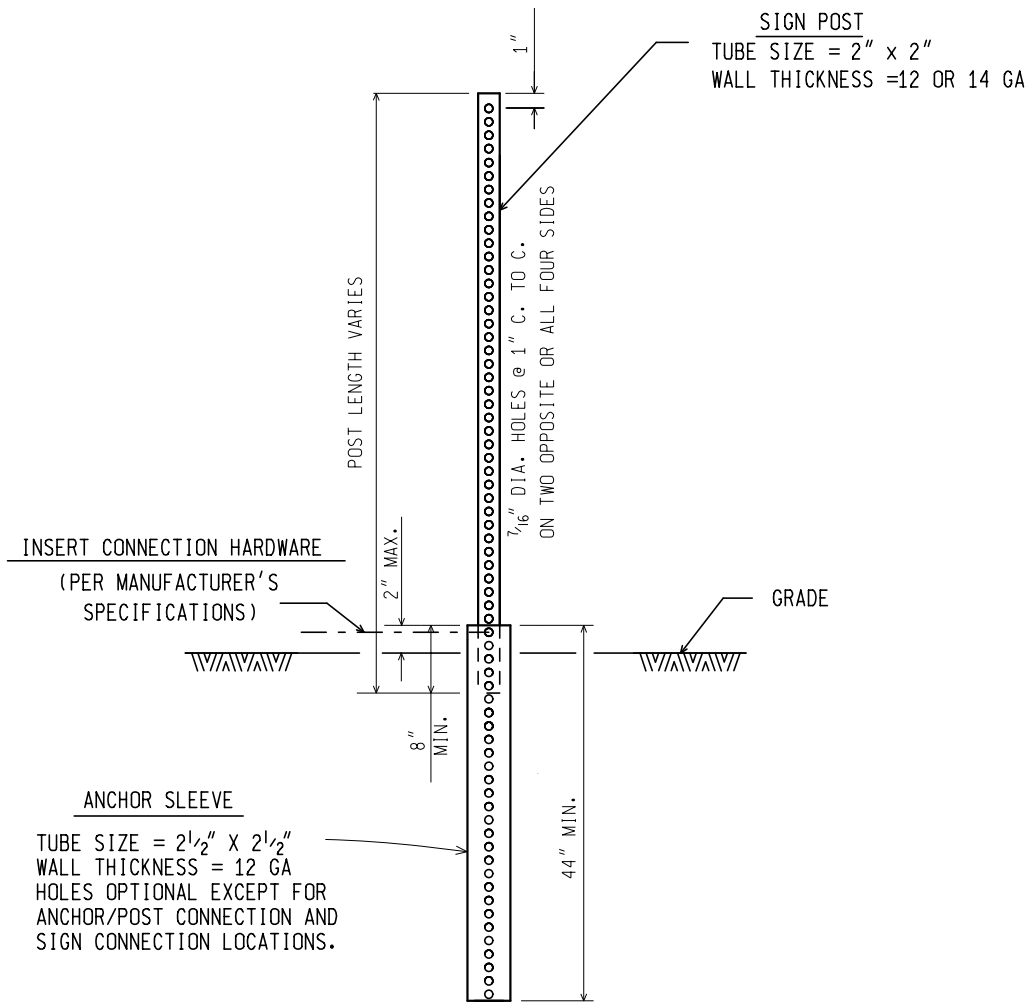
F.H.W.A. APPROVAL

11/2/2017
PLAN DATE

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SQUARE TUBULAR STEEL POST

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN	F.H.W.A. APPROVAL	11/2/2017 PLAN DATE	WZD-100-A	SHEET 10 OF 11
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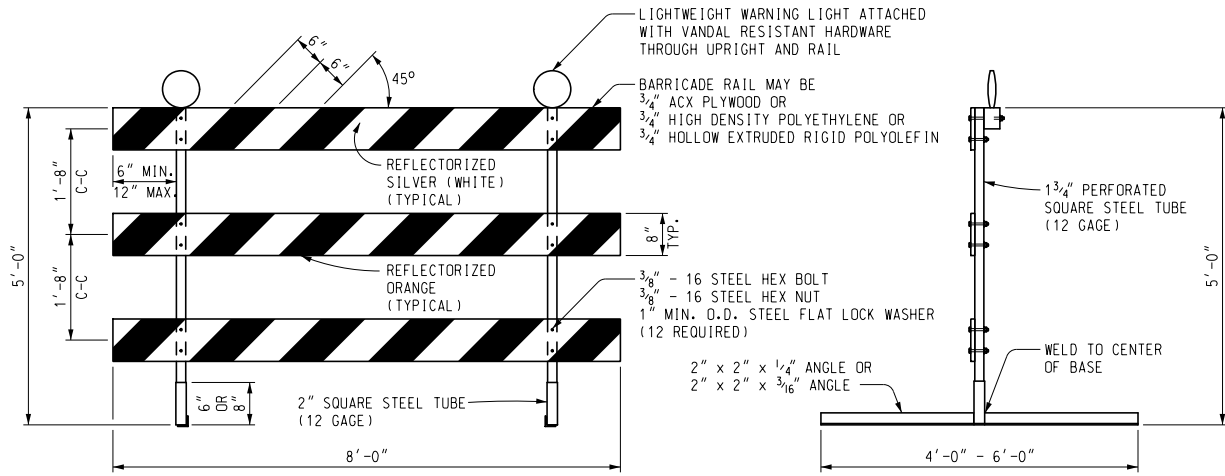
GENERAL NOTES:

1. A MAXIMUM OF TWO POSTS WITHIN A 7 FOOT PATH IS PERMITTED.
2. ALL SIGN POSTS SHALL COMPLY WITH NCHRP 350.
3. ALL POSTS SHALL BE EMBEDDED A MINIMUM OF 42".
4. BRACING OF POST IS NOT PERMITTED.
5. SIGN SHALL BE LEVEL, AND UPRIGHT FOR THE DURATION OF INSTALLATION.
6. ERECT POSTS SO THE SIGN FACE AND SUPPORTS DO NOT VARY FROM PLUMB BY MORE THAN 3/16" IN 3'. PROVIDE A CENTER-TO-CENTER DISTANCE BETWEEN POSTS WITHIN 2 PERCENT OF PLAN DISTANCE.
7. NO MORE THAN ONE SPLICE PER POST, AS SHOWN, WILL BE PERMITTED.
8. POST TYPES SHALL NOT BE MIXED WITHIN A SIGN SUPPORT INSTALLATION.
9. NO VERTICAL JOINTS ARE PERMITTED IN SIGN. NO HORIZONTAL JOINTS THROUGH SIGN LEGEND OR SYMBOLS ARE PERMITTED IN SIGN
10. REMOVE SIGN POSTS AND/OR POST STUBS IN THEIR ENTIRETY WHEN NO LONGER REQUIRED.
11. ALL LABOR, MATERIALS, AND EQUIPMENT, INCLUDING TEMPORARY SUPPORTS REQUIRED TO INSTALL, MAINTAIN, RELOCATE, AND/OR REMOVE THE TEMPORARY SIGN, INCLUDING SUPPORTS, ARE CONSIDERED TO BE INCLUDED IN THE COST OF THE TEMPORARY SIGN.
12. SAW CUTS IN WOOD POSTS ARE TO BE PARALLEL TO THE BOTTOM OF THE SIGN.
13. POSTS SHALL NOT EXTEND MORE THAN 4" ABOVE TOP OF SIGN.
14. TEMPORARY WOOD SUPPORTS DO NOT REQUIRE PRESERVATIVE TREATMENT.

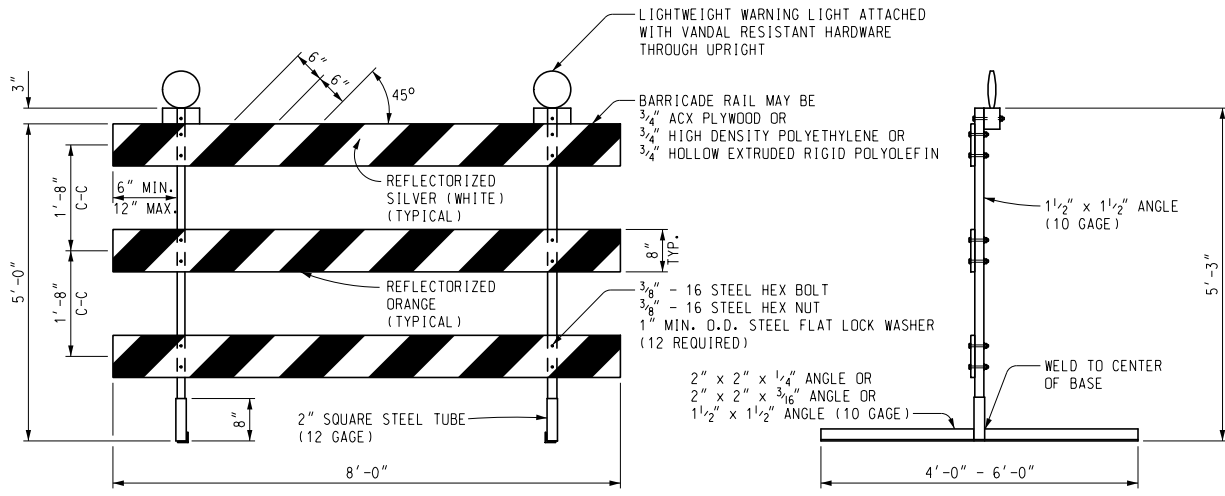
NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN	F.H.W.A. APPROVAL	11/2/2017 PLAN DATE	WZD-100-A	SHEET 11 OF 11
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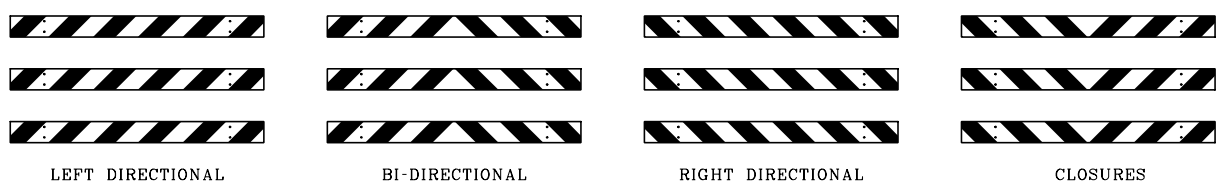
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FRONT ELEVATION SIDE VIEW
PERFORATED SQUARE STEEL TUBE OPTION



FRONT ELEVATION SIDE VIEW
ANGLE IRON OPTION



**BARRICADE RAIL SHEETING OPTIONS
 TYPE III BARRICADES**

Other Type III Barricades meeting current NCHRP crash worthy criteria can be found on the FHWA Safety website at http://safety.fhwa.dot.gov/roadway_dept/road_hardware/wzd.htm

MDOT
 Michigan Department of Transportation

PREPARED BY
 OPERATIONS
 FIELD SERVICES

DRAWN BY: ECH

CHECKED BY: MWB

DEPARTMENT DIRECTOR
 Paul C. Ajegba

APPROVED BY: _____
 DIRECTOR, BUREAU OF FIELD SERVICES

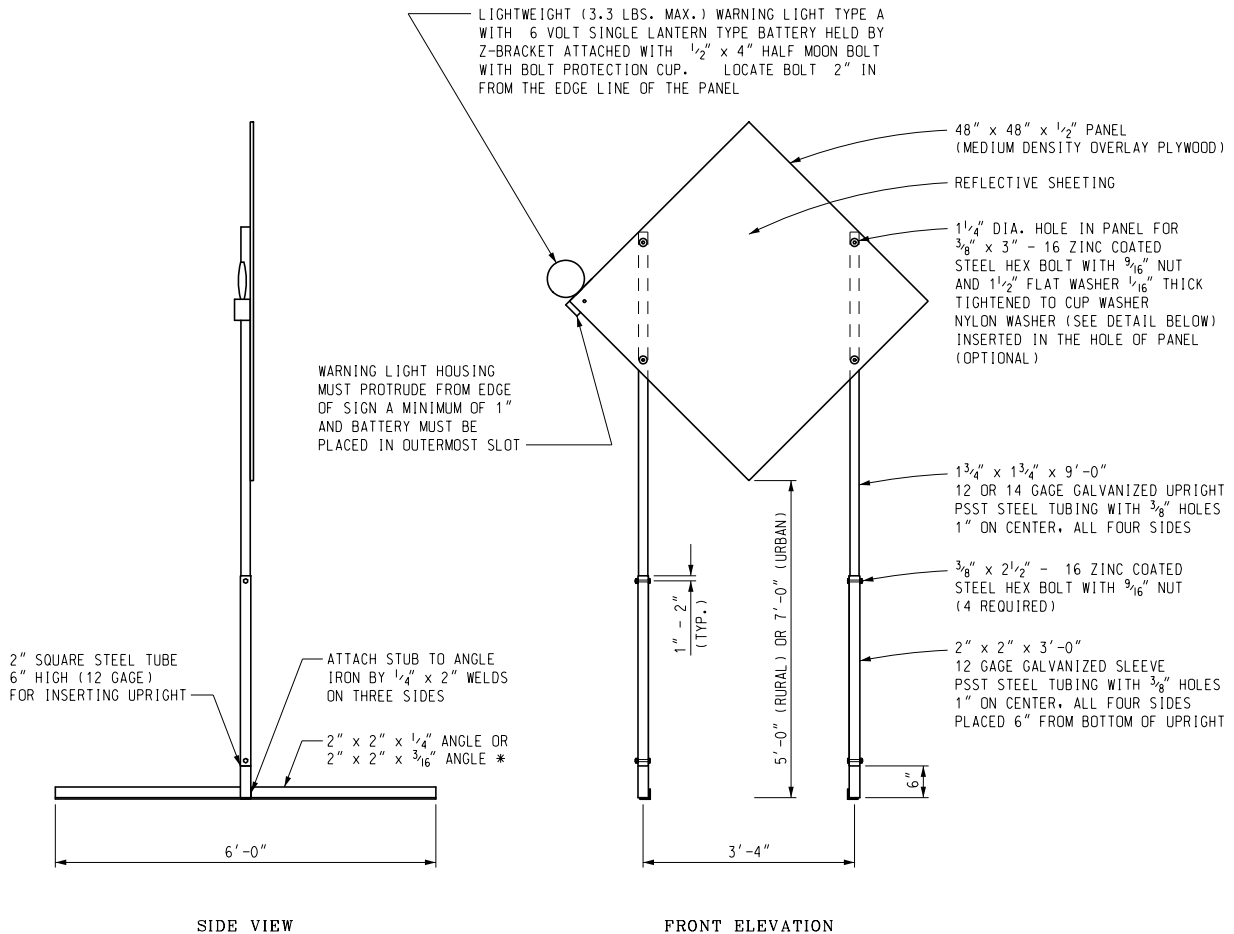
APPROVED BY: _____
 (SPECIAL DETAIL)
 DIRECTOR, BUREAU OF HIGHWAY DEVELOPMENT

MICHIGAN DEPARTMENT OF TRANSPORTATION
 BUREAU OF FIELD SERVICES SPECIAL DETAIL FOR

Temporary
 Traffic Control Devices

_____ 6/16/22 _____
 F.H.W.A. APPROVAL PLAN DATE

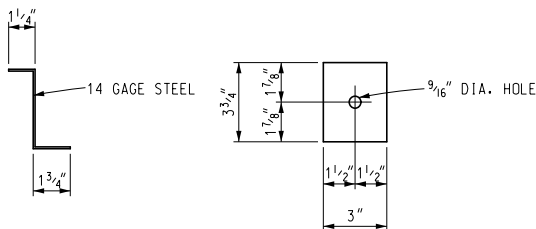
WZD-125-E SHEET 1 OF 3



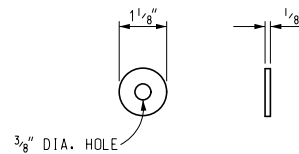
TEMPORARY SIGN SUPPORT

(WARNING LIGHT PLACED ON SIDE CLOSEST TO TRAFFIC)

* SIGN STAND IS BALLASTED WITH FOUR OR MORE 35 LB SANDBAGS. A MINIMUM OF ONE ON EACH END. UPRIGHTS SHALL NOT EXTEND ABOVE THE SIGN PANEL.



Z-BRACKET DETAIL



OPTIONAL NYLON WASHER

Other temporary sign supports meeting current NCHRP crash worthy criteria can be found on the FHWA Safety website at http://safety.fhwa.dot.gov/roadway_dept/road_hardware/wzd.htm

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF FIELD SERVICES SPECIAL DETAIL

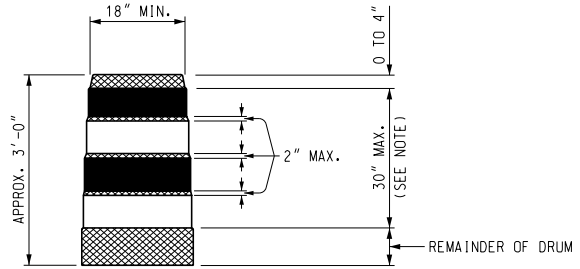
SPECIAL DETAIL
F.H.W.A. APPROVAL

6/16/22
PLAN DATE

WZD-125-E

SHEET
2 OF 3

NOTE: THE ORIGINAL SIGNED COPY IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.



- REFLECTORIZED ORANGE
- REFLECTORIZED WHITE
- NON REFLECTORIZED ORANGE

NOTE:
 DRUMS SHALL HAVE AT LEAST 4 HORIZONTAL REFLECTORIZED STRIPES (2 ORANGE AND 2 WHITE) OF 6" UNIFORM WIDTH, ALTERNATING IN COLOR WITH THE TOPMOST REFLECTORIZED STRIPE BEING ORANGE. NON REFLECTORIZED SPACES BETWEEN THE HORIZONTAL REFLECTORIZED ORANGE AND WHITE STRIPES SHALL BE ORANGE IN COLOR AND EQUAL IN WIDTH.

PLASTIC DRUM

NOTES:

2" PERFORATED SQUARE STEEL TUBES MAY BE USED TO FABRICATE THE HORIZONTAL BASE OF THE TYPE III BARRICADE.

WARNING LIGHTS SHALL BE PLACED ACCORDING TO THE CURRENT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND ALL OTHER PROVISIONS IN THE CONTRACT ON TYPE III BARRICADES.

SEE ROAD STANDARD PLANS R-113-SERIES FOR TEMPORARY CROSSOVERS FOR DIVIDED ROADWAY, AND R-126-SERIES FOR TYPICAL LOCATION AND SPACING OF PLASTIC DRUMS FOR PLACEMENT OF TEMPORARY CONCRETE BARRIER.

SIGNS, BARRICADES, AND PLASTIC DRUMS SHALL BE FACED WITH PRESSURE-SENSITIVE REFLECTIVE SHEETING ACCORDING TO THE CURRENT STANDARD SPECIFICATIONS FOR CONSTRUCTION.

SANDBAGS SHALL BE USED WHEN SUPPLEMENTAL WEIGHTS ARE REQUIRED TO ACHIEVE STABILITY OF THE BARRICADE. THE SANDBAGS SHALL BE PLACED SO THEY WILL NOT COVER OR OBSTRUCT ANY REFLECTIVE PORTION OF THE TRAFFIC CONTROL DEVICE.

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF FIELD SERVICES SPECIAL DETAIL	(SPECIAL DETAIL) F.H.W.A. APPROVAL	6/16/22 PLAN DATE	WZD-125-E	SHEET 3 OF 3
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MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
BRIDGE CLEANING

STM:JD

1 of 2

APPR:JAB:JDG:07-30-20

a. Description. This work consists of removing all accumulated foreign material from the entire bridge, including the bridge deck, sidewalk, curbs, abutment tops, pier tops, trusses, interior of truss members, lower flanges of beams or girders, expansion joints, bearings and bridge drain systems to the extent shown on the plans, or as directed by the Engineer. Contractors are advised that bridges are often attractive places for nesting birds such as swallows and phoebes. Taking of migratory birds or nests with eggs and chicks without a federal permit is prohibited by the Migratory Bird Treaty Act (16 U.S.C. 703-712). This federal law protects migratory birds, their nests and young, and provides enforcement authority to the U.S. Fish and Wildlife Service and contains severe penalties for violations. Adherence of MDOT to these provisions by the FHWA is required under Federal law. Where active migratory bird nests are present, this work is prohibited from April 15 to September 1.

b. Materials. Provide potable water in accordance with section 911 of the Standard Specifications for Construction.

c. Construction.

1. Provide cleaning equipment consisting of hand tools, power brooms, air compressors, water tanks and water pumps with associated delivery hardware necessary to properly flush, clean, and remove all foreign material from the bridge structure. Other types of cleaning equipment may be used with the Engineer's approval.

2. Prior to cleaning with water pressure, remove all accumulated foreign material from the bridge including the bridge deck, sidewalk, curbs, abutment tops, pier tops, trusses, interior of truss members, lower flanges of beams or girders, expansion joints, bearings, bridge drain systems and other locations specified, and as directed by the Engineer. Remove the accumulated sand, gravel, dirt, bird nests and excreta, and other foreign materials with hand brooms, hand shovels, scrapers, vacuum cleaners, or other methods acceptable to the Engineer. Collect this removed material and dispose of it at an approved waste area in accordance with Federal, State and Local regulations. Do not at any time allow this removed material to fall or be disposed of in the water or on the land below the bridge.

3. Use sufficient water under pressure to remove salt contaminants, dirt, and other detrimental foreign matter without damaging the concrete, coatings, or removing paint from any structural steel. Stop the cleaning operation if damage to existing paint coverage occurs. In this situation, adjust the water pressure to remove foreign material without damaging or removing existing paint coverage.

4. Flush all deck drains and scuppers with water under pressure after the accumulated foreign material in them has been properly removed. Drain systems may have to be taken apart to remove large blockages of accumulated foreign material. Should this be necessary,

return them to their original configuration immediately after cleaning. Ensure drain systems drain properly after cleaning.

d. Measurement and Payment. The completed work, as described, will be measured as a lump sum and paid for at the contract price using the following pay item:

Pay Item	Pay Unit
Bridge Cleaning (Structure Identification)	Lump Sum

Bridge Cleaning (Structure Identification) includes all cost associated with disposal of foreign material removed from the structure.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
MIXING PORTLAND CEMENT CONCRETE

CFS:JFS

1 of 1

APPR:CPM:TEB:12-17-21
FHWA:APPR:12-20-21

Add the following paragraph to subsection 1001.03.E.1 of the Standard Specifications for Construction:

Weigh and batch each material into its respective weighing device within the tolerance from the individual batch weights or quantities documented in the approved JMF as follows:

- a. Cementitious Materials. Provide cementitious materials within -2.0 percent to +5.0 percent of the required weight.
- b. Aggregates. Provide aggregate within ± 3.0 percent of the required weight.
- c. Water. Provide net water to not exceed the required water quantity and the required maximum water/cementitious ratio (w/cm).
- d. Air Entraining Admixtures. Provide the necessary quantity or dosage rate per 100 pounds of cementitious material to achieve the required air content of fresh concrete.
- e. Other Admixtures. Provide water-reducing and other admixtures within ± 3.0 percent of the required quantity.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
**ALKALI SILICA REACTIVITY OF FINE AGGREGATE USED IN PORTLAND
CEMENT CONCRETE**

CFS:CPM

1 of 2

APPR:TES:JFS:05-19-20
FHWA:APPR:05-27-20

a. Description. This special provision sets out the requirements for all fine aggregate used in Portland cement concrete (PCC) mixtures to be tested by an independent testing laboratory and determined to be resistant to the potential for deleterious expansion caused by alkali-silica reactivity (ASR). ASR testing is not required for concrete pavement repairs, temporary concrete pavements, and other items covered by the contract.

Except as explicitly modified by this special provision, all materials, test methods, and PCC mixture requirements of the standard specifications and the contract apply.

b. Definition. ASR is a chemical reaction which occurs over time within concrete between highly alkaline cement paste and reactive forms of silica found in some aggregates. In the presence of moisture, an expansive ASR gel is formed which can exert pressure within the concrete, causing random cracking and premature deterioration of the concrete.

c. Laboratory Requirements. The independent laboratory, including all associated testing equipment and staff performing ASR testing of aggregates, must be proficient in ASR testing in accordance with the applicable test methods and procedures. The laboratory must provide documentation to the Regions that they are qualified and proficient to conduct ASR testing in accordance with the required test procedures.

d. Laboratory Testing Requirements. Perform testing on fine aggregate proposed to be used in any PCC Job Mix Formula (JMF). The Contractor must ensure the testing is conducted in accordance with a designated standard test procedure described herein. Test results must conform to the specified criterion for one of the following standard test methods. The Rounding Method described in *ASTM E29* must be used when reporting expansion test results.

(1) Method 1. *ASTM C1293*. Concrete Prism Test. If the expansion of concrete prisms is not greater than 0.040 percent (rounded to the nearest 0.001 percent) after 1 year, the fine aggregate is considered non-deleterious to ASR and may be used in the JMF.

(2) Method 2. *ASTM C1567*. Mortar Bar Test. If no previous test data are available for the fine aggregate that shows it is resistant to ASR using Method 1, above, replace 25 to 40 percent of the Portland cement in the concrete mixture with a supplementary cementitious material (slag cement or fly ash). A blended cement meeting the requirements of *ASTM C595/C595M* containing the above Portland cement and supplementary cementitious material proportions may also be used.

Demonstrate the ability of the supplementary cementitious material to control the deleterious expansion caused by ASR by molding and testing mortar bars in accordance with the standard

test method described in *ASTM C1567* using the mix proportions and constituent sources for both the aggregates and the cementitious materials that will be used for the project. Make at least three test specimens for each cementitious materials-aggregate combination. If the average of three mortar bars for a given cementitious materials-aggregate combination produces an expansion less than 0.10 percent (rounded to the nearest 0.01 percent) at 14 days of immersion, the JMF associated with that combination will be considered non-deleterious to ASR. If the average expansion is 0.10 percent (rounded to the nearest 0.01 percent) or greater, the JMF associated with that combination will be considered not sufficient to control the deleterious expansion caused by ASR and the JMF will be rejected.

(3) Method 3. *ASTM C1260*. Mortar Bar Test. If the expansion of the mortar bars is less than 0.10 percent (rounded to the nearest 0.01 percent) at 14 days of immersion, the fine aggregate is considered non-deleterious to ASR and may be used in the concrete without the need for ASR mitigation.

The Engineer will not approve the use of the JMF if the expansion exceeds the threshold limits for the respective *ASTM* test method used. The test results and report are valid for 2 years from the completion of testing.

e. Submittals. A current ASR test report for the fine aggregate proposed to be used in the Job Mix Formula (JMF) must accompany each JMF. Ensure the ASR test report is accompanied by a certification stating which test procedure was followed and that all testing was conducted in accordance with the designated standard test procedure.

f. Measurement and Payment. All materials, labor, equipment, and laboratory facilities necessary to complete the work in accordance with this special provision is included in other contract pay items and no additional compensation will be permitted.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
**QUALITY INDEX FOR PORTLAND CEMENT CONCRETE (FOR LOCAL AGENCY
PROJECTS ONLY)**

CFS:CPM

1 of 4

APPR:TES:JFS:05-28-20

FHWA:APPR:06-04-20

a. Description. This special provision establishes pay factor and price adjustments for Portland cement concrete (PCC) based on Quality Assurance (QA) testing of 28-day compressive strength and fresh concrete air content of PCC. Perform all work in accordance with the standard specifications and this special provision.

b. Materials. Mixture requirements will be in accordance with section 1004 of the Standard Specifications for Construction, unless otherwise specified in the contract.

c. Sampling. Sampling will be in accordance with subsections 1003.03.H and 1003.03.L of the Standard Specifications for Construction, except as modified herein. A sample is defined as a representative quantity of concrete taken during production which is used to measure the quality characteristics for the concrete. Compressive strength specimens for each sample consist of two cylinders, either 4-inch by 8-inch or 6-inch by 12-inch. A random number will be generated for each respective subplot. The sampling frequency for a production lot is one QA sample per subplot.

See subsection 1003.03.J in the Standard Specifications for Construction for reduced sampling and testing for small incidental quantities.

d. Quality Index Analysis. The Engineer's QA test results will be used to determine the pay factor (PF) and price adjustment (ADJ). The Contractor QC test results will be not used for PF and ADJ analysis. The Engineer will complete PF and ADJ analysis within 7 working days after completion of all 28-day compressive strength testing for the represented production lot or quantity of concrete. All values of PF and OLPF in these formulas are decimal, not percent. All values of PF and OLPF are rounded to two decimal places.

Table 1: Quality Index Parameter Specification Limits

Quality Characteristic	Specification Limits
Air Content of Fresh Concrete (percent)	5.5 – 8.5
Rejection Limit (percent)	<5.0 or >9.0
Conc. Temp. (deg. F)	45 - 90 at time of placement
Slump (max.) (inch)	See footnotes a through l in Table 1004-1 of the Standard Specifications for Construction
28-day Compressive Strength (psi)	For LSL see Table 2
Rejection Limit - 28-day Compressive Strength	See Table 2

Table 2: Quality Index Parameter Specification Limits for 28-Day Compressive Strength

Parameter	Grade of Concrete						
	3000	3500	3500HP	4000	4000HP	4500	4500HP
Lower Specification Limit (psi)	3000	3500	3500	4000	4000	4500	4500
Rejection Limit for an Individual Strength Sample Test Result (psi)	2500	3000	3000	3500	3500	4000	4000

1. Pay Factor for 28-Day Compressive Strength (PF_s). (not to exceed 1.00)

$$PF_s = (\text{QA Test Strength})/\text{LSL}$$

Where:

QA Test Strength = QA 28-day compressive strength sample test result.

LSL = Lower specification limit (see Table 2).

If the tested strength does not meet the rejection limit specified in Table 2, the Engineer will require additional evaluation as described in section e of this special provision.

2. Pay Factor for Air Content of Fresh Concrete (PF_{ac}). The pay factor for air content of fresh concrete (PF_{ac}) will be in accordance with Table 3.

Table 3: Air Content of Fresh Concrete Pay Factor (PF_{ac})

Air Content of Fresh Concrete (percent)	Pay Factor (PF_{ac})
5.5 – 8.5	1.00
5.0 – 5.4	0.50
Below 5.0	Rejection
8.6 – 9.0	0.75
Above 9.0	Rejection

If the air content of fresh concrete is below 5.0 or above 9.0 percent, the Engineer will elect to do one of the following:

A. Require removal and replacement of the entire quantity of concrete represented by the test with new testing conducted on the replacement concrete and repeat the evaluation procedure.

B. Allow submittal of a corrective action plan for the Engineer's approval. If the Engineer does not approve the plan for corrective action, subsection d.2.A. will be applied. All costs associated with plan submittal and corrective action under this subsection will be borne by the Contractor.

3. Overall Lot Pay Factor (OLPF). Use the following formula to determine the OLPF and ADJ. The OLPF will not exceed 1.00:

$$\text{OLPF} = (0.60 \times \text{PF}_s) + (0.40 \times \text{PF}_{ac})$$

Where:

PF_{ac} = Pay factor for Air Content (see Table 3)

4. Price Adjustment (ADJ). Use the following formula to determine the ADJ.

$$\text{ADJ} = (\text{OLPF} - 1)(\text{Price})$$

5. Price Adjustment for Small Incidental Quantities. Price adjustment for 28-day compressive strength deficiencies will be based on test results for the corresponding weekly QA test specimens and the pay factor (PF_s) calculated in accordance with the formula defined in subsection d.1. The price adjustment is calculated by the following equation:

$$(\text{ADJ}) = (\text{PF}_s - 1)(\text{Price})$$

Where:

ADJ = Price adjustment per pay unit to be applied to the quantity represented by the QA test.

PF_s = Pay Factor for 28-day compressive strength (not to exceed 1.00).

Price = Base price when established for the pay item or the Contractors unit price bid when concrete is included in another pay item without a base price.

e. Evaluation of Rejectable Concrete. The Engineer will require additional evaluation to decide what further action may be warranted. Acceptance for air content of fresh concrete will be based on QA test results reported at the time of concrete placement.

If the Engineer determines that non-destructive testing (NDT) is appropriate, this work will be done by the Contractor in the presence of the Engineer within 45 calendar days of concrete placement. All costs associated with this work will be borne by the Contractor. Ensure complete set of non-destructive tests is conducted (in accordance with the respective standard test method) at a minimum three randomly selected locations. If NDT is used to estimate the in-situ strength, a calibrated relationship between the project job mix formula (JMF) under evaluation and the NDT apparatus must have been established prior to NDT testing in accordance with its respective standard test method.

If the 28-day compressive strength QA test results show that the rejection limit (as specified in Table 2) has not been achieved, the quantity of concrete under evaluation will be rejected and the Engineer will require additional evaluation to decide what further action may be warranted.

Propose an evaluation plan and submit it to the Engineer for approval before proceeding. The results from NDT will be used only to decide what further action is required. This determination will be made by the Engineer, as follows:

1. For Non-structural Concrete. If no test result from non-destructive testing falls below the lower specification limit (LSL) 28-day compressive strength, the represented quantity of

concrete under evaluation will remain in place and a pay factor for 28-day compressive strength (PF_s) of 1.00 will be applied for overall lot pay factor (OLPF) and price adjustment (ADJ) determinations in accordance with section d of this special provision.

2. For Structural Concrete (including overhead sign foundations). If no test result from non-destructive testing falls below the lower specification limit (LSL), the represented quantity of concrete under evaluation will remain in place and a pay factor for 28-day compressive strength (PF_s) of 0.85 will be applied for overall lot pay factor (OLPF) and price adjustment (ADJ) determinations will be in accordance with section d of this special provision.

3. If one or more of the non-destructive test results fall below the lower specification limit (LSL) 28-day compressive strength, the Engineer may elect to do one of the following:

A. Require removal and replacement of the entire rejected quantity of concrete, including new initial tests for quality index analysis conducted in accordance with section d of this special provision.

B. Allow the Contractor to submit a plan for corrective action, for the Engineer's approval, to address the disposition of the rejected concrete. If the Engineer does not approve the plan for corrective action, subsection e.3.A of this special provision will be applied. All costs associated with plan submittal and corrective action under this subsection will be borne by the Contractor.

C. Allow the in-situ quantity of concrete under evaluation to remain in place and a pay factor (PF_s) of 0.50 will be applied for overall lot pay factor (OLPF) and price adjustment (ADJ) determinations will be in accordance with section d of this special provision.

f. Measurement and Payment. If a price adjustment is made for reasons included in this special provision, that adjustment will be made using the base price established for the specific item. If a contract unit price requires adjustment for other reasons not described in this special provision, the adjustments will be made using the original unit price and the adjustments will be cumulative.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
VALUE ENGINEERING CHANGE PROPOSAL

COS:MRB

1 of 4

APPR:CJB:JJG:04-30-20
FHWA:APPR:05-06-20

a. Description. A value engineering change proposal (VECP) modifying plans, specifications, or other contract requirements may be submitted for this project if the proposed change results in reduced construction cost, a higher quality product, improved safety, or a shorter contract time. The estimated cost savings must be quantifiable in relation to the contract cost. No work can begin before written authorization. The proposed change must not alter the essential functions or characteristics of the project or significantly delay the completion of the project. A VECP or conceptual VECP will only be considered after project award. Essential functions and characteristics include, but are not limited to, service life, operating costs, ease of maintenance, desired appearance, impact on utilities and right-of-way, mobility and safety of the motorist, bicyclist and pedestrian; safety of all onsite workers (construction, inspection, testing, etc.) in the progress of the work, design standards, and safety standards. This special provision does not restrict the Contractor from proposing improvements to the project that may not result in net cost savings. A conceptual VECP stating the basic concept and approximate cost savings may be submitted for preliminary consideration.

b. Submittal of Conceptual VECP. Submit a conceptual proposal for the preliminary evaluation. Upon review by the Engineer, one of the following actions will be taken:

- Conceptual approval and a request for the Contractor to submit a VECP.
- Request for additional information.
- Denial of the VECP.

Preliminary review of a conceptual proposal reduces the Contractor risk of subsequent denial and does not commit the Department to eventual approval. Submit the following information for each conceptual VECP using the Value Engineering Change Proposal Form (Form # 1962) marked Conceptual VECP.

1. A description of the difference between the existing pay items and the proposed changes, and expected benefits.
2. A set of conceptual plans and a description of proposed changes to the pay items.
3. An estimate of the anticipated cost savings or increase.
4. A date by which the Department must make a decision to avoid delays to the existing contract and obtain the cost savings. Also include information on the amount of time necessary to develop the full proposal and impacts to the progress schedule.
5. If impacting maintenance of traffic provisions, identify proposed changes and impacts to the Special Provision for Maintaining Traffic.

After approval of conceptual VECP, the Contractor must follow section c of this special provision for the final VECP.

c. Submittal of Final VECP. Submit the following information for each VECP using Value Engineering Change Proposal Form (Form # 1962) marked Final VECP.

1. A description of the difference between the existing contract and the proposed change, and the advantages and disadvantages of each, including effects on service life, operating costs, ease of maintenance, desired appearance, impact on utilities and right of way, mobility and safety of the motorist, bicyclist and pedestrian; design standards, and safety standards.
2. A complete set of plans, if necessary, and specifications showing the revisions relative to the original contract. This portion of the submittal must include design notes and construction details. If the proposal has plans, these must be signed and sealed by the Contractor's Professional Engineer licensed in the State of Michigan.
3. All costs and proposed unit prices must be documented by the Contractor and must include a cost comparison summarizing all the items the VECP replaces, reduces, eliminates, adds, or otherwise changes from the original contract on a spreadsheet.
4. A date by which the Department must make a decision to avoid delays to the existing contract and to obtain the proposed cost savings.
5. If impacting maintenance of traffic provisions, identify proposed changes and impacts to the Special Provision for Maintaining Traffic. If the submitted revisions to the maintaining traffic provision are approved and require any corrections, the Contractor is responsible for all additional costs related to corrective measures.
6. A statement detailing the affect the proposal will have on the time for completing the contract and impacts to the critical path and progress schedule.
7. A description of any known uses or testing of the proposed changes and the conditions and the results.
8. If the VECP submittal includes pay items associated with a warranty, include the latest version of the warranty specification.

d. Evaluation. By submitting the VECP, the Contractor agrees not to hold the Department liable for its decision or for any delays to the work attributable to the VECP. Decisions on VECP's are not subject to appeal. Work on the project will continue in accordance with the requirements of the contract until a work order is issued which incorporates the VECP changes. The Department has final authority of the acceptability of a VECP and of the estimated net savings attributable to the adoption of all or any part of the VECP. If, in the judgment of the Engineer, contract prices do not represent a fair measure of the value of work to be performed or to be deleted, the Engineer will use other means to determine the estimated net savings.

The Department may modify a VECP, with the concurrence of the Contractor, in order to make it acceptable. The Contractor's share of the savings will be based on the modified VECP.

If the VECP is accepted, in whole or in part, the written acceptance will be issued by a work order

and followed with a contract modification. The work order and contract modification will include the necessary changes in the plans and specifications and any conditions upon which the approval is based. Acceptance of the VECP will not extend the time of contract completion unless specifically provided for in the work order and contract modification.

A VECP will be evaluated in accordance with the following:

1. The Engineer will determine if a VECP qualifies for consideration and evaluation. The Engineer may deny any VECP that requires excessive time or costs for review, evaluation or investigation. The Engineer may deny any VECP that is not consistent with the Department's design policies and criteria for the project.

2. The Department will not accept a VECP that is similar to a change in the plans or specifications under consideration by the Department for the project at the time the proposal is submitted; nor will the Department accept a proposal based upon, or similar to, standard specifications, general use special provisions or standard drawings adopted by the Department after the advertisement for the contract. The Department reserves the right to make such changes without compensation to the Contractor under the provisions of subsection 103.02 of the Standard Specifications for Construction.

3. The Contractor will have no claim against the Department for additional costs or delays resulting from denial or untimely acceptance of a VECP. These costs include but are not limited to: development costs, loss of anticipated profits, increased material or labor costs, or untimely response.

4. A VECP will be denied if equivalent options are already provided in the contract.

5. A saving resulting solely from the elimination or reduction in quantity of a contract pay item will not be considered as a VECP. A saving resulting from the elimination or reduction in quantity of a pay item specified as part of a VECP may be considered.

6. In calculating the value of cost savings, the Department has the right to disregard the Contract bid prices, if such prices do not represent the value of the work to be performed or to be deleted, and has the right to calculate the savings based on reasonable cost for such work.

7. A VECP cannot be used to alter incentive and disincentive rates and maximum payments on A + B and/or lane rental projects.

8. A VECP will be denied if the design consultant for the contractor is also the design consultant for the Department or other apparent conflicts of interest exist.

9. A VECP may be denied if it was rejected as a Value Engineering alternative during the development phase.

e. Time Frame for VECP Evaluation. The Contractor will be notified of the Department's decision to approve or deny a conceptual or final VECP within 14 calendar days of receipt of the VECP. If a written acceptance has not been received within this time frame, and the date has not been extended by mutual agreement of both parties, the VECP is denied. The Department's decision is final and there is no appeal.

f. Future Use of VECP. The Department reserves the right to use all or any part of a VECP on other contracts without obligation or compensation to the Contractor. If the VECP is accepted, the Department may use or disclose any information necessary to incorporate the VECP on future projects.

g. Payment for Work under the VECP. The Engineer may reject all or any portion of work performed under an approved VECP if results are unsatisfactory. The Engineer will direct the removal of rejected work and construction will proceed under the original contract requirements. There will be no payment for work performed under the proposal, or for its removal.

No work related to a VECP will be performed under force account. Agreed prices must be reached for any new or modified contract pay items related to the VECP before the VECP is approved.

The changes will be incorporated into the Contract by changes in quantities of unit bid items, new agreed unit price items, lump sum or any combination, as appropriate, under the Contract. Unless there is a differing site condition as described in subsection 103.02 of the Standard Specifications for Construction, the Contractor will not receive additional compensation for quantity overruns, design errors, supplemental surveys, geotechnical investigations, additional items or other increases in cost that were not foreseen in the accepted VECP, unless otherwise approved by the Engineer.

The work order and authorization will include the price for performing all affected items of work and the estimated net savings in the cost of performing the work directly attributable to the VECP. VECP payments only involve direct savings or costs. Indirect savings or costs (time, user delay, contract delay, etc) are not included in VECP payment calculations. The calculations of VECP payments are independent from the payments or penalties for contract time related issues. The Contractor will be paid 50 percent of this net savings based on as constructed or plan quantities whichever is in the best interests of the Department. The amount specified in the work order and authorization constitutes full compensation to the Contractor for the VECP and the performance of that work.

$(\text{Cost of Deleted Work}) - (\text{Cost of Added Work}) = \text{Net Savings}$

$\text{Payment} = (\text{Net Savings})/2$

Note: Approved VECP's will be paid using the pay item code "1200000", item description of "Value Engineering" and a unique secondary descriptor differentiating each VECP with the pay unit of "Dollar" for the contract modification.

The Contractor's development costs for the proposed VECP, including all costs associated with design, are not reimbursable.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
SOURCE OF STEEL AND IRON (BUY AMERICA)

CFS:JGG

1 of 2

APPR:LLR:KAS:10-19-23
FHWA:APPR:10-20-23

Delete subsection 105.10, on page 1-60 of the Standard Specifications for Construction, in its entirety and replace with the following:

105.10. Source of Steel and Iron. Provide steel and iron materials and products for permanent incorporation into the work that are produced only in the United States per Title 23 of the CFR Section 635.410, Buy America Requirements.

All steel and iron products and manufacturing processes of the steel and iron material in a product, including but not limited to the following steps; smelting, melting, rolling, extruding, machining, bending, grinding, drilling, welding, galvanizing, and coating, must occur within the United States. Provide manufacturer and/or fabricator certifications that all steel and iron products and manufacturing processes of the steel and iron material are compliant with Buy America requirements unless noted otherwise in this special provision.

Examples of products that are subject to Buy America coverage include, but are not limited to, the following:

- A. Steel or iron products used in pavements, bridges, tunnels, or other structures, which include, but are not limited to, the following: fabricated structural steel, hot or cold rolled structural steel shapes, reinforcing steel, piling, high strength bolts, anchor bolts, dowel bars, permanently incorporated sheet piling, bridge bearings, cable wire/strand, pre-stressing/post-tensioning wire, motor/machinery brakes and other equipment for moveable structures.
- B. Guardrail, guardrail posts, end sections, terminals, cable guardrail.
- C. Steel fencing material, fence posts.
- D. Steel or iron pipe, conduit, grates, manhole covers, risers.
- E. Mast arms, poles, standards, trusses, supporting structural members for signs, luminaires, or traffic control systems.
- F. Steel or iron components of precast concrete products, such as reinforcing steel, wire mesh and pre-stressing or post-tensioning strands or cables.
- G. Left-in-place structural steel formwork, falsework, and earth retaining system elements.

Manufactured products that are predominantly steel and/or iron must comply with this

special provision.

Predominately iron and/or steel means the cost of the iron and steel content exceeds 50 percent of the total cost of all its components. The cost of iron and steel is the cost of the iron or steel mill products (such as bar, billet, slab, wire, plate, sheet, etc.), castings, or forgings utilized in the manufacture of the product and a good faith estimate of the cost of iron or steel components.

Provide step certification for all steel and iron related pay items, materials, products, and components as specified on the Department website. The Department will maintain a list of these pay items, materials, products, and/or components on the following website.

<https://www.michigan.gov/mdot/-/media/Project/Websites/MDOT/Business/Construction/Standard-Specifications-Construction/CFS-Reference/BuyAmericaStepCertPayItems.pdf>

Step certification is defined as the certification by the respective manufacturer or fabricator for their specific process (step) that the product, material, or component was fabricated, manufactured, and/or processed in the United States. The step certification documentation for these pre-defined pay items, materials, products, and/or components is to be submitted to the Engineer in a package covering each step prior to delivery or concurrent with material delivery on-site. Approved certification is required prior to incorporation of the materials into the project.

The above requirements do not preclude a minimal use of foreign steel and iron, provided the total invoice cost of foreign steel and iron permanently incorporated into the project does not exceed 0.1 percent of the total contract amount or \$2,500 whichever is greater. The Department defines the total invoice cost as the total value of the foreign steel and iron materials delivered to the project. The Department defines the total contract amount to be the original contract amount at time of award plus any cost increases during construction with the exception of incentive payments.

MDOT/Consultant fabrication facility inspectors are not responsible for approving the incorporation of foreign steel/iron prior to fabrication. It is the responsibility of the fabricator to notify and coordinate with the Contractor for all potential inclusion of foreign steel/iron in fabricated products.

For each item subject to meeting Buy America requirements, that doesn't fully meet Buy America requirements, the following documentation must be provided by the Contractor to verify the foreign steel value. This documentation is to be placed in the project files to ensure that the threshold is not exceeded:

- Pay Item,
- Description of associated foreign steel/iron material, product, or component,
- Cost of associated foreign steel/iron material, product, or component, and
- Cumulative list of all non-compliant Buy America items with the total dollar amount.

The minimal use of foreign steel/iron under the minimal usage amount will be approved by the Engineer. The use of foreign steel/iron under the minimal usage amount does not need to be approved by the FHWA. This amount is not considered a waiver to the Buy America requirements. The Contractor must ensure that the minimal usage amount is not exceeded.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
SOURCE OF CONSTRUCTION MATERIALS

CFS:JJG

1 of 2

APPR:LLR:KAS:10-19-23
FHWA:APPR:10-26-23

Add Subsection 105.11 after subsection 105.10, on page 1-60 of the Standard Specifications for Construction:

105.11. Source of Construction Materials. Provide construction materials for permanent incorporation into the work that are produced in the United States.

The manufacturing processes for each construction material are described as follows and must occur within the United States.

Construction materials include an article, material, or supply that is or consists primarily of the following:

- A. Non-ferrous metals; all manufacturing processes means melting through final shaping, coating, and assembly;
- B. Plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables); all manufacturing processes, from initial combination of constituent plastic or polymer-based inputs, or, where applicable, constituent composite materials, until the item is in its final form;
- C. Glass (including optic glass); all manufacturing processes, from initial batching and melting of raw materials through annealing, cooling, and cutting;
- D. Lumber; all manufacturing processes, from initial debarking through treatment and planing; or
- E. Drywall; all manufacturing processes, from initial blending of mined or synthetic gypsum plaster and additives through cutting and drying of sandwiched panels.
- F. Fiber Optic Cable (including drop cable); all manufacturing processes, from the ribboning (if applicable), through buffering, fiber stranding and jacketing. All manufacturing processes also include the standards for glass and optical fiber, but not for nonferrous metals, plastic and polymer-based products, or any others;
- G. Optical Fiber; all manufacturing processes, from the initial preform fabrication stage through the completion of the draw;
- H. Engineered Wood; all manufacturing processes, from initial debarking through pressing, trimming, and sanding of glued sheets or boards;

Items that consist of two or more of the listed construction materials that have been combined together through a manufacturing process, and items that include at least one of the listed materials combined with a material that is not listed (including steel/iron) through a manufacturing process are treated as manufactured products, rather than as construction materials.

Manufactured products that are predominantly steel and/or iron must comply with 20SP-105A - Source of Steel and Iron (Buy America) and are not subject to this special provision. All other manufactured products are exempt from this special provision.

Predominately iron and/or steel means the cost of the iron and steel content exceeds 50 percent of the total cost of all its components. The cost of iron and steel is the cost of the iron or steel mill products (such as bar, billet, slab, wire, plate, sheet, etc.), castings, or forgings utilized in the manufacture of the product and a good faith estimate of the cost of iron or steel components.

The following items do not fall under the Construction Material category of Materials; cement and cementitious materials; asphalt cements; aggregates such as stone, sand, or gravel; and aggregate binding agents or additives. These Materials are not subject to this special provision.

Provide documented certification that the applicable construction materials are produced and/or manufactured in the United States per this special provision, meaning all manufacturing processes as noted above occurred in the United States.

The above requirements do not preclude a minimal use of foreign construction materials provided the total invoice cost of foreign construction materials permanently incorporated into the project does not exceed the lesser of \$1,000,000 or 5.0 percent of the total applicable costs. The Department defines the total applicable costs as the cost of materials (including the cost of any manufactured products) used in the project that are subject to a domestic preference requirement.

The minimal use of foreign construction materials under the minimal usage amount will be approved by the Engineer. The use of foreign construction materials under the minimal usage amount does not need to be approved by the FHWA. This amount is not considered a waiver to the Build America Buy America requirements. The Contractor must ensure that the minimal usage amount is not exceeded.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
SWEEPING

DES:DBP

1 of 1

APPR:MRB:JJG:03-31-20
FHWA:APPR:04-03-20

a. Description. This work consists of sweeping pavements in the construction area, including service roads and cross streets, as directed by the Engineer.

b. Equipment. Provide a self-propelled or towed street sweeper equipped with pickup attachments and curb brushes.

c. Sweeping. Sweep paved surfaces as often as necessary as directed by the Engineer.

Ensure paved roadbeds are given a final cleaning within 5 working days prior to opening the pavement surface to traffic or notification by the Contractor that the work is completed, whichever occurs first.

d. Measurement and Payment. The work of sweeping will not be paid for separately, but payment will be considered as having been included in other pay items in the contract.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
MIGRATORY BIRD PROTECTION

ENV:JDG

1 of 3

APPR:DMG:HLZ:03-24-20
FHWA:APPR:03-30-20

a. Description. Contractors are advised that bridges and large culverts similar to those in this project are often attractive places for nesting birds such as swallows and phoebes. Burrow nesting species (swallows and the Belted Kingfisher) may also take advantage of banks created during earth-moving or soil storage, making it necessary to prevent excavation of new nesting burrows. Taking of migratory birds or nests with eggs and chicks without a federal permit is prohibited by the Migratory Bird Treaty Act (16 U.S.C. 703-712). This federal law protects migratory birds, their nests and young, and provides enforcement authority to the U.S. Fish and Wildlife Service and contains severe penalties for violations. Adherence of the Department to these provisions by the FHWA is required under federal law. This special provision addresses the actions required of the Contractor to protect the above mentioned bird species as required by the Migratory Bird Treaty Act.

b. Materials. None specified.

c. Construction. Adhere to the following requirements:

1. Bridge Work - April 15 to August 15.

A. Bridge work done entirely on the deck. No special action is necessary by the Contractor provided that the work is done entirely on the deck. It is presumed that the Contractor will not require access to areas where birds are nesting and contract work will not result in the disturbance of nesting adults, or to their eggs or chicks due to vibrations from equipment or other construction activity.

B. Work done entirely on the deck that would result in perforation of the deck or create strong vibrations. Activities that would potentially dislodge nests beneath the deck will require that the Contractor use exclusionary devices to deter birds from nesting beneath the bridge deck prior to start of work. If birds are present, the Contractor must determine the status of the migratory birds, their nests, and chicks and must take all actions to comply with the requirements of the Migratory Bird Treaty Act.

C. Bridge work requiring activity above and below the deck. This is the anticipated active nesting period of most migratory birds; though later dates may apply in the Upper Peninsula. Prior to commencing work within this time frame, or continuing work which will carry over into this time frame the following year, the Contractor must determine the status of the migratory birds, their nests, and chicks and must take all actions to comply with the requirements of the Migratory Bird Treaty Act

2. Bridge Work – August 16 to April 14. During this time, birds are normally not nesting; therefore, no special actions by the Contractor are necessary after an inspection is conducted to determine if birds are present.

THE FOLLOWING DISCUSSION PRESENTS MINIMUM REQUIREMENTS AND IS NOT TO BE CONSTRUED AS A COMPLETE LIST OF POSSIBLE ACTIONS REQUIRED TO COMPLY WITH THE ACT.

d. Status of Birds and Nests - Bridges.

1. If existing nests are not occupied or no new nests have been built. Install barriers (deterrents) before the nesting season to prevent nest establishment or reuse. Use netting, canvas, plastic sheeting or burlap. Different techniques may be employed, depending on the design of the bridge, providing that reasonable access is maintained for traffic under the bridge, if needed. Netting can be “diapered” around all ledges and overhangs to ensure access to any potential nesting site is obstructed. Other bridge designs may lend themselves to hanging netting, canvas or burlap over the side of a bridge. Some devices, such as a wooden beam can be employed to secure the bottom edge of the netting, canvas, plastic sheeting or burlap close to the water or ground surface. Ensure all gaps are sealed against entry by birds. Reposition any protective devices that become displaced within 8 hours.

2. If birds penetrate the barrier and/or nest building has commenced. If birds slip past the installed deterrents, the Contractor must determine how birds are entering the underside of the bridge and adjust or repair the barrier to prevent further access. If nest building or repair of existing nests has begun, but no eggs or chicks are present in the nests based upon visual inspection of the nest cup, the Contractor must knock down or hose down nests with water or by other means.

3. If nests with eggs and chicks are accidentally knocked down. Make every effort not to cause a take of eggs or chicks. Taking of migratory birds or nests with eggs or chicks is prohibited by law without a federal permit. If exclusionary devices have not been erected or have not been maintained allowing for the completion and use of nest sites, no work can be conducted until cleared by Department staff. If eggs or chicks are accidentally dislodged due to work being performed on the bridge deck (as detailed in subsection c.1), deliver retrieved eggs and chicks to a licensed wildlife rehabilitation facility willing and able to accept them. Contact information can be found on the MDNR website. If this occurs, immediately contact the Environmental Section at (517) 335-2633.

4. Nests with eggs or chicks are present prior to the start of contract work. If active nests with eggs or chicks are found that would be affected by construction activities, delay work until an evaluation of nesting status is made or the birds fledge from the nest and leave the immediate area.

e. Earthwork.

1. Earthwork - April 15 to August 15. If there are existing earthen banks, conduct an inspection to determine if nest burrows or birds are present. If banks are created in sand or gravel or in soil storage piles during construction several species of birds may begin to excavate burrows to be used for nesting. Banks with a vertical face greater than 4 feet are attractive to these species. Inspect the banks and report possible nesting activity to Department staff. If burrow excavation has just begun and observation shows that no eggs

or chicks are present, grade the banks to a natural angle of repose. If the bank needs to be maintained in its existing condition, drape plastic sheeting or other materials over the area to prohibit entry by the birds. If burrows are too deep to determine if eggs or chicks are present by visual inspection, stop work that would affect the stability and/or destruction of the bank and contact the Environmental Section for further direction at (517) 335-2633.

2. Earthwork - August 16 to April 14. During this time, birds are normally not nesting; therefore, no special actions by the Contractor are necessary after an inspection is conducted to determine if birds are present.

f. Measurement and Payment. All costs for determining the need for, the placing of deterrents, and applying of all special actions including, but not limited to, removing nests, retrieving dislodged eggs and chicks and delivering them to a licensed wildlife rehabilitation center, including costs of rehabilitation, and any and all costs associated with conducting work in compliance with the Migratory Bird Treaty Act as stated herein will not be paid for separately but will be considered to have been included with other items of work in the contract.

In addition, the Contractor is liable to the Department for any penalties imposed for violations to the Migratory Bird Treaty Act due to the Contractor's failure to comply with this special provision. Penalties range from fines for each incident up to potential loss of federal funding. According to the Act, a person, association, partnership or corporation which violates the Act, or its regulations is guilty of a misdemeanor and subject to a fine of up to \$500, jail up to 6 months or both. Anyone who knowingly takes a migratory bird and intends to, offers to, or sells or barter the bird is guilty of a felony, with fines up to \$2000, jail up to 2 years or both.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
FEDERAL AVIATION ADMINISTRATION NOTIFICATION FOR STRUCTURE WORK

BRG:BMW

1 of 1

APPR:JAB:JD:04-02-20
FHWA:APPR:04-03-20

a. Description. This work consists of obtaining any necessary permits and notifying the Federal Aviation Administration (FAA) and/or local airport zoning authority if any permanent structures or temporary structures (temporary scaffolding, forms, poles, crane booms, etc.) exceed the requirements listed in this special provision, no matter the duration.

A copy of any permits (FAA, Michigan Tall Structure and local or municipal airport zoning) obtained by the Department are included in the contract.

b. Materials. None specified.

c. Construction. The Contractor is required to provide notice to the FAA, and acquire any necessary permits, if the proposed construction or alteration of permanent or temporary structures meets any of the following criteria:

1. Anything over 200 feet above ground level (AGL) at the project site, including temporary construction and/or equipment.
2. Any changes or variations that exceed the heights or locations set forth in the permits, if permits are included in the contract.
3. Any changes or variations that exceed the height set forth on the contract plans, if permits are not included in the contract.

Schedule operations to allow for the maximum 45 day FAA review period. Extensions of time will not be granted for failure to submit the FAA notifications 45 days prior to commencement of construction activities subject to notification requirements.

d. Measurement and Payment. This work will not be paid for separately, but will be included in costs for other pay items in the contract. Payment for any/all FAA required safety equipment, obstruction lighting, flags, nighttime crane procedures, etc. will also be considered to be included in the costs for other pay items in the contract.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
EASTERN MASSASAUGA RATTLESNAKE

ENV:JDG

1 of 2

APPR:DWS:MJO:03-18-20
FHWA:APPR:03-18-20

a. Description. Contractors are advised that the project area has a known population of the Eastern Massasauga Rattlesnake or is within its known range. This species is listed as federally threatened under the U. S. Endangered Species Act of 1973 (Act). Taking (killing, harming, or disturbing in any manner) of Eastern Massasauga Rattlesnake without a federal permit from the U.S. Fish and Wildlife Service is prohibited under federal law. The Act provides enforcement authority to the U.S. Fish and Wildlife Service and contains severe penalties for violations. The Contractor is liable to the Department for any penalties imposed for violations to the Act due to the Contractor's failure to comply with this special provision. Fines and penalties range up to \$50,000 and 1 year in prison. Violation of any requirement listed below can lead to an immediate work stoppage in Eastern Massasauga Rattlesnake habitat. FHWA is required under federal law to assure MDOT is compliant with these provisions or risk losing federal funding for the project. This special provision addresses education, notification and intentional take requirements of the Contractor and their workers to protect the Eastern Massasauga Rattlesnake as required under the Act.

b. Materials. None specified.

c. Construction. Adhere to the following requirements:

1. Prior to construction, all Contractor staff working onsite must read the attached fact sheet (2 of 2). The purpose of the fact sheet is to provide the Contractor easy identification tips, notification that a venomous snake may be onsite, and raise awareness regarding its protected legal status.

2. Immediately report any possible Eastern Massasauga Rattlesnake sightings to the Engineer.

3. Intentionally 'take' is prohibited.

d. Measurement and Payment. All costs associated with complying with this special provision will not be paid for separately but will be considered to have been included in other pay items in the contract.

Eastern Massasauga Rattlesnake (*Sistrurus catenatus*)

Protected as federally threatened



Photos courtesy of the Michigan Department of Natural Resources and Michigan State University

This species is suspected to occur at or near the work site. Please have staff read the following information.

What Does an Eastern Massasauga Rattlesnake Look Like?

The eastern massasauga rattlesnake is a thick-bodied and short venomous snake. Adults typically measure 18 to 30 inches long. This species is gray to grayish-brown with dark blotches bordered by white down the middle of its back. The head is thick and triangular and has an obvious neck. Like many venomous snakes, the massasauga has vertical slitted pupils like a cat and heat sensing pits below the eyes. A rattle is present on the tail that "buzzes" as a warning signal, although they may strike without rattling. This is the only rattlesnake in Michigan.

Where Does It Live?

These snakes prefer wet areas, such as marshes, wet prairies, wet woods, and along rivers and lakes. They also use adjacent upland during parts of the year, especially in the summer. They hibernate during the winter in crayfish burrows, under logs and tree roots, and in small mammal burrows.

What Should You Do If You See a Massasauga Rattlesnake?

Massasaugas are shy and try to avoid confrontation but that does not mean they won't bite to protect themselves. Never try to handle, chase, provoke, or threaten a snake. When in potential snake habitat, wear thick boots that cover your ankles, long pants, and do not reach into thickets or under logs. If you hear the buzzing of a rattle stay calm and back away from the sound slowly. The snake will leave if you give it space.

If an eastern massasauga rattlesnake is found at a Michigan Department of Transportation (MDOT) project, the construction engineer should be contacted immediately. The construction engineer should then contact the MDOT ecologist at 517-335-2633.

How is the Massasauga Protected Under the Law?

The eastern massasauga rattlesnake is protected under federal law by the Endangered Species Act. This status prohibits harming or harassing the species along with policies to protect the species habitat.

For More Information:

60-Second Snakes: The Eastern Massasauga Rattlesnake
www.youtube.com/watch?v=-PFnXe_e02w

Photos

http://animaldiversity.org/site/accounts/pictures/Sistrurus_catenatus.html

General Information

<http://mnfi.anr.msu.edu/emr>

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
CRITICAL PATH METHOD SCHEDULE

CFS:BED

1 of 6

APPR:MRB:JJG:02-26-20
FHWA:APPR:03-02-20

a. Description. This work consists of the development and submittal of a critical path method (CPM) schedule as noted herein for review and approval by the Engineer prior to starting construction activities. Prepare the CPM schedule using Primavera Project Management software. Designate to the Engineer a Project Scheduler responsible for administering the project CPM schedule in Primavera software. Discuss project specific CPM schedule expectations with the Engineer prior to the initial CPM schedule submittal. Approval of the CPM schedule does not modify the contract or give authorization to deviate from contract requirements. Delays related to the approval of the CPM schedule will not be considered for an extension of time. The Engineer may withhold all or part of contract payments for failure to develop an approved CPM schedule within 60 days of contract award or for failure to update the CPM schedule as required.

b. CPM Schedule Submittal Requirements.

1. Submit CPM Schedules in accordance with Table 1: Submittal Timeline.

Table 1: Submittal Timeline

Schedule Type	Submittal Deadline	MDOT Review	Resubmission Period
Interim Baseline	14 days after award	7 days	7 days
Baseline	28 days after award	14 days	7 days
Revised Baseline	10 days after requirement or request	10 days	7 days
Update	5 days after Data Date	7 days	7 days

A. If the submittal is received after 12:00 p.m., or on a Saturday, Sunday, or Department holiday, the specified time for review or resubmission will begin on the next non-holiday weekday.

B. The submittal will be considered approved if the Contractor meets the submittal deadline and the Engineer does not respond within the MDOT review timeline. Failure to meet the submittal deadline waives the Engineer's obligation to meet the MDOT review timeline.

C. Depending on which portions of the CPM schedule are not in compliance, it may not be possible to perform a complete review of the CPM schedule. If necessary, the Engineer will facilitate a meeting to resolve issues with the Contractor's Project Scheduler within 5 days of the Engineer's response. Correct and resubmit rejected CPM schedule submittals in accordance with Table 1. Make the necessary revisions on the subsequent CPM schedule submittal for schedules that are "approved as noted". The subsequent CPM schedule submittal will be rejected without full review unless the comments from the

previous CPM schedule submittal are addressed.

2. CPM Schedule submittals must contain the following:

A. Primavera XER electronic file that can be directly imported into the Department's version of Primavera without loss or modification of data or need for conversion.

B. Gantt chart in portable document format (PDF) format. The Gantt chart must contain all activities grouped by work breakdown structure (WBS) and sorted by Start date, with the longest path indicated in red. The Gantt chart title block must contain Data Date, Run Date, Contract ID, Project Name/Description, Contractor, and Submission Date. Gantt chart must display columns for Activity ID, Activity Name, Original Duration, Start, Finish, Total Float, Calendar, and Longest Path. In addition, Update schedules must also display columns for Activity Percentage Complete, At Completion Duration, and Actual Duration.

C. Scheduling/Leveling Report (Log) generated for the current schedule submittal.

D. Written narrative as specified herein.

c. General CPM Schedule Requirements.

1. Provide a CPM schedule that shows the activities of work in sufficient detail to demonstrate a reasonable work plan to complete the project by the contract dates. Show the order and interdependence of activities so the Engineer can identify the work and measure the progress of each activity.

2. The CPM schedule must reflect the scope of work, the special provision for maintaining traffic, the contract completion dates, and other project milestones established in the contract. Include activities for subcontractors, suppliers, vendors, the Department, permitting agencies, and utilities, as appropriate. Include activities for submittals, working drawings, shop drawing preparation, submittal review and approval, material fabrication, delivery of materials, plant and equipment, and other contract related activities that are critical and/or could significantly affect the schedule. Failure to include an element of work required for performance of the contract will not excuse the Contractor from completing work by the contract completion dates.

3. If the project scope, contractual milestones or work season restrictions prevent a logically defined critical path, it may be necessary to develop project calendars representing non-work periods or to have multiple schedules. This necessity may be driven by, but not limited to: complex project scope, multiple work seasons, or project scope extraneous to, and extending beyond, the contractual completion dates.

4. Work Breakdown Structure (WBS). Divide the work elements into manageable parts corresponding to key deliverables, stages, and/or milestones. Develop a separate WBS for deleted activities, contract modifications, or other impacts as applicable.

5. Project Activities.

A. Activity Type. Do not use Resource Dependent as an activity type.

B. Activity Percent Complete Type. Set Level of Effort activity percent complete type

to "duration". Set all other activity percent complete types to "physical".

C. Activity Identification (ID). Use the assigned unique Activity ID for the duration of the project. Once approved, do not remove activities from the schedule.

D. Activity Name. Each activity must have a narrative description consisting of a verb or work function (i.e.; form, pour, excavate) and an object (i.e.; slab, footing, underdrain). Include a location (i.e.; Structure X, Road, Station X+XX) in the name as appropriate or if requested. Indicate Department activities by including "MDOT" in the activity name.

E. Activity Original Duration. Assign task dependent construction activities an original duration in whole days ranging from 1 to 20 days. Summary level activities included in an Interim Baseline may have durations over 20 days. Do not change original activity durations unless justified with a Revised Baseline schedule and an approved explanation in the narrative.

F. Activity Relationships. Open logic activities are not allowed. All task dependent activities, except the first activity and deleted activities, must have an activity logically tied to its start. All task dependent activities, except the final activity and deleted activities, must have an activity logically tied to its finish. Negative lags are prohibited.

6. Project Milestones. Provide milestones in the schedule, including start of the project, the completion of the project, interim contractual dates and additional activities necessary to communicate the planned progress of work. Project milestones must have zero duration and an Activity Type of Start Milestone or Finish Milestone.

7. Constraints. Use only "Finish on or Before" or "Start on or After" constraint types. Use constraints only for contractual dates and timeframes. Use project level calendars representing contractual dates if the use of constraints prevents a continuous critical path from project start to project completion.

8. Calendars. Assign activities a project level calendar. Incorporate non-work periods such as holidays, weekends, seasonal restrictions, or weather contingency (i.e. temperature and/or precipitation) and other non-work days identified in the contract. Activity calendars for non-field work activities, including submittals, reviews, procurement, fabrication, cure times, and utility relocations performed by others, must not show non-work days unless otherwise specified in the contract. Define the "work hour/day" in calendars to match the Primavera Admin Preference "Hours per Time Period". Activity calendars must have the same shift times.

9. Schedule Calculation Options. Ignore relationships to and from other projects. Do not make open-ended activities critical. Calculate the schedule using "Retained Logic". Define critical activities as "Longest Path". Compute total float as finish float.

10. Float. Float available in the CPM schedule, or generated due to efficiencies of either party, is a shared resource available to either the Department or the Contractor. Use of float suppression techniques, such as; preferential sequencing (arranging critical path through activities more susceptible to Department caused delay), lag logic restraints, artificial activity times, or imposing unapproved constraint dates, will be cause for rejection of the CPM schedule. A Baseline CPM Schedule will be rejected if submitted with negative float. Revised Baseline CPM schedules and CPM schedule updates submitted with negative float can be

cause for rejection. Negative float will not be a basis for requesting time extensions.

d. Baseline Schedules.

1. **Interim Baseline Schedule.** An Interim Baseline schedule must be submitted and approved prior to starting construction activities. The Interim Baseline schedule must detail the work activities in the first 60 days of the project and show summary level activities required to complete the remainder of the project. Until the Baseline schedule is approved, submit monthly updates to the Interim Baseline schedule to show the actual work progress.

2. **Baseline Schedule.** The Baseline schedule must incorporate the approved Interim Baseline schedule and actual progress to date, if applicable. The Baseline schedule will be the fixed CPM schedule by which project performance and progress is measured.

3. **Revised Baseline Schedule.** When directed by the Engineer or as applicable, submit a Revised Baseline schedule that details the revised plan for completing the remaining contract work. A Revised Baseline schedule will be required when:

- A. A contract revision or change significantly impacts the schedule.
- B. The Contractor plans to substantially alter future work sequences or operations.
- C. There are significant discrepancies between the latest approved schedule and actual work operations and/or progress.
- D. An update schedule shows considerable negative float and/or it is apparent that the work may not be completed within contract time.

4. **Baseline Narrative Requirements.** Follow the outline detailed below:

A. **Milestone Dates.** List major milestones with their scheduled and contractual dates as applicable, including the contract completion date, contract interim milestones, major traffic switches, start/finish milestones for each stage of work, and closure periods.

B. **Work Sequence.** Explain the sequence of work to complete the project, including where the work will begin and how the work will progress through the project.

C. **Resources.** Describe the general resources to be applied to the project. Include the number of crews, types of crews, and key equipment such as cranes or pavers.

D. **Work Schedule.** Detail the planned work schedule, including the number of workdays per week, work hours, night or weekend work, and non-work periods. If using multiple crews on differing schedules, provide the information for each crew.

E. **Weather.** Explain how the schedule accommodates adverse weather days. Describe how weather impacts will be addressed including changes to the work schedule or make-up work days. Describe planned work and explain weather considerations for winter months and seasonal suspension.

F. **Critical Path.** Briefly describe the critical path of the project. Highlight other critical paths that may exist due to interim contractual dates.

G. Delays. Describe actual or anticipated delays, including identification of the type, the cause, and responsibility. Identify delayed critical activities, activities that may become critical, and note the impact of the delay on project milestones. Detail actions required to mitigate delays or provide a recovery plan to complete within contract time.

H. Third Party Interfaces. State the status of required permits, utility coordination or other third-party interfaces.

I. Lags. Explain the use of lags summarized by each sequence of work.

J. Additional Information. Describe other assumptions, contingency or risk that may help the Engineer understand the overall project schedule.

e. Update Schedules. Submit Update schedules every month with consistent Data Dates. Update the actual start and finish dates for completed activities. Update the actual start date, remaining duration, and Activity Percent Complete for activities in progress. Correct out-of-sequence activities from the Scheduling/Leveling Report. The Engineer can request an update at any time if circumstances become known that make the latest approved schedule an ineffective tool to track progress. Submit a final update schedule within 14 days of completion of all activities on the schedule.

1. Update Schedule Narrative Requirements. Follow the outline detailed below:

A. Milestone Dates. List major milestones with their current scheduled completion dates and compare against the completion dates from the latest approved schedule.

B. Work Sequence. Describe the work performed since the latest approved schedule. Note changes to correct out-of-sequence activities or changes to sequencing.

C. Resources. Describe changes in resources.

D. Work Schedule. Describe changes to work schedule (i.e. days, hours, shifts).

E. Weather. List adverse weather dates and the total number of days lost each month due to adverse weather or conditions resulting from adverse weather. Identify the activities affected and impacts to the critical path.

F. Critical Path. Describe changes to the critical path.

G. Delays. Describe actual or anticipated delays, including identification of the type, the cause, and responsibility. Identify delayed critical activities, activities that may become critical, and note the impact of the delay on project milestones. Detail actions required to mitigate delays or provide a recovery plan to complete within the contract time.

H. Third Party Interfaces. State the status of required permits, utility coordination or other third-party interfaces.

I. Activity Changes. List changes to activities, except for status or progress updates, and provide an explanation or reasoning for the change. Include activities that have been added or deleted and include changes in activity relationships.

J. Additional Information. Describe any changes to other assumptions, contingency or risk that may help the Engineer understand the overall project schedule moving forward.

f. Time Extensions. Time extensions will not be considered without an approved current schedule. Unless the Engineer approves otherwise, requests for time extensions will only be considered if the analysis detailed herein is provided. The standard specifications provide the excusable delays that the Engineer may grant time extensions for, and the analysis herein will help quantify and determine the appropriate time extension due, if any.

1. Use a Time Impact Analysis (TIA), for evaluating the potential impact of unplanned or extra work (prospective). In general terms, complete the following steps:

- A. Model the impact with a schedule fragnet.
- B. Select the approved current schedule to impact (unimpacted schedule).
- C. Insert the fragnet and calculate the schedule (impacted schedule).
- D. Compare the finish dates of the unimpacted and impacted schedules to determine the duration of the impact. The time extension due, if any, will be based on this duration.

2. Use a contemporaneous/Windows Analysis when evaluating delays that are occurring or have already occurred (retrospective). In general terms, complete the following steps:

- A. Identify the approved schedule prior to the start of the delay being evaluated.
- B. Identify the approved schedule following the conclusion of the delay. If applicable, identify each approved Update schedule in effect during the delay.
- C. Identify and track the critical path each day from immediately before the start of the delay to immediately following the delay.
- D. Determine whether the delay affected the critical path. If the delay did not fall on the critical path, then no time extension is due. If the delay did fall on the critical path, then determine the number of days the critical path was delayed. The time extension due, if any, will be based on the allocation of responsibility for the delay.

g. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract price using the following pay item:

Pay Item	Pay Unit
Critical Path Method Schedule	Dollar

A budgeted amount of \$15,000 has been established for payment of the work detailed herein. **Critical Path Method Schedule** will be paid upon Baseline schedule approval. No extra compensation will be paid for scheduling costs associated with updates, revisions, or delays to the project.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
AGGREGATE BASE COURSE

CFS:SAG

1 of 1

APPR:TEB:CRB:10-05-22
FHWA:APPR:12-09-22

Delete the first paragraph of subsection 302.03.A that is shown on page 3-5 of the Standard Specifications for Construction, in its entirety and replace with the following:

Compact the aggregate layers to a uniform thickness, no less than 3 inches and no greater than 10 inches. If the total plan base thickness exceeds 10 inches, construct the base in layers of equal thickness. If placing aggregate base in a layer less than 3 inches, blend the new aggregate base material with the layer below to ensure a total of 6 inches. Unless otherwise directed by the Engineer, blending must be performed to ensure that the new aggregate base material is uniformly mixed and compacted with the aggregate below.

Add the following paragraph before the last paragraph of subsection 302.03.A shown on page 3-5 of the Standard Specifications for Construction:

The Engineer may require a test strip to demonstrate the suitability of the proposed aggregate base placement and compaction method. Secure the Engineer's approval for the method of placement and compaction before continuing. If the accepted method is subsequently modified, the Engineer may require another test strip to confirm compliance with the specification. The Engineer may remove a portion of a layer when conducting density testing to assure the compaction requirements are being met in lower layers.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
SAMPLING ASPHALT BINDER ON LOCAL AGENCY PROJECTS

CFS:TRC

1 of 1

APPR:JWB:KPK:02-19-20
FHWA:APPR:02-19-20

a. Description. This work consists of the Contractor taking samples of the asphalt binder and delivering the samples to the Engineer prior to incorporation into the hot mix asphalt mixture.

b. Materials. For informational purposes, original samples of asphalt binder will be taken by the Contractor and delivered to the Engineer prior to incorporation into the mixture. The frequency of sampling will be determined by the Engineer.

The Contractor must certify in writing that the materials used in the HMA mixture are from the same source as the materials used in developing the HMA mixture design and the bond coat is from an approved supplier as stated in the *Material Quality Assurance Procedures Manual*.

c. Construction. None specified.

d. Measurement and Payment. The cost of obtaining and delivering the samples to the Engineer will be included in the hot mix asphalt (HMA) pay items in the contract.

MICHIGAN
DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION
FOR
SUBSTRUCTURE HORIZONTAL SURFACE SEALER

STM:JD

1 of 2

APPR:JAB:MTH:06-01-21
FHWA:APPR:06-03-21

a. Description. This work consists of preparing the substrate concrete surface, furnishing and applying a penetrating epoxy healer/sealer system to the top horizontal surface of concrete pier caps, abutment bridge seats, and other locations as specified on the plans. The standard specifications apply except as modified herein.

b. Materials. Use solvent-free, moisture insensitive, 100 percent solids, and two-component epoxy based healer sealer. Ensure containers are marked clearly "Part A" or "Part B". The epoxies that are approved for substructure horizontal surface sealers are in Table 1.

Table 1: Approved Two Component 100 Percent Solids Epoxy Based Healer Sealers

Supplier	Product	Telephone
Advanced Chemical Technologies	SIL-ACT EP 1000 HM	(405)-843-2585
E-Chem	EP100	(505) 217-2121
Euclid Chemical	Dural 335 Dural 50 LM	(800) 321-7628
Poly-Carb	Mark 127	(817) 797-1113
Sika	Sikadur 55 SLV	(248) 866-8956
Unitex	Pro-Poxy 40 LV LM	(800) 745-3700

c. Construction. Prepare surface and apply substructure horizontal surface sealer in accordance with the manufacturer's recommendations, except as modified by this special provision.

1. **Surface Preparation.** Ensure patching and cleaning operations are inspected and approved by the Engineer prior to surface sealer installation. Protect utilities, drainage structures, bearings, beams, vertical surfaces of substructure units and any other structure within or adjacent to the surface sealer location from surface preparation activities and application of the surface treatment materials.

Do not perform surface preparation or installation of surface sealer on concrete that is less than 28 days of age. Clean the entire concrete surface by abrasive blasting to remove all materials that may interfere with the bonding or curing of the binder. Water blasting or wire brushing is prohibited. The cleaned concrete surface must meet the *International Concrete Repair Institute Guideline 310.2R, Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays and Concrete Repair*, concrete surface profile (CSP) 3. Ensure mortar is sound and sufficiently bonded to the coarse aggregate, and presents a

uniform CSP necessary for adequate bond. Use a vacuum truck or oil-free moisture-free air blast to remove all dust and other loose material. Brooms are prohibited. Remove any oil or other contamination after initial cleaning.

No visible moisture can be present on the surface of the concrete at the time of healer sealer application. Oil-free moisture-free compressed air may be used to dry the concrete surface. Use a plastic sheet left taped in place in accordance with *ASTM D4263* to identify moisture in the healer sealer area except as modified herein. Tape a 18 inch by 18 inch transparent polyethylene sheet (4 mil) to the concrete surface. Ensure all edges are sealed with tape that will stick to the concrete substrate. Leave the plastic sheet in place for a minimum of 3 hours or as directed by the manufacturer's recommendations for cure time for the conditions, whichever is longer. Ensure there is no moisture visible on the polyethylene sheet. Ensure alternate methods to detect moisture are approved by the Engineer.

2. Application. Apply the substructure horizontal surface sealer in accordance with the manufacturer's recommendations.

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

Pay Item	Pay Unit
Substructure Horizontal Surface Sealer (Structure Identification)	Square Yard

No compensation will be made to the Contractor for surplus materials.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
**PROVIDING EXPOSURE ASSESSMENTS, EXPOSURE MONITORING, EQUIPMENT,
HYGIENE FACILITIES, AND TRAINING**

STR:JAB

1 of 3

APPR:JDG:EMB:03-31-20
FHWA:APPR:04-03-20

a. Description. This work consists of providing exposure assessments, exposure monitoring, equipment, hygiene facilities, and training as required by Part 603 Lead Exposure in Construction, of the MIOSHA, to all of the Contractor's employees, FHWA employees, MDOT employees (including consultants), and to employees of Local Agencies who are acting as inspectors or project managers on any bridge painting projects or on any bridge repair or removal projects where welding, burning, or abrasive blasting of structural steel is being performed. This also applies to all construction work where an employee may be occupationally exposed to lead. All FHWA employees, MDOT employees (including consultants), and employees of Local Agencies who are acting as inspectors or project managers must have a medical evaluation, including a pulmonary function test, to determine the employee's ability to wear a respirator prior to receiving Contractor provided exposure training. The Contractor is responsible for requiring their employees to wear equipment and to use facilities provided by the Contractor; and for providing exposure assessments, exposure monitoring, equipment, hygiene facilities, and training in accordance with Part 603 Lead Exposure in Construction.

b. Equipment and Facilities. Provide the employee(s) protective clothing and equipment, change areas, showers, eating facilities, and hand and face washing facilities as required by MIOSHA's Part 603 Lead Exposure in Construction. Ensure the equipment and facilities are on site and fully functional prior to beginning any blast cleaning. Until the Contractor performs an employee exposure assessment and determines actual employee exposure for each job classification, the Contractor must provide to employee all items listed above plus respiratory protection, which must include the respirator, respirator training and fit testing, and a respirator program. Depending on the tasks, the Contractor must provide the appropriate respiratory protection until such time that exposure assessments results are complete. For manual operations, the respirator protection provided to the employee(s) must be based on anticipated (presumed) exposure levels greater than the Permissible Exposure Limit (PEL) [50 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$)], but less than 10 times the PEL ($500 \mu\text{g}/\text{m}^3$). Provide the employee(s), at a minimum, with a half mask air purifying respirator with high efficiency particulate (HEPA) filters, which provides an assigned protection factor (APF) of 10. For tasks such as rivet busting, or power tool cleaning without dust collection systems, the anticipated (or presumed) exposure assessment must be between 10 to no more than 50 times the PEL which requires a higher level of respiratory protection. For tasks such as abrasive blasting or torch cutting, the anticipated exposure assessment must be more than 50 times the PEL. If, through employee exposure assessment, the Contractor determines the actual employee exposure level, then the appropriate respiratory protection can be provided. Provide the employee(s) with protective clothing and equipment, change areas, and hand and face washing facilities as required by MIOSHA's Part 1, General Rules or other relevant safety standards, for removal of non-lead containing coatings.

c. Exposure Assessment. At a minimum, collect personal samples representative of a full

shift including at least one sample for each job classification in each work area either for each shift or for the shift with the highest exposure level. Conduct the initial exposure assessment and any additional exposure assessments, and report the results in accordance with MIOSHA's Part 603.

Document the results of the employee exposure assessment(s) on the attached 'Lead Exposure Record' or another Contractor supplied form that reports the exact same pieces of data. Determine and report the results of the employee exposure assessment(s) in periods consistent with MIOSHA's Part 603. Conduct an exposure assessment of a MDOT employee designated by the Engineer. Forward MDOT employee exposure assessment results directly to:

MDOT
Safety and Security Administration/Confidential
Van Wagoner Building
P.O. Box 30050
Lansing, MI 48909

d. Training. Train all employees who are subject to exposure to lead and train employees as designated by FHWA, MDOT, or the Local Agency. Provide the following information at the preconstruction meeting:

1. Name and qualifications of the trainer,
2. Location and time of the training, and
3. An outline of the training to be provided.

Provide each employee with a certificate of training and a wallet card. Present a copy of the certificate or wallet card upon request.

Conduct training within the MDOT Region where the project is located. The training must occur between the hours of 7:00 a.m. and 5:00 p.m. on Tuesday, Wednesday, or Thursday.

e. Measurement and Payment. The completed work for Providing Exposure Assessments, Exposure Monitoring, Equipment, Hygiene Facilities, and Training will be considered included in the pay item Steel Structure, Cleaning, Partial, Type 4 or Steel Structure, Cleaning, Type 4 or in any associated structural removal pay items with steel beams.

The costs for medical evaluation, including a pulmonary function test, to determine the employee's ability to wear a respirator prior to receiving Contractor provided exposure training for all FHWA employees, MDOT employees (including consultants), and employees of Local Agencies who are acting as inspectors or project managers is not included as a cost for this special provision but must be provided for separately by the employees hiring agency.

LEAD EXPOSURE RECORD

LOCATION DATE ACTIVITY

NAME / SOCIAL SECURITY NUMBER	JOB CLASSIFICATION	TIME		ELAPSED TIME	ASSUMED UG/M ³	MEASURE DUG/M ³ / 8 HRS.	TYPE OF RESPIRATOR WORN	P. F.	Task Performed
		START	END						
(SAMPLE) ROBERT SMITH 375-09-8820	PAINTER	9 AM	2:30 PM	5-1/2 HRS	SEE LEAD EXPOSURE COMPLIANCE PROGRAM	*	HALF FACE WITH HEPA FILTER	25	CHIPPING
**									

SAMPLING/ANALYTICAL PROCEDURE USED:

* TO BE ENTERED LATER WHEN AND IF RESULTS ARE RECEIVED FROM YOUR SAMPLES

** LIST ALL EMPLOYEES EXPOSED TO LEAD ON THIS FORM who's EXPOSURES ARE REPRESENTED BY ANOTHER INDIVIDUAL THAT IS ACTUALLY MONITORED

Comments:

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
PORTLAND CEMENT (TYPE IL)

CFS:JFS

1 of 2

APPR:TES:TEB:12-14-21
FHWA:APPR:12-16-21

a. Description. The Contractor may substitute Type IL Portland cement in lieu of Type I Portland cement for concrete mixtures and other applications where Type I Portland cement is specified, provided documentation showing specification compliance is provided as described herein.

The Contractor must provide the Engineer a minimum of 14 calendar days prior notification of their intent to substitute Type IL Portland cement in lieu of Type I Portland cement for the project.

b. Materials. Furnish Type IL Portland cement in accordance with section 901 of the Standard Specifications for Construction meeting the chemical and physical requirements specified in *ASTM C595/C595M, Standard Specifications for Blended Hydraulic Cements*. Ensure the Type IL Portland cement proposed for substitution is from the same Approved Manufacturer as the Type I Portland cement in the approved JMF.

c. Construction. At least 7 days prior to concrete production, the concrete producer must provide test data (specified below) generated from a four cubic yard (minimum) trial batch of concrete using Type IL Portland cement for the Engineer's review and approval. The trial batch must represent a current approved JMF for either a standard MDOT Grade 3500, Grade 3500HP, Grade 4500, or Grade 4500HP concrete mixture produced using Type I Portland cement, as described in section 1004 of the Standard Specifications for Construction. Ensure the materials and mixture proportions for the Type IL JMF are the same as those documented in the above mentioned JMF using Type I Portland cement. Minor adjustments to chemical admixture dosages are permitted in efforts to achieve the specified fresh concrete properties. Trial batch compliance for applications other than Portland cement concrete mixtures will be in accordance with the contract.

1. Fresh Concrete Properties.
 - A. Concrete temperature,
 - B. Air content of fresh concrete, and
 - C. Slump.
2. Hardened Concrete Properties.
 - A. 7-day compressive strength.

The Engineer will review the trial batch test data to determine if the fresh and hardened concrete properties of the Type IL JMF meet specification requirements for the respective MDOT Grade of

concrete represented by the trial batch. If the Engineer determines that the trial batch test data are in conformance with specification requirements, then the Type IL Portland cement will be permitted to be substituted in lieu of the Type I Portland cement for all approved concrete mixtures generated at the concrete production facility for the project. If the Engineer determines that the trial batch test data do not meet specification requirements for the respective MDOT Grade of concrete, the Contractor will not be permitted to substitute Type IL Portland cement in lieu of Type I Portland cement. Mix design and JMF documentation for concrete mixtures using Type IL Portland cement will then be required in accordance with subsection 1003.03.C of the Standard Specifications for Construction or the contract, where applicable.

Once Type IL Portland cement is approved for use on the project, reinstatement of Type I Portland cement into the JMF is not permitted. Substitution of other material types or sources, including admixtures, as documented in the initial Type I JMF is not permitted.

The Engineer will complete field sampling and testing for all production lots containing Type I Portland cement JMF prior to respective Type IL Portland cement substitution. Do not include concrete mixtures containing Type I and Type IL Portland cement types in the same production lot.

d. Acceptance. The Contractor may substitute Type IL Portland cement in lieu of Type I Portland cement for the project with no additional laboratory trial batch requirements, as described in subsection 1003.03.C.2.a of the Standard Specifications for Construction, provided the Engineer has reviewed the concrete producer's test data generated from a four cubic yard (minimum) trial batch of concrete, described above, and has determined that the fresh and hardened concrete properties of the Type IL JMF meet specification requirements for the respective MDOT Grade of concrete represented by the trial batch.

e. Measurement and Payment. The work included in this special provision will not be paid for separately and is included in other pay items in the contract.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
AGGREGATE, 46G

CFS:JJG

1 of 1

APPR:SAG:DMG:02-15-22
FHWA:APPR:02-16-22

Delete the last row of Table 902-2 in subsection 902 of the Standard Specifications for Construction in its entirety and replace with the following:

Open-graded aggregates	46G	80	45	—	—	—
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MICHIGAN
DEPARTMENT OF TRANSPORTATION

NOTICE TO BIDDERS
FOR
FRAUD AND ABUSE HOTLINE

CSD:LS

1 of 1

APPR:MAS:02-09-21

The Michigan Department of Transportation (MDOT) has established a Fraud and Abuse Hotline for employees, contractors, consultants, and others to report suspected fraud or abuse, such as: prevailing wage non-compliance, theft, kickbacks, wrongful claims, contract fraud, use of materials that do not comply with specifications, unapproved substitution of materials, commodities, or test samples, or failure to follow contract procedures.

Anyone with knowledge of any activity involving the potential for fraud or abuse is requested to call the Hotline at (toll free) **1-866-460-6368** or **517-241-2256**.

MICHIGAN
DEPARTMENT OF TRANSPORTATION
SUPPLEMENTAL SPECIFICATION
FOR
ERRATA TO THE 2020 STANDARD SPECIFICATIONS

1 of 11

04-30-24

Page	Subsection	Errata
1-06	101.02	Delete the second abbreviation of the list on this page reading: “IES Illuminating Engineering Society
1-06	101.02	Add the abbreviation to the list on this page reading: “IESNA Illuminating Engineering Society of North America
1-07	101.02	Change the first abbreviation of the list on this page to read: MMUTCD..... Michigan Manual on Uniform Traffic Control Devices
1-83	108.05.A.2	In the first paragraph of this subsection change the language “MDOT Form 1130” to read “MDOT Form 1130A”.
1-88	108.08.D	Move the last paragraph of this subsection to the left one indent to align with the first paragraph of the subsection and not with the subsection 108.08.D.3.
2-29	205.03.P.1	Delete the first sentence of this subsection and replace with the following: “Do not dispose of material, temporarily or permanently, beyond the normal plan fill slope across wetlands or floodplains.”
2-30	205.03.P.2	Delete the first sentence of this subsection and replace with the following: “Do not dispose of material, temporarily or permanently, in wetlands or floodplains.”
2-30	205.03.P.3	Delete the second paragraph of this subsection and replace with the following: “Contact the appropriate regulatory agencies to determine whether an area is a regulated wetland or floodplain before disposing of surplus or unsuitable material in areas outside the right-of-way and not shown on the plans as disposal sites.”
2-30	205.03.P.3	Delete the first sentence of the third paragraph of this subsection and replace with the following: “Immediately move to an upland site any surplus or unsuitable material that was disposed of in portions of wetlands or floodplains not shown on the plans as disposal sites, at no additional cost to the Department.”

- 2-30 205.03.P.4 Delete the first sentence of this subsection and replace with the following:
“The Department will notify the applicable regulatory agencies if the Department becomes aware that the Contractor disposed of surplus or unsuitable material in portions of a wetland or floodplain not shown on the plans.”
- 3-31 308.04.D Change the subsection title from “D. **General.**” to read “A. **General.**”
- 4-7 401.03.E Delete the third sentence of the second paragraph of this subsection and replace with the following:
“Use precast or cast-in-place footings for precast end sections as required.”
- 4-8 401.03.E Delete the first sentence of the fourth paragraph on this page of this subsection and replace with the following:
“When discharging stormwater directly to waters of the state, permanently label all end sections or other piped points of stormwater entry with “MDOT” or the local agency’s name in a conspicuous location that will remain visible after construction.”
- 4-11 401.04 Change the eighth pay item from the bottom of the list on this page to read as follows:
Culv End Sect __ inch, Grate.....Each
- 4-12 401.04.C.4 Change this subsection to read:
“The Engineer will measure Culv End Sect __ inch, Grate by each as shown on the plans for the size of grate required.”
- 4-21 402.03 Add a new subsection to the end of subsection 402.03 on this page reading as follows:
“K. **Outfall Labeling.** Label all stormwater outfalls directly discharging to waters of the state in accordance with subsection 401.03.E.
- 4-39 406.02 Change the third line in the list of materials to read:
Coarse Aggregate 6A, 6AA, 17A.....902
- 4-41 406.03.A.3 Delete the third paragraph of this subsection and replace with the following:
“Design joints between adjacent box culvert sections in accordance with Section 9 of ASTM C1577 and to accommodate the joint sealing material in accordance with section 914 as applicable.”
- 4-50 406.03.G.3 Change the first sentence of the first paragraph to read:
“Unless otherwise shown on the plans, construct culvert bedding for box culverts by placing a 9-inch-thick layer of 46G aggregate, covered with a 3-inch-thick layer of 34G, 34R aggregate, or approved equal.”

- 4-51 406.03.G.3 Add the following sentence to the end of the second paragraph of this subsection:
“The cold applied joint sealer must completely cover the external rubber gasket with the placement limits matching the width of the geotextile blanket.”
- 4-52 406.04.B In the second paragraph of this subsection delete the first sentence and replace with the following:
“The Department will pay separately for cast-in-place concrete, other than for culvert segments, headwalls, wingwalls, aprons, and curtain walls.”
- 5-26 502.02 Delete the first sentence of the subsection and the listed materials in this subsection.
- 5-26 502.02.A Add the following to the end of the first sentence in this subsection:
“(914.04A)”
- 5-26 502.02.B Add the following to the end of the first sentence in this subsection:
“(502.02B)”
- 5-35 503.04 Change the first paragraph to read:
“The unit price for **Paver-Placed Surface Seal**, of the type required, includes the cost of preparing the surface, and placing a membrane and paver placed surface seal course for full-width coverage, except that the Department will pay separately for removing pavement markings in accordance with subsection 812.04”
- 5-46 504.04.A Change the first paragraph to read:
“A. **General**. The unit prices for **Micro-Surface**, regardless of the type required, include cleaning existing pavement, applying a bond coat, stationing, corrective action, and traffic control to complete corrective action.”
- 6-20 602.04 Delete the fifteenth pay item of the list on this page reading:
“Shoulder, Reinf Conc.....Square Yard
- 6-20 602.04 Change the sixteenth thru the eighteenth pay items on this page to read as follows:
Shld, Nonreinf Conc.....Square Yard
Shld, Nonreinf Conc, High PerformanceSquare Yard
Shld, Freeway.....Square Yard
- 6-21 602.04.B.1 Delete this subsection and replace with the following:
“**Shld, Nonreinf Conc**; and **Shld, Nonreinf Conc, High Performance**. The Engineer will measure, and the Department will pay for, **Shld, Nonreinf Conc**; and **Shld, Nonreinf Conc, High Performance** by area, based on plan quantities in accordance with subsection 109.01.”
- 6-21 602.04.B.2 Delete this subsection and replace with the following:

“Shld, Freeway. The Engineer will measure, and the Department will pay for, **Shld, Freeway** based on plan quantities in accordance with subsection 109.01. If the Contractor uses concrete for the shoulder, the unit price for **Shld, Freeway** includes the cost of the transverse joints in the shoulder and the external longitudinal pavement joints.”

6-23	602.04.F	Add the following sentence to the end of the first paragraph of this subsection: Temporary concrete pavement, pavement within 4 feet of an obstruction, pavement areas less than 300 square yards, or pavement less than 3 feet wide will not be cored.
6-23	602.04.F	Delete the following language from this subsection on this page: “The Engineer will not core the following: 1. Temporary concrete pavement; 2. Pavement within 4 feet of an obstruction; 3. Pavement areas less than 300 square yards; or 4. Pavement less than 3 feet wide.”
6-24	602.04	Rename the following subsections as follows: “1. Initial Core.
6-24	602.04	2. Additional Cores.
6-24	602.04	3. Price Adjustment for Thickness.
6-25	602.04	4. Price Adjustments for Steel Locations within the Pavement.
6-26	602.04	5. Remove and Replace.”
6-29	603.02	Change the first sentence in the last paragraph in this subsection to read: “Provide coarse aggregate with no greater than 2.5% absorption in accordance with AASHTO T85.”
7-11	705.02	Change the second sentence in the last paragraph in this subsection to read: “Provide natural aggregate and with no greater than 2.50% absorption as specified in AASHTO T85 for structure concrete.”
7-29	706.02	Change the first sentence in the seventh paragraph in this subsection to read: “Provide natural aggregate and with no greater than 2.50% absorption as specified in AASHTO T85 for structure concrete.”
7-107	709.04	Change the Pay Unit on the second pay item from the top of the list on this page to read as follows: Thousand Board Foot

- 7-115 711.02 Change the first sentence in the last paragraph in this subsection to read:
"Provide natural aggregate with a maximum absorption of 2.50% in accordance with AASHTO T85."
- 7-120 712.02 Change the first sentence in the sixth paragraph in this subsection to read:
"Provide concrete containing natural aggregate with a maximum absorption of 2.50% in accordance with AASHTO T85."
- 7-185 718.02 Change the first sentence in the last paragraph in this subsection to read:
"Provide concrete with natural aggregate with a maximum absorption of 2.50% in accordance with AASHTO T85."
- 8-12 804.03.B.2 Change the first sentence in this subsection to read:
"Cast in place light standard and sign support foundations using fixed forms in accordance with the *MDOT Standard Plan R-50 series*."
- 8-27 Change the last pay item at the bottom of this page to read as follows:
Guardrail Anch, Bridge, Det __, Curved.....Each
- 8-44 810.03.J.9 Add a period to the end of the third sentence in this subsection.
- 8-53 810.03.V Add a period to the end of the second sentence of the first paragraph of this subsection.
- 8-53 810.04 Change the fourth pay item from the top of the list on this page to read as follows:
Post, Steel, __ pound.....Foot
- 8-53 810.04 Change the last four pay items at the bottom of this page to read as follows:
Fdn, Truss Sign Structure Type __, __ inch dia, Cased.....Foot
Fdn, Truss Sign Structure Type __, __ inch dia, Uncased.....Foot
Fdn, Cantilever Sign Structure Type __, __ inch dia, CasedFoot
Fdn, Cantilever Sign Structure Type __, __ inch dia, Uncased.Foot
- 8-55 810.04.B.1 Delete the second paragraph of this subsection and replace with the following:
"The unit prices for **Fdn, Truss Sign Structure Type __, __ inch dia, Cased** and **Fdn, Cantilever Sign Structure Type __, __ inch dia, Cased** include the cost of concrete, slurry, steel reinforcement, permanent casings, anchor bolts, excavation, and disposal of excavated material."
- 8-55 810.04.B.2 Delete this subsection and replace with the following:
"Foundation, Truss Sign Structure, Uncased and Foundation, Cantilever Sign Structure, Uncased. The unit prices for **Fdn,**

Truss Sign Structure Type __, __ inch dia, **Uncased** and **Fdn, Cantilever Sign Structure Type** __, __ inch dia, **Uncased** include the cost of concrete, slurry, steel reinforcement, temporary casings, anchor bolts, excavation, and disposal of excavated material.”

- 8-57 810.04.I Delete the first paragraph of this subsection and replace with the following:
“The unit price for **Sign, Rem** of the type required includes the cost of removing signs from supports and stacking by shape and size.”
- 8-57 810.04.I Delete the second paragraph of this subsection and replace with the following:
“The unit prices for **Ground Mtd Sign Supports, Rem; Cantilever, Rem** and **Truss, Rem** include the cost of removing ground mounted sign supports, cantilever or truss supports.”
- 8-57 810.04.L Change this subsection to read:
“The unit price for Sign, Erect, Salv of the type required includes erecting the salvaged sign on a new sign support or existing sign support, as shown on the plans, and attaching devices, and hardware, including brackets.”
- 8-110 812.04 Change the fifth and sixth pay item from the top of the list on this page to read as follows:
Sign, Type B, Temp, Prismatic, Spec, Furn Square Foot
Sign, Type B, Temp, Prismatic, Spec, Oper Square Foot
- 8-141 815.04.C.1.b Delete this subsection in its entirety.
- 8-141 815.04.C.1.c Rename and change this subsection as follows:
“b. Removal and disposal of unacceptable plants including the root ball.
- 8-141 815.04.C.1.d Delete this subsection in its entirety.
- 8-142 815.04.C.2.d Change this subsection to read:
"During the first watering of the second growing season, remove and dispose of the guying material, identification tags, and inspection tags."
- 8-144 816.03.A Change the third sentence in this subsection to read:
“Use topsoil from within the project limits; or from off-site sources meeting the requirements in subsection 917.06.”
- 8-167 818.04 Add the pay item to the bottom of the list on this page as follows:
Power Company (Estimated Cost to Contractor)..... Dollar
- 8-170 818.04.G Delete this subsection in its entirety.
- 8-170 818.04 Rename the following subsections as follows:
“G. **Handholes (Hh)**.”

8-171	818.04	H. Service Disconnect.
8-171	818.04	I. Metered Service.
8-171	818.04	J. Unmetered Service.
8-172	818.04	K. Wood Pole.
8-172	818.04	L. Concrete Pole, Fit Up.
8-172	818.04	M. Steel Pole, Fit Up.
8-172	818.04	N. Bracket Arm.”
8-171	818.04.J	Delete the second paragraph of this subsection and replace with the following: “The pay item, Power Company (Estimated Cost to Contractor) , establishes a budgeted amount in the contract to cover the cost of reimbursing the Contractor for payments made to the power company for providing electrical power at the locations shown on the plans. The Department will estimate the reimbursement costs to the Contractor and establish a budgeted amount as shown on the plans. The Department will pay the Contractor for power company invoices paid, as submitted to the Engineer.”
8-176	819.03.B.5.b	In the second paragraph of this subsection delete the first sentence and replace with the following: “Tighten bolts connecting the pole to the frangible base to a snug tight condition in accordance with subsection 707.03.E.6.c.”
8-185	820.01.B	Add a period to the end of the first sentence of this subsection.
8-187	820.02	Change the first line in the list of materials on this page to read: Conduit Material.....918
8-196	820.03.O	In the fourth paragraph of this subsection delete the last sentence and replace with the following: “Use smooth wall, Schedule 80, rigid PVC conduit, or coilable, Schedule 80 PE conduit in accordance with section 818.”
8-199	820.04	Add the pay item to the list on this page: TS, (number) Way (type) Mtd (LED) Optic
8-200	820.04	Change the second pay item from the top of the list on this page to read as follows: TS Head, TempEach
8-200	820.04	Change the eleventh pay item from the top of the list on this page to read as follows: TS, Lens, Pedestrian Sym (LED)Each
8-200	820.04	Delete the following pay items from the list: Strain Pole, Steel, 6 bolt, __ foot.....Each Mast Arm Pole, Cat__.....Each Mast Arm, __Foot, Cat.....Each

- 8-200 820.04 Change the eleventh pay item from the bottom of the list on this page to read as follows:
Mast Arm, Rem.....Each
- 8-201 820.04 Delete the following pay item from the list:
Power Co. (Est Cost to Contractor)..... Dollar
- 8-202 820.04 Add the following pay item to the list:
Bracket, Truss, Salv.....Each
- 8-204 820.04.C Delete the last paragraph of this subsection in its entirety.
- 8-204 820.04.D Delete the first paragraph of this subsection in its entirety.
- 9-5 902.02 Delete the first line under the Material list and relace with the following:
"Wire Cloth and Sieves ASTM E11"
- 9-9 902.03.C.1.b Delete the first sentence in this subsection and replace with the following:
"The physical requirements for the coarse aggregate are as specified in Table 902-2 and as follows:"
- 9-14 Table 902-1 In the row that includes the information on the 34G material, under the column titled Item of Work by Section Number (Sequential) delete the reference to the section 404.
- 9-15 Table 902-2 Add the superscript (n) in the first row in the Dense-graded aggregates section of the table under the column titled Crushed Material, % min. (MTM 117).
- 9-16 Table 902-2 Add the superscript (n) in the first row in the Open-graded aggregates section of the table under the column titled Crushed Material, % min. (MTM 117).
- 9-16 Table 902-2 Delete the superscript footnote in the first through fourth rows under the header row that reads "(m)" in the column Loss, % max, LA Abrasion (MTM 102).
- 9-16 Table 902-2 Add the following row after the third row in the Open-graded aggregates section reading:
- | | | | | | |
|-----|----|----|----|----|----|
| 46R | -- | 45 | -- | -- | -- |
|-----|----|----|----|----|----|
- 9-16 Table 902-2 Add the superscript footnote in the header row that reads "(m)" in the column Loss, % max, LA Abrasion (MTM 102).
- 9-15 Table 902-2 Delete the footnote (d) in one location in the table.
- 9-17 Table 902-2 Delete the footnote (d) in one location in the table.

9-17	Table 902-2	Add the following footnote below the existing footnotes in this table. “(n) For recycled crushed concrete, if the source concrete uses primarily rounded river gravel aggregates, the minimum crushed particle content can be reduced to 90%.”
9-21	Table 902-6	Delete the footnote (b) in two locations in the table.
9-21	Table 902-6	Change the footnote (c) to read (b) in two locations in the table.
9-21	Table 902-6	Change the footnote (d) to read (c) in two locations in the table.
9-25	903.04	Delete the second sentence of the second paragraph of this subsection.
9-70	909.07.A	Delete the second sentence of this subsection.
9-70	909.05.D	Change the first sentence in this subsection to read: “Provide steel pipe for jacking in place meeting the requirements of ASTM A53/A53M for Type E or Type S, Grade B, or ASTM A139/A139M for Grade B.”
9-71	909.08.A	Change the first sentence in this subsection to read: “Provide bridge deck downspouts of PE pipe meeting the requirements of ASTM F714, PE 4710, DR 26 or Schedule 80 PVC.”
9-94	Table 910-01	Change the value in the fifth row under the header row in the Permittivity (min) (per second) column from 0.5 to read: “0.05”
9-94	Table 910-01	Change the value in the seventh row under the header row in the Permittivity (min.) (per second) column from 0.5 to read: “0.05”
9-95	Table 910-2	Change the second row under the Ultimate strength section to read: “CMD ^(c) 1950 lb/ft”
9-119	913.06	Change this subsection to read: Circular precast concrete units with circular reinforcement for adjusting rings, tops, risers, and sump bases for manholes, catch basins, and inlets must meet the requirements of AASHTO M199 and the following additions and exceptions:
9-133	917.03	Rename the four subsections following the first paragraph on this page as follows: D. Deciduous Shade Trees. E. Small Trees, Ornamentals, and Shrubs. F. Evergreen Trees. G. Vines, Ground Cover, and Herbaceous Ornamental Plants.
9-149	918.08	In the first paragraph of this subsection delete the second sentence and replace with the following:

“Provide light standards designed in accordance with AASHTO’s LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals.”

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| 9-150 | 918.10 | In the first paragraph of this subsection delete the first sentence and replace with the following:
“Provide tower lighting units designed in accordance with AASHTO’s LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals.” |
| 9-164 | 919.04.B | In the first paragraph of this subsection delete the first sentence and replace with the following:
“Provide square tubular steel sign supports meeting the chemical, mechanical, and geometric properties of material used in the crash tests referenced in AASHTO’s LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals.” |
| 9-170 | 920.02.C | Change the reference to Table 920-2 to read Table 920-3 in two locations. |
| 9-222 | 922.10.A.3 | Delete this subsection and replace with the following:
“Conform to the wind load requirements specified by AASHTO’s LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals with all equipment mounted without the need for additional ballast;” |
| 10-23 | 1003.03.B | Delete the last sentence of this subsection and replace with the following:
“Aggregate sampling for concrete will be performed by an MCAT-certified Aggregate Technician Level II.” |
| 10-42 | Table 1006-01 | Change footnote (a) to read:
“(a) Ensure that the coarse aggregate’s absorption does not exceed 2.5% in accordance with AASHTO T85.” |
| 10-43 | Table 1006-02 | Replace Table 1006-02 with the Table 1006-02 below. |
| 1A - 20A | Pay Item Index | Replace the Pay Item Index in its entirety. |

**Table 1006-2:
Overlay Mixtures**

Mixture Type	Aggregate	Slump (inch)	Air Content	Admixture Required	Mixture Proportions lb/yd ³ , dry weight					
					Cement ^(a)	Dry Densified Silica Fume ^(b)	Net Mix Water	Fine Agg	Coarse Agg	Latex Admixture
SFMC	2NS and 26A ^(c)	4–6	6.5 ±1.5%	(d),(e),(f)	618	40	273 ^(g)	1273	1601	—
LMC	2NS and 26A ^(c)	(h)	4.5 ±1.5%	—	658	—	(h)	1490 ^{(i),(j)}	1300 ^{(i),(j)}	206

(a) Use only Type I Portland cement.

(b) For SFMC mixtures, the Contractor may use a blended silica fume Portland cement. However, if the silica fume content of the blended material is greater than 8% of the total cementitious material, submit to the Engineer modified mix proportions with Type I Portland cement added to the blended material to achieve the equivalent individual cementitious material mixture proportions.

(c) Provide coarse aggregate, 95% minimum crushed materials in accordance with Michigan Test Method (MTM) 117, with an absorption no greater than 2.5%, in accordance with AASHTO T85.

(d) Water-reducing high-range admixture or water-reducing high-range and retarding admixture.

(e) Virgin polypropylene collated fibers at 2 lb/yd³.

(f) Air-entraining admixture.

(g) Provide a net water to cementitious material ratio of 0.41 (cementitious material includes cement and silica fume).

(h) Add water in addition to water in the latex admixture to control slump to within 3 to 5 inches. Measure slump from 4 to 5 minutes after discharge from the mixer. During the waiting period, deposit concrete on the deck and do not disturb. If placing mixtures on sections within superelevated curves, the Contractor may need to use the lower allowable range of the slump requirement, as determined by the Engineer. Do not exceed water-cement ratio, by weight, of 0.30 including water contained in the latex emulsion.

(i) Aggregate proportions are approximate; due to gradation changes, the Contractor may increase proportions by no greater than 5% by weight of total aggregate if reducing coarse aggregate by an equivalent volume.

(j) Aggregate weights specified in the table are based on a dry bulk specific gravity of 2.65 for gravel and stone. Adjust the weights if the specific gravity of the materials used varies by more than 0.02 from the specified values.