

**BIDDING REQUIREMENTS,
CONDITIONS OF THE CONTRACT
AND SPECIFICATIONS
FOR
WHITE LAKE TOWNSHIP**

TRIANGLE PATHWAY

December 2023

Prepared for

**WHITE LAKE TOWNSHIP
7525 HIGHLAND ROAD,
WHITE LAKE, MICHIGAN 48383**

Prepared by:



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File No. 2145-7329-00

CHARTER TOWNSHIP OF WHITE LAKE

Triangle Pathway

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BIDDING & CONTRACT DOCUMENTS
CHARTER TOWNSHIP OF WHITE LAKE

2145-7329-00

Triangle Pathway

LIST OF DRAWINGS

DRAWING TITLE

Cover Sheet
Project Notes
Existing Conditions
Removal Plan
Layout Plan
Plan & Profile
Cross Sections
Site Details

SHEET No.

COVER
G-001
V-101 – 103
CD-201 - 203
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C-401 – 405
C-406
C-501-502

**ADVERTISEMENT FOR BIDS
FOR
CHARTER TOWNSHIP OF WHITE LAKE**

Triangle Pathway

Sealed proposals will be received by the Charter Township of White Lake, 7525 Highland Road, White Lake, Michigan 48383 until 2 PM (local time) on January 30, 2024 at which time, the bids **from plan holders of Record** will be publicly opened and read aloud and the different items noted, for the construction of Triangle Pathway. *Neither Owner nor Engineer will be responsible for full or partial sets of Bidding Documents, including Addenda if any, obtained from sources other than the Issuing Office.*

The right to accept any proposal, to reject any or all proposals, and to waive defects in the proposals is reserved by the Owner.

Bids must be submitted in a **sealed** envelope clearly marked **on the outside** the following,

**Attention: Anthony Noble, Township Clerk
Sealed Bid for Charter Township of White Lake Triangle Pathway**

The project includes construction of approximately 2,300 lineal feet of 5-foot-wide concrete pathway along Teggerdine Road from Highland Road South to Elizabeth Lake Road, 1,000 lineal feet of 8-foot-wide asphalt pathway along Highland Road from Teggerdine Road West to POB and 735 lineal feet of 6-foot-wide asphalt pathway along Elizabeth Lake Road from Teggerdine Road West to POB.

Information for the Project can be found on January 4, 2024 at the following designated website:

www.bidnetdirect.com/mitn

The Issuing Office is DLZ Michigan, Inc. 4494 Elizabeth Lake Road, Waterford, MI 48328; Tel (248) 681-7800; dsutton@dlz.com

Electronic copies will be available at no charge. Hard copies may be obtained after 12:00 P.M., **January 4, 2024**, at the office of DLZ Michigan, Inc. A non-reimbursable check payable to the DLZ Michigan, Inc. in the amount of Fifty (\$50.00) must be deposited for each set of hard copy documents obtained. Hard copies of Bid Documents may be obtained by UPS Ground delivery service for an additional fee of Fifteen Dollars (\$15). The purchaser must supply the telephone and fax number, street address, and the name of the individual or firm whom Addenda, if any, can be directed.

Bid documents in digital format by electronic PDF are available by request and may be obtained at no cost to the bidder.

A non-mandatory Pre-Bid meeting will be held at 2:00 P.M. local time on **January 16, 2024** at **Stanley Park, 10785 Elizabeth Lake Rd, White Lake Charter Township, MI 48386**. Representatives of Owner and Engineer will be present to discuss the Project. Engineer will transmit to all prospective Bidders of record such Addenda as Engineer considers necessary in response to questions arising at the meeting. Oral statements may not be relied upon and will not be binding or legally effective.

A certified check or bank draft payable without condition to the Charter Township of White Lake, Treasurer, or a satisfactory bid bond executed by the bidder and a surety company in an amount of five (5%) percent of the Proposal amount shall be submitted with each bid, as a guarantee of good faith and the same to be subject to the conditions stipulated in the Instructions to Bidders.

By Order of: Charter Township of White Lake
7525 Highland Road
White Lake, MI 48383-2900
Anthony Noble, Clerk

Triangle Pathway

INSTRUCTIONS TO BIDDERS

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ARTICLE 1 – DEFINED TERMS

- 1.01 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:
- A. *Issuing Office* – The office from which the Bidding Documents are to be issued. DLZ Michigan, Inc., 4494 Elizabeth Lake Road, Waterford, Michigan 48328. The Bidding procedures are to be administrated by the: White Lake Charter Township, 7525 Highland Road, White Lake, Michigan 48383-2900.
 - B. *Bidding Documents*—The Bidding Requirements and the proposed Contract Documents (including all Addenda).

ARTICLE 2 – COPIES OF BIDDING DOCUMENTS

- 2.01 Complete sets of the Bidding Documents may be obtained from the Issuing Office in the number and format stated in the advertisement or invitation to bid.
- 2.02 Complete sets of Bidding Documents shall be used in preparing Bids; neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.
- 2.03 Owner and Engineer, in making copies of Bidding Documents available on the above terms, do so only for the purpose of obtaining Bids for the Work and do not authorize or confer a license for any other use.

ARTICLE 3 – QUALIFICATIONS OF BIDDERS

- 3.01 To demonstrate Bidder's qualifications to perform the Work, after submitting its Bid and within five days of Owner's request, Bidder shall submit (a) written evidence establishing its qualifications such as financial data, previous experience, and present commitments, and (b) the following additional information:
- A. *Evidence of Bidder's authority to do business in the state where the Project is located.*
 - B. *[Other required information regarding qualifications]*
 - 1. Bidder's performance record with a listing of work of a similar character and proportions which it has constructed, giving the name of the owner, date built and construction cost;
 - 2. tabulation of other work now under contract, giving the location, type, size, required date of completion and the percent of completion to date of each job;
 - 3. itemized list of the Bidder's equipment available for use on the proposed contract;
 - 4. Listing of the major parts of the work which are proposed to be subcontracted
 - 5. Bidder's financial statement;
- 3.02 A Bidder's failure to submit required qualification information within the times indicated may disqualify Bidder from receiving an award of the Contract.
- 3.03 No requirement in this Article 3 to submit information will prejudice the right of Owner to seek additional pertinent information regarding Bidder's qualifications.

- 3.04 Bidder is advised to carefully review those portions of the Bid Form requiring Bidder's representations and certifications.

ARTICLE 4 – SITE AND OTHER AREAS; EXISTING SITE CONDITIONS; EXAMINATION OF SITE; OWNER'S SAFETY PROGRAM; OTHER WORK AT THE SITE

4.01 *Site and Other Areas*

- A. The Site is identified in the Bidding Documents. By definition, the Site includes rights-of-way, easements, and other lands furnished by Owner for the use of the Contractor. Any additional lands required for temporary construction facilities, construction equipment, or storage of materials and equipment, and any access needed for such additional lands, are to be obtained and paid for by Contractor.

4.02 *Existing Site Conditions*

A. *Subsurface and Physical Conditions; Hazardous Environmental Conditions*

1. The Information for Bidders 00-31-00 identify:

- a. those reports known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site.
- b. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).
- c. reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site.
- d. Technical Data contained in such reports and drawings

2. Owner will make copies of reports and drawings referenced above available to any Bidder on request. These reports and drawings are not part of the Contract Documents, but the Technical Data contained therein upon whose accuracy Bidder is entitled to rely, as provided in the General Conditions, has been identified and established in the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any Technical Data or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.

3. If the Supplementary Conditions do not identify Technical Data, the default definition of Technical Data set forth in Article 1 of the General Conditions will apply.

4. Geotechnical Baseline Report: The Bidding Documents do not contain a Geotechnical Baseline Report (GBR).

- B. *Underground Facilities:* Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site are set forth in the Contract Documents and are based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities, including Owner, or others.

- C. *Adequacy of Data:* Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions, and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated subsurface or physical conditions appear in Paragraphs 5.03, 5.04, and 5.05 of the General Conditions. Provisions concerning responsibilities for the adequacy of data

furnished to prospective Bidders with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Contract Documents due to any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work, appear in Paragraph 5.06 of the General Conditions.

4.03 *Site Visit and Testing by Bidders*

- A. Bidder shall conduct the required Site visit during normal working hours, and shall not disturb any ongoing operations at the Site.
- B. Bidder is not required to conduct any subsurface testing, or exhaustive investigations of Site conditions.
- C. On request, and to the extent Owner has control over the Site, and schedule permitting, the Owner will provide Bidder access to the Site to conduct such additional examinations, investigations, explorations, tests, and studies as Bidder deems necessary for preparing and submitting a successful Bid. Owner will not have any obligation to grant such access if doing so is not practical because of existing operations, security or safety concerns, or restraints on Owner's authority regarding the Site.
- D. Bidder shall comply with all applicable Laws and Regulations regarding excavation and location of utilities, obtain all permits, and comply with all terms and conditions established by Owner or by property owners or other entities controlling the Site with respect to schedule, access, existing operations, security, liability insurance, and applicable safety programs.
- E. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies.

4.04 *Owner's Safety Program*

- A. Site visits and work at the Site may be governed by an Owner safety program. As the General Conditions indicate, if an Owner safety program exists, it will be noted in the Supplementary Conditions.

4.05 *Other Work at the Site*

- A. Reference is made to Article 8 of the Supplementary Conditions for the identification of the general nature of other work of which Owner is aware (if any) that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) and relates to the Work contemplated by these Bidding Documents. If Owner is party to a written contract for such other work, then on request, Owner will provide to each Bidder access to examine such contracts (other than portions thereof related to price and other confidential matters), if any.
 - 1. Bidder is directed to the General Requirement Divisions for listing of 'Other work at the Site' and "Work by Owner'.

ARTICLE 5 – BIDDER'S REPRESENTATIONS

5.01 It is the responsibility of each Bidder before submitting a Bid to:

- A. examine and carefully study the Bidding Documents, and any data and reference items identified in the Bidding Documents;

- B. visit the Site, conduct a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfy itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
- C. become familiar with and satisfy itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work.
- D. Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site; and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site; (3) that have been noted in Project Manual Section 00-31-00 Available Information.
- E. consider the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs;
- F. agree, based on the information and observations referred to in the preceding paragraph, that at the time of submitting its Bid no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.
- G. become aware of the general nature of the work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
- H. promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder;
- I. determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work; and
- J. agree that the submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 6 – PRE-BID CONFERENCE

- 6.01 A **non-mandatory** pre-Bid conference will be held at the time and location stated in the invitation or advertisement to bid. Representatives of Owner and Engineer will be present to discuss the Project. Though it is non-mandatory, Bidders are encouraged to attend and participate in the conference. Engineer will transmit to all prospective Bidders of record such Addenda as Engineer considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective.
- A. Attendance at the pre-bid conference is **not mandatory**.

ARTICLE 7 – INTERPRETATIONS AND ADDENDA

- 7.01 All questions about the meaning or intent of the Bidding Documents are to be submitted to Engineer in writing. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda delivered to all parties recorded as having received the Bidding Documents. Questions received less than seven days prior to the date for opening of Bids may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
- 7.02 Addenda may be issued to clarify, correct, supplement, or change the Bidding Documents.

ARTICLE 8 – BID SECURITY

- 8.01 A Bid must be accompanied by Bid security made payable to Owner in an amount of [5%] percent of Bidder's maximum Bid price (determined by adding the base bid and all alternates) and in the form of a certified check, bank money order, or a Bid bond (on the form included in the Bidding Documents) issued by a surety meeting the requirements of Paragraphs 6.01 and 6.02 of the General Conditions.
- 8.02 The Bid security of other Bidders that Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of seven days after the Effective Date of the Contract or 121 days after the Bid opening, whereupon Bid security furnished by such Bidders will be released.
- 8.03 Bid security of other Bidders that Owner believes do not have a reasonable chance of receiving the award will be released within seven days after the Bid opening.

ARTICLE 9 – CONTRACT TIMES

- 9.01 The number of days within which, or the dates by which, the Work is to be substantially completed and ready for final payment are set forth in the Agreement /Proposal.

ARTICLE 10 – LIQUIDATED DAMAGES

- 10.01 Provisions for liquidated damages, if any, for failure to timely attain a Milestone, Substantial Completion, or completion of the Work in readiness for final payment, are set forth in the Agreement. (00-52-15) (00-42-13)

ARTICLE 11 – SUBSTITUTE AND "OR-EQUAL" ITEMS

- 11.01 The Contract for the Work, as awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration during the bidding and Contract award process of possible substitute or "or-equal" items. In cases in which the Contract allows the Contractor to request that Engineer authorize the use of a substitute or "or-equal" item of material or equipment, application for such acceptance may not be made to and will not be considered by Engineer until after the Effective Date of the Contract..
- 11.02 All prices that Bidder sets forth in its Bid shall be based on the presumption that the Contractor will furnish the materials and equipment specified or described in the Bidding Documents, as supplemented by Addenda. Any assumptions regarding the possibility of post-Bid approvals of "or-equal" or substitution requests are made at Bidder's sole risk.

ARTICLE 12 – SUBCONTRACTORS, SUPPLIERS, AND OTHERS

- 12.01 A Bidder shall be prepared to retain specific Subcontractors, Suppliers, or other individuals or entities for the performance of the Work if required by the Bidding Documents (most commonly in the Specifications) to do so. If a prospective Bidder objects to retaining any such Subcontractor, Supplier, or other individual or entity, and the concern is not relieved by an Addendum, then the prospective Bidder should refrain from submitting a Bid.
- 12.02 Subsequent to the submittal of the Bid, Owner may not require the Successful Bidder or Contractor to retain any Subcontractor, Supplier, or other individual or entity against which Contractor has reasonable objection.
- 12.03 The apparent Successful Bidder, and any other Bidder so requested, shall within five days after Bid opening, submit to Owner a list of the Subcontractors or Suppliers proposed for the following portions of the Work:
- A. Concrete paving
 - B. Asphalt paving
 - C. Pavement saw-cutting
 - D. Pavement striping
 - E. Temporary traffic control and signage
 - F. Other miscellaneous work items

If requested by Owner, such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, or other individual or entity. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit an acceptable substitute, in which case apparent Successful Bidder shall submit a substitute, Bidder's Bid price will be increased (or decreased) by the difference in cost occasioned by such substitution, and Owner may consider such price adjustment in evaluating Bids and making the Contract award.

ARTICLE 13 – PREPARATION OF BID

- 13.01 The Bid Form is included with the Bidding Documents.
- A. All blanks on the Bid Form shall be completed in ink and the Bid Form signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall be indicated for each section, Bid item, alternate, adjustment unit price item, and unit price item listed therein.
 - B. If the Bid Form expressly indicates that submitting pricing on a specific alternate item is optional, and Bidder elects to not furnish pricing for such optional alternate item, then Bidder may enter the words "No Bid" or "Not Applicable."
- 13.02 A Bid by a corporation shall be executed in the corporate name by a corporate officer (whose title must appear under the signature), accompanied by evidence of authority to sign. The corporate address and state of incorporation shall be shown.

- 13.03 A Bid by a limited liability company shall be executed in the name of the firm by a member or other authorized person and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown.
- 13.04 A Bid by an individual shall show the Bidder's name and official address.
- 13.05 A Bid by a joint venture shall be executed by an authorized representative of each joint venturer in the manner indicated on the Bid Form. The official address of the joint venture shall be shown.
- 13.06 All names shall be printed in ink below the signatures.
- 13.07 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.
- 13.08 Postal and e-mail addresses and telephone number for communications regarding the Bid shall be shown.
- 13.09 The Bid shall contain evidence of Bidder's authority and qualification to do business in the state where the Project is located, or Bidder shall covenant in writing to obtain such authority and qualification prior to award of the Contract and attach such covenant to the Bid. Bidder's state contractor license number, if any, shall also be shown on the Bid Form.

ARTICLE 14 – BASIS OF BID

14.01 *Unit Price*

- A. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the unit price section of the Bid Form.
- B. The "Bid Price" (sometimes referred to as the extended price) for each unit price Bid item will be the product of the "Estimated Quantity" (which Owner or its representative has set forth in the Bid Form) for the item and the corresponding "Bid Unit Price" offered by the Bidder. The total of all unit price Bid items will be the sum of these "Bid Prices"; such total will be used by Owner for Bid comparison purposes. The final quantities and Contract Price will be determined in accordance with Paragraph 13.03 of the General Conditions.
- C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

14.02 *Allowances*

- A. For cash allowances the Bid price shall include such amounts as the Bidder deems proper for Contractor's overhead, costs, profit, and other expenses on account of cash allowances, if any, named in the Contract Documents, in accordance with Paragraph 13.02.B of the General Conditions.

ARTICLE 15 – SUBMITTAL OF BID

- 15.01 With each copy of the Bidding Documents, a Bidder is furnished one separate unbound copy of the Bid Form, and, if required, the Bid Bond Form. The unbound copy of the Bid Form is to be completed and submitted with the Bid security and the other documents required to be submitted under the terms of Article 7 of the Bid Form.

- 15.02 A Bid shall be received no later than the date and time prescribed and at the place indicated in the advertisement or invitation to bid and shall be enclosed in a plainly marked package with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted), the name and address of Bidder, and shall be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate package plainly marked on the outside with the notation "BID ENCLOSED." A mailed Bid shall be addressed to

Project # 2145-7329-00 – TRIANGLE PATHWAY

Charter Township of White Lake, 7525 Highland Road, White Lake, Michigan, 48383

- 15.03 Bids received after the date and time prescribed for the opening of bids, or not submitted at the correct location or in the designated manner, will not be accepted and will be returned to the Bidder unopened.

ARTICLE 16 – MODIFICATION AND WITHDRAWAL OF BID

- 16.01 A Bid may be withdrawn by an appropriate document duly executed in the same manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids. Upon receipt of such notice, the unopened Bid will be returned to the Bidder.
- 16.02 If a Bidder wishes to modify its Bid prior to Bid opening, Bidder must withdraw its initial Bid in the manner specified in Paragraph 16.01 and submit a new Bid prior to the date and time for the opening of Bids.
- 16.03 If within 24 hours after Bids are opened any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, that Bidder will be disqualified from further bidding on the Work.

ARTICLE 17 – OPENING OF BIDS

- 17.01 Bids will be opened at the time and place indicated in the Advertisement or invitation to bid and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

ARTICLE 18 – BIDS TO REMAIN SUBJECT TO ACCEPTANCE

- 18.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

ARTICLE 19 – EVALUATION OF BIDS AND AWARD OF CONTRACT

- 19.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner will reject the Bid of any Bidder that Owner finds, after reasonable inquiry and evaluation, to not be responsible. If Bidder purports to add terms or conditions to its Bid, takes exception to any provision of the Bidding Documents,

or attempts to alter the contents of the Contract Documents for purposes of the Bid, then the Owner will reject the Bid as nonresponsive; provided that Owner also reserves the right to waive all minor informalities not involving price, time, or changes in the Work.

- 19.02 If Owner awards the contract for the Work, such award shall be to the responsible Bidder submitting the lowest responsive Bid.
- 19.03 Evaluation of Bids
- A. In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award.
 - B. In the comparison of Bids, alternates will be applied in the same order of priority as listed in the Bid Form. To determine the Bid prices for purposes of comparison, Owner shall announce to all bidders a "Base Bid plus alternates" budget after receiving all Bids, but prior to opening them. For comparison purposes alternates will be accepted, following the order of priority established in the Bid Form, until doing so would cause the budget to be exceeded. After determination of the Successful Bidder based on this comparative process and on the responsiveness, responsibility, and other factors set forth in these Instructions, the award may be made to said Successful Bidder on its base Bid and any combination of its additive alternate Bids for which Owner determines funds will be available at the time of award.
- 19.04 In evaluating whether a Bidder is responsible, Owner will consider the qualifications of the Bidder and may consider the qualifications and experience of Subcontractors and Suppliers proposed for those portions of the Work for which the identity of Subcontractors and Suppliers must be submitted as provided in the Bidding Documents.
- 19.05 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders and any proposed Subcontractors or Suppliers.
- 19.06 Bidder is aware that the Owner's decision to proceed with the Project is subject to Owner's determination that all legal, financial and grant approvals, conditions and requirements have been received or met and the funding necessary to complete the project is in hand, and that if all of the foregoing has not been received, the Owner may elect not to proceed with the Project, in which case no Bidder shall have a claim of any kind in contract, tort, or otherwise, against the Owner.

ARTICLE 20 – BONDS AND INSURANCE

- 20.01 Article 6 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth Owner's requirements as to performance and payment bonds and insurance. When the Successful Bidder delivers the Agreement (executed by Successful Bidder) to Owner, it shall be accompanied by required bonds and insurance documentation.

ARTICLE 21 – SIGNING OF AGREEMENT

- 21.01 When Owner issues a Notice of Award to the Successful Bidder, it shall be accompanied by the unexecuted counterparts of the Agreement along with the other Contract Documents as identified in the Agreement. Within 15 days thereafter, Successful Bidder shall execute and

deliver the required number of counterparts of the Agreement (and any bonds and insurance documentation required to be delivered by the Contract Documents) to Owner. Within ten days thereafter, Owner shall deliver one fully executed counterpart of the Agreement to Successful Bidder, together with printed and electronic copies of the Contract Documents as stated in Paragraph 2.02 of the General Conditions.

END OF SECTION

UNDERGROUND FACILITIES**00 31 19**

The following mapping and reference data were used in preparing the Contract Documents and is available for review at the Engineer's Office.

- A. Public Facilities
- AT&T
 - Consumers Energy
 - Comcast
 - DTE
- B. Private Facilities: Not Applicable

EXISTING HAZARDOUS MATERIAL INFORMATION**00 31 26**

The following reports and other related data were used in preparing the contract documents.

- A. Attached: Not Applicable
- B. Available at Engineer's Office: Not Applicable

SUBSURFACE AND PHYSICAL CONDITION**00 31 32**

The following reports and other related data were used in preparing the contract documents.

- A. Attached: Not Applicable

B. Available at Engineer's Office: Road Commission for Oakland County Job No. 54581-55331 – Elizabeth Lake Road from Teggerdine to Oxbow Lake Road Reconstruction.

BID FORM

Triangle Pathway

DLZ Project # 2145-7329-00

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DUE DATE: January 30, 2024 at 2:00 PM

ARTICLE 1 – BID RECIPIENT

1.01 This Bid is submitted to:

Charter Township of White Lake, 7525 Highland Road, White Lake, Michigan 48383.

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER’S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for **60 days** after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 – BIDDER’S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

A. Bidder has examined and carefully studied the Bidding Documents, and any data and reference items identified in the Bidding Documents, and hereby acknowledges receipt of the following Addenda:

<u>Addendum No.</u>	<u>Addendum, Date</u>
_____	_____
_____	_____
_____	_____
_____	_____

B. Bidder has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfied itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and has satisfied itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site; and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site; (3) that have been noted in Project Manual Section 00-31-00 Available Information.

E. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and any Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder’s safety precautions and programs.

- F. Bidder agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.
- G. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
- H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and confirms that the written resolution thereof by Engineer is acceptable to Bidder.
- I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.
- J. The submission of this Bid constitutes an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 4 – BIDDER’S CERTIFICATION

4.01 Bidder certifies that:

- A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;
- B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;
- C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and
- D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:
 - 1. “corrupt practice” means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process;
 - 2. “fraudulent practice” means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
 - 3. “collusive practice” means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and
 - 4. “coercive practice” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

ARTICLE 5 – BASIS OF BID

5.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

A. Unit Prices

Base Bid: Elizabeth Lake and Teggerdine Rd Sections

Elizabeth Lake Section Totals					
Item No.	Item Description	Unit	Estimated Quantity	Proposal Bid Unit Price	Proposal Bid Price
1	Curb and Gutter, Rem	LF	16	\$ _____	\$ _____
2	Curb, Rem	FT	2	\$ _____	\$ _____
3	Culv, End, Rem Less than 24 inch	EA	1	\$ _____	\$ _____
4	Tree, Rem, 6 inch to 18 inch	EA	6	\$ _____	\$ _____
5	Misc Obstruction, Rem	CYD	4	\$ _____	\$ _____
6	Barricade, Temp	EA	2	\$ _____	\$ _____
7	Sign, Type III, Rem	EA	1	\$ _____	\$ _____
8	Clearing	AC	0.13	\$ _____	\$ _____
9	Sewer, Cl A, 12 inch, TR DET A	FT	25	\$ _____	\$ _____
10	Culv, Cl F, CSP, 12 inch	FT	20	\$ _____	\$ _____
11	Curb Ramp Opening, Conc	FT	16	\$ _____	\$ _____
12	Dr Structure, 24 inch Dia	EA	1	\$ _____	\$ _____
13	Dr Structure, Cover Type B	EA	1	\$ _____	\$ _____
14	Culv End Section, 12 Inch	EA	1	\$ _____	\$ _____
15	Shared Use Path, HMA	TONS	111	\$ _____	\$ _____
16	Shared Use Path, Aggregate, LM	CYD	61	\$ _____	\$ _____
17	Erosion Control, Silt Fence	FT	750	\$ _____	\$ _____
18	Excavation	CYD	180	\$ _____	\$ _____
19	Restoration	LS	1	\$ _____	\$ _____
Teggerdine Section Totals					
Item No.	Item Description	Unit	Estimated Quantity	Proposal Bid Unit Price	Proposal Bid Price
20	Masonry and Conc Structure, Rem	YDS	2	\$ _____	\$ _____
21	HMA Surface, Rem	SYD	9	\$ _____	\$ _____
22	Stump, Rem, 19 inch to 36 inch	EA	1	\$ _____	\$ _____
23	Stump, Rem, 6 inch to 18 inch	EA	3	\$ _____	\$ _____
24	Tree, Rem, 6 inch to 18 inch	EA	14	\$ _____	\$ _____
25	Curb and Gutter, Rem	LF	12	\$ _____	\$ _____
26	Sidewalk, Conc, 4 inch	SFT	9871	\$ _____	\$ _____
27	Erosion Control, Inlet Protection, Fabric Drop	EA	2	\$ _____	\$ _____
28	Post, Flexible, Delineator	EA	3	\$ _____	\$ _____
29	Curb Ramp, Conc, 6 inch	SFT	324	\$ _____	\$ _____

30	Detectable Warning Surface	FT	40	\$ _____	\$ _____
31	Sewer, CLIV, 18 inch, TR DET A	FT	165	\$ _____	\$ _____
32	Culv, End Sect, Conc 18 inch	EA	1	\$ _____	\$ _____
33	Culv End Sec 18, Grate	EA	1	\$ _____	\$ _____
34	Riprap, Plain	SYD	3	\$ _____	\$ _____
35	Erosion Control, Silt Fence	FT	2300	\$ _____	\$ _____
36	Dr Structure, 60 inch dia	EA	1	\$ _____	\$ _____
37	Dr Structure, Cover B	EA	1	\$ _____	\$ _____
38	Dr Structure, 48 inch dia	EA	2	\$ _____	\$ _____
39	Dr Structure, Cover type E	EA	2	\$ _____	\$ _____
40	Sewer, CLIV, 12 inch, TR DET A	FT	10	\$ _____	\$ _____
41	Curb Ramp Opening, Conc	LF	12	\$ _____	\$ _____
42	Excavation, Earth	CYD	320	\$ _____	\$ _____
43	Restoration	LS	1	\$ _____	\$ _____
44	Traffic Control and Signage	LS	1	\$ _____	\$ _____
45	Mobilization	LS	1	\$ _____	\$ _____
46	Permit Allowance	LS	1	\$ 5,000.00	\$ 5,000.00
47	SESC Permit Allowance	LS	1	\$ 5,000.00	\$ 5,000.00
48	Testing Allowance	LS	1	\$ 7,500.00	\$ 7,500.00
Total Price				\$ _____	\$ _____

Alternate Bid: M-59 sections

M-59 Quantities					
Item No.	Item Description	Unit	Estimated Quantity	Proposal Bid Unit Price	Proposal Bid Price
1A	Mobilization	LS	1	\$ _____	\$ _____
2A	Sign Type III Salvage	EA	2	\$ _____	\$ _____
3A	HMA Surface, Rem	SYD	932	\$ _____	\$ _____
4A	Curb, Rem	LF	219	\$ _____	\$ _____
5A	Post, Rem	EA	2	\$ _____	\$ _____
6A	Erosion Control, Inlet Filter, Fabric Drop	EA	6	\$ _____	\$ _____
7A	Hydrant, Adj	EA	1	\$ _____	\$ _____
8A	Drainage Structure, Adj	EA	4	\$ _____	\$ _____
9A	Erosion Control, Silt Fence	FT	1026	\$ _____	\$ _____
10A	Dr Structure, 12 Inch	EA	1	\$ _____	\$ _____
11A	Sewer, Cl F, 12 Inch	LF	12	\$ _____	\$ _____
12A	Culvert End Section, 12 Inch	EA	1	\$ _____	\$ _____
13A	Curb Ramp Opening	LF	53	\$ _____	\$ _____
14A	Curb, Type F-2	FT	244	\$ _____	\$ _____
15A	HMA Approach, HMA	TONS	61	\$ _____	\$ _____
16A	HMA Approach, Aggregate Base, 10 Inch	SYD	153	\$ _____	\$ _____
17A	Shared Use Path, HMA	TONS	155	\$ _____	\$ _____

18A	Shared Use Path, Aggregate, LM	CYD	124	\$ _____	\$ _____
19A	Shared Use Path, Grading	LF	896	\$ _____	\$ _____
20A	Restoration	1	LS	\$ _____	\$ _____
21A	Traffic Control and Signage	1	LS	\$ _____	\$ _____
22A	Permit Allowance	1	LS	\$ 5,000.00	\$ 5,000.00
23A	SESC Permit Allowance	1	LS	\$ 5,000.00	\$ 5,000.00
24A	Testing Allowance	1	LS	\$ 7,500.00	\$ 7,500.00
Total Price				\$ _____	\$ _____

Unit Prices have been computed in accordance with Paragraph 13.03.B of the General Conditions.

B. Bidder acknowledges that (1) each Bid Unit Price includes an amount considered by Bidder to be adequate to cover Contractor’s overhead and profit for each separately identified item, and (2) estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all unit price Bid items will be based on actual quantities, determined as provided in the Contract Documents.

ARTICLE 6 – TIME OF COMPLETION

- 6.01 A. Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.
- B. Bidder agrees that the Work will be substantially complete on or before September 30, 2024, and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before November 15, 2024.
- C. Bidder accepts the provisions of the Agreement as to liquidated damages.

6.02 LIQUIDATED DAMAGES FOR DELAY

A. Contractor and Owner recognize that time is of the essence and that Owner will suffer damages if the Work is not completed within the times specified in Paragraphs 6.01.A and B above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual damages suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty), Contractor shall pay Owner the following amount.

1.

Original Contract Amount

<u>From More Than</u>	<u>To & Including</u>	<u>Amount of Liquidated Damages/per calendar day</u>
\$ 0	\$ 50,000	\$ 200.00
50,000	500,000	500.00
500,000	2,000,000	1,000.00
2,000,000	5,000,000	1,500.00

2. In addition to the liquidated damages in paragraph 6.02.A.1, CONTRACTOR shall be responsible for the cost to OWNER of additional services of ENGINEER's office and field personnel resulting from the delay. The cost of the additional ENGINEER's services shall be charged against the monies due CONTRACTOR at the following rates:

Office Personnel	\$ 140.00 per hour*
Field Personnel (Up to 40 hours per week)	\$ 92.00 per hour*
Field Personnel (Over to 40 hours per week)	\$ 138.00 per hour*

*Plus expenses that shall include all travel and out-of-pocket expenses incurred by office and field personnel.

6.03 Bidder accepts the provisions of the Proposal as to liquidated damages for delay in the event of failure to complete the Work within the Contract Times.

ARTICLE 7 – ATTACHMENTS TO THIS BID

7.01 The following documents are submitted with and made a condition of this Bid:

- A. Required Bid security;
- B. Representations and Certifications;

ARTICLE 8 – DEFINED TERMS

The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 9 – BID SUBMITTAL

BIDDER: [Indicate correct name of bidding entity]

By:
[Signature] _____

[Printed name] _____
(If Bidder is a corporation, a limited liability company, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest:
[Signature] _____

[Printed name] _____

Title: _____

Submittal Date: _____

Address for giving notices:

Telephone Number: _____

Fax Number: _____

Contact Name and e-mail address: _____

**ROAD COMMISSION FOR OAKLAND COUNTY
RECEIVED**

Mar 30 2022

**DEPARTMENT OF CUSTOMER SERVICES PERMITS
BOARD OF COUNTY ROAD COMMISSIONERS, OAKLAND COUNTY, MICHIGAN**

PERMIT APPLICATION

MAKE CHECK PAYABLE TO ROAD COMMISSION FOR OAKLAND COUNTY

FOR R.C.O.C. USE ONLY	
Application No.	<u>22-0598</u>
Date Received	<u>03-30-22</u>
Permit E No.	_____
Date of Issuance	_____

APPLICANT: Charter Township of White Lake hereby makes APPLICATION for a permit to **CONSTRUCT, OPERATE, USE and/or MAINTAIN** or to **TEMPORARILY CLOSE A COUNTY ROAD** within the part of the right-of-way of road(s) Teggerdine and Elizabeth Lake Road under the jurisdiction of the Board: a detailed description of the desired facility and/or activity is required in the space provided below: (include size, length, type of facility; - if underground, indicate depth below surface; if parallel to road, indicate distance from inside edge of facility to edge of pavement, if crossing under roadbed, describe method). **THE FOLLOWING MUST BE ATTACHED TO THE APPLICATION WHEN APPLICABLE:** 1. Plans, specifications and location of facility. 2. Traffic plan and detour route in cases of street closures.

PLEASE CHECK THE APPROPRIATE BOX(ES) THAT APPLY TO THE TYPE OF WORK YOU WISH TO OBTAIN A PERMIT FOR:

- | | | | |
|---|--|---|--|
| <input type="checkbox"/> Annual | <input type="checkbox"/> Community Event | <input type="checkbox"/> Public Utility (i.e. electric, gas, telephone) | <input type="checkbox"/> Soil Boring/Monitoring Well |
| <input type="checkbox"/> Approach/Private Road Access | <input type="checkbox"/> Landscaping/Grading | <input type="checkbox"/> Sanitary/Storm Sewer | <input type="checkbox"/> Watermain |
| <input type="checkbox"/> Cable TV | <input checked="" type="checkbox"/> Pathway/Sidewalk | <input type="checkbox"/> Sign/Subdivision Entrance Marker | <input type="checkbox"/> Other _____ |

Construct a 5' wide sidewalk along Teggerdine Road from M-59 south Appx. 1919 feet. The walk is generally parallel to Teggerdine varying from 7.4 feet off of back of curb to 66.5 feet off of pavement. Construct ancillary storm sewer south of Glynn Road to not impede drainage. As well as construct a 6 ft wide pathway from end of proposed round-a-bout to the west Approximately 740 feet. The walk is generally parallel to Elizabeth Lake Road varying from 17 feet off of back of curb to 55 feet off of pavement. Construct ancillary storm sewer at curb entrance drive to not impede drainage.

City or Township White Lake

Section No. 22

The above activities will be carried out in accordance with plans, specifications, maps and statements filed with the R.C.O.C. as part of this application, and if said application is approved, the above named applicant agrees to abide by the **CONDITIONS** contained on the reverse side. Since a permit will have to be secured from the Board prior to the start of any construction or maintenance operations proposed by this application, it is intended that the **SUPPLEMENTAL SPECIFICATIONS**, on the reverse side, are to be incorporated as part of the plans or specifications required for this proposed work.

FOR R.C.O.C. USE ONLY	
Design: _____	Right-of-Way: _____
Traffic: <u>AB AR DS</u>	Maintenance: _____
Planning: _____	Construction: _____
Subdivision: _____	
Environmental Concerns: _____	Permits: _____

FOR R.C.O.C. USE ONLY	
Application Fee: \$ <u>0.00</u>	Permit Fee: \$ <u>500</u>
Receipt No: _____	Deposit: \$ <u>500</u>
Bond: \$ <u>10,000</u>	Estimated Inspection Fee: \$ <u>1,500</u>
(RCOC Form 75)	Paint Fee: \$ <u>0.0</u>
	Sign Fee: \$ <u>0.0</u>
	Signal Fee: \$ _____
TOTAL FEES DUE	
AT TIME OF PERMIT ISSUANCE: \$ <u>2,500</u>	
Proof of Insurance Required	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Pollution Liability Required	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

This application is approved subject to **CONDITIONS** and **SUPPLEMENTAL SPECIFICATIONS** contained on the reverse side of this application. Approval of this application does not relieve applicant from meeting any applicable requirements or duties of law or other public bodies or agencies including but not limited to the Michigan Department of Natural Resources.

APPROVAL OF THIS APPLICATION EXPIRES IN ONE YEAR IF A PERMIT HAS NOT BEEN ISSUED. RESUBMITTAL OF CURRENT PLANS, PERMIT APPLICATION REVIEW FEES AND PERMIT APPLICATION IS REQUIRED IF APPROVAL OF THIS APPLICATION HAS EXPIRED.

REFER ALL INQUIRIES TO (248) 858-4835

DEPARTMENT OF CUSTOMER SERVICES
PERMITS

2420 PONTIAC LAKE ROAD
WATERFORD, MI 48328

APPLICATION APPROVED:

White Lake Township

APPLICANT (PRINT OR TYPE)

SIGNATURE [Signature]

3/8/2022

DATE

Sean O'Neil, Community Development Director

(PRINTED/TYPED SIGNATURE & TITLE)

7525 Highland Road

248-698-3300

APPLICANT'S ADDRESS

TELEPHONE NUMBER

White Lake, MI 48383

CITY

STATE

ZIP CODE

soneil@whitelaketwp.com

EMAIL ADDRESS

By: [Signature] Date: 9-15-22

AS A CONDITION OF THE APPROVAL OF THIS APPLICATION, THE APPLICANT AGREES TO THE FOLLOWING CONDITIONS:

1. The application agrees to secure, or cause to be secured, a permit from the Board prior to the commencement of construction or maintenance operations. If a contractor is to perform the construction or maintenance entailed in this application, the contractor shall secure the permit from the Board prior to the commencement of construction or maintenance operations and thereby assumes responsibility, along with the applicant, for any provisions of this application which apply to them.
2. Any and all construction proposed under this application will meet all requirements of the Board, together with the Supplemental Specifications as set forth below.
3. The applicant agrees to save harmless, indemnify, defend, and represent the Board and its employees against any and all claims for bodily injury or property damage, or any other claim arising out of or related to the creation, operation, use, or continuing existence of the structure or facility covered by the permit or for any other work done within county road right-of-way whether or not specifically authorized or in conformance with the description of activities for which the permit was issued. Applicant agrees and understands that the obligations set forth herein are binding upon their successors, transferors, assigns, sureties, and guarantors. The Applicant shall maintain insurance of a type and in an amount in conformance with the Board's established requirements and provide certificates of insurance in a type and amount which shall assure conformance with the Board's established requirements is currently in force for any and all facilities installed in the Board's right of way.
4. The applicant agrees to surrender the permit herein applied for; surrender all rights hereunder; cease operations; and remove, alter, relocate at applicant's own expense, the facilities for which this permit is granted whenever ordered to do so by the Board because of the need for the area covered by this permit for public uses or because of a default in the conditions of the permit. Upon failure to remove, alter, relocate or surrender the facilities pursuant to the order of the Board, the applicant agrees to reimburse the Board for its cost in doing same.
5. Nothing in this application shall be construed to grant any rights whatsoever to any public utilities whatsoever except as to the consent herein specifically given, nor to otherwise impair any existing rights granted in accordance with the constitution or laws of this State.
6. The obligation to construct, operate, use and/or maintain the facility to the satisfaction of the Board remains in force as long as the facility exists and is within the right-of-way under the jurisdiction of the Board. The applicant is obliged to repair any damage to the road and right of way which is a result of the facility and which occurs or appears after the permit licensee is released.
7. The necessary construction zone signing for the protection of traffic shall be in accordance with the most current edition of the Michigan Manual of Uniform Traffic Control Devices, Part 6. All such devices shall be furnished, installed and maintained by the Permit Holder. All construction signage shall have black lettering on a reflective florescent orange background, unless otherwise specified. The Permit Holder shall provide any additional signs, barricades and/or lights, at the Permit Holder's expense, required to protect the general motoring public and the work zone when requested by the Road Commission.
8. **ADDITIONAL CONDITIONS:** As will be identified in approved permit description.

SUPPLEMENTAL SPECIFICATIONS

1. **EXCAVATION AND DISPOSAL OF EXCAVATED MATERIAL:** The contractor and/or the utility company shall provide and place the necessary sheeting, shoring and bracing required to prevent caving, loss or settlement of foundation material supporting the pavement, or any other highway installation such as sewers, culverts, etc. The contractor and/or utility company shall assume the full responsibility for this protection. Excavated material shall be stocked in such locations that it does not obstruct vision on the traveled portion of the highway and in such a manner that it will not interfere with the flow of traffic. Sod and topsoil shall be stocked separately from other excavated material. The applicant shall dispose of all surplus and unsuitable material outside of the limits of the right-of-way unless the permit provides for, and with approval of abutting property owners, disposal at approved locations with the right-of-way. In the latter case, the material shall be leveled and trimmed in a manner approved by the Road Commission for Oakland County.
2. **BACKFILLING AND COMPACTING BACKFILL:** All trenches, holes, pits, and other excavations shall be filled with approved excavated earth or with MDOT Class II granular material if so provided, placed in successive layers not more than 9 inches in depth, loose measure, and each layer shall be thoroughly compacted by tamping and all backfill compaction will be subject to check by the Controlled Density Method (minimum 95%). Restoration shall be such that it will provide a condition equal to or better than the original condition and in accordance with current Road Commission for Oakland County standards. Any excavation within the right of way outside traveled portion of road must be maintained until all settlement has occurred and must be restored and seeded or sodded as directed. The permit will not be released until the Road Commission is satisfied that no further settlement will occur.
3. **CROSSING ROADBED BY TUNNELING, DIRECTIONAL BORE, JACK CASING AND BORE:** When the pipe is installed by tunneling without cutting the existing pavement, the tunnel shall be adequately sheeted or shored to prevent the sides and top from collapsing or the pavement from settling or cracking. Directional bore shall be at least 4 diameters under the pavement or 48 inches, whichever is greater. When the pipe is installed by boring and jacking, the leading edge of the pipe must always precede the auger. The tunnel backfill shall be made by tamping a dry mix of lean concrete into place so as to completely fill any voids remaining around the installation. The concrete shall be composed of one part of Portland cement and 10 parts of sand-gravel by volume. Tunnel and boring pits shall be at least 10 feet from the edge of the pavement unless otherwise approved.
4. **CROSSING BY CUTTING GRAVEL ROADS:** All trenches are to be backfilled with approved material to within 12 inches of surface within the limits of the roadbed. Backfill methods will be as described in paragraph 2 above. All surplus excavated material will be disposed of as described in paragraph 1. The top 12 inches within the roadbed will be backfilled with processed road gravel (MDOT 22A or 23A). Trenches outside of the roadbed will be backfilled in accordance with paragraph 2 above.
5. **CROSSING BY CUTTING PAVEMENT AND TRENCHING:** When this method is approved by the Road Commission, the pavement shall be cut so that the opening is a minimum of 5 feet wide and at least 1 foot wider on each side than the trench. In no case shall an open cut result in a remaining slab width of less than 5 feet from patch to an existing joint. The cut shall be made by sawing to a full pavement depth. Cuts in concrete residential and commercial drives shall be as above except that the patch width shall be a minimum of 3 feet and the remaining slab from patch to existing joint a minimum of 3 feet. Backfill shall be made with MDOT Class II granular material. After the backfill has been placed by control density method and thoroughly compacted, the pavement shall be replaced with a temporary surface of approved hot-mixed bituminous material and later replaced with new pavement of the original type and quality by the Permit Licensee unless other provisions are included in the permit.
6. **DEPTH OF COVER MATERIAL:** Pipes shall be placed to a depth that will provide not less than 4 feet of cover between the top of roadway surface and top of the pipe.
7. **TREE TRIMMING OR REMOVAL:** All trees that may be affected by the proposed construction shall be shown on the plans. The plan must clearly indicate which trees are proposed to be removed, trimmed and/or tunneled. This work, if approved, must be done in accordance with current Board standards, including advance notification of abutting property owners. Wood Disposal License Agreement(s) will be required for any tree work.
8. **DISPOSAL OF GROUND WATER:** Roadside drainage systems – open ditches, storm sewers, etc. – shall not be used for the disposal of water pumped from below the surface of the ground unless specifically allowed by the Road Commission. Details such as volume and frequency of discharge, erosion control, duration of use, NPDES permit and other pertinent information as may be required must be submitted with the application for such permission.
9. Any proposed operation in the right of way not covered by the above specifications, submitted with this application, shall be done in accordance with any additional specifications deemed necessary by the Board or as outlined in the Permit Rules, Specifications and Guidelines.

SPECIAL CONDITIONS FOR UNDERGROUND CONSTRUCTION

The following special permit specifications shall apply when the permittee is excavating or performing any underground activity within trunkline right of way and discovers existing contaminated soil and/or an abandoned underground storage tank:

1. In the event the permittee encounters environmental contamination and/or an underground storage tank in the right of way, the Michigan Department of Transportation (MDOT) shall be immediately notified. All Michigan Department of Natural Resources and Environment (MDNRE) and Federal Environmental Protection Agency (EPA) environmental requirements shall be complied with by the permittee. Unless the Department agrees in writing the following steps are to be taken:
 - a. The contaminated material that has been removed shall be temporarily stockpiled per MDNRE requirements. If stockpiled on the right of way, the site shall not interfere with MDOT operations or create a traffic safety problem. Also, the contaminated material shall be placed on plastic sheeting or tarp having a minimum thickness of 6 mils or in trucks, roll off boxes, or other containers, such that no liquid may escape from the containment. At the end of each work day, the contaminated material shall be covered securely with plastic sheeting of 6 mil thickness or greater.
 - b. Upon completion of any testing deemed necessary by the Department or the MDNRE, the material shall be disposed of in an approved waste disposal site unless otherwise directed by the MDNRE.
 - c. In no case shall the contaminated material be stockpiled for longer than 45 days prior to disposal.
2. The permittee shall cooperate with MDOT personnel and pertinent regulatory agencies in resolving the contamination problem as required by law.
 - a. The manner in which the permittee manages and secures the site shall not interfere with the MDOT's interests.
 - b. The permittee shall not excavate as part of any site management operation within the one-on-one slope from the edge of shoulder without the permission of MDOT.
3. MDOT shall not indemnify or compensate the permittee for any costs or damages of any kind that the permittee incurs as the result of contamination encountered within the right of way. It is understood that the possibility of encountering contamination and the damages which might be incurred by the permittee because of the contamination are business risks the permittee assumes in choosing to locate and maintain facilities within the Right-of-Way.

The permittee is responsible for any costs that it incurs to secure the contaminated site in such a manner as to meet the requirements of the MDNRE and/or EPA and the requirements of MDOT.

4. The permittee, upon approval of MDOT, may continue to place its facility through the contaminated area providing remedial actions that meet the approval of MDOT and other enforcement agencies involved are followed.
 - a. All additional costs the permittee incurs, as a result of continuing to place its facilities within the contaminated area, are the responsibility of the permittee.
 - b. All contaminated material must be removed and properly disposed of as directed by MDOT and/or the MDNRE. All backfill material must be clean material, unless otherwise directed by the MDNRE. Excavation must be backfilled in a manner to prevent the creation of a pathway for migration of contamination off site.
5. The permittee is solely responsible to develop an alternate route for its facility in the event approval cannot be given to continue to place the facility within the contaminated area of the Right-of-Way. The permittee shall restore the original site as directed by MDOT.

Special Conditions for Cutting, Trimming, and/or Removal of Vegetation

These special conditions apply to cutting, trimming and/or removal of vegetation within Michigan Department of Transportation (MDOT) Right-of-Way. Requirements for cutting are site specific and may require additional conditions or constraints.

1. All vegetation cutting/removal/trimming shall be performed with hand held equipment such as chainsaws, handsaws, hand pruners, and pole pruners. All stumps shall be cut flush with the ground. All cutting and trimming shall be performed under the direction of a certified arborist in accordance with International Society of Arboriculture Standards.
2. Use of any heavy duty equipment, including skid-steers with cutting or mowing attachments, is prohibited. The use of walk behind brush cutters may be approved if MDOT determines site conditions, height of billboard, and vegetative species warrants their use.
3. Use of light-weight equipment, for removal of large limbs and trunks, may be permitted. If light-weight equipment is permitted, a minimal ground disturbance is required, and the disturbed area shall be fully restored according to MDOT specifications.
4. Broadcast chipping of woody debris is permitted under the following conditions, unless specifically prohibited by MDOT.
 - a) The chipped material shall be spread uniformly so that the maximum depth of wood chips, at any one point, does not exceed 2 inches.
 - b) Broadcasting wood chips is prohibited in the following areas:
 - a. Roadside ditches,
 - b. Within 50 feet of a stream, river, wetland, or drainage structure,
 - c. Slopes greater than 1 on 3,
 - d. Mowed areas.
 - c) All other vegetation, that is not chipped, shall be removed.
 - d) The broadcasting of wood chips produced outside of the Right-of-Way into the Right-of-Way is prohibited.
5. When chipping is prohibited, all wood and debris, resulting from the cutting or trimming, shall be removed from the MDOT right-of-way and disposed of according to local and state regulations. Wood chips produced from outside of the MDOT right-of-way are not allowed in the right-of-way.
6. Written permission, from an adjacent landowner, shall be obtained prior to the disposal of any vegetation on the property. A copy of all written permissions shall be provided to MDOT prior to cutting, trimming and/or removal of vegetation.

7. The Right-of-Way fence shall be free of debris, to allow MDOT access to, and maintenance of, the fence. All debris, piled on or leaning on either side of the fence, shall be removed.
8. Removal or altering the Right-of-Way fence, in any way, is prohibited. Any damage to the Right-of-Way fence, caused by activities associated with the cutting, trimming and/or removal of vegetation, shall be repaired according to MDOT specifications.
9. Access to properties adjacent to limited access highways shall only be made from outside of the Right-of-Way. If this is not possible, the work shall proceed according to applicable MDOT traffic control requirements and standards. If the Right-of-Way is classified as "free access", direct access to the adjacent property from the Right-of-Way is permitted.
10. Upon completion of the work, all equipment shall be immediately removed. Any material or debris not removed within 15 days of the cutting or trimming operation is subject to removal by MDOT and the removal cost may be charged to the permit applicant.
11. Manual spot treatment of cut tree stumps may be permitted at the discretion of MDOT with an MDOT approved herbicide. Broadcast, foliar, hack-and-squirt, and basal bark treatment applications are prohibited. Herbicide requirements are:
 - a) Only specified herbicides shall be approved for use,
 - b) Herbicides shall be registered and approved for sale by the US Environmental Protection Agency (EPA) for use in the State Michigan,
 - c) Herbicides shall be applied by a Michigan Department of Agriculture and Rural Development (MDARD) certified herbicide applicator,
 - d) The certified herbicide applicator shall be certified in category (6) Right-of-Way.
 - e) All right-of-way herbicide applications shall be performed in accordance to Public Act 451 of 1994, Regulation 285.637 and according to the herbicide's label.
 - f) Copies of the spray logs shall be sent to the MDOT Transportation Service Center, which issued the permit, within 2 weeks after the herbicide application was made.
12. Trees infested with the Emerald Ash Borer (EAB) shall be disposed of according to the Michigan Department of Agriculture and Rural Development guidelines. Trees tagged with an EAB tag shall be removed and the tag shall be sent to the MDOT Transportation Service Center, which issued the permit.
13. The permitted work shall be completed within 30 days from the date when the advance notice is approved.

ENVIRONMENTAL REQUIREMENTS FOR ACTIVITIES WITHIN MDOT RIGHT-OF-WAY

Issuance of a permit by MDOT does not relieve the permit applicant from meeting any and all requirements of law, or of other public bodies or agencies, including but not limited to the following:

1. Goemare-Anderson Wetland Protection Act, Part 303, P.A. 451 of 1994

Any activity that involves excavation or fill, located within a regulated wetland, requires a Michigan Department of Environmental Quality (MDEQ) permit. Regulated wetlands are those systems that are contiguous to a lake or stream (within 500 feet) or greater than five (5) acres in size.

2. Inland Lakes and Streams Act, Part 301, P.A. 451 of 1994

Any activity located within the ordinary high-water mark of a regulated body of water, i.e., lake, stream, drain, pond, etc., shall require a permit. There are no exemptions to this requirement. Permit applications and questions can be submitted to the MDEQ's Land and Water Management Division.

3. Soil Erosion and Sedimentation Control Act, Part 91, P.A. 451 1994

Any land disturbance of one (1) acre or greater, or that is located within 500 feet of a lake or stream, requires a soil erosion permit. Municipalities who are classified as an Authorized Public Agency (APA) are exempt from permits, but must follow proper soil erosion practices as identified in their standard plan. Any construction activity located within MDOT Right-of-Way that is authorized by a MDOT permit is the responsibility of the permit applicant and is not covered under MDOT's APA authority.

Soil erosion and sedimentation controls are required on all projects, even if a soil erosion permit is not required. Individuals performing work shall prevent sediment from entering any body of water or leaving the Right-of-Way. Permits can be obtained from the county/municipal agencies. Minor earth changes are exempted in this Act and are classified as normal maintenance and emergency repairs.

4. Clean Water Act: National Pollutant Discharge Elimination System (NPDES) Storm Water Discharge Requirements for Construction Activities

Any land disturbance of five (5) acres or greater requires an NPDES Storm Water Discharge Permit. This can include any filling, excavating, grading, clearing, etc. Municipally-owned utilities who service a population of less than 100,000 are exempt from permit provisions, but not from environmental protection requirements. Permit applications require the Part 31, P.A. 451 permit number, or a declaration of APA status and the effective date. Permit applications and questions can be submitted to the MDEQ's Surface Water Quality Division.

5. Environmental Site Closures

A procedure was developed by the MDEQ and MDOT which may allow a property owner, who is responsible for of these sites, to close an environmentally impacted site. Questions regarding this activity shall be addressed by contacting MDOT's Environmental Specialist at 517-335-2271.

6. The Land and Water Management Division of the MDEQ also administers the following environmental laws which may require review prior to construction:

- Sand Dune Protection Act, Part 353, P.A. 451 of 1994.
- Shore-lands Protection and Management, Part 323, P.A. 451 of 1994.
- Great Lakes Submerged Lands Act, Part 325, and P.A. 451 of 1994.

7. The Wildlife Division of the MDNR also administers the following environmental laws which may require review prior to construction:

- Endangered Species Act, Part 365, and P.A. 451 of 1994.

Questions regarding these permits may be addressed by contacting the nearest MDEQ district field office, or the MDEQ Land and Water Management Division at 517-373-1170.

Additional information is available in MDOT's Environmental Procedures Manual.

Special Conditions: Permit Reference #83905

Failure to comply with the following special conditions will result in a stop work order.

SPECIFIC PERMIT CONDITIONS

1. There is MDOT storm sewer in the vicinity of your proposed work. MDOT storm is not part of Miss Dig. The permit applicant will need to locate & determine depth of MDOT storm sewer.
2. There are MDOT signals in the vicinity of your proposed work. MDOT signals are not part of Miss Dig and require staking per Special Condition 10d below.
3. All work and lane closure requests for work on a Saturday, Sunday, or Monday will require notification to MDOT Inspector no later than the preceding Wednesday by 4:00 pm. Failure to follow this will result in denial of work.
4. MDOT has a project in the vicinity of your proposed work. MDOT may not be able to accommodate your proposed permit work until our MDOT project is completed.
5. All work at night shall be in compliance with MIOSHA standards for night lighting
6. All traffic control signing shall be flagged with a colored ribbon (color to be determined by MDOT Permit Inspector) for easy identification of responsible party.
7. No work during inclement weather or holidays.
8. Extra caution and possible lane closures may be needed due to soft ground and possible damage to greenbelt area.

GENERAL CONDITIONS

9. **72 hours prior to starting work** in the MDOT ROW the applicant/contractor shall contact:
 - a. Rod Jackson at 248-497-3629
10. All utilities including drainage facilities shall be located prior to work in the MDOT Right-of-way. MDOT facilities are not located through the MISS DIG system. Therefore, staking requests for MDOT electrical facilities (ITS, Traffic Signals, Roadway Lighting, and other electrical) must be submitted to the appropriate MDOT staking request coordinator **a minimum of five (5) business days prior to starting work** to obtain information regarding the existing MDOT electrical utilities in the field. Contact information for MDOT staking request coordinators is listed below or is located on the appropriated staking request form (attached).
 - a. SEMTOC/ITS Staking Request Form 5300 - MDOT-ITS-Staking-Metro@michigan.gov
 - b. Freeway Lighting Staking Request Form 5300 - MDOT-FLP-Staking-Metro@michigan.gov
 - c. Electrical Staking Request Form 5300 - MDOT-Electrical-Staking-Metro@michigan.gov
 - d. MDOT Signals Staking Request – Maintenance – Fred Roeder 248-208-5894 roederf@michigan.gov
 - e. MDOT Pumpstations Staking Request – Maintenance – Bill Bair at bairw@michigan.gov
11. **Applicant shall notify Southeast Michigan Transportation Operations Center (SEMTOC) a minimum of 72 hours prior to any lane/shoulder/ramp closures and/or traffic stoppages. SEMTOC shall also be contacted within 30 minutes of implementation and/or completion of a lane/shoulder/ramp closures/traffic stoppages or schedule changes. SEMTOC can be contacted at 844-965-0888. SEMTOC shall be notified on a daily basis for all freeway work.**
12. It is the applicant's responsibility to ensure that any required quality control and testing as indicated in MDOT 2012 Standard Specifications for Construction, be completed as directed by the inspector.
13. **The permit conditions/plans of this permit can be modified at the discretion of MDOT. This permit does not relieve the designer, applicant, or contractor from any problems that should arise before, during, and after construction that relates to the approved permit.**

14. All trees within the MDOT right of way shall remain uncut unless prior written approval from MDOT has been received and a tree replacement plan has been approved.
15. Upon request, MDOT shall be provided with copies of all documentation related to this permit, including but not limited to inspection reports, test reports, as-builts, etc. which shall be provided free of charge.
16. Any non-compliance to permit conditions may subject you to a citation from the local law enforcement agency.

TRAFFIC CONTROL

17. All traffic control must follow the MDOT Standard Specification for Construction – See Temporary Traffic Control for Construction Zone Operations Section 812. <https://mdotjboss.state.mi.us/SpecProv/specBookHome.htm>
18. Work shall be coordinated with other contractors working in the area per Subsection 104.08 of MDOT 2012 Standard Specification for Construction.
19. The permitted work shall be completed under the following restrictions:
 - a. Work hours are restricted to the time frames below.
 - Daytime, 9:00am to 3:00pm, Monday-Friday
 - Traffic control restrictions and hours are subject to change at time of submittal of advance notice due to other projects and work in the area. MDOT can't guarantee that work will be able to be performed on weekdays.
 - MDOT will require you to submit the name and contact information for the supplier of your traffic control devices
 - MDOT will require that the permit applicant submit the attached "Lane Closure Request Form" with the advance notice. MDOT will deny the advance notice if the lane closure form is not attached or not accurately filled out.
 - For work longer than 1 week MDOT will require you submit a weekly lane closure report to the MDOT Traffic Operations Engineer
 - b. Effective October 1, 2020 all permit activities within the state highway right of way utilizing drums / 42-inch channelizing devices require Type IV fluorescent sheeting per SOA 2016-002.
 - c. Shoulder closure along the mainline is allowed Monday through Friday, 9am until 3pm while actively working unless directed otherwise by inspector. Closures shall be completed in accordance to the current MDOT standards (M0020a, M0110a, and WZD-125-E)
 - d. Single lane closure(s) allowed Monday through Friday, 9am until 3pm while actively working unless directed otherwise by inspector. Closures shall be completed in accordance to the current MDOT standards (M0020a, M0240a, and WZD-125-E)
 - e. Sidewalk closure allowed please refer to MMUTCD Part 6, Figure 6H-29 – Typical Application 29 for Crosswalk and Pedestrian Detours for guidance. Type II Pedestrian Barricades must be used when closing the sidewalk, unless directed otherwise by the inspector.
 - f. Detour signs are acceptable on MDOT ROW. If they are in place more than 14 days, they must be post driven per WZD-100-A. Signs must not conflict with any other signing in the area. Single lane moving closures to place signs are acceptable during Mon-Fri 9a-3p and Sat/Sun 8a-5p. Do not block lanes unnecessarily when placing the signs. Remove all signs once work has been completed for 10 days.
 - g. Ground-driven temporary signing mounted on conventional driven sign supports **must** be used for projects that last more than **fourteen (14) days**. Portable sign supports should be used when it is not possible to use ground-driven sign supports.

- h. Once work is initiated that includes any lane restrictions, that work must be continued daily until completed. A lack of work activity for more than 3 days may require the removal of lane closures at the Contractor's expense.
 - i. Remove all traffic control devices (including detour signing) and equipment from the project site that is no longer needed within 3 calendar days of reopening the shoulder/lane/roadway. Any traffic control devices left after day 4 may be removed by MDOT and permit applicant may be liable for cost incurred.
20. Use mobile attenuators for all overhead work, except when working on traffic signals, as directed by the MDOT Inspector.
21. Access to businesses, residents, hospitals, and fire hydrants in the work zone shall be maintained at all times. Access for emergency vehicles (fire, ambulance, and police) shall be maintained to adjacent homes, businesses, and residences at all times.
22. When a bus stop is influenced by the permitted work, the applicant/contractor shall maintain the bus stop or coordinate the work and/or lane closure with the affected bus line. Contact the appropriate bus line coordinator a minimum of five (5) business days prior to starting work.
- a. The bus line coordinator for the Detroit Department of Transportation (DDOT) bus line is Ms. Geena Schofield, Transportation Operations Assistant. She can be contacted at 313-833-7973 or geesch@detroitmi.gov.
 - b. The bus line coordinator for the Suburban Mobility and Regional Transportation (SMART) bus line are Greg Lorenz at 248-419-7904 or glorenz@smartbus.org and Dana Hilthon at 248-419-7905 or dhilthon@smartbus.org.
23. The following is a list of MDOT prequalified companies that may be utilized for setting up the required traffic control devices. **Charges associated with traffic control procurement shall be the sole responsibility of the permit applicant.**
- a. Give 'Em A Brake Safety 616-531-8705
 - b. Highway Service Company 734-675-1000
 - c. POCO, Inc. 734-397-1677
 - d. Spartan Barricading & Traffic Control, Inc. 313-292-2488
 - e. State Barricades, Inc. 586-756-8282
 - f. Traffic Management Incorporated 313-825-2956
24. No materials or equipment shall be stored onsite or within MDOT right of way unless directed by the MDOT inspector. Do not operate or park equipment or store materials within a tree drip line

SIDEWALK/DRIVEWAY RESTORATION

25. Backfill shall be completed in accordance with the MDOT standard detail for Utility Trench Backfill, R-83-Series.
26. Sidewalk shall be restored permanently upon completion of work.
27. Sidewalk shall be replaced in full flags in accordance with MDOT Typical R-28 and R-29.
28. The driveway material shall be in accordance with the MDOT Metro Region Soils & Materials Construction Permit Guidance document, section 2.1. *Driveways*.

29. All materials for the construction of a temporary approach shall meet MDOT 2012 Standard Specifications for Construction and be approved by the MDOT inspector prior to placement. The applicant/contractor shall be responsible for hauling away unsatisfactory material as directed without cost to the Department.

SIDEWALK/DRIVEWAY

30. The driveway material shall be in accordance with the MDOT Metro Region Soils & Materials Construction Permit Guidance document, section 2.1. *Driveways*
31. All materials for the construction of a temporary approach shall meet MDOT 2012 Standard Specifications for Construction and be approved by the MDOT inspector prior to placement. The applicant/contractor shall be responsible for hauling away unsatisfactory material as directed without cost to the Department
32. Aggregate base under HMA compacted to 98%. Aggregate base under concrete compacted to 95%.
33. A 2' butt joint may be required as directed by the MDOT Inspector

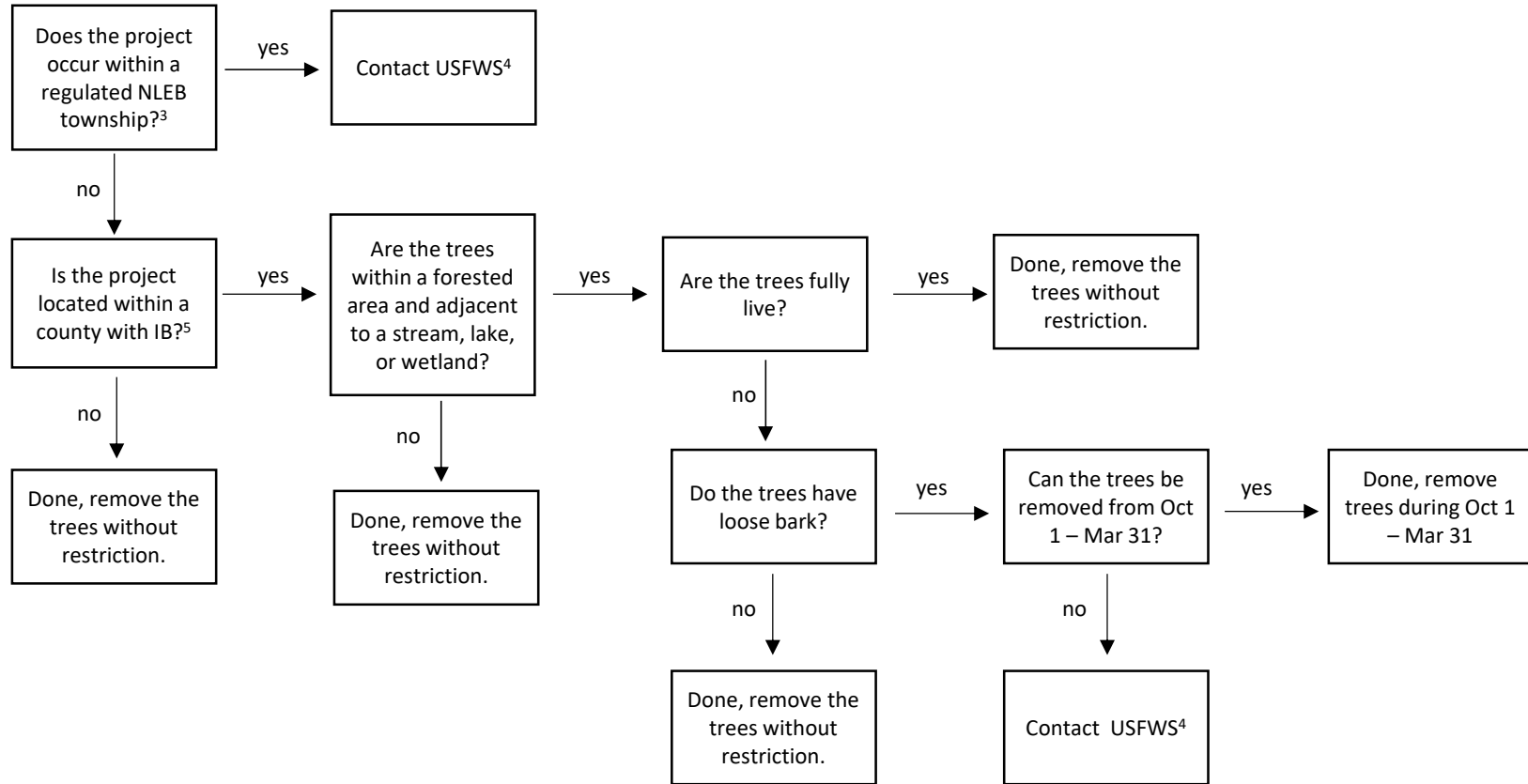
SOIL EROSION

34. All soil erosion sedimentation control must follow the MDOT Standard Specification for Construction – See Soil Erosion and Sedimentation Control Section 208. <https://mdotjboss.state.mi.us/SpecProv/specBookHome.htm>
35. The permit applicant/contractor shall notify MDOT immediately should any hazardous material be found in MDOT right of way. All hazardous material shall be removed and disposed of per MDOT standards. All costs associated are the responsibility of the permit applicant.

Criteria for Determining Northern Long-Eared and Indiana Bat Habitat

NLEB¹/IB² Non-Federal Decision Tree (last updated 3-2-2022)

start



¹ NLEB = Northern Long-Eared Bat

² IB = Indiana Bat

³ See pages 3-5 here: https://www.michigan.gov/documents/dnr/MINLEBFactSheet_606024_7.pdf

⁴ USFWS = U.S. Fish and Wildlife Service, Michigan Ecological Field Services Office, 2651 Coolidge Rd, East Lansing, MI (517)-351-2555

⁵ See Michigan range map: <https://www.fws.gov/species/cluster-bat-myotis-sodalis> (The map may take a moment to load)

107.09 Archeological and Historical Findings

Email this Page (mailto:Change?body=http://mdotwiki.state.mi.us/construction/index.php/107.09_Archeological_and_Historical_Findings)

ARCHEOLOGICAL AND HISTORICAL FINDINGS

MDOT's archaeologist, Environmental Services Section, is solely responsible for administration of MDOT Trunkline cultural resources preservation requirements, in accordance with applicable federal, state and local laws, regulations and rules, including the National Environmental Protection Act (NEPA) and the National Historic Preservation Act (NHPA).

In accordance with subsection 107.09 of the Standard Specifications for Construction the following procedure must take place if items of potentially historical significance (such as bones, artifacts or buried foundations) are encountered during construction. **All project personnel shall treat any discovery as confidential. Photographs of finds may not be taken.**

The laws include, but are not limited to, the following:

- Contacting the appropriate law enforcement/medical agency in the case of human remains discovery in compliance with Section 2853 of the Public Health Code, MCL 333.2853 ([http://www.legislature.mi.gov/\(S\(lepygpsc0qtdad5texio4mb0\)\)/mileg.aspx?page=GetObject&objectname=mcl-333-2853](http://www.legislature.mi.gov/(S(lepygpsc0qtdad5texio4mb0))/mileg.aspx?page=GetObject&objectname=mcl-333-2853)); MSA 14.15 (2853); 1982 AACRS, R 325.8051.
- No further construction in the area of discovery will proceed until the requirements of 36 CFR 800.13 (<https://www.ecfr.gov/current/title-36/chapter-VIII/part-800/subpart-B/section-800.13>) have been satisfied.
- Information about historic properties, potential historic properties, or properties considered historic are or may be subject to the provisions of Section 304 of The National Historic Preservation Act (NHPA) (<https://www.gsa.gov/cdnstatic/NHPA.pdf>) and the Michigan Compiled Laws § 399.4a; § 15.231(l)(p) (Freedom of Information Act) ([http://www.legislature.mi.gov/\(S\(u2bbr3jgzq3h3s3sir3kf3ci\)\)/mileg.aspx?page=GetObject&objectname=mcl-15-231](http://www.legislature.mi.gov/(S(u2bbr3jgzq3h3s3sir3kf3ci))/mileg.aspx?page=GetObject&objectname=mcl-15-231)). These statutes allow MDOT to withhold from disclosure to the public. Information about the location, character, or ownership of a historic resource if MDOT determines that disclosure may:
 - 1) cause a significant invasion of privacy;
 - 2) risk harm to the historic resource; or
 - 3) impede the use of a traditional religious site by practitioners.
- Michigan law states, any person who willfully digs up, disinters, or moves human remains from their place of burial, or who aids in such activities without being lawfully authorized to do so can be found guilty of a felony punishable by up to 10 years in prison and a fine of up to \$5000.

Engineer will:

- Immediately direct the Contractor to cease operations and preserve the location/s of the item discovery (per specification)
- Immediately contact MDOT's archeologist (https://www.michigan.gov/mdot/0,4616,7-151-9623_11154-22167--,00.html) for consultation.
- Immediately contact local law enforcement if discovery appears to be human remains
- Provide plan of action to the Contractor, in consultation with MDOT's Archeologist.
- Order Contractor to resume operations in the affected work area only after approval from the MDOT Archeologist.
- Review any Contractor requests for extension of time and/or adjustments.

MDOT's Archeologist will:

- Provide the Engineer direction as deemed prudent and necessary, including how to maintain compliance with applicable laws, regulations, and rules
- Immediately consultant with state archaeologist, SHPO, Tribes, and others, if necessary, to determine an appropriate course of action.
- Arrange a site visit with appropriate parties, if needed, to make determination.
- If necessary, coordinate cultural resource work which may include obtaining disinterment/reinterment court orders/permits for human remains or any other necessary clearances.
- Provide Engineer with appropriate course of action if suspension of work in discovery area is necessary. Assist in designing a plan for avoiding, minimizing, or mitigating adverse effects to the discovery area.
- Provide Engineer with approval to resume operations.

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LAP Project Considerations

LAP Projects are subject to the same guidance (https://mdotwiki.state.mi.us/construction/index.php/107.09_Archeological_and_Historical_Findings) except the following procedures must be followed: The Engineer must immediately notify the MRC/DR and LRC ([https://mdotwiki.state.mi.us/construction/index.php/Local_Agency_Program_\(LAP\)#Definitions](https://mdotwiki.state.mi.us/construction/index.php/Local_Agency_Program_(LAP)#Definitions)). In lieu of contacting the MDOT Archeologist, the Engineer is to contact the State Historical Preservation Office (SHPO) Archeologist (<https://www.miplace.org/historic-preservation/about-shpo/contact-shpo/>) for consultation and direction. The DR may consult with the MDOT Archeologist.

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This page was last edited on 4 January 2022, at 10:25.

Regulated Eastern Massasauga Rattlesnake Habitat Advisory

This document serves as a notice that the project outlined in the attached permit application occurs within regulated eastern massasauga rattlesnake (EMR) habitat. This species is listed as federally threatened under the U.S. Endangered Species Act (1973). The status offers protection under federal law by prohibiting take of the species along with policies to protect the species habitat. Please contact the U.S. Fish and Wildlife Service to determine the action required to comply with the Endangered Species Act.

For more information about this species please see the species fact sheet at:

<https://www.fws.gov/species/eastern-massasauga-sistrurus-catenatus>

U.S. Fish and Wildlife Service Contact

U.S. Fish and Wildlife Service
Michigan Ecological Field Services Office
2651 Coolidge Rd
East Lansing, MI
(517)-351-2555

GENERAL CONDITIONS

This permit is issued subject to the following General Conditions:

1. This permit grants to the permittee only those rights specifically stated and no other. Maintenance work within the trunkline right of way may require a separate permit unless authorized within the scope of the annual permit.
 2. Issuance of this permit does not relieve permittee from meeting any and all requirements of law, or of other public bodies or agencies. The permittee shall be responsible for securing including but not limited to any other permissions including or required by law including but not limited to cities, villages, townships, corporations, or individuals for the activities hereby permitted.
 3. The permittee agrees as a General Condition of this permit to:
 - a. Have in the permittee's or the permittee's representative's possession on the job site at all times the approved permit, advanced notice and any necessary plans or sketches.
 - b. Submit Advance Notice through the online Construction Permit System (CPS) at least five (5) working days prior to commencement of any operations covered by this permit. No work shall start until an approved Advance Notice is e-mailed to the permittee.
 - c. Perform no work except emergency work, unless authorized by the Department (Michigan Department of Transportation [MDOT]), on Saturdays, Sundays, or from 3:00 p.m. on the day proceeding until the normal starting time the day after the following holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.
 - d. Perform no work except emergency work during periods of inclement weather when reduced visibility or slippery conditions impair trunkline traffic.
 - e. Provide and maintain all necessary precautions to prevent injury or damage to persons and property from operations covered by this permit.
 - f. Furnish, install and maintain all necessary traffic controls and protection during permittee's operations in accordance with the Michigan Manual of Uniform Traffic Control Devices and any supplemental specifications set forth herein.
 - g. Once work is initiated that includes any lane restrictions, that work must be continued daily until completed. A lack of work activity for more than 3 days will require the removal of lane closures at no expense to the Department.
 - h. Notify the Department of completion of work authorized by this permit through CPS, so that final inspection may be made and surety deposit released (where applicable). Surety deposit will not be released until the work authorized by the permit has been completed and inspected, and all inspection charges billable to the permittee are paid.
 4. Nothing in this permit shall be construed to grant any rights whatsoever to any public utilities, except as to the consent herein specifically given, nor to impair any existing rights granted in accordance with the constitution or laws of this state.
 5. Any operations in the trunkline right of way not covered by permit and the appropriate Department specifications are in violation of the jurisdictional authority of the Department, with respect to the control of the trunkline right of way, unless approved by the Department. Any change or alteration in the permit activities requires prior approval of the Department and may require a new permit.
 6. Performance of the requirements of this permit is the responsibility of the permittee. The permittee shall complete all operations for which this permit is issued in accordance with the General Conditions and conditions of this permit, by the specified completion date. The permittee shall meet all requirements of the current Department Standard Specifications for Construction, and the Supplemental Specifications set forth on/or incorporated as a part of this permit.
 7. The construction, operation and maintenance of the facility covered by this permit shall be performed without cost to the Department unless specified herein. The permittee shall be responsible for the cost of restoration of the state trunkline and right of way determined by the Department to be damaged as a result of the activities of the permittee.
 8. Facilities allowed on state trunkline right of way shall be placed and maintained in a manner which will not impair the state trunkline or interfere with the reasonable safe and free flow of traffic. Failure of the permittee to maintain the facilities located within the State trunkline right of way so as not to interfere with the operation, maintenance or use of the state trunkline by the traveling public may result in revocation of the permit.
 9. The permittee is solely and fully responsible for all activities undertaken pursuant to the permit. Any and all actions by the Department and those governmental bodies performing permit activities for the Department pursuant to a maintenance contract, including but not limited to any approved reviews and inspections of any nature, permit issuing, and final acceptance or rejection of the work or activity authorized by the permit shall not be construed as a warranty or assumption of liability on the part of the Department or those governmental bodies. It is expressly understood and agreed that any such actions are for the sole and exclusive purposes of the Department and the governmental bodies acting in a governmental capacity. Any such actions by the Department and governmental bodies will not relieve the permittee of its obligations hereunder, nor are such actions by the Department and the governmental bodies to be construed as a warranty as to the propriety of the permittee's performance.
- Note: The following General Condition does not apply to municipalities with executed resolutions on file with MDOT.
- The permittee shall indemnify, defend, and save harmless the State of Michigan, Michigan Transportation Commission, the Department and all officers, agents and employees thereof, and those governmental bodies performing permit activities for the Department and all officers, agents and employees thereof, pursuant to a maintenance contract, against any and all claims for damages arising from operations covered by this permit except claims resulting from the sole negligence or willful acts or omissions of said indemnities, its agent, or employees. In addition, permittee upon request shall furnish proof of insurance coverage for the term of this permit in an amount pre-specified.
10. The permittee or representative must ensure that all insurance policies and binders include an endorsement by which the insurer

agrees to notify the Department in writing at least 30 days before there is a cancellation or material change in coverage. The permittee or representative must stop operations if any insurance is cancelled or reduced and must not resume operations until new insurance is in force. The State of Michigan, Michigan Transportation Commission, Department of Transportation, and governmental bodies performing permit activities under a maintenance contract, and all officers, agents, and employees of all the above, for claims arising out of, under, or by reason of operations covered by the permits issued to the permittee.

11. This permit is not assignable and not transferable unless specifically agreed to by the Department.
12. The permittee, upon request of the Department, shall immediately remove, cease operations, and surrender this permit, or alter or relocate, at the permittee's own expense, the facility for which this permit is granted. Upon failure to do so, the Department may take any necessary action to protect the trunkline interest and the permittee shall reimburse the Department for its costs in doing same. The permittee expressly waives any right to claim damages or compensation in the event this permit is revoked.
13. The permittee shall, upon request by the Department, furnish a performance surety deposit in the form of a bond, cash, certified check, or (when authorized by the Department) an irrevocable letter of credit in such amount as deemed necessary by the Department to guarantee restoration of the trunkline highway or performance under the General Conditions and conditions of the permit.
14. The permittee hereby acknowledges and agrees that the Department has the right to demand completion by the permittee, or the performance surety, or to complete any uncompleted activity authorized by this permit which adversely affects the operation and/or maintenance of the state trunkline highway, or which is not completed by the expiration date of the permit, including:
 - a. Completion of construction of driveway and/or approach (not authorized by annual permit).
 - b. Removal of materials.
 - c. Restoration of the trunkline facilities and right of way as necessary for the reasonably safe and efficient operations of the trunkline highway.

The permittee further agrees to immediately reimburse the Department in full for all such costs incurred by the Department upon receipt of billing, and that upon failure to pay, the Department may affect payment with the performance surety deposit. Should the surety deposit be insufficient to cover expenses incurred by the Department, the permittee shall pay such deficiency upon billing by the Department. If the surety deposit exceeds the expense incurred by the Department, any excess will be returned or released to the depositor upon completion of the work to the satisfaction of the Department.

15. The Department reserves the right during the time any or all of the work is being performed to assign an inspector to protect the trunkline interest, and to charge the permittee all such costs incurred. In addition, the permittee may be billed any engineering and review fees incurred by the Department or its agent in connection with the work covered by this permit.
16. Emergency Operations: In time of disaster or emergency, or when utility lines or facilities are so damaged as to constitute a danger to life and/or property of the public, access to the same may be had by the most expeditious route. Work is to be completed in a manner which will provide the traveling public with maximum possible safety and minimize traffic distribution. Notice of such situations shall be given to the nearest police authority and the department as soon as can reasonably be done under the

circumstances. During normal Department work hours, the facility owner shall advise the Department of any operations within right of way which affect traffic operations or the highway structure or facilities prior to performance of the work. After normal Department work hours, the permittee, at the beginning of the first working day after the emergency operation, shall advise the Department of any operations which affect traffic operations or the highway structures and facilities. If determined necessary by the Department, the permittee shall secure an individual permit for such work after notification.

17. Upon the Department's request, as built drawings of work performed will be furnished to the Department within 30 days after completion of the work.
18. The permittee shall give notice to public utilities in accordance with Act 174 of 2013, as amended, and comply with all applicable requirements of this act. The permittee shall also comply with requirements of Act 451, P.A. of 1994, as amended.
19. The permittee acknowledges that the Department is without liability for the presence of the permittee's facility which is located within the trunkline right of way. Acceptance by the Department of work performed, and/or notice of termination of performance obligations for the surety and/or the permittee do not relieve the permittee of full responsibility for the permittee's work or for the presence of the permittee's facility in the trunkline right of way.
20. Where the Department has accepted an Indemnification Commitment in lieu of bond and/or insurance policies, such commitment is incorporated into this permit by reference.
21. It is illegal to discharge substances other than storm water into the Department's storm sewer system unless permission has been obtained in writing for other discharges.
22. The permittee shall be responsible for obtaining information on permitted environmental site closures within MDOT right of way. MDOT has implemented a program that allows environmental contamination to remain within the right of way by use of a permit. Issued permit information can be obtained from the Region/TSC in which the permit is issued. If the permittee will encounter a site area identified as a site closure permit area, the permittee shall follow instructions and conditions set forth in Supplemental Specifications #3 and specifications found in form 2205-C, "Special Conditions for Underground Construction".
23. Other than for normal daily vehicle and equipment usage requirements, the permittee shall not use or store unattended equipment, or the following types of hazardous materials on, over, under, or immediately adjacent to Department or Local Agency owned buildings, bridges and structures, unless expressly approved by the Department in writing;

Explosive, flammable gas, non-flammable gas, inhalation hazard, oxygen, flammable liquids, fuel oil, combustible, gasoline, flammable solids, spontaneously combustible, dangerous-when-wet, oxidizer organic peroxide, toxic, poisonous, inhalation hazard, infectious, radioactive, corrosive, or any other potentially hazardous material.

Furthermore, the permittee shall not allow hazardous or unreasonably objectionable smoke, fumes, vapor, or odors to emit from any permitted operation. No junk, garbage, refuse or unused construction materials shall be stored or accumulated within the MDOT Right-of-Way.
24. It is the responsibility of the utility owner to provide the depth and location of their facilities within MDOT ROW upon the department's request.

SUPPLEMENTAL SPECIFICATIONS

1. Construction and Maintenance of Facilities – To construct and maintain utility crossings of limited access highways, access for the utility's service vehicles may be from county roads, service roads, and openings authorized in limited access right of way fences. The construction of utilities across limited access highways should be for the purpose of serving a general area rather than providing individual services, unless extenuating circumstances necessitate such crossings.

Equipment, vehicles or personnel will not operate within a distance of 30 feet from the edge of the pavement of roadways or ramps on limited access highways. At locations where utilities have been constructed in medians having a width greater than 80 feet or have otherwise been allowed to remain or to be constructed in limited access right of way, ingress and egress shall be by such routes as specified by the Department, which may also specify additional safety provisions.

2. Restoration- Restoration of the trunkline highway and right of way will be such that it will provide a condition equal to or better than the original condition, in accordance with Michigan Department of Transportation Standard Specifications.
3. Excavation and Disposal of Excavated Material – The permittee shall provide and place the necessary sheeting, shoring and bracing required to prevent caving, loss or settlement of foundation material supporting the pavement, or any other highway installation such as sewers, culverts, etc. The permittee shall assume the full responsibility for this protection and shall not proceed in these areas before approval of the methods by the Department.

Construction equipment and excavating material shall not be stocked in such locations that it creates a traffic hazard or interferes with the flow of traffic; and on limited access highways, shall be a minimum of 30 feet from the traveled way. Sod and topsoil shall be stacked separately from other excavated material. The permittee shall dispose of all surplus and unsuitable material outside of the limits of the highway, unless the permit provides for disposal at approved locations within right of way. In the latter case, the material shall be leveled and trimmed in an approved manner.

When the permittee is excavating within trunkline right of way and discovers existing contaminated soil and/or an abandoned underground storage tank, special permit specifications entitled "Special Conditions for Underground Construction" (Form 2205-C) shall apply.

4. Utility Cuts, Trenches and Pavement Replacement – Utility crossing by pavement cutting and removal are generally prohibited. If extenuating circumstances make tunneling, boring and jacking impractical pavement cutting may be used with approval of the Department. All utility cuts, trenching and pavement replacement shall comply with the requirements of the Standard Specifications and the Standard Plan "Utility Cuts, Trenches and Pavement Replacement". Unless otherwise specified, cuts in concrete residential and commercial drives shall be as above; except that the patch width shall be a minimum of 3 feet and the remaining slab from patch to existing joint shall be a minimum of 3 feet. Backfill shall be made with sand-gravel as specified in the Standard Specifications, unless otherwise directed. After the backfill has been placed and compacted by controlled density method, the pavement shall be replaced with new pavement of the original type and quality, unless at the season of the year when it is not feasible to replace

pavement in kind. In this case, a temporary surface of bituminous material shall be placed with Department approval and later replaced with pavement of the original type at the applicant's expense. Other pavement types may be allowed with prior approval of the Department.

5. Crossing Roadbed by Tunneling or Boring and Jacking – All crossing of roadbed operations involving tunneling, boring and jacking shall comply with the Department's special provisions for such work.
6. Backfilling and Compacting Backfill – Unless otherwise specified, all trenches, holes and pits shall be filled with sound earth or with sand-gravel if so provided, placed in successive layers not more than 9 inches in depth, loose measure, and each layer shall be thoroughly compacted by tamping. All backfill compaction will be subject to check by the controlled density method.
7. Depth of Cover Method- Unless otherwise authorized, pipes shall be placed to a depth that will provide not less than 6 feet of cover between the top of the roadway surface and the pipe, 3 feet cover below the ditch line. All bores across MDOT highways that are 12" or larger will require a geotechnical report that complies with the General Conditions and conditions of the permit.
8. Trees:
- a. The permittee is responsible for obtaining permission from abutting owners when trimming or removing trees on easement right of way.
 - b. Tree removal or trimming may be undertaken only after submission of an "Advance Notice" through CPS, a field review by the Region Resource Specialist and an approved copy of the advanced notice is e-mailed to the permittee.
 - c. Limbs, logs, stumps and litter shall be disposed of in a manner acceptable to the Department.
 - d. Tree roots shall be bored a distance of one foot for each one inch of trunk diameter for underground utility installations
9. Aerial Wire Crossings – Vertical clearance of wires, conductors and cables over state trunkline shall not be less than required by Section 232 of the National Electrical Safety Code, except in no case shall the under-clearance below any wire, conductor, or cable, under any temperature or loading condition, be less than eighteen feet (18').

MDOT LANE CLOSURE REQUEST FORM

(FOR ANY SHOULDER, LANE, RAMP or ROADWAY CLOSURES or LANE SHIFTS)

Job Number/ID:		Office Submitted To:		<u>24 Hour Project Contact Information</u>	
LCRF Request #:		Date Submitted:		Name:	
Prime Contractor:		Submitted By:		Phone Number:	

#	Direction	Ramp	Road	Location	Category/ Closure Type	Lane/ Shoulder(s) Affected	# of Lanes Open	Type	Start Date & Time	End Date & Time	Continuous, Daily or Nightly	Posted Detour	Detour Route (if applicable)
1													
2													
3													
4													
5													

Type of work being done:

Notes:

* Submit form a minimum of **seven (7) calendar days** prior to the start of requested closures to the Engineer for approval.

* SEMTOC shall be called or texted at **(844) 965-0888** when lane closures are beginning and when lane closures are removed. SEMTOC control room can also be contacted at **(313) 965-0777**.

MINIMUM MERGING TAPER LENGTH "L" (FEET)

OFFSET FEET	POSTED SPEED LIMIT, MPH (PRIOR TO WORK AREA)									
	25	30	35	40	45	50	55	60	65	70
1	10	15	20	27	45	50	55	60	65	70
2	21	30	41	53	90	100	110	120	130	140
3	31	45	61	80	135	150	165	180	195	210
4	42	60	82	107	180	200	220	240	260	280
5	52	75	102	133	225	250	275	300	325	350
6	63	90	123	160	270	300	330	360	390	420
7	73	105	143	187	315	350	385	420	455	490
8	83	120	163	213	360	400	440	480	520	560
9	94	135	184	240	405	450	495	540	585	630
10	104	150	204	267	450	500	550	600	650	700
11	115	165	225	293	495	550	605	660	715	770
12	125	180	245	320	540	600	660	720	780	840
13	135	195	266	347	585	650	715	780	845	910
14	146	210	286	374	630	700	770	840	910	980
15	157	225	307	400	675	750	825	900	975	1050

TAPER LENGTH "L" IN FEET

THE FORMULAS FOR THE MINIMUM LENGTH OF A MERGING TAPER IN DERIVING THE "L" VALUES SHOWN IN THE ABOVE TABLES ARE AS FOLLOWS:

"L" = $\frac{W \times S^2}{60}$ WHERE POSTED SPEED PRIOR TO THE WORK AREA IS 40 MPH OR LESS

"L" = S x W WHERE POSTED SPEED PRIOR TO THE WORK AREA IS 45 MPH OR GREATER

- L = MINIMUM LENGTH OF MERGING TAPER
- S = POSTED SPEED LIMIT IN MPH PRIOR TO WORK AREA
- W = WIDTH OF OFFSET

TYPES OF TAPERS

UPSTREAM TAPERS

- MERGING TAPER
- SHIFTING TAPER
- SHOULDER TAPER
- TWO-WAY TRAFFIC TAPER

DOWNSTREAM TAPERS

(USE IS OPTIONAL)

TAPER LENGTH

- L - MINIMUM
- 1/2 L - MINIMUM
- 1/3 L - MINIMUM
- 100' - MAXIMUM
- 100' - MINIMUM (PER LANE)



TRAFFIC AND SAFETY
MAINTAINING TRAFFIC
TYPICAL

TABLES FOR "L", "D" AND "B" VALUES

DRAWN BY: CON:AE:djf	JUNE 2006	M0020a	SHEET 1 OF 2
CHECKED BY: BMM	PLAN DATE:		
FILE: K:/DGN/TSR/STDS/ENGLISH/MNTTRF/M0020a.dgn		REV.	08/21/2006

DISTANCE BETWEEN TRAFFIC CONTROL DEVICES "D"
AND LENGTH OF LONGITUDINAL BUFFER SPACE ON
"WHERE WORKERS PRESENT" SEQUENCES


"D" DISTANCES	POSTED SPEED LIMIT, MPH (PRIOR TO WORK AREA)									
	25	30	35	40	45	50	55	60	65	70
D (FEET)	250	300	350	400	450	500	550	600	650	700

GUIDELINES FOR LENGTH OF
LONGITUDINAL BUFFER SPACE "B"



SPEED* MPH	LENGTH FEET
20	33
25	50
30	83
35	132
40	181
45	230
50	279
55	329
60	411
65	476
70	542

* POSTED SPEED, OFF PEAK 85TH PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED

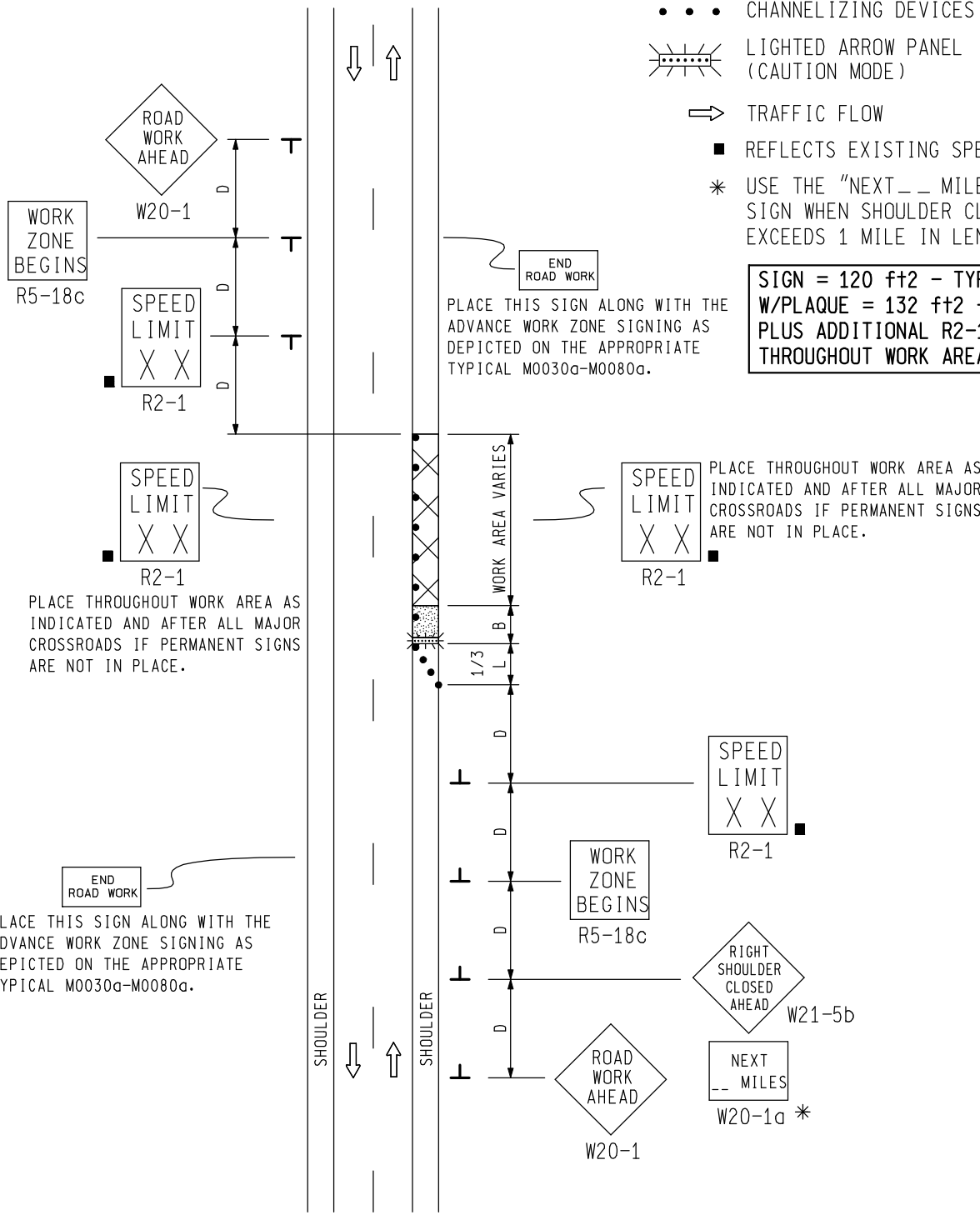
1 BASED UPON AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) BRAKING DISTANCE PORTION OF STOPPING SIGHT DISTANCE FOR WET AND LEVEL PAVEMENTS (A POLICY ON GEOMETRIC DESIGN OF HIGHWAY AND STREETS), AASHTO. THIS AASHTO DOCUMENT ALSO RECOMMENDS ADJUSTMENTS FOR THE EFFECT OF GRADE ON STOPPING AND VARIATION FOR TRUCKS.

 MDOT Michigan Department of Transportation TRAFFIC AND SAFETY MAINTAINING TRAFFIC TYPICAL	TABLES FOR "L", "D" AND "B" VALUES		
	DRAWN BY: CON:AE:djf CHECKED BY: BMM	JUNE 2006 PLAN DATE:	M0020a
FILE: K:/DGN/TSR/STDS/ENGLISH/MNTTRF/M0020a.dgn REV. 08/21/2006			

KEY

- • • CHANNELIZING DEVICES
-  LIGHTED ARROW PANEL (CAUTION MODE)
-  TRAFFIC FLOW
- REFLECTS EXISTING SPEED LIMIT
- * USE THE "NEXT -- MILES" SIGN WHEN SHOULDER CLOSURE EXCEEDS 1 MILE IN LENGTH

**SIGN = 120 ft² - TYPE B
W/PLAQUE = 132 ft² - TYPE B
PLUS ADDITIONAL R2-1's
THROUGHOUT WORK AREA**




PLACE THROUGHOUT WORK AREA AS INDICATED AND AFTER ALL MAJOR CROSSROADS IF PERMANENT SIGNS ARE NOT IN PLACE.

PLACE THROUGHOUT WORK AREA AS INDICATED AND AFTER ALL MAJOR CROSSROADS IF PERMANENT SIGNS ARE NOT IN PLACE.

PLACE THIS SIGN ALONG WITH THE ADVANCE WORK ZONE SIGNING AS DEPICTED ON THE APPROPRIATE TYPICAL M0030a-M0080a.

PLACE THIS SIGN ALONG WITH THE ADVANCE WORK ZONE SIGNING AS DEPICTED ON THE APPROPRIATE TYPICAL M0030a-M0080a.

NOT TO SCALE

 TRAFFIC AND SAFETY MAINTAINING TRAFFIC TYPICAL	TYPICAL TEMPORARY TRAFFIC CONTROL FOR A SHOULDER CLOSURE ON A TWO LANE TWO-WAY ROADWAY NO SPEED REDUCTION	
	DRAWN BY: CON:AE:djf CHECKED BY: BMM	JUNE 2006 PLAN DATE:
FILE: PW RD/TS/Typicals/Signs/MT NON FWY/M0110a.dgn REV. 8/16/2007		


NOTES

1. D = DISTANCE BETWEEN TRAFFIC CONTROL DEVICES
 1/3 L = MINIMUM LENGTH OF TAPER
 B = LENGTH OF LONGITUDINAL BUFFER
 SEE **M0020a** FOR "D," "L," AND "B" VALUES
2. ALL NON-APPLICABLE SIGNING WITHIN THE CIA SHALL BE MODIFIED TO FIT CONDITIONS, COVERED OR REMOVED.
3. DISTANCES BETWEEN SIGNS, THE VALUES FOR WHICH ARE SHOWN IN TABLE D, ARE APPROXIMATE AND MAY NEED ADJUSTING AS DIRECTED BY THE ENGINEER.
- 3A. THE "WORK ZONE BEGINS" (R5-18c) SIGN SHALL BE USED ONLY IN THE INITIAL SIGNING SEQUENCE IN THE WORK ZONE. SUBSEQUENT SEQUENCES IN THE SAME WORK ZONE SHALL OMIT THIS SIGN AND THE QUANTITIES SHALL BE ADJUSTED APPROPRIATELY.
- 4E. THE MAXIMUM RECOMMENDED DISTANCE(S) BETWEEN CHANNELIZING DEVICES SHOULD BE EQUAL IN FEET TO THE POSTED SPEED IN MILES PER HOUR ON TAPER(S) AND TWICE THE POSTED SPEED IN THE PARALLEL AREA(S).
5. FOR OVERNIGHT CLOSURES, CHANNELIZING DEVICES SHALL BE LIGHTED PLASTIC DRUMS.
6. WHEN CALLED FOR IN THE FHWA ACCEPTANCE LETTER FOR THE SIGN SYSTEM SELECTED, THE TYPE A WARNING FLASHER, SHOWN ON THE WARNING SIGNS, SHALL BE POSITIONED ON THE SIDE OF THE SIGN NEAREST THE ROADWAY.
7. ALL TEMPORARY SIGNS, TYPE III BARRICADES, THEIR SUPPORT SYSTEMS AND LIGHTING REQUIREMENTS SHALL MEET NCHRP 350 CRASHWORTHLY REQUIREMENTS STIPULATED IN THE 2005 EDITION OF THE MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE STANDARD PLANS AND APPLICABLE SPECIAL PROVISIONS. ONLY DESIGNS AND MATERIALS APPROVED BY MDOT WILL BE ALLOWED.
8. WHEN BUFFER AREAS ARE ESTABLISHED, THERE SHALL BE NO EQUIPMENT OR MATERIALS STORED OR WORK CONDUCTED IN THE BUFFER AREA.
- 29A. THE TYPE OF REFLECTIVE SHEETING USED FOR THE W20-1a PLAQUE SHALL BE THE SAME AS THE TYPE USED FOR THE PARENT SIGN.

SIGN SIZES

DIAMOND WARNING - 48" x 48"
 W20-1a PLAQUE - 48" x 36"
 R2-1 REGULATORY - 48" x 60"
 R5-18c REGULATORY - 48" x 48"

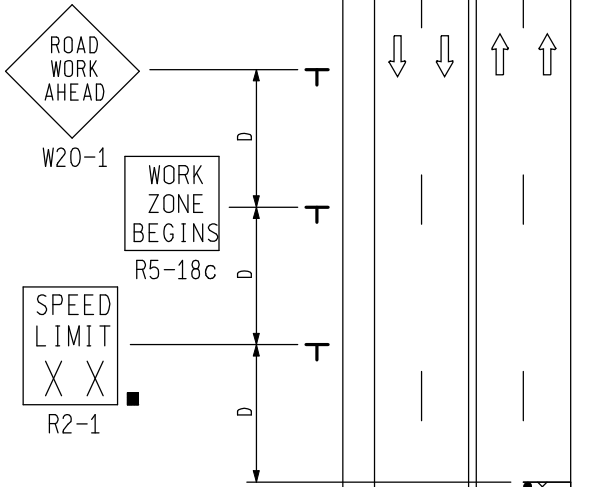
NOT TO SCALE

 TRAFFIC AND SAFETY MAINTAINING TRAFFIC TYPICAL	TYPICAL TEMPORARY TRAFFIC CONTROL FOR A SHOULDER CLOSURE ON A TWO LANE TWO-WAY ROADWAY NO SPEED REDUCTION		
DRAWN BY: CON:AE:djf	JUNE 2006	M0110a	SHEET
CHECKED BY: BMM	PLAN DATE:		2 OF 2
FILE: PW RD/TS/Typicals/Signs/MT NON FWY/M0110a.dgn REV. 8/16/2007			

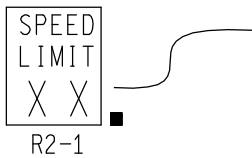
KEY

- • • CHANNELIZING DEVICES
- ↔ LIGHTED ARROW PANEL
- ⇒ TRAFFIC FLOW
- REFLECTS EXISTING SPEED LIMIT

SIGN = 136 ft² - TYPE B PLUS ADDITIONAL R2-1's THROUGHOUT WORK AREA



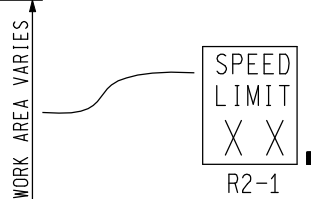
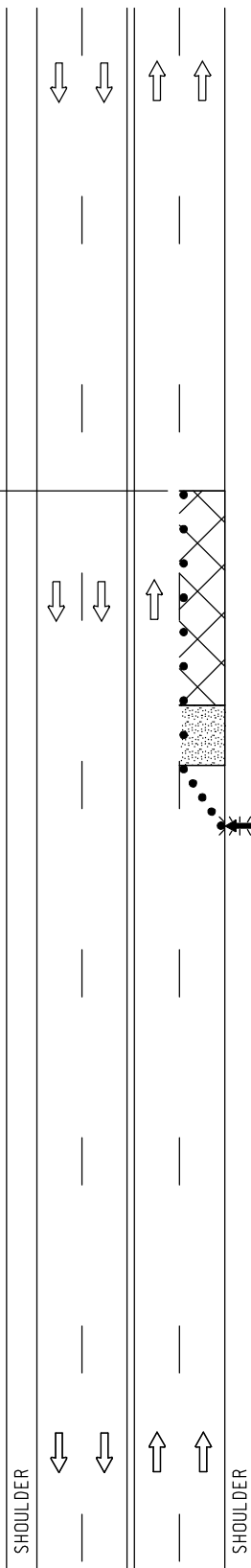
PLACE THIS SIGN ALONG WITH THE ADVANCE WORK ZONE SIGNING AS DEPICTED ON THE APPROPRIATE TYPICAL M0030a-M0080a.



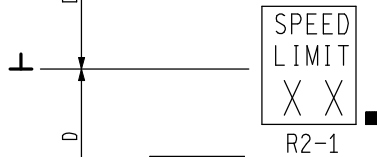
PLACE THROUGHOUT WORK AREA AS INDICATED AND AFTER ALL MAJOR CROSSROADS IF PERMANENT SIGNS ARE NOT IN PLACE.



PLACE THIS SIGN ALONG WITH THE ADVANCE WORK ZONE SIGNING AS DEPICTED ON THE APPROPRIATE TYPICAL M0030a-M0080a.



PLACE THROUGHOUT WORK AREA AS INDICATED AND AFTER ALL CROSSROADS IF PERMANENT SIGNS ARE NOT IN PLACE.



MDOT
Michigan Department of Transportation
TRAFFIC AND SAFETY
MAINTAINING TRAFFIC
TYPICAL

TYPICAL TEMPORARY TRAFFIC CONTROL
FOR A ONE-LANE CLOSURE ON AN
UNDIVIDED MULTI-LANE ROADWAY,
NO SPEED REDUCTION

DRAWN BY: CON:AE:djf
CHECKED BY: BMM

JUNE 2006
PLAN DATE:

M0240a

SHEET
1 OF 2

NOT TO SCALE


NOTES

- 1B. D = DISTANCE BETWEEN TRAFFIC CONTROL DEVICES
 L = MINIMUM LENGTH OF TAPER
 B = LENGTH OF LONGITUDINAL BUFFER
 SEE **M0020a** FOR "D," "L," AND "B" VALUES
2. ALL NON-APPLICABLE SIGNING WITHIN THE CIA SHALL BE MODIFIED TO FIT CONDITIONS, COVERED OR REMOVED.
3. DISTANCES BETWEEN SIGNS, THE VALUES FOR WHICH ARE SHOWN IN TABLE D, ARE APPROXIMATE AND MAY NEED ADJUSTING AS DIRECTED BY THE ENGINEER.
- 3A. THE "WORK ZONE BEGINS" (R5-18c) SIGN SHALL BE USED ONLY IN THE INITIAL SIGNING SEQUENCE IN THE WORK ZONE. SUBSEQUENT SEQUENCES IN THE SAME WORK ZONE SHALL OMIT THIS SIGN AND THE QUANTITIES SHALL BE ADJUSTED APPROPRIATELY.
- 4E. THE MAXIMUM RECOMMENDED DISTANCE(S) BETWEEN CHANNELIZING DEVICES SHOULD BE EQUAL IN FEET TO THE POSTED SPEED IN MILES PER HOUR ON TAPER(S) AND TWICE THE POSTED SPEED IN THE PARALLEL AREA(S).
5. FOR OVERNIGHT CLOSURES, CHANNELIZING DEVICES SHALL BE LIGHTED PLASTIC DRUMS.
6. WHEN CALLED FOR IN THE FHWA ACCEPTANCE LETTER FOR THE SIGN SYSTEM SELECTED, THE TYPE A WARNING FLASHER, SHOWN ON THE WARNING SIGNS, SHALL BE POSITIONED ON THE SIDE OF THE SIGN NEAREST THE ROADWAY.
7. ALL TEMPORARY SIGNS, TYPE III BARRICADES, THEIR SUPPORT SYSTEMS AND LIGHTING REQUIREMENTS SHALL MEET NCHRP 350 CRASHWORTHLY REQUIREMENTS STIPULATED IN THE 2005 EDITION OF THE MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE STANDARD PLANS AND APPLICABLE SPECIAL PROVISIONS. ONLY DESIGNS AND MATERIALS APPROVED BY MDOT WILL BE ALLOWED.
8. WHEN BUFFER AREAS ARE ESTABLISHED, THERE SHALL BE NO EQUIPMENT OR MATERIALS STORED OR WORK CONDUCTED IN THE BUFFER AREA.
21. ALL EXISTING PAVEMENT MARKINGS WHICH ARE IN CONFLICT WITH EITHER PROPOSED CHANGES IN TRAFFIC PATTERNS OR PROPOSED TEMPORARY TRAFFIC MARKINGS, SHALL BE REMOVED BEFORE ANY CHANGE IS MADE IN THE TRAFFIC PATTERN. EXCEPTION WILL BE MADE FOR DAYTIME-ONLY TRAFFIC PATTERNS THAT ARE ADEQUATELY DELINEATED BY OTHER TRAFFIC CONTROL DEVICES.
26. THE LIGHTED ARROW PANEL SHALL BE LOCATED AT THE BEGINNING OF THE TAPER AS SHOWN. WHEN PHYSICAL LIMITATIONS RESTRICT ITS PLACEMENT AS INDICATED, THEN IT SHALL BE PLACED AS CLOSE TO THE BEGINNING OF THE TAPER AS POSSIBLE.

SIGN SIZES

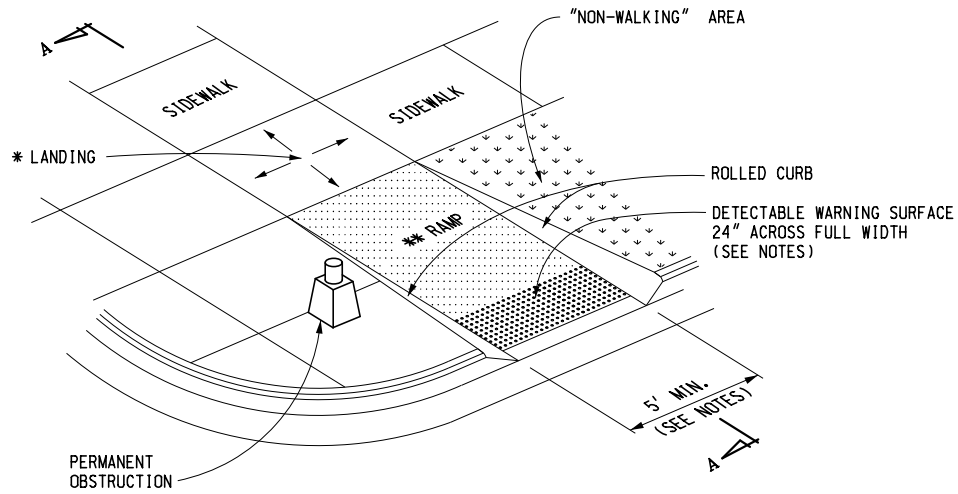
DIAMOND WARNING - 48" x 48"
 R2-1 REGULATORY - 48" x 60"
 R5-18c REGULATORY - 48" x 48"

NOT TO SCALE

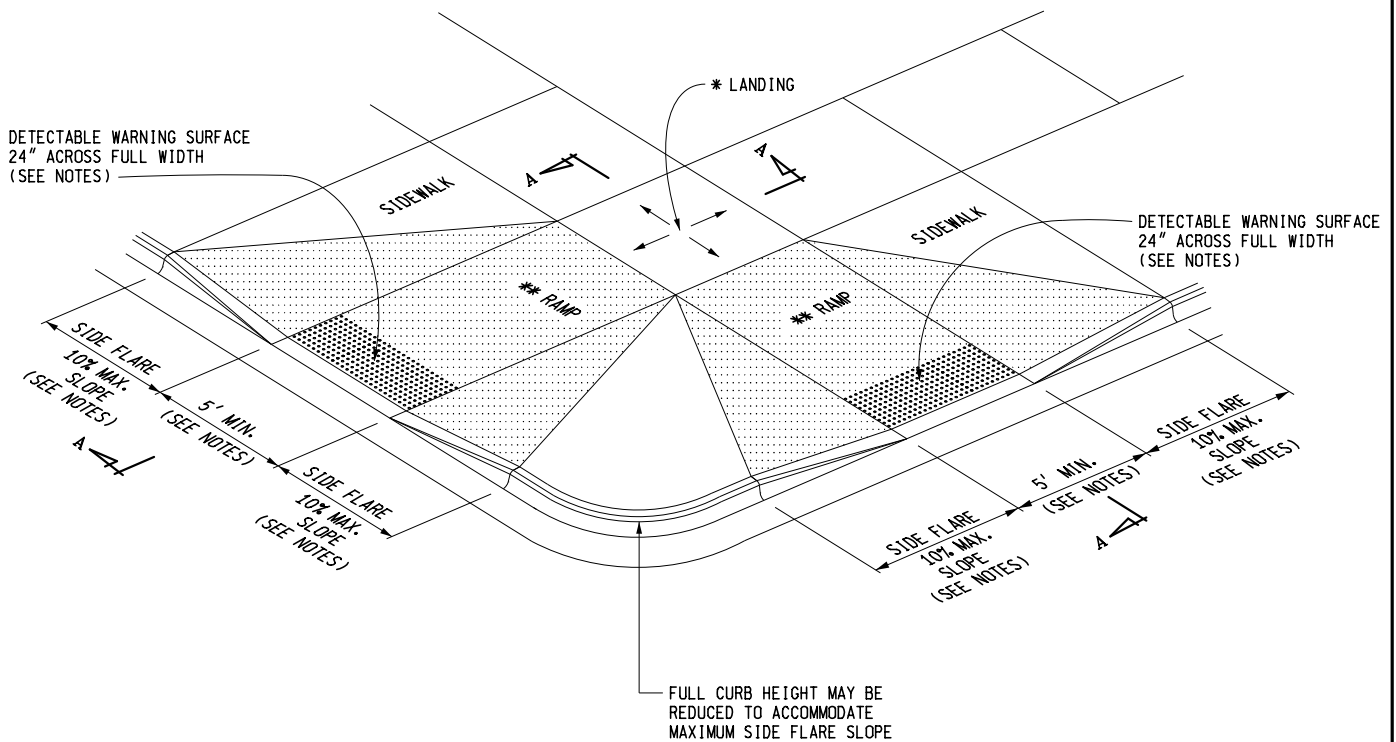
 TRAFFIC AND SAFETY MAINTAINING TRAFFIC TYPICAL	TYPICAL TEMPORARY TRAFFIC CONTROL FOR A ONE-LANE CLOSURE ON AN UNDIVIDED MULTI-LANE ROADWAY, NO SPEED REDUCTION		
DRAWN BY: CON:AE:djf	JUNE 2006	M0240a	SHEET
CHECKED BY: BMM	PLAN DATE:		2 OF 2
FILE: PW RD/TS/Typicals/Signs/MT NON FWY/M0240a.dgn REV. 08/17/2007			

* MAXIMUM LANDING SLOPE IS 2.0% IN EACH DIRECTION OF TRAVEL. LANDING MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.

** MAXIMUM RAMP CROSS SLOPE IS 2.0%, RUNNING SLOPE 5% - 7% (8.3% MAXIMUM). SEE NOTES.



CURB RAMP TYPE R
(ROLLED SIDES)



CURB RAMP TYPE F
(FLARED SIDES, TWO RAMPS SHOWN)



PREPARED BY
DESIGN DIVISION

DRAWN BY: B.L.T.

CHECKED BY: W.K.P.

DEPARTMENT DIRECTOR
Paul C. Ajegba

APPROVED BY: _____
DIRECTOR, BUREAU OF FIELD SERVICES

APPROVED BY: _____
DIRECTOR, BUREAU OF DEVELOPMENT

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

**CURB RAMP AND
DETECTABLE WARNING DETAILS**

F.H.W.A. APPROVAL

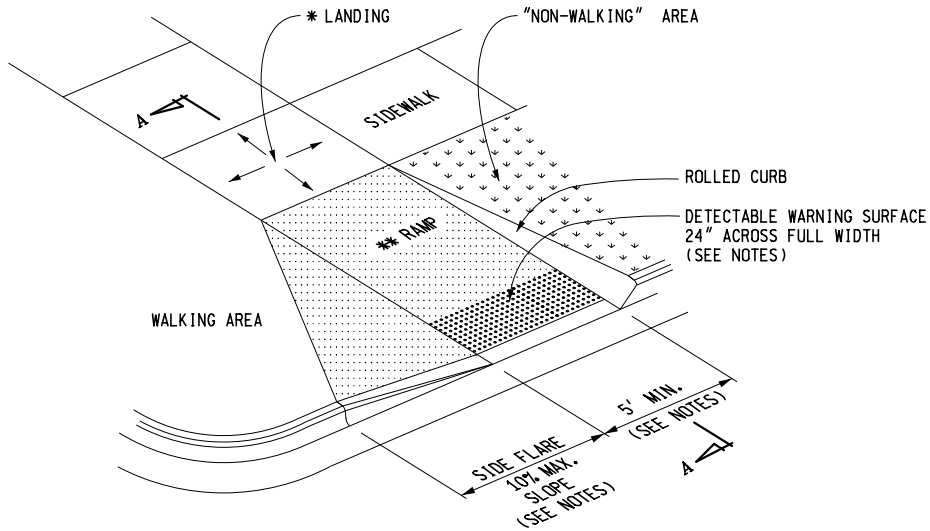
5-8-2020
PLAN DATE

R-28-J

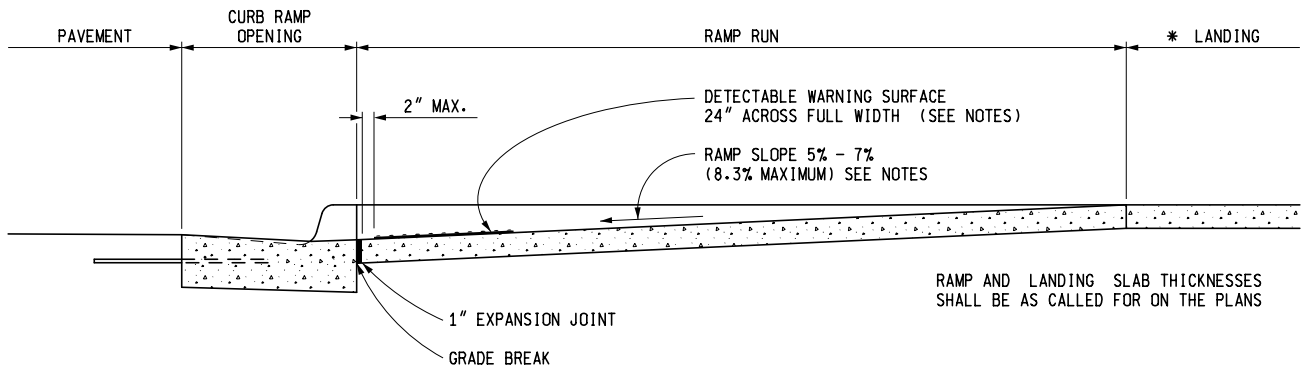
SHEET
1 OF 7

* MAXIMUM LANDING SLOPE IS 2.0% IN EACH DIRECTION OF TRAVEL. LANDING MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.

** MAXIMUM RAMP CROSS SLOPE IS 2.0%, RUNNING SLOPE 5% - 7% (8.3% MAXIMUM). SEE NOTES.



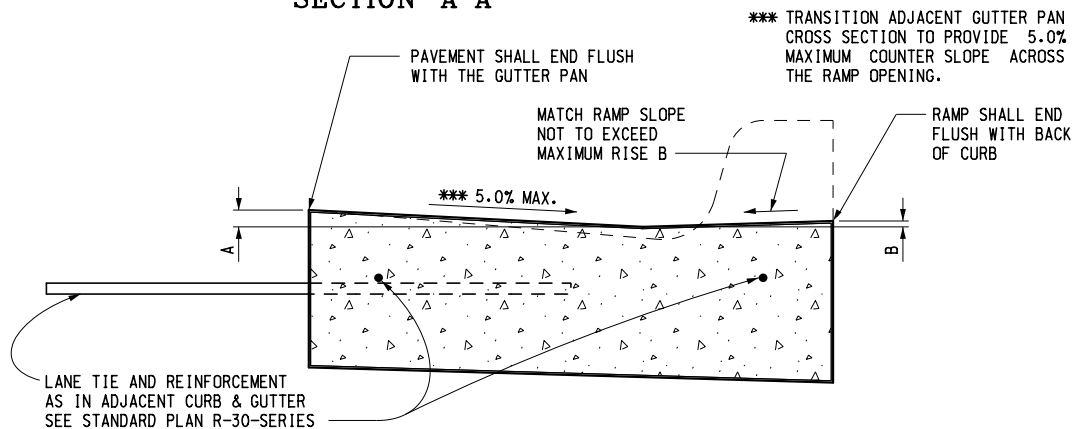
CURB RAMP TYPE RF
(ROLLED / FLARED SIDES)



SECTION A-A

CURB TYPE	MAXIMUM RISE (INCHES)	
	A	B
B1	3/4	1
B2	3/4	1
B3	3/4	1
D1	3/4	1
D2	3/4	1
D3	3/4	1
C1	1/2	1/2
C2	1/2	1/2
C3	3/4	1/2
C4	3/4	1/2
C5	1	1/2
C6	1	1/2
F1	1/2	1/2
F2	1/2	1/2
F3	3/4	1/2
F4	3/4	1/2
F5	1	1/2
F6	1	1/2

FOR CURB TYPES SEE STANDARD PLAN R-30-SERIES

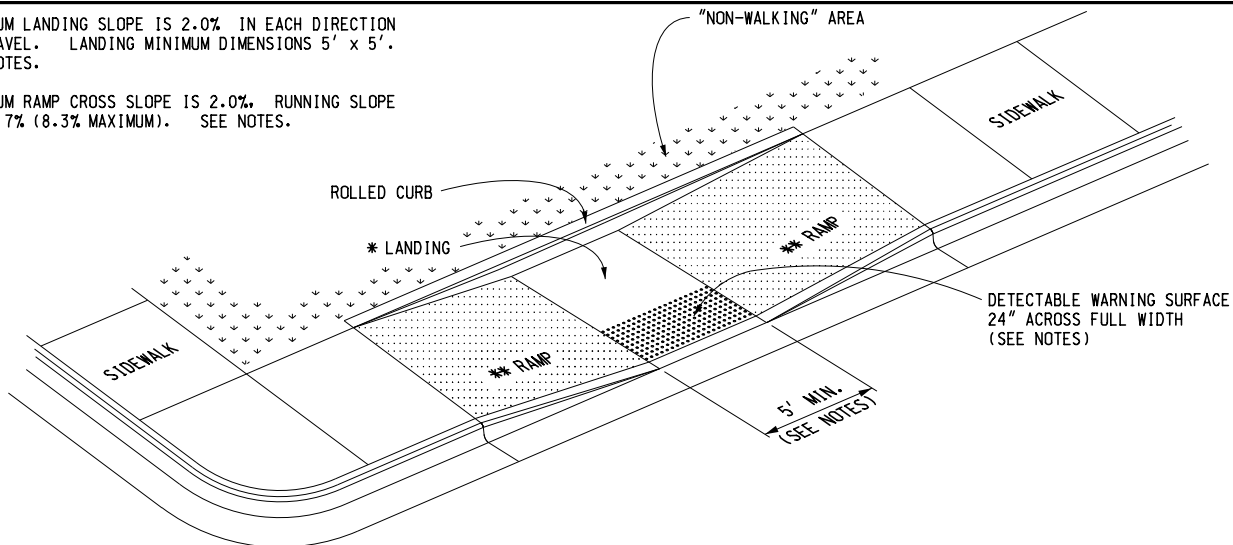


SECTION THROUGH CURB RAMP OPENING
(TYPICAL ALL RAMP TYPES)

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR
**CURB RAMP AND
DETECTABLE WARNING DETAILS**

* MAXIMUM LANDING SLOPE IS 2.0% IN EACH DIRECTION OF TRAVEL. LANDING MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.

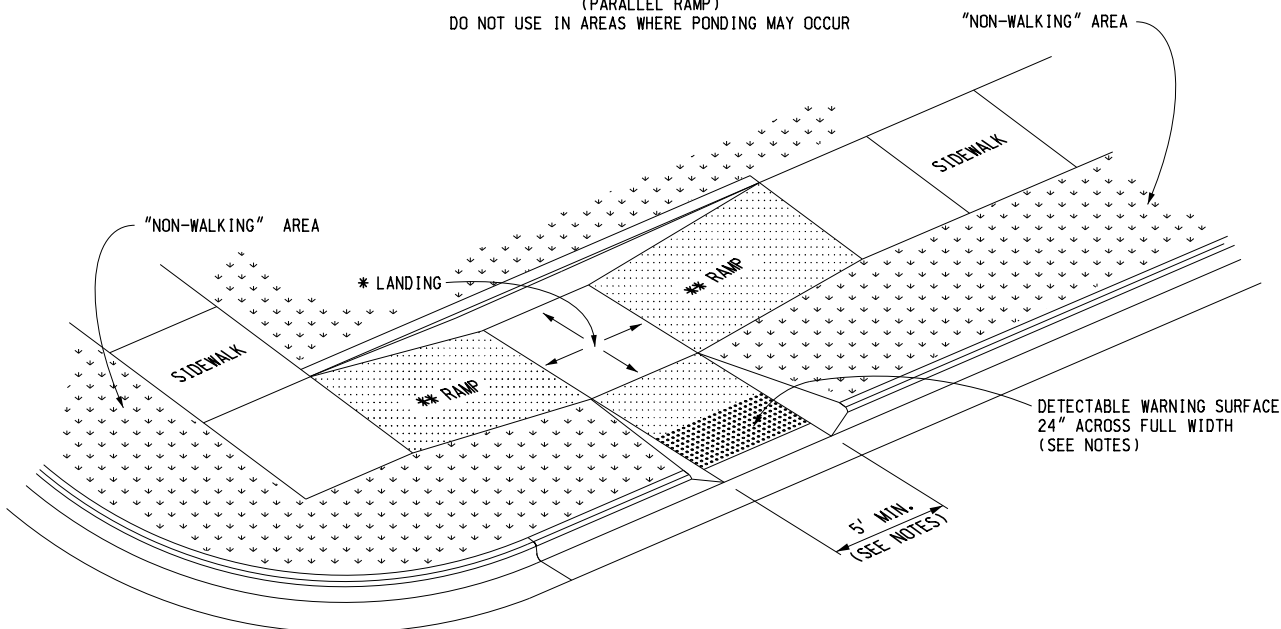
** MAXIMUM RAMP CROSS SLOPE IS 2.0%, RUNNING SLOPE 5% - 7% (8.3% MAXIMUM). SEE NOTES.



CURB RAMP TYPE P

(PARALLEL RAMP)

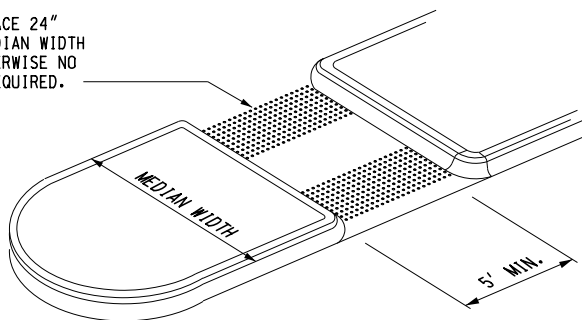
DO NOT USE IN AREAS WHERE PONDING MAY OCCUR



CURB RAMP TYPE C

(COMBINATION RAMP)

DETECTABLE WARNING SURFACE 24" ACROSS FULL WIDTH IF MEDIAN WIDTH IS AT LEAST 6'-0". OTHERWISE NO DETECTABLE WARNING IS REQUIRED.



CURB RAMP TYPE M

(MEDIAN ISLAND)

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

**CURB RAMP AND
DETECTABLE WARNING DETAILS**

F.H.W.A. APPROVAL

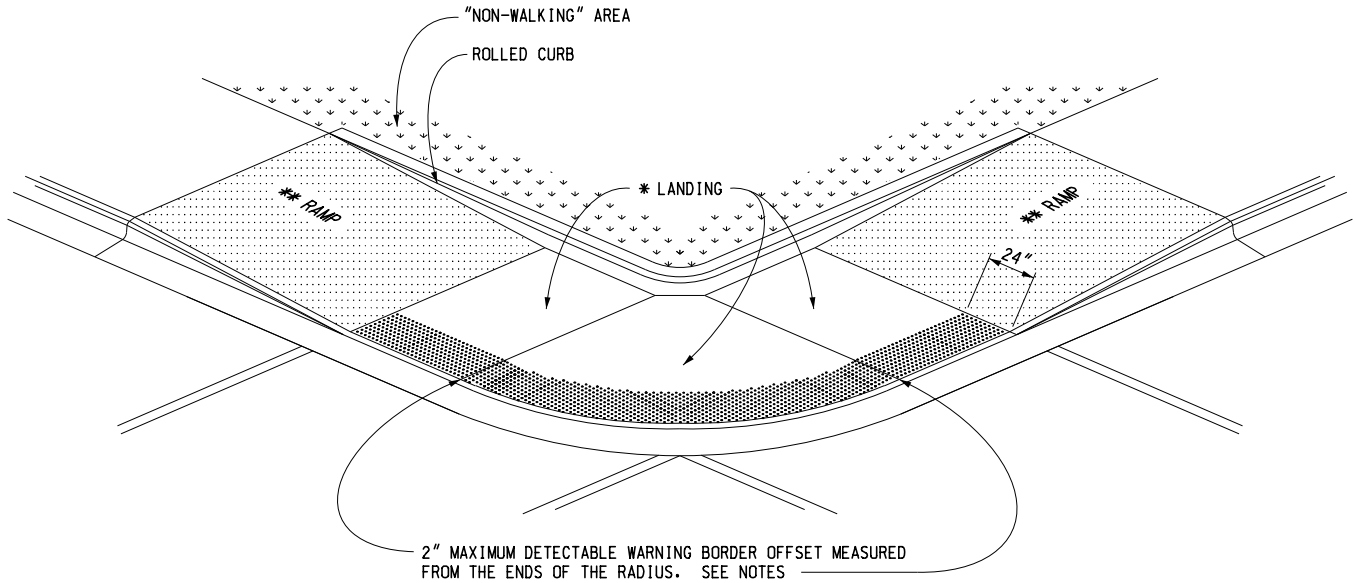
5-8-2020
PLAN DATE

R-28-J

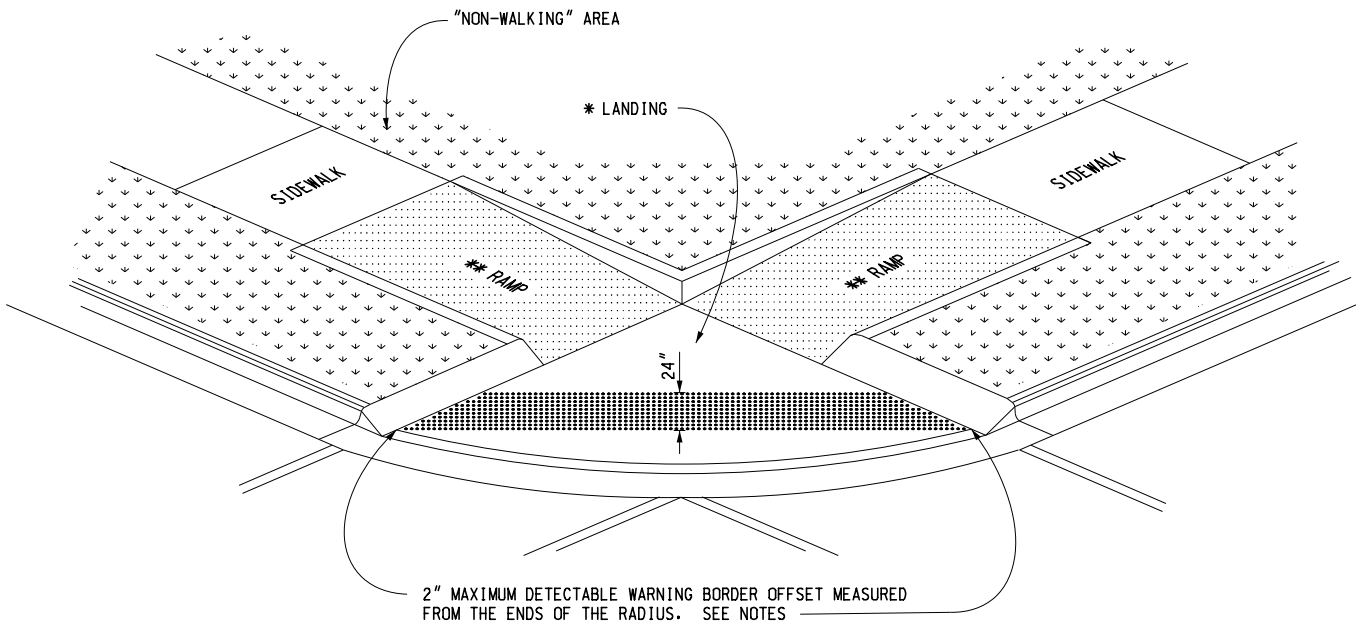
SHEET
3 OF 7

* MAXIMUM LANDING SLOPE IS 2.0% IN EACH DIRECTION OF TRAVEL. LANDING MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.

** MAXIMUM RAMP CROSS SLOPE IS 2.0%, RUNNING SLOPE 5% - 7% (8.3% MAXIMUM). SEE NOTES.



(RADIAL DETECTABLE WARNING SHOWN)



(TANGENT DETECTABLE WARNING SHOWN)

CURB RAMP TYPE D

(DEPRESSED CORNER)

USE ONLY WHEN INDEPENDENT DIRECTIONAL RAMPS CAN NOT BE CONSTRUCTED FOR EACH CROSSING DIRECTION

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

CURB RAMP AND DETECTABLE WARNING DETAILS

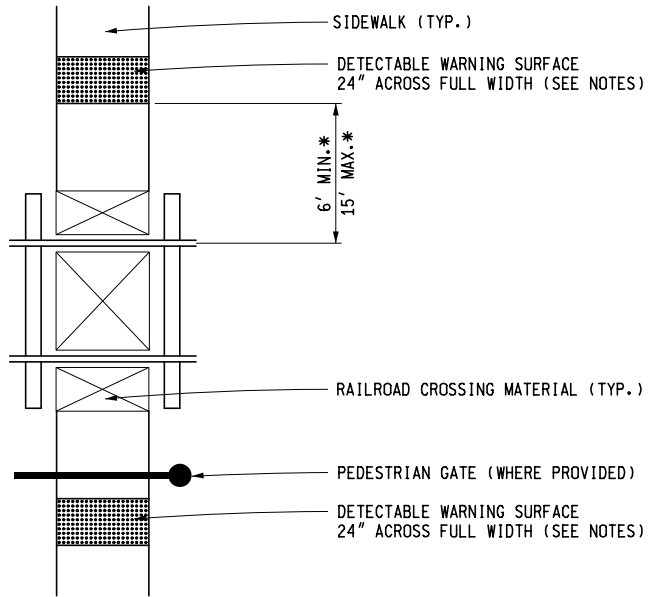
F.H.W.A. APPROVAL

5-8-2020
PLAN DATE

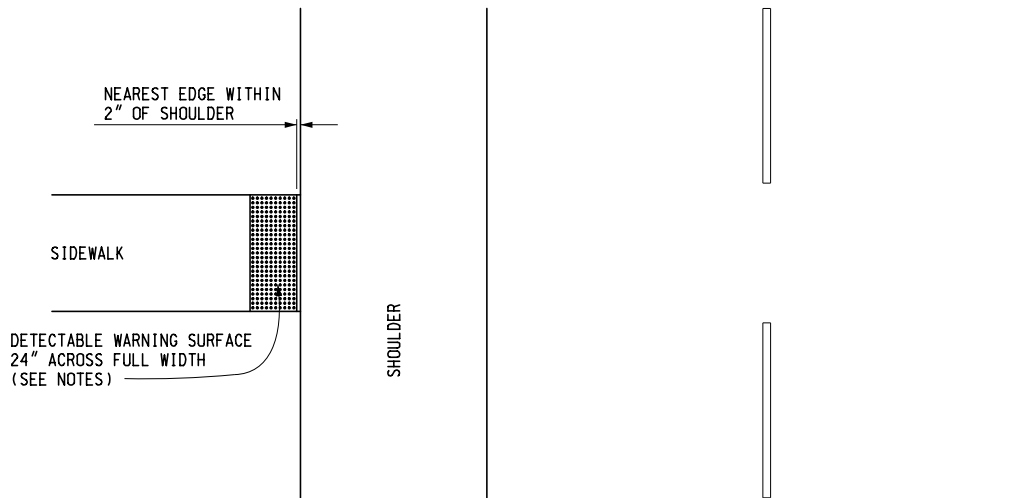
R-28-J

SHEET
4 OF 7

* THE DETECTABLE WARNING SURFACE SHALL BE LOCATED SO THAT THE EDGE NEAREST THE RAIL CROSSING IS 6' MINIMUM AND 15' MAXIMUM FROM THE CENTERLINE OF THE NEAREST RAIL. DO NOT PLACE DETECTABLE WARNING ON RAILROAD CROSSING MATERIAL.



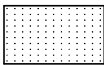

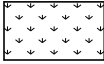



DETECTABLE WARNING AT RAILROAD CROSSING

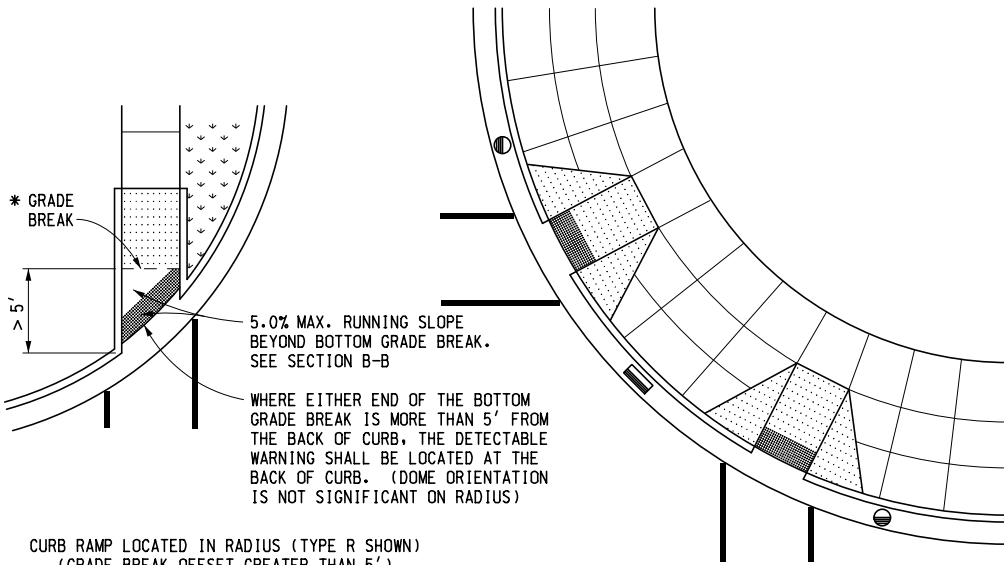


DETECTABLE WARNING AT FLUSH SHOULDER OR ROADWAY

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN FOR		
CURB RAMP AND DETECTABLE WARNING DETAILS		
F.H.W.A. APPROVAL	5-8-2020 PLAN DATE	R-28-J
		SHEET 5 OF 7

LEGEND

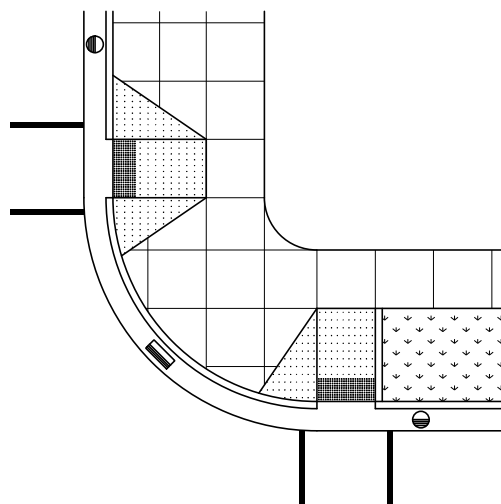
	SLOPED SURFACE
	DETECTABLE WARNING
	"NON-WALKING" AREA
	CROSSWALK MARKING
	PREFERRED LOCATION OF DRAINAGE INLET (TYP.)
	ALTERNATE LOCATION OF DRAINAGE INLET (TYP.)



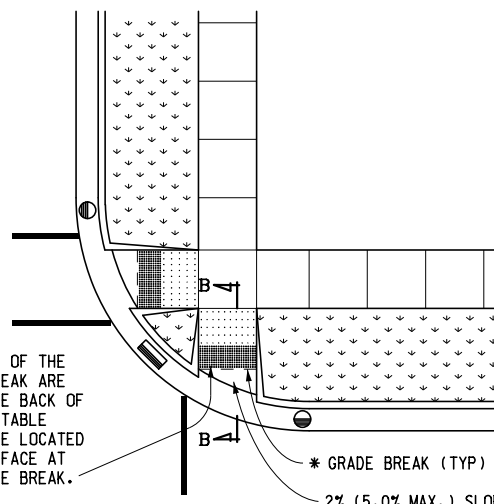
CURB RAMP LOCATED IN RADIUS (TYPE R SHOWN)
(GRADE BREAK OFFSET GREATER THAN 5')

CURB RAMP PERPENDICULAR TO RADIAL CURB (TYPE F SHOWN)

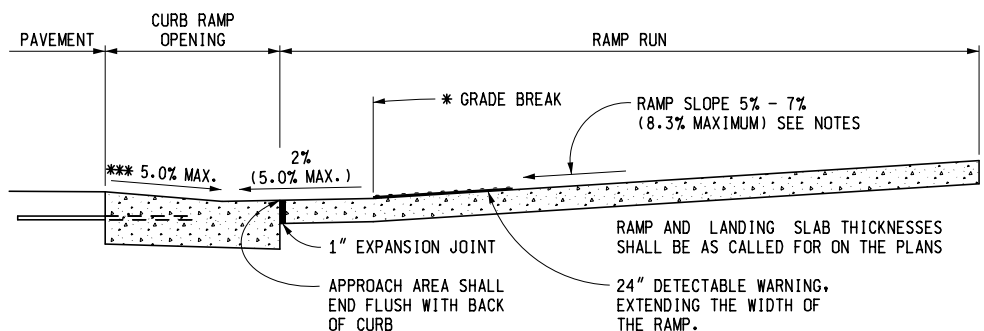
(USE WITH RADIAL CURB WHEN THE CROSSWALK AND CURB RAMP ARE NOT ALIGNED)



CURB RAMP PERPENDICULAR TO TANGENT CURB
(TYPE F AND TYPE RF SHOWN)



CURB RAMP LOCATED IN RADIUS (TYPE R SHOWN)
(GRADE BREAK OFFSET LESS THAN 5')



* GRADE BREAKS AT THE TOP AND BOTTOM OF CURB RAMPS SHALL BE PERPENDICULAR TO THE DIRECTION OF TRAVEL.

*** TRANSITION ADJACENT GUTTER PAN CROSS SECTION TO PROVIDE 5.0% MAXIMUM COUNTER SLOPE ACROSS THE RAMP OPENING.

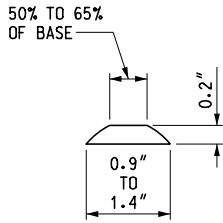
SEE SHEET 2 FOR CURB RAMP OPENING DETAILS.

**SECTION B-B
CURB RAMP ORIENTATION**

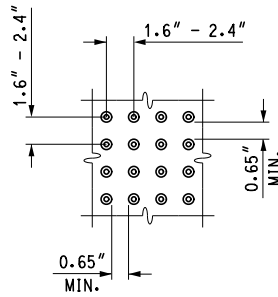
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

**CURB RAMP AND
DETECTABLE WARNING DETAILS**

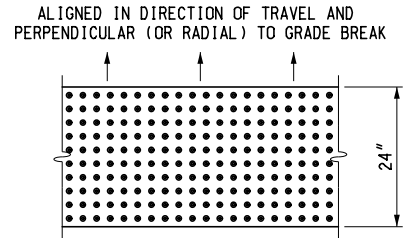
F.H.W.A. APPROVAL	5-8-2020 PLAN DATE	R-28-J	SHEET 6 OF 7
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DOMES SECTION



DOMES SPACING



DOMES ALIGNMENT

DETECTABLE WARNING DETAILS

NOTES:

DETAILS SPECIFIED ON THIS PLAN APPLY TO ALL CONSTRUCTION, RECONSTRUCTION, OR ALTERATION OF STREETS, CURBS, OR SIDEWALKS IN THE PUBLIC RIGHT OF WAY.

CURB RAMPS ARE TO BE LOCATED AS SPECIFIED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

RAMPS SHALL BE PROVIDED AT ALL CORNERS OF AN INTERSECTION WHERE THERE IS EXISTING OR PROPOSED SIDEWALK AND CURB. RAMPS SHALL ALSO BE PROVIDED AT MARKED AND/OR SIGNALIZED MID-BLOCK CROSSINGS.

SURFACE TEXTURE OF THE RAMP SHALL BE THAT OBTAINED BY A COARSE BROOMING, TRANSVERSE TO THE RUNNING SLOPE.

SIDEWALK SHALL BE RAMPED WHERE THE DRIVEWAY CURB IS EXTENDED ACROSS THE WALK.

CARE SHALL BE TAKEN TO ASSURE A UNIFORM GRADE ON THE RAMP. WHERE CONDITIONS PERMIT, IT IS DESIRABLE THAT THE SLOPE OF THE RAMP BE IN ONLY ONE DIRECTION, PARALLEL TO THE DIRECTION OF TRAVEL.

RAMP WIDTH SHALL BE INCREASED, IF NECESSARY, TO ACCOMMODATE SIDEWALK SNOW REMOVAL EQUIPMENT NORMALLY USED BY THE MUNICIPALITY.

WHEN 5' MINIMUM WIDTHS ARE NOT PRACTICABLE, RAMP WIDTH MAY BE REDUCED TO NOT LESS THAN 4' AND LANDINGS TO NOT LESS THAN 4' x 4'.

CURB RAMPS WITH A RUNNING SLOPE $\leq 5\%$ DO NOT REQUIRE A TOP LANDING. HOWEVER, ANY CONTINUOUS SIDEWALK OR PEDESTRIAN ROUTE CROSSING THROUGH OR INTERSECTING THE CURB RAMP MUST INDEPENDENTLY MAINTAIN A CROSS SLOPE NOT GREATER THAN 2% PERPENDICULAR TO ITS OWN DIRECTION(S) OF TRAVEL.

DETECTABLE WARNING SURFACE COVERAGE IS 24" MINIMUM IN THE DIRECTION OF RAMP/PATH TRAVEL AND THE FULL WIDTH OF THE RAMP/PATH OPENING EXCLUDING CURBED OR FLARED CURB TRANSITION AREAS. A BORDER OFFSET NOT GREATER THAN 2" MEASURED ALONG THE EDGES OF THE DETECTABLE WARNING IS ALLOWABLE. FOR RADIAL CURB THE OFFSET IS MEASURED FROM THE ENDS OF THE RADIUS.

FOR NEW ROADWAY CONSTRUCTION, THE RAMP CROSS SLOPE MAY NOT EXCEED 2.0%. FOR ALTERATIONS TO EXISTING ROADWAYS, THE CROSS SLOPE MAY BE TRANSITIONED TO MEET AN EXISTING ROADWAY GRADE. THE CROSS SLOPE TRANSITION SHALL BE APPLIED UNIFORMLY OVER THE FULL LENGTH OF THE RAMP.

THE MAXIMUM RUNNING SLOPE OF 8.3% IS RELATIVE TO A FLAT (0%) REFERENCE. HOWEVER, IT SHALL NOT REQUIRE ANY RAMP OR SERIES OF RAMPS TO EXCEED 15 FEET IN LENGTH NOT INCLUDING LANDINGS OR TRANSITIONS.

DRAINAGE STRUCTURES SHOULD NOT BE PLACED IN LINE WITH RAMPS. THE LOCATION OF THE RAMP SHOULD TAKE PRECEDENCE OVER THE LOCATION OF THE DRAINAGE STRUCTURE. WHERE EXISTING DRAINAGE STRUCTURES ARE LOCATED IN THE RAMP PATH OF TRAVEL, USE A MANUFACTURER'S ADA COMPLIANT GRATE. OPENINGS SHALL NOT BE GREATER THAN 1/2". ELONGATED OPENINGS SHALL BE PLACED SO THAT THE LONG DIMENSION IS PERPENDICULAR TO THE DOMINANT DIRECTION OF TRAVEL.

THE TOP OF THE JOINT FILLER FOR ALL RAMP TYPES SHALL BE FLUSH WITH THE ADJACENT CONCRETE.

CROSSWALK AND STOP LINE MARKINGS, IF USED, SHALL BE SO LOCATED AS TO STOP TRAFFIC SHORT OF RAMP CROSSINGS. SPECIFIC DETAILS FOR MARKING APPLICATIONS ARE GIVEN IN THE "MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".

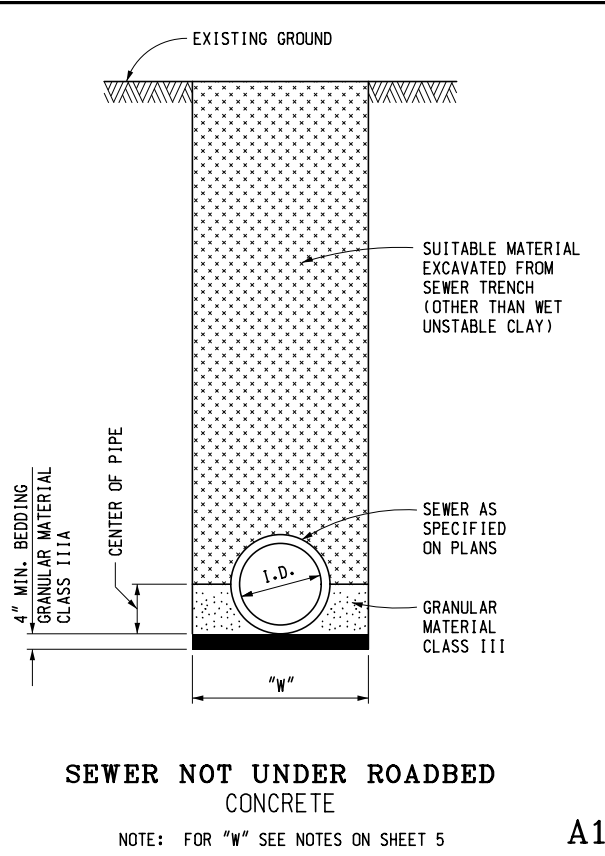
FLARED SIDES WITH A SLOPE OF 10% MAXIMUM, MEASURED ALONG THE ROADSIDE CURB LINE, SHALL BE PROVIDED WHERE AN UNOBSTRUCTED CIRCULATION PATH LATERALLY CROSSES THE CURB RAMP. FLARED SIDES ARE NOT REQUIRED WHERE THE RAMP IS BORDERED BY LANDSCAPING, UNPAVED SURFACE OR PERMANENT FIXED OBJECTS. WHERE THEY ARE NOT REQUIRED, FLARED SIDES CAN BE CONSIDERED IN ORDER TO AVOID SHARP CURB RETURNS AT RAMP OPENINGS.

DETECTABLE WARNING PLATES MUST BE INSTALLED USING FABRICATED OR FIELD CUT UNITS CAST AND/OR ANCHORED IN THE PAVEMENT TO RESIST SHIFTING OR HEAVING.

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

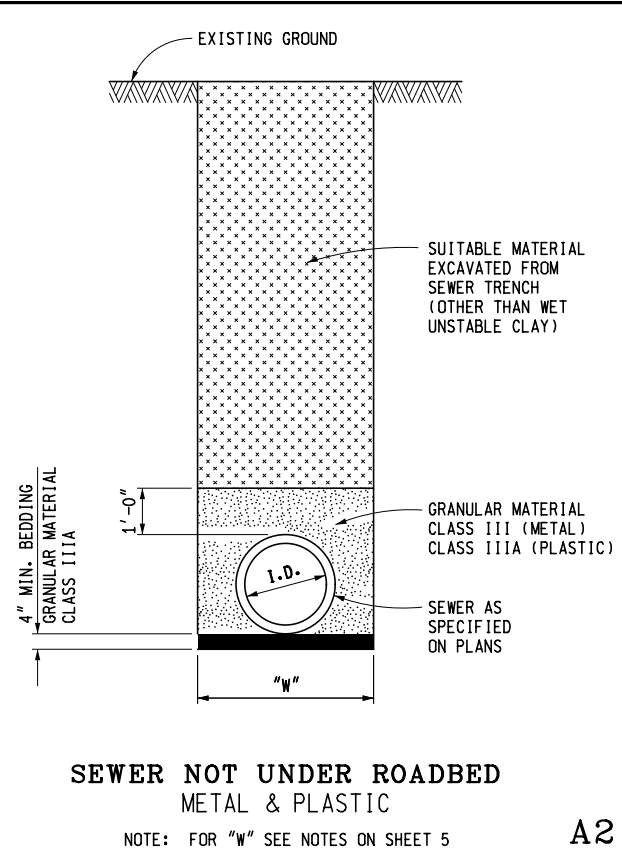
**CURB RAMP AND
DETECTABLE WARNING DETAILS**

F.H.W.A. APPROVAL	5-8-2020 PLAN DATE	R-28-J	SHEET 7 OF 7
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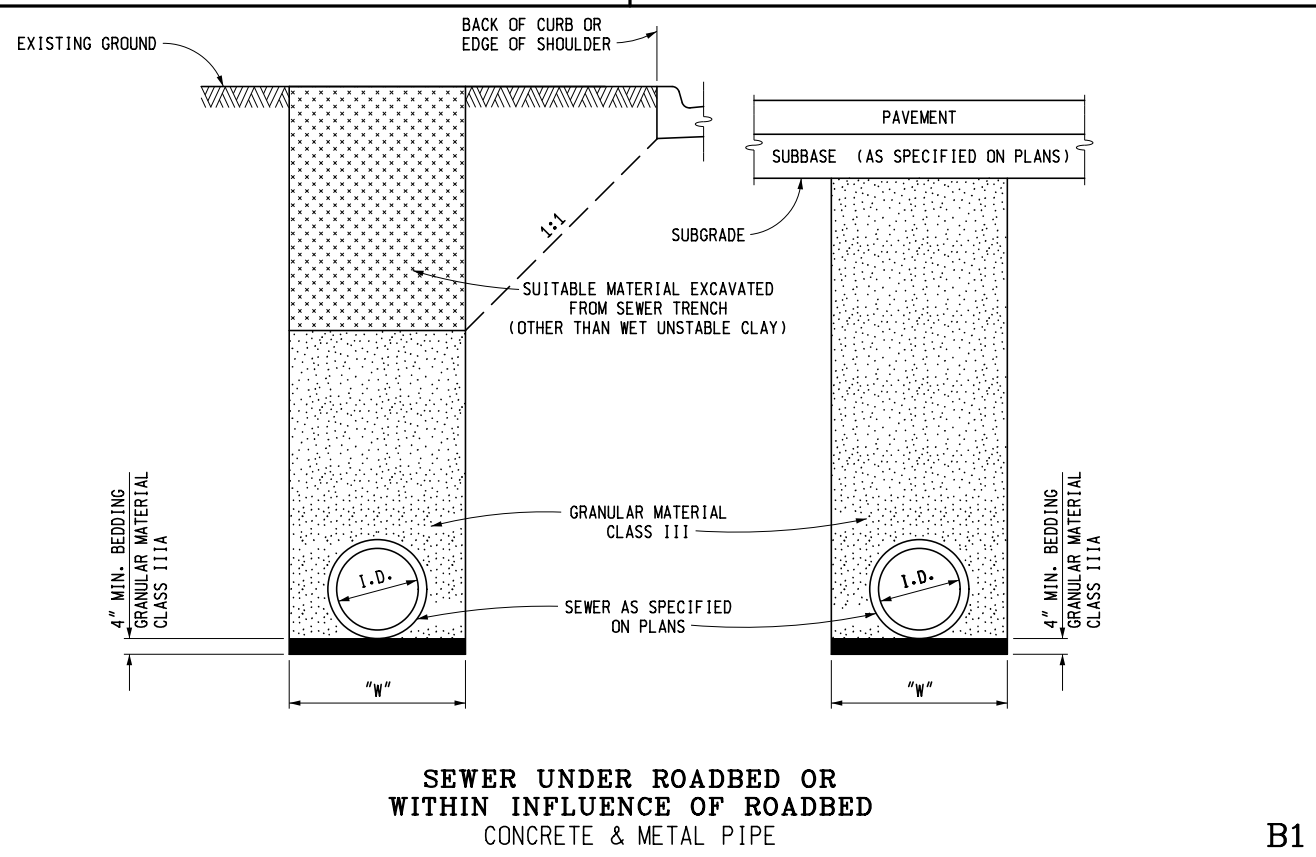
**SEWER NOT UNDER ROADBED
CONCRETE**

NOTE: FOR "W" SEE NOTES ON SHEET 5 **A1**



**SEWER NOT UNDER ROADBED
METAL & PLASTIC**

NOTE: FOR "W" SEE NOTES ON SHEET 5 **A2**



**SEWER UNDER ROADBED OR
WITHIN INFLUENCE OF ROADBED
CONCRETE & METAL PIPE**

B1



DEPARTMENT DIRECTOR
Kirk T. Steudle

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

PREPARED BY
DESIGN DIVISION

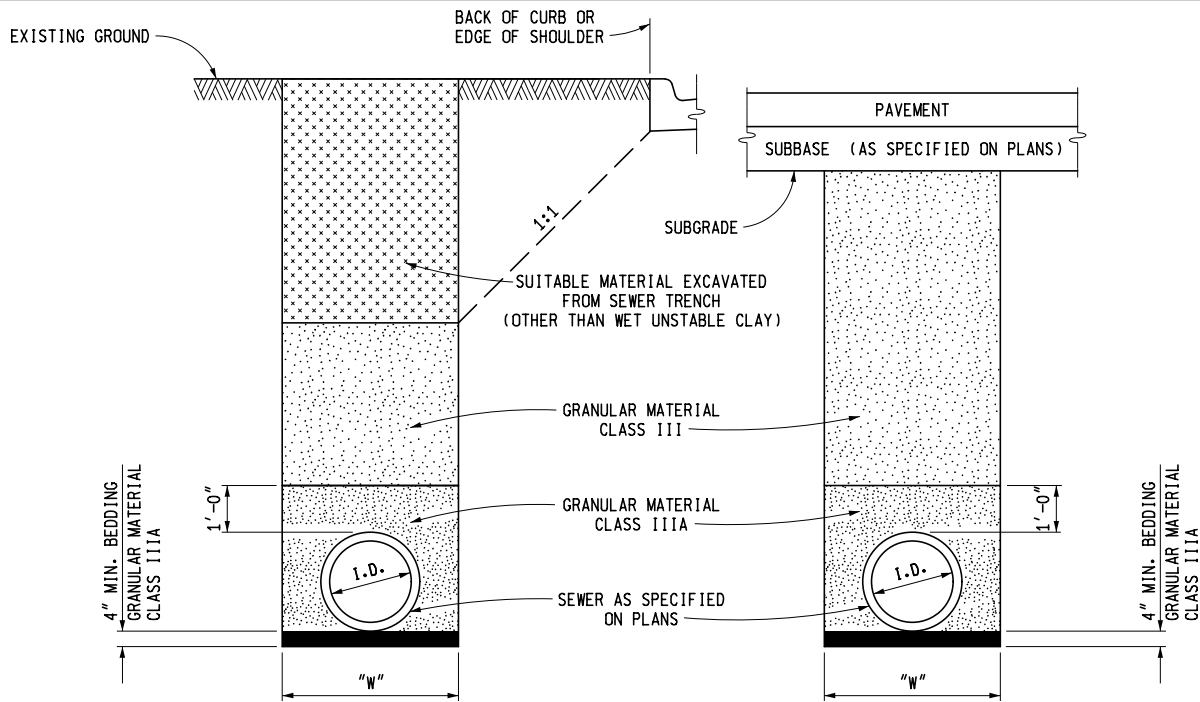
APPROVED BY: _____
DIRECTOR, BUREAU OF FIELD SERVICES

UTILITY TRENCHES

DRAWN BY: B.L.T.
CHECKED BY: W.K.P.

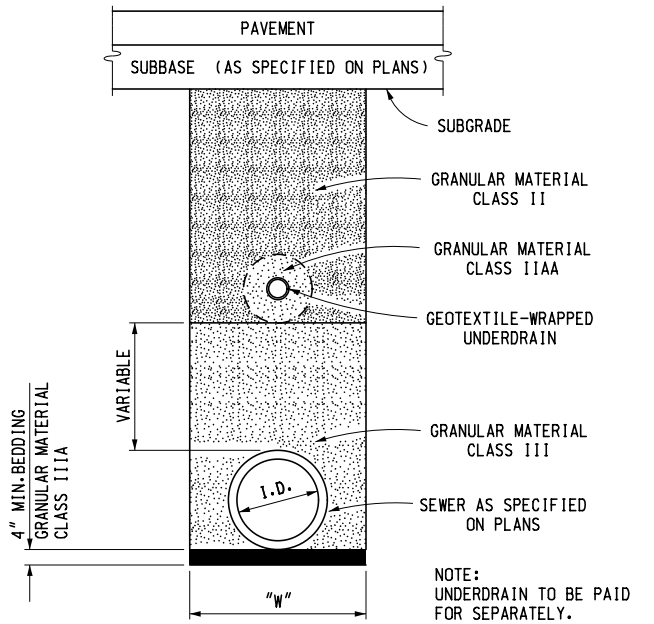
APPROVED BY: _____
DIRECTOR, BUREAU OF DEVELOPMENT

F.H.W.A. APPROVAL	2-8-2016 PLAN DATE	R-83-C	SHEET 1 OF 5
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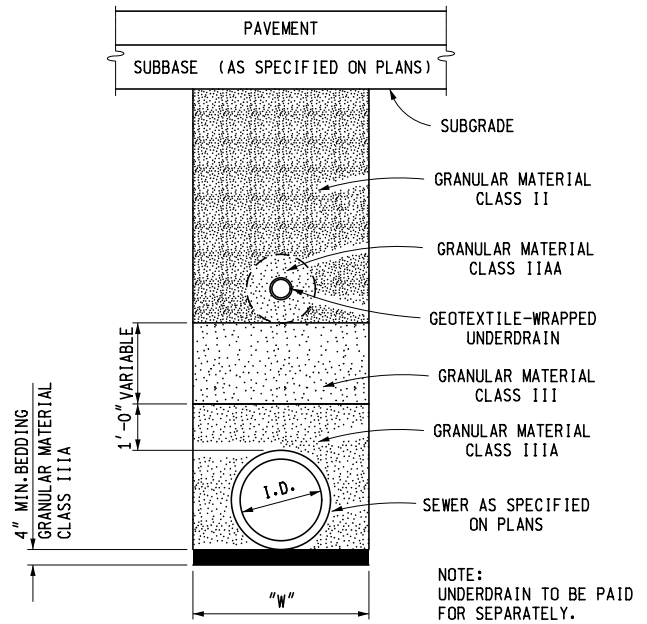
**SEWER UNDER ROADBED OR
WITHIN INFLUENCE OF ROADBED
PLASTIC PIPE**

B2



**SEWER WITH UNDERDRAIN UNDER ROADBED
CONCRETE & METAL PIPE**

C1



**SEWER WITH UNDERDRAIN UNDER ROADBED
PLASTIC PIPE**

C2

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

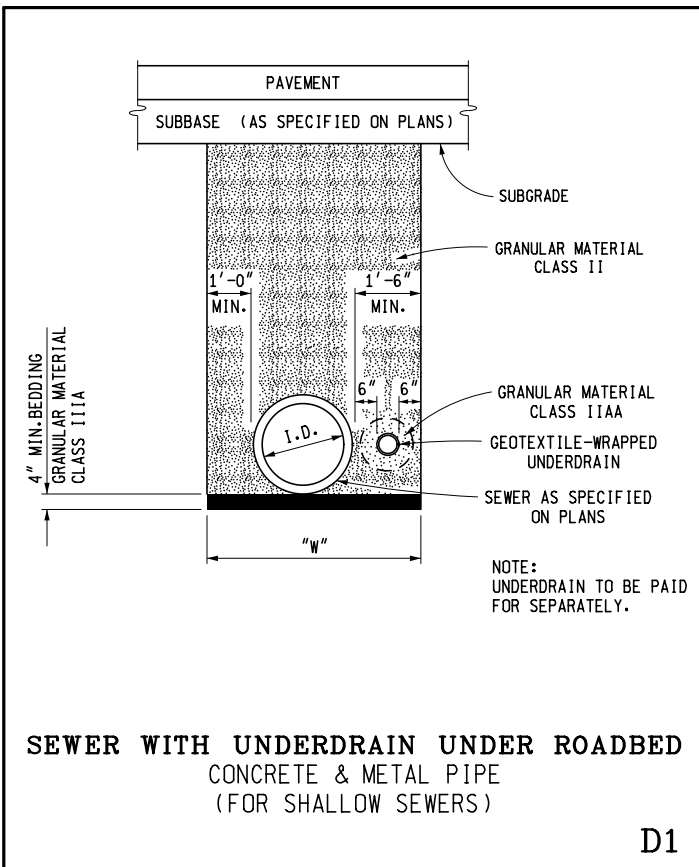
UTILITY TRENCHES

F.H.W.A. APPROVAL

2-8-2016
PLAN DATE

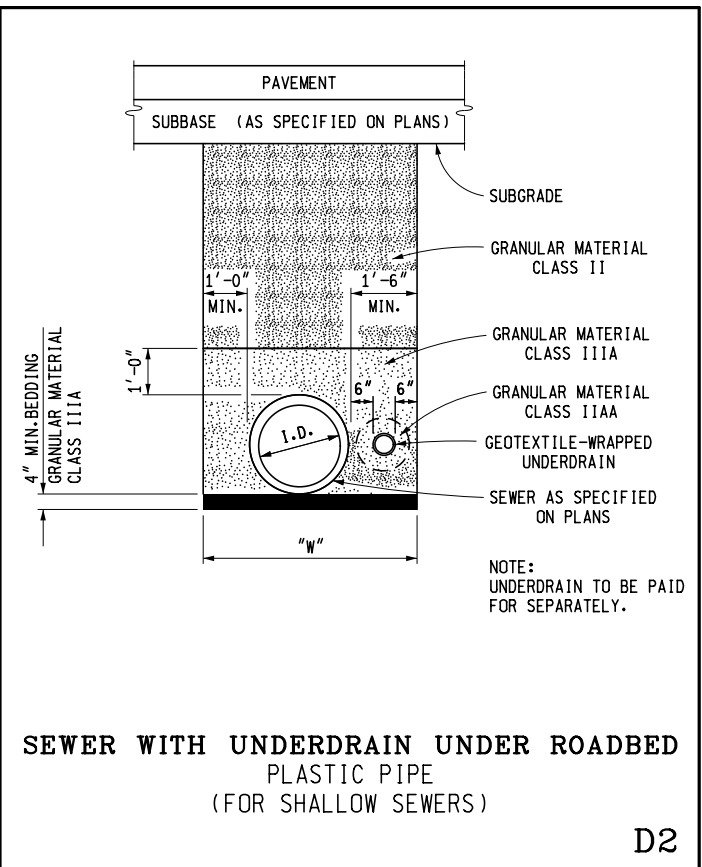
R-83-C

SHEET
2 OF 5



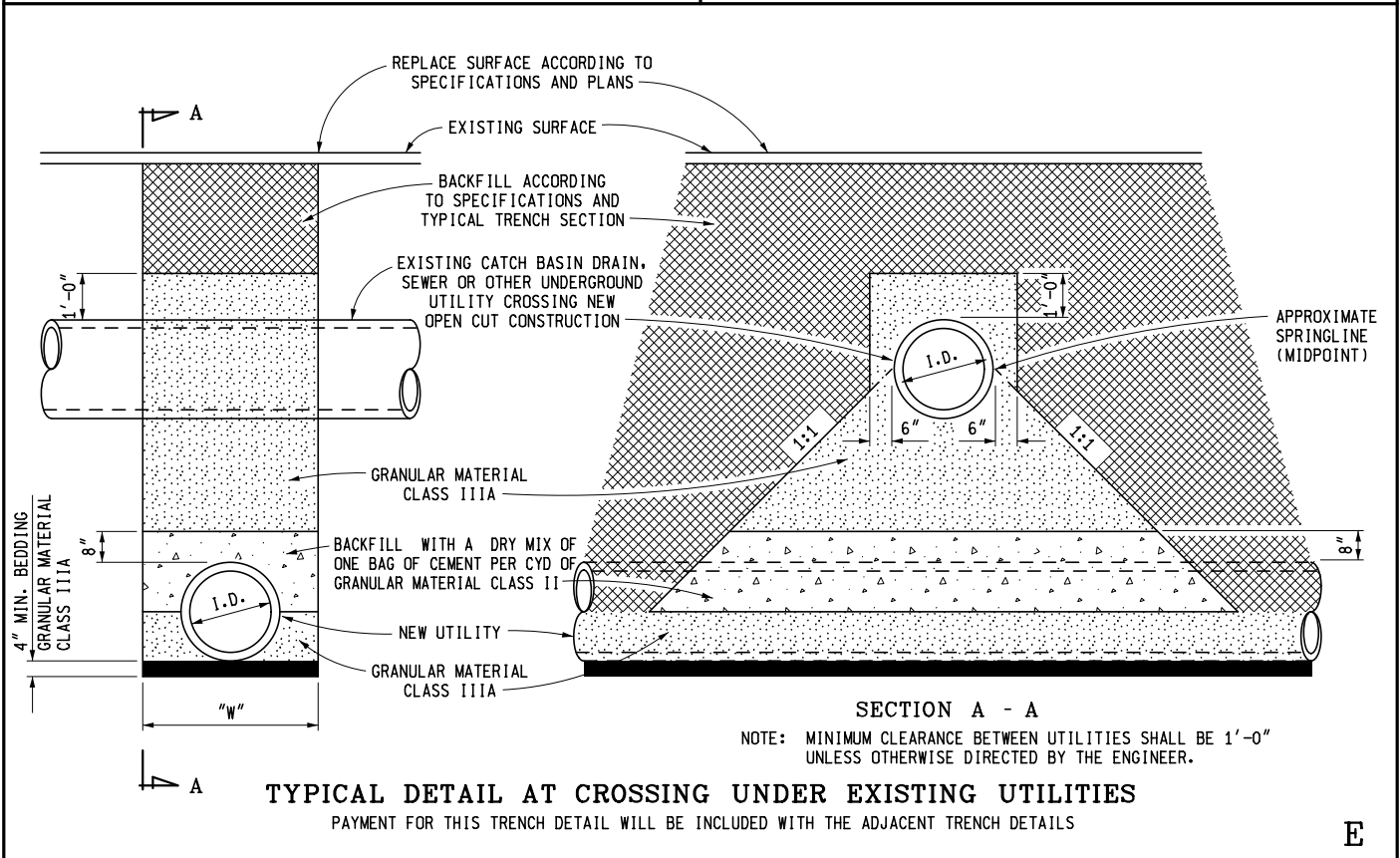
**SEWER WITH UNDERDRAIN UNDER ROADBED
CONCRETE & METAL PIPE
(FOR SHALLOW SEWERS)**

D1



**SEWER WITH UNDERDRAIN UNDER ROADBED
PLASTIC PIPE
(FOR SHALLOW SEWERS)**

D2



E

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

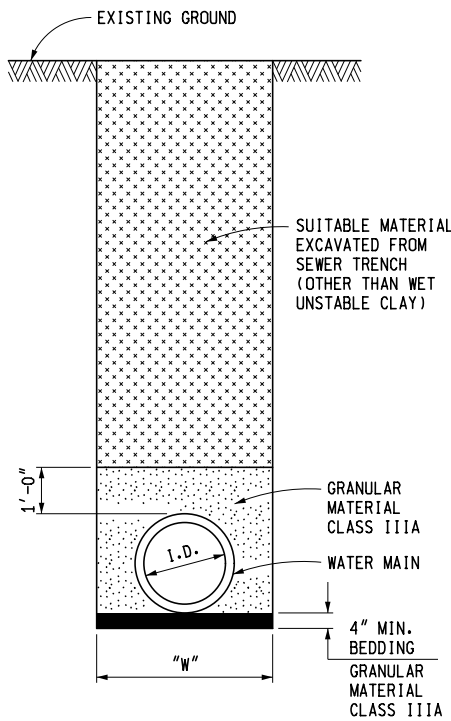
UTILITY TRENCHES

F.H.W.A. APPROVAL

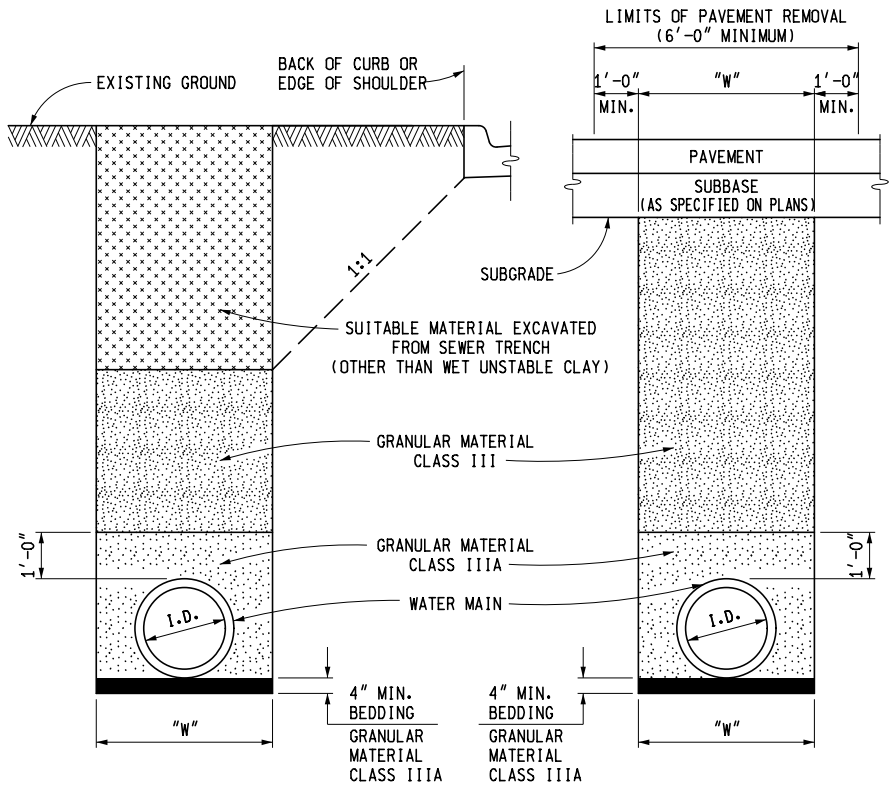
2-8-2016
PLAN DATE

R-83-C

SHEET
3 OF 5

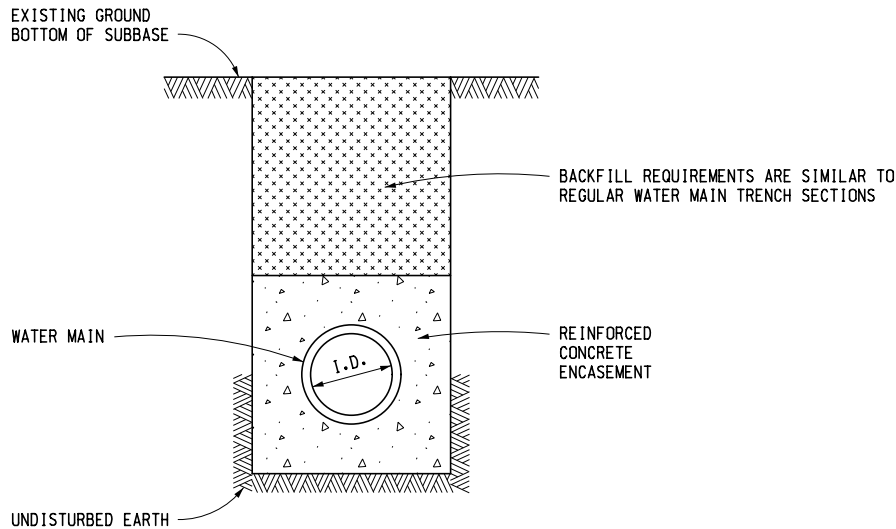


WATER MAINS NOT UNDER ROADBED F



NOTE: WHEN WATER MAIN IS PLACED IN PROPOSED ROADBED AREA, IT SHALL BE BACKFILLED WITH SELECTED EXCAVATION MATERIAL ABOVE FUTURE SUBGRADE TO EXISTING GROUND LINE.

WATER MAINS UNDER ROADBED OR WITHIN INFLUENCE OF ROADBED G



NOTE: REINFORCEMENT SHALL BE AS SPECIFIED ON PLANS.

WATER MAINS IN REINFORCED CONCRETE ENCASEMENT H

REQUIRED ENCASEMENT SIZE FOR RESPECTIVE PIPE SIZES

DIAMETER OF PIPE	ENCASEMENT SIZE AND TRENCH WIDTH
6" - 12"	3'-0"
16"	3'-6"
24"	4'-6"
30"	5'-0"
36"	5'-6"
42"	6'-0"
48"	7'-0"
54"	7'-6"
60"	8'-0"
66"	8'-6"
72"	9'-0"

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

UTILITY TRENCHES

F.H.W.A. APPROVAL

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SHEET
4 OF 5

NOTES:

BACKFILLING SHALL BE ACCORDING TO THE STANDARD SPECIFICATION.

SUFFICIENT TRENCH WIDTH SHALL BE PROVIDED TO ALLOW FREE WORKING SPACE AND TO PERMIT COMPACTING THE BACKFILL AROUND THE PIPE.

THE FOLLOWING ARE MINIMUM TRENCH WIDTHS:

I.D. PIPE SIZE (INCHES)	LESS THAN 18	21	24	30	36
"W" TRENCH WIDTH (FEET)	3.0	3.5	4.0	5.0	6.0

I.D. PIPE SIZE (INCHES)	42	48	54	60	66	72
"W" TRENCH WIDTH (FEET)	7.0	8.0	9.5	10.0	10.5	11.0

I.D. PIPE SIZE (INCHES)	78	84	90	96	102	108
"W" TRENCH WIDTH (FEET)	11.5	12.0	12.5	13.0	13.5	14.0

ESTIMATED PAVEMENT REMOVAL WIDTH IS TO BE TRENCH WIDTH "W" PLUS 1'-0" EACH SIDE OF THE TRENCH (6'-0" MINIMUM).

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

UTILITY TRENCHES

F.H.W.A. APPROVAL

2-8-2016
PLAN DATE

R-83-C

SHEET
5 OF 5

From Mark Geib, Engineer of Operations Field Services Division

MDOT
Division of Operations
6333 Lansing Road
Lansing, MI 48917
Fax/517-322-3385

Questions regarding this advisory should be directed to:

Chris Brookes
Work Zone Delivery
Engineer
(517) 636 -0300
Brookesc@michigan.gov

Or

Chuck Bergmann
Work Zone Tech Specialist
(517)322-3314
Bergmannc@michigan.gov

Fluorescent Sheeting Implementation

The Michigan Department of Transportation (MDOT) has been working with Michigan Infrastructure and Transportation Association (MITA) and its industry partners on the use of a 6-inch wide angle prismatic lens reflective sheeting for reflectorizing reboundable traffic control devices such as drums and 42-inch channelizing devices. MDOT, MITA, and industry partners piloted a number of successful projects over the last two years and have been working jointly to develop an implementation plan. Safety for both the motoring public and the workers is the number one reason for this change. Fluorescent reflective sheeting can increase distance visibility providing up to 2.5 seconds of additional driver reaction time at 55 MPH, compared with high intensity sheeting. Additionally, during weather events and low light conditions when approximately 35 percent of work zone crashes occur historically in Michigan, improved motorist visibility will reduce the potential of a traffic crash or fatality. This is a safety initiative that will help reach MDOT's goal of "Towards Zero Deaths".

Specification will be according to ASTM D 4956. The fluorescent orange sheeting color must have a daytime luminance factor that meets or exceeds 20, (ASTM D 4956 Table 2 – Daytime Luminance Factor (Y %)), and the fluorescent orange and white sheeting classified as Type IV sheeting. For projects incorporating the new sheeting the following pay items will be used:

- "Plastic Drum, Fluorescent, Furn"
- "Plastic Drum, Fluorescent, Oper"
- "Channelizing Device, 42 Inch, Fluorescent, Furn"
- "Channelizing Device, 42 Inch, Fluorescent, Oper"

The following implementation plan was based on the average service life of the drums and 42-inch channelizing devices, which will allow industry to upgrade during the normal replacement cycle. The schedule detailed below, provides inclusion beginning with October 2017 project lettings on the interstate system.

The phase in period is described below for project letting dates:

- Official notification to industry of the upcoming phase in period was provided on 4/7/2016.
- Project lettings on or after 10/1/2017 – Type IV Fluorescent Orange and Type IV White required on all “I” routes.
- Project lettings on or after 10/1/2018 – Type IV Fluorescent Orange and Type IV White required on all “BR”, “US”, and “M” routes.
- Project lettings on or after 10/1/2020 – Type IV Fluorescent Orange and Type IV White required on all projects let through MDOT including local agency projects.
- Maintenance, utility, and permit work performed on state trunk line on or after 10/1/2020 will require – Type IV Fluorescent Orange and Type IV White.
- Selected projects may require the use of the new sheeting on a project-by-project basis after the Frequently Used Special Provision is released for each cycle

Contractors may implement new fluorescent sheeting on drums and 42 inch channelizing devices prior to the above specific dates, as an “equal to or better than” substitution, at no additional cost to MDOT.

During the phase in period, the intermixing of drums and 42 inch channelizing devices with fluorescent orange sheeting and high intensity standard orange sheeting, on the same project will not be allowed.

Intermixing of drums and 42 inch channelizing devices with fluorescent sheeting from different companies of the same grade will be allowed.

Please contact the Work Zone Delivery Engineer for any additional guidance.

BID BOND

DAMAGES FORM

Any singular reference to Bidder, Surety, Owner, or other party shall be considered plural where applicable.

BIDDER *(Name and Address)*:

SURETY *(Name and Address of Principal Place of Business)*:

OWNER *(Name and Address)*:

Charter Township of White Lake
7525 Highland Road
White Lake, MI 48383

BID

Bid Due Date:
Description Triangle Pahtway
White Lake Township

BOND

Bond Number:
Date (Not earlier than Bid due date):
Penal sum _____

_____ \$ _____
(Words) (Figures)
Five (5%) percent of Proposal Amount

Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.

BIDDER

SURETY

Bidder's Name and Corporate Seal (Seal)

Surety's Name and Corporate Seal (Seal)

By: _____
Signature

By: _____
Signature (Attach Power of Attorney)

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

Note: Above addresses are to be used for giving any required notice. Provide execution by any additional parties, such as joint venturers, if necessary.

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder any difference between the total amount of Bidder's Bid and the total amount of the Bid of the next lowest, responsible Bidder who submitted a responsive Bid as determined by Owner for the work required by the Contract Documents, provided that:
 - 1.1 If there is no such next Bidder, and Owner does not abandon the Project, then Bidder and Surety shall pay to Owner the penal sum set forth on the face of this Bond, and
 - 1.2 In no event shall Bidder's and Surety's obligation hereunder exceed the penal sum set forth on the face of this Bond.
 - 1.3 Recovery under the terms of this Bond shall be Owner's sole and exclusive remedy upon default of Bidder.
2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.
3. This obligation shall be null and void if:
 - 3.1 Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or
 - 3.2 All Bids are rejected by Owner, or
 - 3.3 Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).
4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.
5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from Bid due date without Surety's written consent.
6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after Bid due date.
7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.
8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.
9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.
10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.
11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

PROPOSAL REPRESENTATION AND CERTIFICATION

Section 00 45 00

DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS

**Certification Regarding
Debarment, Suspension, and Other Responsibility Matters**

The prospective participant certifies, to the best of its knowledge and belief, that it and its principals:

- (1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in transactions under federal nonprocurement programs by any federal department or agency;
- (2) Have not, within the three year period preceding the proposal, had one or more public transactions (federal, state, or local) terminated for cause or default; and
- (3) Are not presently indicted or otherwise criminally or civilly charged by a government entity (federal, state, or local) and have not, within the three year period preceding the proposal, been convicted of or had a civil judgment rendered against it:
 - (a) For the commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public transaction (federal, state, or local) or a procurement contract under such a public transaction;
 - (b) For the violation of federal or state antitrust statutes, including those proscribing price fixing between competitors, the allocation of customers between competitors, or bid rigging; or
 - (c) For the commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property.

I understand that a false statement on this certification may be grounds for the rejection of this proposal or the termination of the award. In addition, under 18 U.S.C. §1001, a false statement may result in a fine of up to \$10,000 or imprisonment for up to five years, or both.

Name and Title of Authorized Representative

Name of Participant Agency or Firm

Signature of Authorized Representative

Date

I am unable to certify to the above statement. Attached is my explanation.

**AGREEMENT
BETWEEN OWNER AND CONTRACTOR
FOR CONSTRUCTION CONTRACT (STIPULATED PRICE)**

THIS AGREEMENT is by and between Charter Township of White Lake
7525 Highland Road, White Lake, MI 48383 (“Owner”) and
_____ (“Contractor”).

Owner and Contractor hereby agree as follows:

ARTICLE 1 – WORK

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

- A. 2,300 lineal feet of 5-foot-wide concrete pathway along Teggerdine Road from Highland Road South to Elizabeth Lake Road, 1,000 lineal feet of 8-foot-wide asphalt pathway along Highland Road from Teggerdine Road West to POB and 735 lineal feet of 6-foot-wide asphalt pathway along Elizabeth Lake Road from Teggerdine Road West to POB.
THE PROJECT

1.02 The Project, of which the Work under the Contract Documents is a part, is generally described as follows:

*Charter Township of White Lake Triangle Pathway
DLZ Project No. 2145-7329-00*

ARTICLE 2 – ENGINEER

2.01 The Project has been designed by DLZ Michigan, Inc.

2.02 The Owner has retained DLZ Michigan, Inc. (“Engineer”) to act as Owner’s representative, assume all duties and responsibilities, and have the rights and authority assigned to Engineer in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

ARTICLE 3 – CONTRACT TIMES

3.01 *Time of the Essence*

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

3.02 *Contract Times: Days*

- A. The Work will be substantially completed on or before September 30, 2024, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before November 15, 2024.

3.03 *Liquidated Damages*

- A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial and other losses if the Work is not completed and Milestones not achieved within the times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with the Contract. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty):
 - 1. Contractor shall pay Owner the amount set forth in Paragraph 6.02.A of the Bid Form for each day that expires after, i) the time specified in Paragraph 4.02.A until the Work is substantially completed, and/or ii) the time specified in Paragraph 4.02.B until the Work is fully completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions.

ARTICLE 4 – CONTRACT PRICE

4.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents the amounts that follow, subject to adjustment under the Contract:

- A. For all Unit Price Work, an amount equal to the sum of the extended prices (established for each separately identified item of Unit Price Work by multiplying the unit price times the actual quantity of that item); as indicated in Bid Form Article 5.

The extended prices for Unit Price Work set forth as of the Effective Date of the Contract are based on estimated quantities. As provided in Paragraph 13.03 of the General Conditions, estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by Engineer.

- B. Total of Lump Sum Amount and Unit Price Work (subject to final Unit Price adjustment) \$.

Total Of All Estimated Prices _____ (\$ _____)
 (words) (numerals)

- C. For all Work, at the prices stated in Contractor’s Bid, attached hereto as an exhibit.

ARTICLE 5 – PAYMENT PROCEDURES

5.01 *Submittal and Processing of Payments*

- A. Contractor shall submit Applications for Payment in accordance with Article 15 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.
- B. Progress Payments
 - 1) Payments will be made monthly in accordance with the provisions of Act 524 of the Michigan Public Acts of 1980 (MCLA 125.1561 et seq.) and in accordance with the

terms of this Contract. No allowance will be made for materials furnished which are not incorporated in the finish Work, unless otherwise stated.

- 2) Pursuant to Act 524, the Owner hereby designates [Michael Leuffgen, P.E.], as the person representing it to whom written requests for payments are to be submitted. The Contractor hereby designates [_____] as the person who will submit written requests for payments to the Owner.
- 3) It is agreed that in the event a dispute arises over an avoidable or unacceptable delay in the performance of the Work as described in Act 524, Section 4 (3) (MCLA 125.1564 (3)) the dispute may, at the option of the Owner, be submitted for resolution in accordance with the provisions of Section 4 of Act 524 to an agent designated pursuant to Section 4 (2) of said Act. The dispute resolution process herein described shall be used only for the purpose of determining the rights of the parties to retained funds and interest earned on retained funds.

5.02 *Progress Payments; Retainage*

- A. Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment on or about the 30th day of each month during performance of the Work as provided in Paragraph 6.02.A.1 below, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. All such payments will be measured by the Schedule of Values established as provided in the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no Schedule of Values, as provided elsewhere in the Contract.
 1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Owner may withhold, including but not limited to liquidated damages, in accordance with the Contract
 - a. 10% percent of Work completed (with the balance being retainage). If the Work has been 50 percent completed as determined by Engineer, and if the character and progress of the Work have been satisfactory to Owner and Engineer, then as long as the character and progress of the Work remain satisfactory to Owner and Engineer, there will be no additional retainage; and
 - b. 20% percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).
- B. Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to 95% percent of the Work completed, less such amounts set off by Owner pursuant to Paragraph 15.01.E of the General Conditions, and less 200% percent of Engineer's estimate of the value of Work to be completed or corrected as shown on the punch list of items to be completed or corrected prior to final payment.

5.03 *Final Payment*

- A. Upon final completion and acceptance of the Work in accordance with Paragraph 15.06 of the General Conditions, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in said Paragraph 15.06.

ARTICLE 6 – INTEREST

6.01 All amounts not paid when due shall bear interest at the rate, noted in Act 524, above.

ARTICLE 7 – CONTRACTOR’S REPRESENTATIONS

- 7.01 In order to induce Owner to enter into this Contract, Contractor makes the following representations:
- A. Contractor has examined and carefully studied the Contract Documents, and any data and reference items identified in the Contract Documents.
 - B. Contractor has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
 - C. Contractor is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.
 - D. *Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site; and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site; (3) that have been noted in Project Manual Section 00-31-00 Available Information.*
 - E. *Contractor has considered the information known to Contractor itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and (3) Contractor’s safety precautions and programs.*
 - F. Based on the information and observations referred to in the preceding paragraph, Contractor agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.
 - G. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.
 - H. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
 - I. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
 - J. *Contractor’s entry into this Contract constitutes an incontrovertible representation by Contractor that without exception all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.*

ARTICLE 8 – CONTRACT DOCUMENTS8.01 *Contents*

- A. The Contract Documents consist of the following:
 - 1. This Agreement (pages 1 to **8**, inclusive).

2. Performance bond (pages █ to █, inclusive).
 3. Payment bond (pages █ to █, inclusive).
 4. Other bonds.
 - a. █ (pages █ to █, inclusive).
 5. General Conditions (pages █ to █, inclusive).
 6. Supplementary Conditions (pages █ to █, inclusive).
 - a. General pages ____ to ____ inclusive.
 - b. Insured
 - General (pages 1 to ? , inclusive).
 - Insurance (pages 1 to ? , inclusive)
 7. Specifications as listed in the table of contents of the Project Manual.
 8. Drawings (not attached but incorporated by reference) consisting of the Drawings listed on the attached sheet index.
 9. Addenda (numbers █ to █, inclusive).
 10. Exhibits to this Agreement (enumerated as follows):
 - a. Contractor's Bid (pages █ to █, inclusive).
 11. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:
 - a. Notice to Proceed.
 - b. Work Change Directives.
 - c. Change Orders.
 - d. Field Orders.
- B. The documents listed in Paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 9.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in the General Conditions.

ARTICLE 9 – MISCELLANEOUS

9.01 *Terms*

- A. Terms used in this Agreement will have the meanings stated in the General Conditions and the Supplementary Conditions.

9.02 *Assignment of Contract*

- A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited

by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

9.03 *Successors and Assigns*

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

9.04 *Severability*

- A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

9.05 *Contractor's Certifications*

- A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 10.05:
1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process or in the Contract execution;
 2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
 3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and
 4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

9.06 *Other Provisions*

- A. Owner stipulates that if the General Conditions that are made a part of this Contract are based on EJCDC® C-700, Standard General Conditions for the Construction Contract, published by the Engineers Joint Contract Documents Committee®, and if Owner is the party that has furnished said General Conditions, then Owner has plainly shown all modifications to the standard wording of such published document to the Contractor, through a process such as highlighting or "track changes" (redline/strikeout), or in the Supplementary Conditions.
- B. Contractor waives and releases any claim it may have against Owner whether in contract, tort, equity or some other legal theory, arising out of or related to any event or circumstance arising before Owner signs this Agreement, including, but not limited to, any claim arising out of Owner's delay in signing this Agreement.
- C. Venue

All proceedings commenced by the Owner or Contractor arising out of or relating to the Contract Documents, including, but not limited to, the performance of Work, shall be submitted to Arbitration. The action shall be filed with the American Arbitration Association located in the City of Southfield, State of Michigan and shall be conducted pursuant to its rules and procedures for construction disputes.

D. Applicable Law

The laws of the State of Michigan shall govern the interpretation and enforcement of this Agreement.

E. Survival of Obligations

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

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement in triplicate. One counterpart each has been delivered to Owner and Contractor. All portions of the Contract Documents have been signed or identified by Owner and Contractor or on their behalf.

This Agreement will be effective on _____, _____ (which is the Effective Date of the Agreement).

OWNER:

Charter Township of White Lake
7525 Highland Road, White Lake, MI 48383

CONTRACTOR:

By: _____

Title: _____

By: _____

Title: _____

(If Contractor is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest: _____

Title: _____

Attest: _____

Title: _____

Address for giving notices:

Address for giving notices:

Notice of Award

Date: _____

Project: Triangle Pathway	
Owner: CHARTER TOWNSHIP OF WHITE LAKE	Owner's Contract No.:
Contract:	Engineer's Project No.:2145-7329-00
Bidder:	
Bidder's Address:	

You are notified that your Bid dated _____ for the above Contract has been considered. You are the Successful Bidder and are awarded a Contract for _____

[Indicate total Work, alternates, or sections of Work awarded.]

The Contract Price of your Contract is _____ Dollars (\$_____).

[Insert appropriate data if unit prices are used. Change language for cost-plus contracts.]

_____ copies of the proposed Contract Documents (except Drawings) accompany this Notice of Award.

_____ sets of the Drawings will be delivered separately or otherwise made available to you immediately.

You must comply with the following conditions precedent within [15] days of the date you receive this Notice of Award.

1. Deliver to the Owner [_____] fully executed counterparts of the Contract Documents.
2. Deliver with the executed Contract Documents the Contract security [Bonds] [00-61-13, 14 & 19 ?] as specified in the Instructions to Bidders (Article 20), (Article 7.0), and Supplementary Conditions (Section 00-73-16).
3. Other conditions precedent:

Failure to comply with these conditions within the time specified will entitle Owner to consider you in default, annul this Notice of Award, and declare your Bid security forfeited.

Within ten days after you comply with the above conditions, Owner will return to you one fully executed counterpart of the Contract Documents.

Charter Township of White Lake
Owner
By: _____
Authorized Signature

Title

Copy to Engineer

Notice to Proceed

Date: _____

Project: Triangle Pathway	
Owner: CHARTER TOWNSHIP OF WHITE LAKE	Owner's Contract No.:
Contract:	Engineer's Project No.:2145-7329-00
Contractor:	
Contractor's Address:	

You are notified that the Contract Times under the above Contract will commence to run on _____. On or before that date, you are to start performing your obligations under the Contract Documents. In accordance with Article 4 of the Agreement, the date of Substantial Completion is September 30, 2024, and the date of readiness for final payment is November 15, 2024.

Before you may start any Work at the Site, Paragraph 2.01.B of the General Conditions provides that you and Owner must each deliver to the other (with copies to Engineer and other identified additional insureds and loss payees) certificates of insurance which each is required to purchase and maintain in accordance with the Contract Documents.

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

_____	Owner
_____	Given by:
_____	Authorized Signature
_____	Title
_____	Date

Copy to Engineer

PERFORMANCE BOND

CONTRACTOR (name and address):

SURETY (name and address of principal place of
business):

OWNER:

Charter Township of White Lake
7525 Highland Road
White Lake, MI 48383

CONSTRUCTION CONTRACT

Effective Date of the Agreement:

Amount:

Description: Triangle Pathway, White Lake Township, Michigan

BOND

Bond Number:

Date (not earlier than the Effective Date of the Agreement of the Construction Contract):

Amount:

Modifications to this Bond Form: None See Paragraph 16

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

SURETY

Contractor's Name and Corporate Seal

Surety's Name and Corporate Seal

By: _____
Signature

By: _____
Signature (attach power of attorney)

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

2. If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Paragraph 3.

3. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after:

3.1 The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Paragraph 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;

3.2 The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and

3.3 The Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

4. Failure on the part of the Owner to comply with the notice requirement in Paragraph 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

5. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owners concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 7 in excess of the Balance of

the Contract Price incurred by the Owner as a result of the Contractor Default; or

5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:

5.4.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or

5.4.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

6. If the Surety does not proceed as provided in Paragraph 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Paragraph 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

7. If the Surety elects to act under Paragraph 5.1, 5.2, or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication for:

7.1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

7.2 additional legal, design professional, and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 5; and

7.3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

8. If the Surety elects to act under Paragraph 5.1, 5.3, or 5.4, the Surety's liability is limited to the amount of this Bond.

9. The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors, and assigns.

10. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.

11. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within

two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum periods of limitations available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12. Notice to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

14. Definitions

14.1 Balance of the Contract Price: The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made including allowance for the Contractor for any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

14.2 Construction Contract: The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

14.3 Contractor Default: Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

14.4 Owner Default: Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

14.5 Contract Documents: All the documents that comprise the agreement between the Owner and Contractor.

15. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

16. Modifications to this Bond are as follows:

PAYMENT BOND

CONTRACTOR (*name and address*):

SURETY (*name and address of principal place of business*):

OWNER:

Charter Township of White Lake
7525 Highland Road
White Lake, MI 48383

CONSTRUCTION CONTRACT

Effective Date of the Agreement:

Amount:

Description: Triangle Pathway, White Lake Township, Michigan

BOND

Bond Number:

Date (*not earlier than the Effective Date of the Agreement of the Construction Contract*):

Amount:

Modifications to this Bond Form: None See Paragraph 18

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

SURETY

Contractor's Name and Corporate Seal

Surety's Name and Corporate Seal

By: _____
Signature

By: _____
Signature (*attach power of attorney*)

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

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

12. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Paragraph 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.
13. Notice and Claims to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.
14. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.
15. Upon requests by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

16. Definitions

16.1 **Claim:** A written statement by the Claimant including at a minimum:

1. The name of the Claimant;
2. The name of the person for whom the labor was done, or materials or equipment furnished;
3. A copy of the agreement or purchase order pursuant to which labor, materials, or equipment was furnished for use in the performance of the Construction Contract;
4. A brief description of the labor, materials, or equipment furnished;
5. The date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
7. The total amount of previous payments received by the Claimant; and
8. The total amount due and unpaid to the Claimant for labor, materials, or equipment furnished as of the date of the Claim.

16.2 **Claimant:** An individual or entity having a direct contract with the Contractor or with a subcontractor

of the Contractor to furnish labor, materials, or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms of "labor, materials, or equipment" that part of the water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.

16.3 **Construction Contract:** The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

16.4 **Owner Default:** Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

16.5 **Contract Documents:** All the documents that comprise the agreement between the Owner and Contractor.

17. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

18. Modifications to this Bond are as follows:

MAINTENANCE & GUARANTEE BOND

Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

CONTRACTOR (Name and Address):

SURETY (Name and Address of Principal Place of Business):

OWNER:

Charter Township of White Lake
7525 Highland Road
White Lake, MI 48383

CONTRACT

Date:

Amount:

Description: *Triangle Pathway*

BOND

Bond Number:

Date (Not earlier than Contract Date):

Amount:

Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Maintenance & Guarantee Bond to be duly executed on its behalf by its authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

Company:

Signature: _____ (Seal)

Name and Title:

SURETY

(Seal)

Surety's Name and Corporate Seal

By: _____

Signature and Title

(Attach Power of Attorney)

(Space is provided below for signatures of additional parties, if required.)

Attest: _____

Signature and Title

CONTRACTOR AS PRINCIPAL

Company:

Signature: _____ (Seal)

Name and Title:

SURETY

(Seal)

Surety's Name and Corporate Seal

By: _____

Signature and Title

(Attach Power of Attorney)

Attest: _____

Signature and Title:

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH that by and under said contract, the above named principal has agreed with the said Owner that for a period of **two years** from the date of payment of Final Estimate, to keep in good order and repair any defect in all the work done under said contract either by the principal or his subcontractors, or his material suppliers, that may develop during said period due to improper materials, defective equipment, workmanship or arrangements, and any other work affected in making good such imperfections, shall also be made good all without expense to the Owner, excepting only such part or parts of said work as may have been disturbed without the consent or approval of the principal after the final acceptance of the work, and that whenever directed so to do by the Owner, by notice serving in writing, either personally or by mail, on the principal at _____

OR _____ its _____
_____ legal representatives, or successors, or on the surety at _____

WILL PROCEED at once to make such repairs as directed by said Owner; and in case of failure to do so within one week from the date of such notice, or within reasonable time not less than one week, as shall be fixed in said notice, then the said Owner shall have the right to purchase such materials and employ such labor and equipment as may be necessary for the purpose, and to undertake, do and make such repairs, and charge the expense thereof to, and receive same from said principal or surety. If any repair is necessary to be made at once to protect life and property, then and in that case, the said Owner may take immediate steps to repair or barricade such defects without notice to the contractor. In such accounting the said Owner shall not be held to obtain the lowest figures for the doing of the work, or any part thereof, but all sums actually paid therefore shall be charged to the principal or surety. In this connection the judgment of said year from the date of payment of Final Estimate, shall keep said work so constructed under said contract in good order and repair, excepting only such part or parts of said work so constructed under said contract in good order and repair, excepting only such part or parts of said work which may have been disturbed without the consent or approval of said principal after the final acceptance of the same, proceed to make repair as in said notice directed, or shall reimburse said Owner for any expense incurred by making such repairs, should the principal or surety fail to do so as hereinbefore specified, and shall fully indemnify, defend and save harmless the said Owner from all suits and actions for party or parties, by or from any of the acts or omissions or through the negligence of said principal, servants, agents, or employees, in the prosecution of the work included in said contract, and from any and all claims arising under Workman's Compensation Act, so-called, of the State of Michigan, then the above obligation shall be void, otherwise to remain in full force and effect.

FOR INFORMATION ONLY – Name, Address and Telephone Surety Agency or Broker Owner's Representative (engineer or other party)

Certificate of Substantial Completion

Section 00 65 16

Project: Triangle Pathway	Owner: Charter Township of White Lake	Owner's Contract No.:
Contract:	Date of Contract:	
Contractor:	Engineer's Project No.: 2145-7329-00	

This [tentative] [definitive] Certificate of Substantial Completion applies to:

- All Work under the Contract Documents: The following specified portions:

_____ Date of Substantial Completion

The Work to which this Certificate applies has been inspected by authorized representatives of Owner, Contractor and Engineer, and found to be substantially complete. The Date of Substantial Completion of the Project or portion thereof designated above is hereby declared and is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below.

A [tentative] [revised tentative] [definitive] list of items to be completed or corrected, is attached hereto. This list may not be all-inclusive, and the failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

The responsibilities between OWNER and CONTRACTOR for security, operation, safety, maintenance, heat, utilities, insurance and warranties shall be as provided in the Contract Documents except as amended as follows:

- Amended Responsibilities Not Amended

Owner's Amended Responsibilities:

Contractor's Amended Responsibilities:

The following documents are attached to and made part of this Certificate:

This Certificate does not constitute an acceptance of Work not in accordance with the Contract Documents nor is it a release of Contractor's obligation to complete the Work in accordance with the Contract Documents.

Executed by Engineer

Date

Accepted by Contractor

Date

Accepted by Owner

Date

CLOSEOUT FORMS

00 65 00

Contractor's Sworn Statement

Section 00 65 19

TO: Charter Township of White Lake
7525 Highland Road
White Lake, MI 48383

DLZ PROJECT NO: 2145-7329-00

PROJECT: Triangle Pathway CONTRACT DATE:

(Name, Address of Notary)

County of

State of Michigan

The undersigned, pursuant to Article 15 of the General Conditions, art. 15.06.A3, hereby certifies, except as listed below, 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.

EXCEPTIONS:

SUBCONTRACTORS AND SUPPLIERS OF MATERIAL AND EQUIPMENT (If none, write "None")

Name Trade Amount due or to become due for work and material furnished to date hereof.

Three horizontal lines for subcontractor entries.

LABOR (If every laborer has been paid in full, write "Every labor has been paid in full". If not, then give each unpaid laborer's name and the amount due or to become due)

Name Hours Amount due or to become due for labor furnished to date hereof.

Three horizontal lines for laborer entries.

CONTRACTOR: ADDRESS: BY: TITLE:

Subscribed and sworn before me, this day of , 20, Notary Public, County, Michigan. My commission expires

END OF SECTION

Consent of Surety Company

Section 00 65 20

PROJECT: Triangle Pathway

TO (OWNER)
CHARTER TOWNSHIP OF WHITE LAKE
7525 HIGHLAND ROAD
WHITE LAKE, MI 48383

PROJECT NO: 2145-7329-00
CONTRACT FOR:

CONTRACT DATE:

CONTRACTOR:

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above, the [here insert name and address of Surety Company]

SURETY COMPANY,

on bond of [here insert name and address of Contractor]

CONTRACTOR,

hereby approves of the final payment to the Contractor, and agrees that final payment to the Contractor shall not relieve the Surety Company of any of its obligations to

CHARTER TOWNSHIP OF WHITE LAKE
7525 HIGHLAND ROAD
WHITE LAKE, MI 48060

OWNER,

as set forth in the said Surety Company's bond.

IN WITNESS WHEREOF,
the Surety Company has hereunto set its hand this _____ day of _____

Surety Company

Signature of Authorized Representative

Attest:
(Seal):

Title

**STANDARD GENERAL CONDITIONS OF THE
CONSTRUCTION CONTRACT**

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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

ARTICLE 1

1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 2. *Agreement*—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.
 3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 5. *Bidder*—An individual or entity that submits a Bid to Owner.
 6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.
 7. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.
 8. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.
 9. ***Change Proposal***—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.
 10. ***Claim***—(a) A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein: seeking an adjustment of Contract Price or Contract Times, or both; 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; or (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. A demand for money or services by a third party is not a Claim.

11. **Constituent of Concern**—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to (a) the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§9601 et seq. (“CERCLA”); (b) the Hazardous Materials Transportation Act, 49 U.S.C. §§5501 et seq.; (c) the Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq. (“RCRA”); (d) the Toxic Substances Control Act, 15 U.S.C. §§2601 et seq.; (e) the Clean Water Act, 33 U.S.C. §§1251 et seq.; (f) the Clean Air Act, 42 U.S.C. §§7401 et seq.; or (g) any other federal, state, or local statute, law, rule, regulation, ordinance, resolution, code, order, or decree regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.
12. **Contract**—The entire and integrated written contract between the Owner and Contractor concerning the Work.
13. **Contract Documents**—Those items so designated in the Agreement, and which together comprise the Contract.
14. **Contract Price**—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents. .
15. **Contract Times**—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.
16. **Contractor**—The individual or entity with which Owner has contracted for performance of the Work.
17. **Cost of the Work**—See Paragraph 13.01 for definition.
18. **Drawings**—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.
19. **Effective Date of the Contract**—The date, indicated in the Agreement, on which the Contract becomes effective.
20. **Engineer**—The individual or entity named as such in the Agreement.
21. **Field Order**—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.
22. **Hazardous Environmental Condition**—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated in the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, does not establish a Hazardous Environmental Condition.
23. **Laws and Regulations; Laws or Regulations**—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

24. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
25. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date or by a time prior to Substantial Completion of all the Work.
26. *Notice of Award*—The written notice by Owner to a Bidder of Owner’s acceptance of the Bid.
27. *Notice to Proceed*—A written notice by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work.
28. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.
29. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor’s plan to accomplish the Work within the Contract Times.
30. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.
31. *Project Manual*—The written documents prepared for, or made available for, procuring and constructing the Work, including but not limited to the Bidding Documents or other construction procurement documents, geotechnical and existing conditions information, the Agreement, bond forms, General Conditions, Supplementary Conditions, and Specifications. The contents of the Project Manual may be bound in one or more volumes.
32. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative or “RPR” includes any assistants or field staff of Resident Project Representative.
33. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.
34. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer’s review of the submittals and the performance of related construction activities.
35. *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.
36. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.

37. *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 furnished by Owner which are designated for the use of Contractor.
38. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.
39. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.
40. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof.
41. *Successful Bidder*—The Bidder whose Bid the Owner accepts, and to which the Owner makes an award of contract, subject to stated conditions.
42. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.
43. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.
44. *Technical Data*—Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (a) subsurface conditions at the Site, or physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) or (b) Hazardous Environmental Conditions at the Site. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then the data contained in boring logs, recorded measurements of subsurface water levels, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical or environmental report prepared for the Project and made available to Contractor are hereby defined as Technical Data with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06.
45. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including but not limited to those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, fiber optic transmissions, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
46. *Unit Price Work*—Work to be paid for on the basis of unit prices.
47. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.

48. *Work Change Directive*—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

1.02 Terminology

- A. The words and terms discussed in the following paragraphs are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.
- B. *Intent of Certain Terms or Adjectives:*
1. The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Article 10 or any other provision of the Contract Documents.
- C. *Day:*
1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.
- D. *Defective:*
1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - a. does not conform to the Contract Documents; or
 - b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 - c. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 15.03 or 15.04).
- E. *Furnish, Install, Perform, Provide:*
1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
 2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words “furnish,” “install,” “perform,” or “provide,” then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.
- F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

- A. *Bonds*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.
- B. *Evidence of Contractor’s Insurance*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract), the certificates and other evidence of insurance required to be provided by Contractor in accordance with Article 6.
- C. *Evidence of Owner’s Insurance*: ~~After receipt of the executed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or otherwise), the certificates and other evidence of insurance required to be provided by Owner under Article 6.~~ 00-73-16

2.02 *Copies of Documents*

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

2.03 *Before Starting Construction*

- A. *Preliminary Schedules*: Within 10 days after the Effective Date of the Contract (or as otherwise specifically required by the Contract Documents), Contractor shall submit to Engineer for timely review:
 1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract;
 2. a preliminary Schedule of Submittals; and

3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.04 *Preconstruction Conference; Designation of Authorized Representatives*

2.04

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.03.A, procedures for handling Shop Drawings, Samples, and other submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.05 *Initial Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference, attended by Contractor, Engineer, and others as appropriate, will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.03.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.
 1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
 2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
 3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to the component parts of the Work.

2.06 *Electronic Transmittals*

- A. Except as otherwise stated elsewhere in the Contract, the 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. If the Contract does not establish protocols for electronic or digital transmittals, then Owner, Engineer, and Contractor shall **jointly develop such protocols**.
- C. When transmitting items in electronic media or digital format, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items 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 items, or from those established in applicable transmittal protocols.

ARTICLE 3 – DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents.
- C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic or digital versions of the Contract Documents (including any printed copies derived from such electronic or digital versions) and the printed record version, the printed record version shall 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.

3.02 *Reference Standards*

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

3.03 *Reporting and Resolving Discrepancies*

3.03

A. *Reporting Discrepancies:*

1. *Contractor's Verification of Figures and Field Measurements:* Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict,

error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.

2. *Contractor's Review of Contract Documents:* If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies:*

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

3.04 *Requirements of the Contract Documents*

- A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer 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 thereunder.
- 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 give written notice to Owner and Contractor that Engineer is unable to provide a decision or *interpretation*. *If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.*

3.05 Reuse of Documents

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

ARTICLE 4 – COMMENCEMENT AND PROGRESS OF THE WORK**4.01 Commencement of Contract Times; Notice to Proceed**

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

4.02 Starting the Work

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

4.03 Reference Points

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

4.04 Progress Schedule

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 as it may be adjusted from time to time as provided below.
1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.

2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 11.

- B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

4.05 *Delays in Contractor's Progress*

4.05

- A. If Owner, Engineer, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Times and Contract Price. 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.
- B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.
- C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. 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 but are not limited to the following:
1. severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;
 2. abnormal weather conditions; [00-73-10]
 3. acts or failures to act of utility owners (other than those performing other work at or adjacent to the Site by arrangement with the Owner, as contemplated in Article 8); and
 4. acts of war or terrorism.
- D. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5.
- E. Paragraph 8.03 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.
- F. Contractor shall not be entitled to an 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.

- G. Contractor must submit any Change Proposal seeking an adjustment in Contract Price or Contract Times under this paragraph within 30 days of the commencement of the delaying, disrupting, or interfering event.

ARTICLE 5 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

5.01 Availability of Lands

- A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work.
- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which permanent improvements are to be made and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

5.02 Use of Site and Other Areas

A. Limitation on Use of Site and Other Areas:

1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.
2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.12, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or at law; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claim, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused directly or indirectly, in whole or in part

by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.

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

5.03 *Subsurface and Physical Conditions*

5.03

- A. *Reports and Drawings:* The Supplementary Conditions identify: 00-73-10
 1. those reports known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site;
 2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities); and
 3. *Technical Data contained in such reports and drawings.*
- B. *Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:
 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
 2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
 3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

5.04 *Differing Subsurface or Physical Conditions*

- A. *Notice by Contractor:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site either:
1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate; or
 2. is of such a nature as to require a change in the Drawings or Specifications; or
 3. differs materially from that shown or indicated in the Contract Documents; or
 4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

- B. *Engineer's Review:* After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine 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 5.04.A above; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- C. *Owner's Statement to Contractor Regarding Site Condition:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.
- D. *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 5.04.A;
 - b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03; and,

- c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
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 5.04.A.
3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.
4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.

5.05 *Underground Facilities*

5.05

- A. *Contractor's Responsibilities:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or adjacent to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:
 1. Owner and Engineer 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 Underground Facilities at the Site;
 - b. locating all Underground Facilities shown or indicated in the Contract Documents as being at the Site;
 - c. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
 - d. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.
- B. *Notice by Contractor:* If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated 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 7.15), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. [00-73-10]

- C. *Engineer's Review:* Engineer will promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the Underground Facility in question; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and advise Owner in writing of Engineer's findings, conclusions, and recommendations. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
- D. *Owner's Statement to Contractor Regarding Underground Facility:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question, addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.
- E. *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 Underground Facility 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 Underground Facility 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 13.03;
 - 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 5.05.B.
 2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, 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 the Owner's written statement to Contractor regarding the Underground Facility in question.

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

- A. *Reports and Drawings:* The Supplementary Conditions identify: 00-73-10
1. those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and
 2. *Technical Data contained in such reports and drawings.*
- B. *Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or
 2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
 3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.
- D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.
- E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.

- F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.
- G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off.
- H. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.
- I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.H shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 6 – BONDS AND INSURANCE**6.00****6.01** *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of all of Contractor's obligations under the Contract. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the Supplementary Conditions, or other specific provisions of the Contract. Contractor shall also furnish such other bonds as are required by the Supplementary Conditions or other specific provisions of the Contract.
- B. All bonds shall be in the form prescribed by the Contract except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (as amended and supplemented) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.
- C. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds in the required amounts.
- D. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or its right to do business is terminated in any state or jurisdiction where any part of the Project is located, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the bond and surety requirements above.
- E. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner's termination rights under Article 16.
- F. Upon request, Owner shall provide a copy of the payment bond to any Subcontractor, Supplier, or other person or entity claiming to have furnished labor or materials used in the performance of the Work.

6.02 *Insurance—General Provisions*

- A. Owner and Contractor shall obtain and maintain insurance as required in this Article and in the Supplementary Conditions... 00 73 16
- B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.
- C. Contractor shall deliver to Owner, with copies to each named insured and additional insured (as identified in this Article, in the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Contractor has obtained and is

maintaining the policies, coverages, and endorsements required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.

- D. Owner shall deliver to Contractor, with copies to each named insured and additional insured (as identified in this Article, the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Owner has obtained and is maintaining the policies, coverages, and endorsements required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision. [00-73-16]
- E. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, shall not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.
- F. If either party does not purchase or maintain all of the insurance required of such party by the Contract, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.
- G. If Contractor has failed to obtain and maintain required insurance, Owner may exclude the Contractor from the Site, impose an appropriate set-off against payment, and exercise Owner's termination rights under Article 16.
- H. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price shall be adjusted accordingly.
- I. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests.
- J. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner and other individuals and entities in the Contract.

6.03 Contractor's Insurance

00-73-10

- A. *Workers' Compensation:* Contractor shall purchase and maintain workers' compensation and employer's liability insurance for:
 1. claims under workers' compensation, disability benefits, and other similar employee benefit acts.
 2. United States Longshoreman and Harbor Workers' Compensation Act and Jones Act coverage (if applicable).
 3. ~~claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees (by stop gap endorsement in monopolist worker's compensation states).~~

- ~~4.—Foreign voluntary worker compensation (if applicable).~~
- B. *Commercial General Liability—Claims Covered:* Contractor shall purchase and maintain commercial general liability insurance, covering all operations by or on behalf of Contractor, on an occurrence basis, against:
1. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees.
 2. claims for damages insured by reasonably available personal injury liability coverage.
 3. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom.
- C. *Commercial General Liability—Form and Content:* Contractor's commercial liability policy shall be written on a 1996 (or later) ISO commercial general liability form (occurrence form) and include the following coverages and endorsements:
1. Products and completed operations coverage: [00 73 16
 - a. Such insurance shall be maintained for ~~three~~ years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract) evidence of continuation of such insurance at final payment and ~~three years~~ thereafter.
 2. Blanket contractual liability coverage, to the extent permitted by law, including but not limited to coverage of Contractor's contractual indemnity obligations in Paragraph 7.18.
 3. Broad form property damage coverage.
 4. Severability of interest.
 5. Underground, explosion, and collapse coverage.
 6. Personal injury coverage.
 - ~~7.—Additional insured endorsements that include both ongoing operations and products and completed operations coverage through ISO Endorsements CG 20 10 10 01 and CG 20 37 10 01 (together); or CG 20 10 07 04 and CG 20 37 07 04 (together); or their equivalent.~~
 - ~~8.—For design professional additional insureds, ISO Endorsement CG 20 32 07 04, "Additional Insured—Engineers, Architects or Surveyors Not Engaged by the Named Insured" or its equivalent.~~
- D. *Automobile liability:* Contractor shall purchase and maintain automobile liability insurance against claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance, or use of any motor vehicle. The automobile liability policy shall be written on an occurrence basis.
- E. *Umbrella or excess liability:* Contractor shall purchase and maintain umbrella or excess liability insurance written over the underlying employer's liability, commercial general liability, and automobile liability insurance described in the paragraphs above. Subject to industry-standard exclusions, the coverage afforded shall follow form as to each and every one of the underlying policies.
- F. *Contractor's pollution liability insurance:* Contractor shall purchase and maintain a policy covering third-party injury and property damage claims, including clean-up costs, as a result

of pollution conditions arising from Contractor's operations and completed operations. This insurance shall be maintained for no less than ~~three years~~ after final completion. [00-73-16]

- G. *Additional insureds:* The Contractor's commercial general liability, automobile liability, umbrella or excess, and pollution liability policies shall include and list as additional insureds Owner and Engineer, and any individuals or entities identified in the Supplementary Conditions; include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds; and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby (including as applicable those arising from both ongoing and completed operations) on a non-contributory basis. Contractor shall obtain all necessary endorsements to support these requirements.
- H. *Contractor's professional liability insurance:* 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, and 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.
- I. *General provisions:* The policies of insurance required by this Paragraph 6.03 shall:
1. include at least the specific coverages provided in this Article.
 2. be written for not less than the limits of liability provided in this Article and in the Supplementary Conditions, or required by Laws or Regulations, whichever is greater.
 3. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed, or renewal refused until at least 10 days prior written notice has been given to Contractor. Within three days of receipt of any such written notice, Contractor shall provide a copy of the notice to Owner, Engineer, and each other insured under the policy.
 4. remain in effect at least until final payment (and longer if expressly required in this Article) and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract Documents.
 5. be appropriate for the Work being performed and provide protection from claims that may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable.
- J. The coverage requirements for specific policies of insurance must be met by such policies, and not by reference to excess or umbrella insurance provided in other policies.

6.04 *Owner's Liability Insurance – supplementary conditions -[00 73 16]*

6.04

- A. ~~In addition to the insurance required to be provided by Contractor under Paragraph 6.03, Owner, at Owner's option may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.~~
- B. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.

6.05 *Property Insurance- supplementary conditions - [00 73 16]*

- A. *Builder's Risk:* Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the full insurable replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:
1. include the Owner and Contractor as named insureds, and all Subcontractors, and any individuals or entities required by the Supplementary Conditions to be insured under such builder's risk policy, as insureds or named insureds. For purposes of the remainder of this Paragraph 6.05, Paragraphs 6.06 and 6.07, and any corresponding Supplementary Conditions, the parties required to be insured shall collectively be referred to as "insureds."
 2. be written on a builder's risk "all risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire; lightning; windstorm; riot; civil commotion; terrorism; vehicle impact; aircraft; smoke; theft; vandalism and malicious mischief; mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; flood; collapse; explosion; debris removal; demolition occasioned by enforcement of Laws and Regulations; water damage (other than that caused by flood); and such other perils or causes of loss as may be specifically required by the Supplementary Conditions. If insurance against mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; or flood, are not commercially available under builder's risk policies, by endorsement or otherwise, such insurance may be provided through other insurance policies acceptable to Owner and Contractor.
 3. cover, as insured property, at least the following: (a) the Work and all materials, supplies, machinery, apparatus, equipment, fixtures, and other property of a similar nature that are to be incorporated into or used in the preparation, fabrication, construction, erection, or completion of the Work, including Owner-furnished or assigned property; (b) spare parts inventory required within the scope of the Contract; and (c) temporary works which are not intended to form part of the permanent constructed Work but which are intended to provide working access to the Site, or to the Work under construction, or which are intended to provide temporary support for the Work under construction, including scaffolding, form work, fences, shoring, falsework, and temporary structures.
 4. cover expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects).

5. extend to cover damage or loss to insured property while in temporary storage at the Site or in a storage location outside the Site (but not including property stored at the premises of a manufacturer or Supplier).
 6. extend to cover damage or loss to insured property while in transit.
 7. allow for partial occupation or use of the Work by Owner, such that those portions of the Work that are not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
 8. allow for the waiver of the insurer's subrogation rights, as set forth below.
 9. provide primary coverage for all losses and damages caused by the perils or causes of loss covered.
 10. not include a co-insurance clause.
 11. include an exception for ensuing losses from physical damage or loss with respect to any defective workmanship, design, or materials exclusions.
 12. include performance/hot testing and start-up.
 13. be maintained in effect, subject to the provisions herein regarding Substantial Completion and partial occupancy or use of the Work by Owner, until the Work is complete.
- B. *Notice of Cancellation or Change:* All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 6.05 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured.
- C. *Deductibles:* The purchaser of any required builder's risk or property insurance shall pay for costs not covered because of the application of a policy deductible.
- D. *Partial Occupancy or Use by Owner:* If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide notice of such occupancy or use to the builder's risk insurer. The builder's risk insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy; rather, those portions of the Work that are occupied or used by Owner may come off the builder's risk policy, while those portions of the Work not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
- E. *Additional Insurance:* If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.05, it may do so at Contractor's expense.
- F. *Insurance of Other Property:* If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, such as tools, construction equipment, or other personal property owned by Contractor, a Subcontractor, or an employee of Contractor or a Subcontractor, then the entity or individual owning such property item will be responsible for deciding whether to insure it, and if so in what amount.

6.06 *Waiver of Rights***6.06**

- A. All policies purchased in accordance with Paragraph 6.05, expressly including the builder's risk policy, shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any insureds thereunder, or against Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors. Owner and Contractor waive all rights against each other and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Engineer, its consultants, all Subcontractors, all individuals or entities identified in the Supplementary Conditions as insureds, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, under such policies for losses and damages so caused. 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 or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.
- B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for:
1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and
 2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 6.06.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them.
- D. Contractor shall be responsible for assuring that the agreement under which a Subcontractor performs a portion of the Work contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by builder's risk insurance and any other property insurance applicable to the Work.

6.07 *Receipt and Application of Property Insurance Proceeds*

- A. Any insured loss under the builder's risk and other policies of insurance required by Paragraph 6.05 will be adjusted and settled with the named insured that purchased the

policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.

- B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder's risk and other policies of insurance required by Paragraph 6.05 shall distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.
- C. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the money so received applied on account thereof, and the Work and the cost thereof covered by Change Order, if needed.

ARTICLE 7 – CONTRACTOR'S RESPONSIBILITIES

7.01 *Supervision and Superintendence*

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

7.02 *Labor; Working Hours*

00-73-10

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.
- B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner's written consent, which will not be unreasonably withheld.

7.03 *Services, Materials, and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start up, and completion of the Work, whether or not such items are specifically called for in the Contract Documents.
- B. All materials and equipment incorporated into the Work shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and

guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

- C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

7.04 "Or Equals"

7.04

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or equal" item is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment, or items from other proposed suppliers under the circumstances described below.

1. If Engineer in its sole discretion determines that 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, Engineer shall deem it an "or equal" item. For the purposes of this paragraph, a proposed item of material or equipment will be considered functionally equal to an item so named if:

- a. in the exercise of reasonable judgment Engineer determines that:

- 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
- 2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;
- 3) it has a proven record of performance and availability of responsive service; and
- 4) *it is not objectionable to Owner.*

- b. Contractor certifies that, if approved and incorporated into the Work:

- 1) there will be no increase in cost to the Owner or increase in Contract Times; and
- 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

- B. *Contractor's Expense:* Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.

- C. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal", which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.

- D. *Effect of Engineer's Determination:* Neither approval nor denial of an "or-equal" request shall result in any change in Contract Price. The Engineer's denial of an "or-equal" request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents.
- E. *Treatment as a Substitution Request:* If Engineer determines that an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer considered the proposed item as a substitute pursuant to Paragraph 7.05.

7.05 *Substitutes*

- A. Unless the specification or description of an item of material or equipment required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment under the circumstances described below. To the extent possible such requests shall be made before commencement of related construction at the Site.
 - 1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of material or equipment from anyone other than Contractor.
 - 2. The requirements for review by Engineer will be as set forth in Paragraph 7.05.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.
 - 3. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:
 - a. shall certify that the proposed substitute item will:
 - 1) perform adequately the functions and achieve the results called for by the general design,
 - 2) be similar in substance to that specified, and
 - 3) be suited to the same use as that specified.
 - b. will state:
 - 1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times,
 - 2) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and
 - 3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.
 - c. will identify:
 - 1) all variations of the proposed substitute item from that specified, and

- 2) available engineering, sales, maintenance, repair, and replacement services.
- d. shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.
- B. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.
- C. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- D. *Reimbursement of Engineer's Cost:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.
- E. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute at Contractor's expense.
- F. *Effect of Engineer's Determination:* If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.05.D, by timely submittal of a Change Proposal.

7.06 *Concerning Subcontractors, Suppliers, and Others*

[00-73-10]

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner.
- B. Contractor shall retain specific Subcontractors, Suppliers, or other individuals or entities for the performance of designated parts of the Work if required by the Contract to do so.
- C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against which Contractor has reasonable objection.
- D. If Owner requires the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, or both, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.

- E. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of the right of Owner to the completion of the Work in accordance with the Contract Documents.
- F. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions.
- G. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors, Suppliers, and all other individuals or entities performing or furnishing any of the Work.
- H. Contractor shall restrict all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed herein.
- I. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- J. All Work performed for Contractor by a Subcontractor or Supplier shall be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer.
- K. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor on account of Work performed for Contractor by the particular Subcontractor or Supplier.
- L. Nothing in the Contract Documents:
 - 1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier, or other individual or entity; nor
 - 2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

7.07 Patent Fees and Royalties**7.07**

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

the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.

- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

7.08 Permits

7.08

- A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work [00-73-10]

7.09 Taxes

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

7.10 Laws and Regulations

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work or other action. It shall not be Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws 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.

7.11 *Record Documents*

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

7.12 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. *Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations.* Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:
1. all persons on the Site or who may be affected by the Work;
 2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify Owner; the owners of adjacent property, Underground Facilities, and other utilities; and other contractors and utility owners performing work at or adjacent to the Site, when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.
- C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work. 00-73-10]
- D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
- E. All damage, injury, or loss to any property referred to in Paragraph 7.12.A.2 or 7.12.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone

employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

- F. Contractor's duties and responsibilities for safety and protection 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 15.06.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).
- G. Contractor's duties and responsibilities for safety and protection shall resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

7.13 *Safety Representative*

7.13

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

7.14 *Hazard Communication Programs*

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

7.15 *Emergencies*

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

7.16 *Shop Drawings, Samples, and Other Submittals*

A. *Shop Drawing and Sample Submittal Requirements:*

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

2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that submittal, and that Contractor approves the submittal.
 3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be set forth in a written communication separate from the Shop Drawings or Sample submittal; and, in addition, in the case of Shop Drawings by a specific notation made on each Shop Drawing submitted to Engineer for review and approval of each such variation.
- B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals. Each submittal will be identified as Engineer may require.
1. *Shop Drawings:*
 - a. Contractor shall submit the number of copies required in the Specifications.
 - b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.D.
 2. *Samples:*
 - a. Contractor shall submit the number of Samples required in the Specifications.
 - b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 7.16.D.
 3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.
- C. *Other Submittals:* Contractor shall submit other submittals to Engineer in accordance with the accepted Schedule of Submittals, and pursuant to the applicable terms of the Specifications.
- D. *Engineer's Review:*
1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
 2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction or to safety precautions or programs incident thereto.
 3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

4. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will document any such approved variation from the requirements of the Contract Documents in a Field Order.
 5. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 7.16.A and B.
 6. *Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, shall not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.*
 7. *Neither Engineer's receipt, review, acceptance or approval of a Shop Drawing, Sample, or other submittal shall result in such item becoming a Contract Document.*
 8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.D.4.
- E. *Resubmittal Procedures:*
1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.
 2. 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 a 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.
 3. 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.

7.17 Contractor's General Warranty and Guarantee

7.17

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on Contractor's warranty and guarantee.
- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
 1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 2. normal wear and tear under normal usage.

- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
1. observations by Engineer;
 2. recommendation by Engineer or payment by Owner of any progress or final payment;
 3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
 4. use or occupancy of the Work or any part thereof by Owner;
 5. any review and approval of a Shop Drawing or Sample submittal;
 6. the issuance of a notice of acceptability by Engineer;
 7. any inspection, test, or approval by others; or
 8. any correction of defective Work by Owner.
- D. *If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract shall govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.*

7.18 Indemnification

7.18

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable.
- B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.
- C. The indemnification obligations of Contractor under Paragraph 7.18.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:

1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

7.19 *Delegation of Professional Design Services*

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable Laws and Regulations.
- B. If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.
- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.
- D. Pursuant to this paragraph, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 7.16.D.1.
- E. Contractor shall not be responsible for the adequacy of the performance or design criteria specified by Owner or Engineer.

ARTICLE 8 – OTHER WORK AT THE SITE

ARTICLE 8

8.01 *Other Work*

- A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.
- B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any utility work at or adjacent to the Site, Owner shall provide such information to Contractor.[00-73-10]

- C. Contractor shall afford each other contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected.
- D. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 8, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

8.02 Coordination

8.02

- A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work: General Requirements 01-10-00
 - ~~1. the identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;~~
 - ~~2. an itemization of the specific matters to be covered by such authority and responsibility; and~~
 - ~~3. the extent of such authority and responsibilities.~~
- ~~B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.~~

8.03 Legal Relationships

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

Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

- B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due to Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this paragraph.
- C. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due to Contractor.
- D. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

ARTICLE 9 – OWNER'S RESPONSIBILITIES

ARTICLE 9

9.01 *Communications to Contractor*

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

9.02 *Replacement of Engineer*

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

9.03 *Furnish Data*

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

9.04 *Pay When Due*

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

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

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

9.06 *Insurance*

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

9.07 *Change Orders*

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

9.08 *Inspections, Tests, and Approvals***9.08**

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

9.09 *Limitations on Owner's Responsibilities*

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

9.10 *Undisclosed Hazardous Environmental Condition*

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

9.11 *Evidence of Financial Arrangements*

- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents (including obligations under proposed changes in the Work).

9.12 *Safety Programs**[00-73-10]*

- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed.
- ~~B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.~~

ARTICLE 10 – ENGINEER'S STATUS DURING CONSTRUCTION**ARTICLE 10**10.01 *Owner's Representative*

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

10.02 Visits to Site

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.
- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 10.08. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

10.03 Project Representative

- A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 10.08. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent, or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

10.04 Rejecting Defective Work

- A. Engineer has the authority to reject Work in accordance with Article 14.

10.05 Shop Drawings, Change Orders and Payments

- A. Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, are set forth in Paragraph 7.16.
- B. Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, are set forth in Paragraph 7.19.
- C. Engineer's authority as to Change Orders is set forth in Article 11.
- D. Engineer's authority as to Applications for Payment is set forth in Article 15.

10.06 Determinations for Unit Price Work

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

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

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

10.08 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.
- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 15.06.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.
- E. The limitations upon authority and responsibility set forth in this Paragraph 10.08 shall also apply to the Resident Project Representative, if any.

10.09 *Compliance with Safety Program*

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

ARTICLE 11 – AMENDING THE CONTRACT DOCUMENTS; CHANGES IN THE WORK**ARTICLE 11****11.01** *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 the Engineer. Such an amendment shall be set forth in a Change Order.
2. *Work Change Directives:* A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.04 regarding change of Contract Price. 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 completion of the Work set out in the Work Change Directive. 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:* Engineer may authorize minor changes in the Work if the changes do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly. 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.

11.02 *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. 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 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.

11.03 *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 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.

11.04 *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 11.06. Any Claim for an adjustment of Contract Price shall comply with the provisions of Article 12.
- B. An adjustment in the Contract Price will be determined as follows:
1. where the Work involved is covered by unit prices contained in the Contract Documents, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03); 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 11.04.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 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.04.C).
- C. *Contractor's Fee*: When applicable, the Contractor's fee for overhead and profit shall be determined as follows:
1. a mutually acceptable fixed fee; or
 2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. for costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2, the Contractor's fee shall be 15 percent;
 - b. for costs incurred under Paragraph 13.01.B.3, the Contractor's fee shall be five percent;
 - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.01.C.2.a and 11.01.C.2.b is that the Contractor's fee shall be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.A.1 and 13.01.A.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 five percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted work the maximum total fee to be paid by Owner 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 13.01.B.4, 13.01.B.5, and 13.01.C;
 - e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and

- f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 11.04.C.2.a through 11.04.C.2.e, inclusive.

11.05 Change of Contract Times**11.05**

- 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 11.06. Any Claim for an adjustment in the Contract Times shall comply with the provisions of Article 12.
- B. An adjustment of the Contract Times shall be subject to the limitations set forth in Paragraph 4.05, concerning delays in Contractor's progress.

11.06 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 seek 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.*
 - 1. *Procedures:* Contractor shall submit each Change Proposal to Engineer promptly (but in no event later than 30 days) after the start of the event giving rise thereto, or after such initial decision. The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal. 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 the 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 Article 12.
 - 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 Article 12.
- 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 the 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 Article 12.

11.07 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 11.02, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters; and
 4. changes in the Contract Price or Contract Times, or other changes, which embody the substance of any final and binding results under Paragraph 11.06, or Article 12.
- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of this Paragraph 11.07, it shall be deemed to be of full force and effect, as if fully executed.

11.08 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 12 – CLAIMS**ARTICLE 12****12.01 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 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim 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:* [00-73-10]
- ~~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 17 for final resolution of disputes.
- F. *Denial of Claim:* If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim shall be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.
- G. *Final and Binding Results:* If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim 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 13 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

ARTICLE 13

13.01 Cost of the Work

- A. *Purposes for Determination of Cost of the Work:* The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:
1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or
 2. 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 13.01.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. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
 3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.
 4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
 5. Supplemental costs including the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

- c. ~~Rentals of all construction equipment and machinery, and the parts thereof, whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.~~ [00 73 10]
- d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
- e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
- f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 6.05), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.
- g. The cost of utilities, fuel, and sanitary facilities at the Site.
- h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.
- i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.
- C. *Costs Excluded:* The term Cost of the Work 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 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.
 2. 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 13.01.B.
- D. *Contractor's Fee*: When the Work as a whole is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order, 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 11.04.C.
- E. *Documentation*: Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

13.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.
- B. *Cash Allowances*: Contractor agrees that:
 1. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
 2. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment 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.

13.03 Unit Price Work

13.03

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual

conditions or more accurate data) upon Owner and Contractor, subject to the provisions of the following paragraph.

~~E. Within 30 days of Engineer's written decision under the preceding paragraph, Contractor may submit a Change Proposal, or Owner may file a Claim, seeking an adjustment in the Contract Price if:~~

- ~~1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement;~~
- ~~2. there is no corresponding adjustment with respect to any other item of Work; and~~
- ~~3. Contractor believes that it is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price, and the parties are unable to agree as to the amount of any such increase or decrease.~~

00-73-10

ARTICLE 14 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORKARTICLE 14

14.01 Access to Work

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

14.02 Tests, Inspections, and Approvals

- A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
- B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work shall be governed by the provisions of Paragraph 14.05.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.
- D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:
1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;
 2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;
 3. by manufacturers of equipment furnished under the Contract Documents;

4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

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

- E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.
- F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering shall be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to cover the same and Engineer had not acted with reasonable promptness in response to such notice.

14.03 *Defective Work*

14.03

- A. Contractor's Obligation: It is Contractor's obligation to assure that the Work is not defective.
- B. Engineer's Authority: Engineer has the authority to determine whether Work is defective, and to reject defective Work.
- C. Notice of Defects: Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.
- D. Correction, or Removal and Replacement: Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.
- E. Preservation of Warranties: When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.
- F. Costs and Damages: In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs, losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

14.04 *Acceptance of Defective Work*

14.04

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner's

evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work shall be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

14.05 *Uncovering Work*

- A. Engineer has the authority to require special inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.
- B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.
- C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, and provide all necessary labor, material, and equipment.
 - 1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.
 - 2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

14.06 *Owner May Stop the Work*

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

14.07 *Owner May Correct Defective Work*

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, then Owner may, after seven days written notice to Contractor, correct or remedy any such deficiency.

- B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.
- C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.
- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 14.07.

ARTICLE 15 – PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD**ARTICLE 15****15.01 Progress Payments**

- A. *Basis for Progress Payments:* The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.
- B. *Applications for Payments:*
 - 1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens, and evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.
 - 2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
 - 3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

C. *Review of Applications:*

1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:
 - a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and
 - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
 - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or
 - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
 - a. to supervise, direct, or control the Work, or
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
 - d. to make any examination to ascertain how or for what purposes Contractor has used the money paid on account of the Contract Price, or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.

5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.
 6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:
 - a. the Work is defective, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;
 - c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - d. is a Hazardous Environmental Condition for which Contractor is responsible; or
 - e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.
- D. *Payment Becomes Due:* [00-73-10]
1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.
- E. *Reductions in Payment by Owner:*
1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:
 - a. claims have been made against Owner on account of Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages on account of Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;
 - b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;
 - c. Contractor has failed to provide and maintain required bonds or insurance;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
 - e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;
 - f. the Work is defective, requiring correction or replacement;
 - g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - h. the Contract Price has been reduced by Change Orders;
 - i. an event that would constitute a default by Contractor and therefore justify a termination for cause has occurred;

- j. liquidated damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;
 - k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
 - l. there are other items entitling Owner to a set off against the amount recommended.
2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed shall be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.
 3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 15.01.C.1 and subject to interest as provided in the Agreement.

15.02 *Contractor's Warranty of Title*

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

15.03 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor. [00-73-10]
- C. If 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 seven days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver

to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.

- D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.
- E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.
- F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

15.04 *Partial Use or Occupancy*

15.04

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:
 - 1. At any time Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through E for that part of the Work.
 - 2. At any time Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
 - 3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 15.03 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
 - 4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 6.05 regarding builder's risk or other property insurance.

15.05 *Final Inspection*

15.06

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

15.06 *Final Payment*A. *Application for Payment:*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, annotated record documents (as provided in Paragraph 7.11), and other documents, Contractor may make application for final payment.
2. The final Application for Payment shall be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents;
 - b. consent of the surety, if any, to final payment;
 - c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.
 - d. a list of all disputes that Contractor believes are unsettled; and
 - e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.

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

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the Application for Payment to Owner for payment. Such recommendation shall account for any set-offs against payment that are necessary in

Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to the provisions of Paragraph 15.07. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

- C. *Completion of Work*: The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment.
- D. *Payment Becomes Due*: Thirty days after the presentation to Owner of the final Application for Payment and accompanying documentation, the amount recommended by Engineer (less any further sum Owner is entitled to set off against Engineer's recommendation, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions above with respect to progress payments) will become due and shall be paid by Owner to Contractor.

15.07 *Waiver of Claims*

15.07

- A. The making of final payment will not constitute a waiver by Owner of claims or rights against Contractor. Owner expressly reserves claims and rights arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 15.05, from Contractor's failure to comply with the Contract Documents or the terms of any special guarantees specified therein, from outstanding Claims by Owner, or from Contractor's continuing obligations under the Contract Documents.
- B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted or appealed under the provisions of Article 17.

15.08 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents, or by any specific provision of the Contract Documents), any Work is found to be defective, or if the repair of any damages to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas used by Contractor as permitted by Laws and Regulations, is found to be defective, then Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
 1. correct the defective repairs to the Site or such other adjacent areas;
 2. correct such defective Work;
 3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting therefrom.
- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all claims, costs, losses, and damages (including but not

limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others).

- C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.
- E. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

ARTICLE 16 – SUSPENSION OF WORK AND TERMINATION

ARTICLE 16

16.01 *Owner May Suspend Work*

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension. Any Change Proposal seeking such adjustments shall be submitted no later than 30 days after the date fixed for resumption of Work.

16.02 *Owner May Terminate for Cause*

- A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:
 1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule);
 2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;
 3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or
 4. Contractor's *repeated* disregard of the authority of Owner or Engineer.
- B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) ten days written notice that Owner is considering a declaration that Contractor is in default and termination of the contract, Owner may proceed to:
 1. declare Contractor to be in default, and give Contractor (and any surety) notice that the Contract is terminated; and
 2. enforce the rights available to Owner under any applicable performance bond.
- C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take

possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.

- D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within seven days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
- E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.
- F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.
- G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond shall govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

16.03 *Owner May Terminate For Convenience*

16.03

- A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
 - 1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 - 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and
 - 3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.
- B. Contractor shall not be paid on account of loss of anticipated overhead, profits, or revenue, or other economic loss arising out of or resulting from such termination.

16.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then

Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.

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

ARTICLE 17 – FINAL RESOLUTION OF DISPUTES

ARTICLE 17

17.01 *Methods and Procedures*

[00-73-10]

- 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, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

ARTICLE 18 – MISCELLANEOUS

18.01 *Giving Notice*

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:
1. delivered in person, by a commercial courier service or otherwise, to the individual or to a member of the firm or to an officer of the corporation for which it is intended; or
 2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the sender of the notice.

18.02 *Computation of Times*

- A. When any period of time is referred to in the Contract by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period

falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

18.03 *Cumulative Remedies*

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

18.04 *Limitation of Damages*

18.04

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

18.05 *No Waiver*

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

18.06 *Survival of Obligations*

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

18.07 *Controlling Law*

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

18.08 *Headings*

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

SUPPLEMENTARY CONDITIONS

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract (No. C-700, 2013 Edition) and other provisions of the Contract Documents as indicated below. All provisions which are not so amended or supplemented remain in full force and effect.

The terms used in these Supplementary Conditions have the meanings stated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below, which are applicable to both the singular and plural thereof.

The address system used in these supplementary Conditions is the same as the address system used in the General Conditions, with the prefix "SC" added thereto.

ARTICLE 1 - DEFINITIONS AND TERMINOLOGY**SC 1.01 *Defined Terms***

Add to the list of definitions in Paragraph 1.01.A by inserting the following as numbered items in their proper alphabetical positions:

Controlling Operation—The operation that, if delayed at the time of consideration, would delay the completion of the entire project. The controlling operation will be identified approved progress schedule developed by the Contractor.

General Requirements--Sections of Division 1 of the Specifications. The General Requirements pertain to all sections of the Specifications.

- A. "owner" – an individual, entity, not party to this Contract, owning and/or operating a physical structure/system.

ARTICLE 2 - PRELIMINARY MATTERS

SC2.01B Delete paragraph C in its entirety. "*Evidence – Owner's Insurance*"

ARTICLE- 4 COMMENCEMENT AND PROGRESS OF THE WORK

SC-4.05C Add the following language at the end of subparagraph 4.05C2

- a. If, during a calendar month, the Contractor is prevented from working on the Controlling Operation because of abnormal weather conditions in excess of the five-day, five (5) year average of local NOAA Weather Service data for the respective period.
- b. the Contractor may request an extension of time. Workdays will be converted to Calendar days by a multiplier of 1.4.

ARTICLE-5 AVAILABILITY OF LANDS, SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

SC-5.03 Delete Paragraphs 5.03.A and 5.03.B in their entirety and insert the following:

- A.4 Known Reports/Drawings, if any, are listed in Section 00-31-00 Available Information.

SC – 5.05C Add following new sub paragraph 5.05 C.1

1. For the purposes of this Paragraph 5.05.B, "reasonable accuracy" shall mean that the actual location of the underground utility is within 18 inches of the outer edge of the Underground Facility shown on the Plans or marked in the field.

SC-5.05 Add F, G the following new Paragraphs immediately after 5.05E:

- F. Underground Facilities Owned By Owner or a Public Corporation Assessed By the Owner.

In the event that the Owner of such Underground Facility is the Owner or is a public corporation assessed by the Owner for the cost of the Work, if the Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. Contractor will conclusively be presumed to know of any Underground Facility reflected in the Plans or as staked in the field from Miss Dig records. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefore as provided in Paragraph 12.01.

AND...

- G. **Underground Facilities Not Owned By Owner or a Public Corporation By the Owner.**
 In the event that the Owner of such Underground Facility is not the Owner or a public corporation assessed by the Owner for the cost of the Work, if the Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Time, to the extent that is attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. Contractor will be conclusively be presumed to know of any Underground Facility reflected in the Plans or as staked in the field from Miss Dig records. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Times, Owner or Contractor may make a Claim therefore as provided in Paragraph 12.01. In no case shall Contractor have a Claim against Owner or a public corporation assessed by the Owner for the cost of the Work for extra costs associated with such Underground Facility and Contractor’s remedy, if any, for such costs shall be against other third parties.

SC-5.06 Delete Paragraphs 5.06.A and 5.06.B in their entirety and insert the following:

- A. No reports or drawings related to Hazardous Environmental Conditions are known to Owner or Engineer.
- B. Not Used.

ARTICLE 6 - BONDS AND INSURANCESUPPLEMENTARY CONDITIONS- Insurance 00-73-16

ARTICLE 7 – CONTRACTOR’S RESPONSIBILITIES

SC-7.02B Delete 3rd sentence and add the following new subparagraphs.

- 1. Allowable work hours: Contractor is required to peruse Work only during the hours of daylight. No work will be permitted at night from 10:00 P.M. to 7:00 A.M., on /Sundays or on Holidays without written approval of the Engineer. For proposed Saturday work, the Contractor shall notify the Engineer, by noon of the prior Thursday, when such time is to be scheduled.
- 2. Allowable work hours for specific items of Work will be further limited as noted in “Permits” detailed in General Requirements, Section 01 41 00.

SC-7.06A Add the following new subparagraph immediately after Paragraph 7.06.A.

- 1. The Contractor shall perform, with its own organization, contract Work amounting to not less than 40 percent of the total cost, except that any items designated in the contract as “Specialty Items” [*mechanical, electrical*] may be performed by subcontract and the cost of any such Specialty Items so performed may be deducted from the total contract cost before computing the amount of work required to be performed by the Contractor with its own organization.

SC-7.08A Following subparagraph A.1

1. Major Permits are listed in the “General Requirements” Division [01 41 26 Regulatory Requirements]

SC7.12C Add new subparagraph C.1 following paragraph 7.12C

- C.1 Owner does not have a Safety Program applicable to the Work

ARTICLE 8 – OTHER WORK AT THE SITE

SC-8.01B - Add the following new sub paragraph immediately after Paragraph 8.01A.

- B1. Other work that may be performed at the Site:
are further described in the General Requirements; 01-14-16 Work restrictions

ARTICLE 12- CLAIMS

SC12.01 Delete Paragraph 12.01 D in its entirety and insert the following;

- D. Meet to Confer and Negotiate
 1. Engineer’s action under Paragraph 11.06A.2 of General Conditions shall become final and binding 30 days after receipt of written notice of Engineer’s action or decision unless, within that time period, Owner or Contractor gives to the other party written notice of intent to submit the Claim to a process of bilateral negotiations as set forth below.
 2. Within 30 days of the delivery of such notice, Owner and Contractor shall meet and confer regarding the Claim. A good-faith effort to negotiate resolution shall be made by both parties.
 3. If the negotiations contemplated by Paragraph SC-12.01D2 are unsuccessful, management representatives of Owner and Contractor at least one tier above the individuals who met under SC-12.01D.2 shall meet, confer, and negotiate within 30 days of the closure of the unsuccessful negotiations.

ARTICLE 13 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

SC-13.01.B.5.c. Delete Paragraph 13.01.B.5.c in its entirety and insert the following in its place:

- c..Construction Equipment and Machinery:
 - 1) Rentals of all construction equipment and machinery, and the parts thereof 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.
 - 2) Costs for equipment and machinery owned by Contractor will be paid at a rate shown for such equipment in the [*“Rental Rate Blue Book for Construction Equipment” by Equipment watch.*]. An hourly rate will be computed by dividing the monthly rates by 176. These computed rates will include all operating costs. Costs will include the time the equipment or machinery is in use on the changed Work and the costs of transportation, loading, unloading, assembly, dismantling, and removal when directly attributable to the changed Work. The cost of any such equipment or machinery, or parts thereof, shall cease to accrue when the use thereof is no longer necessary for the changed Work. Equipment or machinery with a value of less than \$1,000 will be considered small tools.

SC-13.03.E Delete Paragraph 13.03.E in its entirety and insert the following in its place:

- E. The unit price of an item of Unit Price Work shall be subject to reevaluation and adjustment under the following conditions:
 1. If the extended price of a particular item of Unit Price Work amounts to five (5) percent of more of the Contract Price(based on estimated quantities at time of contract formation) and the variation in the quantity of that particular item of Unit Price Work performed by Contractor differs by more than twenty five (25) percent from the estimated quantity of such

- item indicated in the Agreement; and
- 2. If there is no corresponding adjustment with respect to any other item of Work; and
- 3. If Contractor believes that Contractor has incurred additional expense as a result thereof, Contractor may submit a Change Proposal, or if Owner believes that the quantity variation entitles Owner to an adjustment in the unit price, Owner may make a Claim, seeking an adjustment in the Contract Price.

ARTICLE 15 PAYMENTS TO CONTRACTOR AND COMPLETION

SC 15.01D. amend the first sentence to read as follows:

- 1. Thirty 30 days ~~ten days~~ after presentation..... paid by Owner to Contractor.

SC 15.03.B Add the following new subparagraph to Paragraph 15.03.B:

- 1. If some or all of the Work has been determined not to be at a point of Substantial Completion and will require re-inspection or re-testing by Engineer, the cost of such re-inspection or re-testing, including the cost of time, travel and living expenses, shall be paid by Contractor to Owner. If Contractor does not pay, or the parties are unable to agree as to the amount owed, then Owner may impose a reasonable set-off against payments due under Article 15.

ARTICLE 17 DISPUTE RESOLUTION

SC-17.01B Delete Paragraph 17.01B in its entirety and insert the following.

SC-17.02 Arbitration final resolution under this Article will be decided by arbitration in accordance with the rules of the American Arbitration Association.

- A. All matters shall be in accordance with rules for ‘Construction Disputes of the American Arbitration Association, Southfield, Michigan, subject to the conditions and limitations of this paragraph. This agreement to arbitrate and any other agreement or consent to arbitrate entered into will be specifically enforceable under the prevailing law of any court having jurisdiction.
- B. The demand for arbitration will be filed in writing with the other party to the Contract and with the selected arbitrator or arbitration provider, and a copy will be sent to Engineer for information. The demand for arbitration will be made within the 30 day period specified in paragraph SC12.01.D, the specific time required in this Article, or if no specified time is applicable within a reasonable time after the matter in question has arisen, and in no event shall any such demand be made after the date when institution of legal or equitable proceedings based on such matter in question would be barred by the applicable statute of limitations. The demand for arbitration should include specific reference to Paragraph SC-17.02.D below.
- C. No arbitration arising out of or relating to the Contract shall include by consolidation, joinder, or in any other manner any other individual or entity (including Engineer, and Engineer’s consultants and the officers, directors, partners, agents, employees or consultants of any of them) who is not a party to this Contract unless:
 - 1. the inclusion of such other individual or entity is necessary if complete relief is to be afforded among those who are already parties to the arbitration; and
 - 2. such other individual or entity is substantially involved in a question of law or fact which is common to those who are already parties to the arbitration and which will arise in such proceedings.
- D. The award rendered by the arbitrator(s) shall be consistent with the agreement of the parties, in writing, and include a concise breakdown of the award, and a written explanation of the award specifically citing the Contract provisions deemed applicable and relied on in making the award.

- E. The award will be final. Judgment may be entered upon it in any court having jurisdiction thereof, and it will not be subject to modification or appeal, subject to provisions of the Laws and Regulations relating to vacating or modifying an arbitral award.
- F. The fees and expenses of the arbitrators and any arbitration service shall be shared equally by Owner and Contractor.

SC-17.03 Attorneys' Fees

- A. For any matter subject to final resolution under this Article, the prevailing party shall be entitled to an award of its attorneys' fees incurred in the final resolution proceedings, in an equitable amount to be determined in the discretion of the court, arbitrator, arbitration panel, or other arbiters of the matter subject to final resolution, taking into account the parties' initial demand or defense positions in comparison with the final result.

END OF SECTION

SUPPLEMENTARY CONDITIONS Insurance Requirements

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract (No. C-700, 2013 Edition) and other provisions of the Contract Documents as indicated below. All provisions which are not so amended or supplemented remain in full force and effect.

The terms used in these Supplementary Conditions have the meanings stated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below, which are applicable to both the singular and plural thereof.

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

ARTICLE 2- PRELIMINARY MATTERS

SC2.01 Delivery of Bonds and Evidence of Insurance

If Owner requires insurance policies rather than certificates ACCORD forms THEN

SC 2.01B Delete Paragraphs 2.01 B. in its entirety and insert the following in their place:

B. Evidence of Contractor’s Insurance: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner copies of the policies of insurance (including all endorsements, and identification of applicable self-insured retentions and deductibles) required to be provided by Contractor in Article 6. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.

SC 2.01C Delete Paragraph 2.01 C. in its entirety

ARTICLE 6 – BONDS AND INSURANCE

SC 6.03 C.1 Products and Completed Operation

a & b: Replace “three years” with one year.

F. Contractor’s Pollution Liability Insurance

Replace “three years” with one year

SC 6.03A Workers’ Compensation

Delete sub paragraphs “3” and “4“

SC 6.03J Add the following new paragraph immediately after Paragraph 6.03.J:

K. The limits of liability for the insurance required by Paragraph 6.03 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:

1. Workers’ Compensation, and related coverages, under Paragraphs 6.03.A.1 and A.2 of the General Conditions:

State: Statutory

Federal, if applicable (e.g., Longshoreman’s): Statutory

Foreign voluntary worker’s compensation (employer’s responsibility coverage), if applicable Statutory

Employer's Liability:

Bodily injury, each accident	\$ <u>1,000,000</u>
Bodily injury by disease, each employee	\$ <u>1,000,000</u>
Bodily injury/disease aggregate	\$ <u>1,000,000</u>

2. Contractor's Commercial General Liability under Paragraphs 6.03.B and 6.03.C of the General Conditions:

General Aggregate	\$ <u>2 000 000</u>
Products - Completed Operations Aggregate	\$ <u>2 000 000</u>
Personal and Advertising Injury	\$ <u>1,000,000</u>
Each Occurrence (Bodily Injury and Property Damage)	\$ <u>1,000,000</u>

3. Automobile Liability under Paragraph 6.03.D. of the General Conditions:

Combined Single Limit of	\$ <u>1,000,000</u>
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4. Excess or Umbrella Liability:

Per Occurrence	\$ <u>2,000,000</u>
General Aggregate	\$ <u>2,000,000</u>

5. Contractor's Pollution Liability:

Each Occurrence	\$ <u>1,000,000</u>
General Aggregate	\$ <u>2,000,000</u>

6. Additional Insureds: In addition to Owner and Engineer, include as additional insureds the following: *to be included on the commercial general liability, automobile liability, umbrella or excess, and pollution liability policies as additional insureds:*

DLZ Michigan, Inc.

SC-6.04 Owner’s Liability Insurance

SC- 6.04A Delete paragraph 6.04A and insert the following in its place.

A. In addition to the insurance required to be provided by Contractor under paragraph 6.03, the Contractor shall purchase and maintain at his expense Owner’s Protective Liability insurance as will protect Owner, its officers, agents and employees, against claims which may arise from operations under the Contract Documents.

\$1,000,000	Per Occurrence
\$2,000,000	Aggregate

1. Said insurance is to provide coverage for the contingent liability of the Owner for personal injury and property damage arising out of the Work performed by the Contractor and all Sub-Contractors (including sub-subcontractors), including loss due to perils of explosion, collapse and underground hazards.

SC 6.05Property Insurance

SC-6.05.A. Delete Paragraph 6.05.A of the General Conditions and substitute the following in its place:

A. Contractor shall provide and maintain installation floater insurance for property under the care, custody, or control of Contractor. The installation floater insurance shall be a broad form or “all risk” policy providing coverage for all materials, supplies, machinery, fixtures, and equipment that will be incorporated into the Work. Coverage under the Contractor’s installation floater will include:

1. any loss to property while in transit,
2. any loss at the Site, and
3. any loss while in storage, both on-site and off-site.

Coverage cannot be contingent on an external cause or risk, or limited to property for which the Contractor is legally liable. The Contractor will be solely responsible for any deductible carried under this coverage and claims on materials, supplies, machinery, fixture, and equipment that will be incorporated into the Work while in transit or in storage. This policy will include a waiver of subrogation applicable to Owner, Contractor, Engineer, all Subcontractors, and the officers, directors, partners, employees, agents and other consultants and subcontractors of any of them.

END OF SECTION

Triangle Pathway

ADDENDUM NO. X . . . [date]

THIS IS AN ADDENDUM

TO PROSPECTIVE BIDDERS AND OTHERS CONCERNED:

This addendum amends or supplements the Procurement Section, Drawings and other provisions of the Contract Documents as indicated below. All provisions which are not so amended or supplemented remain in full force and effect.

The terms used in this Addendum have the meanings stated in the General Conditions. Additional terms used in this Addendum have the meanings stated below, which are applicable to both the singular and plural thereof.

- I. PROCUREMENT
- II. DRAWINGS
- III. CONTRACT DOCUMENTS
 - A. GENERAL REQUIREMENTS
 - B. TECHNICAL SPECIFICATIONS

Prospective bidders shall attach this Addendum page to their proposal and shall sign the Addendum and submit same with bid and shall enter Addendum Number and date on the Bid Form. Failure to include signed Addendum with bid proposal shall be cause for rejection of bid.

(Bidder)

By: _____

Date: _____

Title: _____

*[Note to user: Section number 00-91-0X where "X" is the addendum #,
also page number 00-91-0N-1 where "N" is addendum #]*

CHARTER TOWNSHIP OF WHITE LAKE

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01 10 00 SUMMARY OF WORK**01 10 00**

WORK COVERED BY CONTRACT DOCUMENTS:

- A. Descriptions: Triangle Pathway
1. The project includes 2,300 lineal feet of 5-foot-wide concrete pathway along Teggerdine Road from Highland Road South to Elizabeth Lake Road, 1,000 lineal feet of 8-foot-wide asphalt pathway along Highland Road from Teggerdine Road West to POB and 735 lineal feet of 6-foot-wide asphalt pathway along Elizabeth Lake Road from Teggerdine Road West to POB.
 2. Traffic Control
 3. Restoration
- B. Coordination:
1. Project Coordination: The Contractor shall be responsible for coordinating the Work of the entire Project.
 2. Construct Work in accordance with the construction schedules specified under Section 01-33-00 Submittals, as approved by the Owner and Engineer.

WORK BY OWNER

The Work shall proceed in a manner to cause minimum disruption to the Owner's operation and the Public.

- A. The Owner will not be performing work at the site.

01 12 00 MULTIPLE CONTRACTS**01 12 00**

SUMMARY OF CONTRACTS

The Owner has awarded the following contracts for installation of equipment and processes listed:

- A. N/A

01 14 00 WORK RESTRICTIONS**01 14 00**

ACCESS TO SITE

In his operations, the Contractor shall interfere as little as possible with traffic, and in all cases shall confine his operations to the minimum space possible. Stockpiling of construction material and equipment will be permitted as necessary; but in no case shall traveled ways, driveways, or entrances be obstructed.

Contractor shall be responsible for his staging areas. Leasing/renting of areas and the restoration of surface areas shall be his responsibility. Costs related for leasing/renting and restoration shall be incidental to the Work.

SEASONAL LIMITATIONS

Work causing the removal and replacement of asphalt (HMA) roadway surfaces shall not occur when the specified materials are not produced, normally late fall and winter.

 USE OF SITE

A. EASEMENTS

The necessary rights-of-way and easements for construction across or under private properties have been, or will be obtained by the Owner. In carrying out the work within private rights-of-way and easements, the Contractor shall take due and proper precautions against any injury to adjacent properties and structures and shall comply with the conditions outlined in the easement, and/or right-of-way, agreements included in the contract.

B. Additional Easements, Permanent and Temporary:

1. Have been obtained for the work areas indicated on the drawing and are further listed below.
 - a. N/A

C. PUBLIC R.O.W. PERMITS

The Contractor shall obtain permits to construct within public rights-of-way and the Contractor shall also furnish any bonds and insurance which may be required. 01-41-00

- Road Commission for Oakland County: Right of Way Permit.
- MDOT Right of Way Permit – for Bid Alternate #1 M-59 Pathway Section.

D. SOIL EROSION AND SEDIMENTATION CONTROL PERMITS

The Contractor shall obtain the Oakland County Water Resources Commissioner: Soil Erosion and Sedimentation Control (SESC) Permit.

01 18 00 PROJECT UTILITY SOURCES**01 18 00**

All work in connection with public and/or private utilities required in the execution of the contract shall be the responsibility of the Contractor.

Public Utilities shall include, but shall not necessarily be limited to: storm drainage facilities, sewerage systems, and water (supply, transmission and/or distribution) systems, and other utilities under the jurisdiction of a governmental unit.

Private Utilities shall include, but shall not necessarily be limited to: all utilities under the jurisdiction of the Michigan Public Service Commission.

The location of existing public and/or private utilities shown on the plans is in accordance with the best information available. No guarantee is given that the locations are absolutely accurate or that utilities other than those shown are not present. The Contractor shall, in any event, protect or have relocated, all utilities that might interfere with construction.

In the event existing utilities are encountered along the line of the work, the Contractor shall perform his operations in such a manner that utility services will not be interrupted and shall, at his own expense, make all temporary provisions to maintain such utility service.

Any work on public utilities, such as removal and replacement thereof (including chlorination and pressure testing of water mains) shall be done only with the agency or department in charge of the utility being fully informed 48 hours in advance of the work and having an inspector on the site during the work. Opening and/or closing of gate valves shall be performed by the local water department.

Whenever, in the opinion of the Engineer, utilities need not be removed or relocated, but can be maintained or secured without interfering with the proper execution of the work, such maintenance shall be performed by the Contractor or shall be arranged for by the Contractor with the utilities concerned. The work shall be accomplished at the Contractor's expense in such a manner as to secure the safety of the utility involved and the work under construction.

If the Contractor neglects to restore or repair damaged or injured public or private utilities or structures, the Owner may, upon recommendation by the Engineer and upon 48 hours written notice to the Contractor, proceed to restore or make good such damage or injury and deduct the cost thereof from any monies that are, or may become, due the Contractor for the work under this contract.

All costs in connection with the above work, including inspection by the municipality and/or other authority (public or private) having jurisdiction, shall be considered as incidental to the contract price except as otherwise provided herein.

UTILITY PROTECTION

The Contractor shall submit notice of the date and time when he intends to begin work in an area, 72 hours/three (3) working days in advance of construction, to the owner(s) of those private utilities located in the area of the proposed construction. The Contractor shall also, at such time, request that the actual location of existing private utilities be confirmed by the owner(s) thereof.

Determining the existence and location of underground and overhead utilities and their protection shall be the responsibility of the Contractor.

The Contractor shall call MISS DIG. 1-800-482-7171.also;
Contractor shall call 811 for 'National Pipeline Mapping.

01 21 00 ALLOWANCES**01 21 00**

This section includes requirements for processing and handling specific products and/or services.

A. General:

Include in the Contract Sum all allowances stated in the Contract Documents. Designate in the construction schedules the delivery dates for Products specified under each allowance.

1. Related requirements include:
 - a. Specific Product / Service Specification.
 - b. Submittals Section 01 33 00.
2. Specific Allowances for this Project are:

a. Permit Allowance	<u>\$5,000.00</u>
b. SESC Permit Allowance	<u>\$5,000.00</u>
c. Testing Allowance	<u>\$7,500.00</u>
2. Specific Allowances for the Bid Alternate – M-59 Pathway Section

a. Permit Allowance	<u>\$5,000.00</u>
b. SESC Permit Allowance	<u>\$5,000.00</u>
c. Testing Allowance	<u>\$7,500.00</u>

B. Definition:

1. Allowance for Products:
 - a. The amount of each allowance includes:
 - 1) The cost of the product to the Contractor, less any applicable trade discounts.
 - 2) Delivery to the Project site.
 - 3) Applicable taxes.
 - b. In addition to the amount of each allowance, include as incidental in the Contract Sum the Contractor's costs for:
 - 1) Handling at the Project site; including unloading, uncrating, and storage.
 - 2) Protection from the elements and from damage.
 - 3) Labor for installation and finishing except where labor is specified as part of the allowance.
 - 4) Other expenses required to complete the installation.
2. Allowance for Services:
 - a. The amount of each allowance includes:
 - 1) The cost of the services to the Contractor.
 - b. The Contractor's costs for processing and paying approved service provides invoices that are incidental to the Contract.

C. Selection of Allowances:

1. The Engineer shall consult with the Contractor in consideration of Products/Services. Make selection in consultation with the Owner. Obtain Owner's written decision, designating, transmitting Owner's decision to the Contractor and prepare Change Orders as necessary.
2. The Contractor shall notify the Engineer of:
 - a. Any reasonable objection Contractor may have against any supplier or party under consideration for installation.
 - b. Any affect of the Construction Schedule anticipated by selections under consideration.

D. Administration:

1. Contractor's responsibility for delivery and installation:
 - a. Arrange for and process Shop Drawings, Product Data and Samples, as required, and submit to Engineer.
 - b. Upon delivery of Products to Project site, promptly inspect Products for damage or defects.
 - c. Submit to Owner/Engineer claims for transportation damage.
 - d. Install and finish products in compliance with requirements of referenced Specifications sections.
2. Adjustment of costs:

- a. Should the net costs be more or less than the specified amount of the allowances, the Contract Sum will be adjusted accordingly by Change Order.
- b. At contract closeout, reflect all approved changes in contract amounts in the final statement of accounting.

01 22 00 UNIT PRICES 01 22 00

01 22 13 Method of Measurement 01 22 13

A. General

Quantities of work completed under the contract will be measured by the Engineer according to United States standard measures unless otherwise noted.

Quantities of materials furnished and of work performed under the contract will be determined by methods of measurement and computations that are generally recognized as conforming to good engineering practice.

Aggregates furnished and measured by weight will be paid including an allowance for moisture of up to six [6%] percent moisture. Where aggregate field tests indicate moisture content is greater than 6%, a payment adjustment shall be made. The excess weight above 6% moisture shall be deducted from the scale weights.

All items of work for this contract will be measured in units as indicated on the Proposal and as noted herein. CF, cubic feet; CYD, cubic yard; EA, each; LS., lump sum; LF., linear feet; SYD, square yard; SF., square feet; CF, cubic feet; T, Ton (2000 lb.); AC, acre 43560 sf.

01 22 16 LUMP SUM AND UNIT PRICE PAY ITEMS 01 22 16

BASE BID - LUMP SUM PAY ITEMS

Item No. "19 & 43" RESTORATION

Payment for this item shall include all material, equipment, and labor to furnish and install restoration items as indicated on the Drawings and/or as directed by the Engineer. Restoration shall include ditching, grading, topsoiling, landscaping, seeding and fertilizing. This item will include the restoration of all areas disturbed by the Contractor. This work shall be done in accordance with methods and materials as outlined with the Charter Township of White Lake, Oakland County Water Resources Commissioner, and Road Commission of Oakland County specifications. The completed work shall be measured and paid for at the contract unit price; Square Yard (SYD).

Item No. "44" TRAFFIC CONTROL AND SIGNAGE

Payment for this item shall include all material, equipment, labor to furnish, install, maintain, and remove traffic control measures and signage. This work shall be done in accordance with methods and materials as outlined with the Charter Township of White Lake, Michigan Uniform Traffic Code Manual, the Road Commission for Oakland County specifications. The partial payment schedule shall be based on the percentage (%) of overall project work completed. The completed work shall be measured and paid for at the contract unit price; Lump Sum (LS).

Item No. "45" MOBILIZATION

Payment for this item shall include project cost related to preparatory work, operations and General Requirement Division, Audio video and Traffic control and signage, less sub articles amounts paid as separate items. This work shall be done in accordance with methods and materials as outlined with the Charter Township of White Lake specifications. The Lump Sum (L.S.) amount shall be paid in increments on a basis of work completed%, 10% and 25% for pay of this item at 50%, 70% and 100% respectively.

Item No. "46" PERMIT ALLOWANCE

Payment for this item shall include all charges for permit fees from Road Commission For Oakland County. Payment for this item shall be invoiced amounts passed through the Contractor.

Item No. "47" SESC PERMIT ALLOWANCE

Payment for this item shall include permit fees from Oakland County Water Resources Commissioner Soil Erosion. Payment for this item shall be invoiced amounts passed through the Contractor.

Item No. "48" TESTING ALLOWANCE

Payment for this item shall include all charges for the Contractor to hire a testing firm to perform material testing on the project site. This work shall be done in accordance with methods and materials as outlined with the Charter Township of White Lake, Road Commission for Oakland County, and Oakland County Water Resources Commissioner specifications. Payment for this item shall be by invoices from the testing company passed through the Contractor.

BASE BID - UNIT PRICE PAY ITEMS

Item No. "1" CURB AND GUTTER, REM

Payment for this item shall include all material, equipment, and labor to remove the existing curb and gutter as indicated on the Drawings and/or as directed by the Engineer. The completed work shall be paid for at the contract unit price Lineal Foot (LF).

Item No. "2" CURB, REM

Payment for this item shall include all material, equipment, and labor to remove existing curb as indicated on the Drawings and/or as directed by the Engineer. The completed work shall be paid for at the contract unit price of Foot (FT).

Item No. "3" CULV, END, REM LESS THAN 24 INCH

Payment for this item shall include all material, equipment, and labor to remove the existing culvert end as indicated on the Drawings and/or as directed by the Engineer. The completed work shall be paid for at the contract unit price of Each (EA).

Item No. "4" TREE, REM, 6 INCH TO 18 INCH

Payment for this item shall include all material, labor and equipment to remove existing 6-inch to 18-inch trees as indicated on the Drawings and/or as directed by the Engineer. The completed work shall be paid for at the contract unit price of Each (EA).

Item No. "5" MISC OBSTRUCTION, REM

Payment for this item of work shall include all labor, material, and equipment necessary to remove miscellaneous obstructions such as boulders or rocks as indicated on the Drawings as: Excavation, Rock and/or as directed by the Engineer. The completed work shall be paid for at the contract unit price of Each (EA).

Item No. "6" BARRICADE, TEMP

Payment of this item shall include all material, labor and equipment to provide a Pedestrian Type II Barricade as indicated on the Drawings and/or as directed by the Engineer. The completed work shall be paid for at the contract unit price of Each (EA).

Item No. "7" SIGN, TYPE III, REM

Payment for this item shall include all material, equipment and labor to remove the existing signs as indicated on the Drawings and/or as directed by the Engineer. The completed work shall be paid for at the contract unit price of Each (EA).

Item No. "8" CLEARING

Payment for this item shall include all material, equipment and labor for clearing of vegetation as labeled: Thinning Selective, Type 1 as indicated on the Drawings and/or as directed by the Engineer. The completed work shall be paid for at the contract unit price of Acres (AC).

Item No. "9" SEWER, CL A, 12 INCH, TR DET A

Payment for this item shall include all material, equipment and labor to furnish and install storm sewer as indicated on the Drawings. Measurement for this item will be made in feet along the center-line (horizontal measurement along finish grade) of the pipe installed from starting point to ending point. This work shall be done in accordance with methods and materials as outlined with the Charter Township of White Lake Specifications. The completed work shall be measured and paid for at the contract unit price; Foot (FT).

Item No. "10" CULV, CL F, CSP, 12 INCH

Payment for this item shall include all material, equipment and labor to furnish and install corrugated steel pipe culvert as indicated on the Drawings. Measurement for this item will be made in feet along the center-line (horizontal measurement along finish grade) of the pipe installed from starting point to ending point. This work shall be done in accordance with methods and materials as outlined with the Charter Township of White Lake Specifications. The completed work shall be measured and paid for at the contract unit price; Foot (FT).

Item No. "11" CURB RAMP OPENING, CONC

Payment for this item shall include all material, equipment and labor to furnish and install the concrete curb ramp opening as indicated on the Drawings. This work shall be done in accordance with methods and materials as outlined in the 2020 MDOT Standard Specifications for Construction. The completed work shall be measured and paid for at the contract unit price; Foot (FT).

Item No. "12" DR STRUCTURE, 24 INCH DIA

Payment for this item shall include all material, equipment and labor to furnish and install the 24-inch diameter storm structure. This work shall be done in accordance with methods and materials as outlined with the Charter Township of White Lake Specifications. The completed work shall be paid for at the contract unit price; Each (EA).

Item No. "13" DR STRUCTURE, COVER TYPE B

Payment for this item shall include all material, equipment and labor to furnish and install the cover for the 24-inch diameter storm structure as indicated on the Drawings. This work shall be done in accordance with methods and materials as outlined with the Charter Township of White Lake Specifications. The completed work shall be paid for at the contract unit price; Each (EA).

Item No. "14" CULV END SECTION, 12 INCH

Payment for this item shall include all material, equipment and labor to furnish and install the 12-inch culvert end section as indicated on the Drawings. This work shall be done in accordance with methods and materials as outlined with the Charter Township of White Lake Specifications. The completed work shall be paid for at the contract unit price; Each (EA).

Item No. "15" SHARED USE PATH, HMA

Payment for this item shall include all material, equipment and labor to install the shared use path as indicated on the Drawings. This work shall be done in accordance with methods and materials as outlined in the 2020 MDOT Standard Specifications for Construction. The completed work shall be paid for at the contract unit price; Tons (TONS).

Item No. "16" SHARED USE PATH, AGGREGATE, LM

Payment for this item shall include all material, equipment and labor to install the aggregate base for the shared use path as indicated on the Drawings. This work shall be done in accordance with methods and materials as outlined in the 2020 MDOT Standard Specifications for Construction. The completed work shall be paid for at the contract unit price; Tons (TONS).

Item No. "17" EROSION CONTROL, SILT FENCE

Payment for this item shall include all material, equipment and labor to furnish and install silt fence as detailed on the plans and/or directed by the Engineer. This work shall be done in accordance with methods and materials as outlined with the Charter Township of White Lake specifications. The completed work shall be measured and paid for at the contract unit price; Foot (FT).

Item No. "18" EXCAVATION, EARTH

Payment for this item shall include all material, equipment and labor to complete excavation as indicated on the Drawings and/or as directed by the Engineer. This work shall be done in accordance with methods and materials as outlined with the Charter Township of White Lake specifications and the 2020 MDOT Standard Specifications for Construction. The completed work shall be measured and paid for at the contract unit price; Cubic Yard (CYD).

Item No. "20" MASONRY AND CONC STRUCTURE, REM

Payment for this item shall include all material, equipment and labor to remove the existing masonry and concrete structures as indicated on the Drawings and/or as directed by the Engineer. The completed work shall be measured and paid for at the contract unit price; Cubic Yard (CYD).

Item No. "21" HMA SURFACE, REM

Payment for this item shall include all material, equipment and labor to remove the existing HMA drive surfaces as indicated on the Drawings and/or as directed by the Engineer. The completed work shall be measured and paid for at the contract unit price; Square Yard (SYD).

Item No. "22" STUMP, REM, 19 INCH TO 36 INCH

Payment for this item shall include all material, equipment and labor to remove stumps of diameter 19 to 36 inches as indicated on the Drawings and/or as directed by the Engineer. The completed work shall be measured and paid for at the contract unit price; Each (EA).

Item No. "23" STUMP, REM, 6 INCH TO 18 INCH

Payment for this item shall include all material, equipment and labor to remove stumps of diameter 6 to 18 inches as indicated on the Drawings and/or as directed by the Engineer. The completed work shall be measured and paid for at the contract unit price; Each (EA).

Item No. "24" TREE, REM, 6 INCH TO 18 INCH

Payment for this item shall include all material, equipment and labor to remove trees of diameter 6 to 18 inches as indicated on the Drawings and/or as directed by the Engineer. The completed work shall be measured and paid for at the contract unit price; Each (EA).

Item No. "25" CURB AND GUTTER, REM

Payment for this item shall include all material, equipment, and labor to remove the existing curb and gutter as indicated on the Drawings and/or as directed by the Engineer. The completed work shall be paid for at the contract unit price Lineal Foot (LF).

Item No. "26" SIDEWALK, CONC, 4 INCH

Payment for this item shall include all material, equipment and labor to furnish and install the 4-inch concrete sidewalk as indicated on the Drawings. This work shall be done in accordance with methods and materials as outlined with the 2020 MDOT Standard Specifications for Construction. The completed work shall be measured and paid for at the contract unit price; Square Yard (SYD).

Item No. "27" EROSION CONTROL, INLET PROTECTION, FABRIC DROP

Payment for this item shall include all material, equipment and labor to furnish and install fabric drop inlet protection as indicated on the Drawings and/or as directed by the Engineer. This work shall be done in accordance with methods and materials as outlined with the Charter Township of White Lake and Oakland County Water Resources Commissioner specifications. The completed work shall be measured and paid for at the contract unit price; Each (EA).

Item No. "28" POST, FLEXIBLE, DELINEATOR

Payment for this item shall include all material, equipment and labor to furnish and install posts as indicated in the Drawings and/or as directed by the Engineer. The completed work shall be measured and paid for at the contract unit price; Each (EA).

Item No. "29" CURB RAMP, CONC, 6 INCH

Payment for this item shall include all material, equipment and labor to furnish and install the 6-inch concrete curb ramp as indicated on the Drawings. This work shall be done in accordance with methods and materials as outlined with the 2020 MDOT Standard Specifications for Construction. The completed work shall be measured and paid for at the contract unit price; Square Feet (SFT).

Item No. "30" DETECTABLE WARNING SURFACE

Payment for this item shall include all material, equipment and labor to furnish and install the detectable warning surface as indicated on the Drawings. This work shall be done in accordance with methods and materials as outlined with the 2020 MDOT Standard Specifications for Construction. The completed work shall be measured and paid for at the contract unit price; Foot (FT).

Item No. "31" SEWER, CL IV, 18 INCH, TR DET A

Payment for this item shall include all material, equipment and labor to furnish and install the class IV 18-inch storm sewer as indicated on the Drawings. This work shall be done in accordance with methods and materials as outlined with the Charter Township of White Lake specifications. The completed work shall be measured and paid for at the contract unit price; Foot (FT).

Item No. "32" CULV, END SECT, CONC 18 INCH

Payment for this item shall include all material, equipment and labor to furnish and install the culvert end section as indicated on the Drawings. This work shall be done in accordance with methods and materials as outlined with the Charter Township of White Lake specifications. The completed work shall be measured and paid for at the contract unit price; Each (EA).

Item No. "33" CULV, END SEC 18, GRATE

Payment for this item shall include all material, equipment and labor to furnish and install the end section grate as indicated on the Drawings. This work shall be done in accordance with methods and materials as outlined with the Charter Township of White Lake specifications. The completed work shall be measured and paid for at the contract unit price; Each (EA).

Item No. "34" RIPRAP, PLAIN

Payment for this item shall include all material, equipment and labor to furnish and install riprap materials as indicated on the Drawings and/or as directed by the Engineer. This work shall be done in accordance with methods and materials as outlined with the 2020 MDOT Standard Specifications. The completed work shall be measured and paid for at the contract unit price; Square Yard (SYD).

Item No. "35" EROSION CONTROL, SILT FENCE

Payment for this item shall include all material, equipment and labor to furnish and install silt fence as detailed on the plans and/or directed by the Engineer. This work shall be done in accordance with methods and materials as outlined with the Charter Township of White Lake specifications. The completed work shall be measured and paid for at the contract unit price; Foot (FT).

Item No. "36" DR STRUCTURE, 60 INCH DIA

Payment for this item shall include all material, equipment and labor to furnish and install the 60-inch diameter storm structure. This work shall be done in accordance with methods and materials as outlined with the Charter Township of White Lake Specifications. The completed work shall be paid for at the contract unit price; Each (EA).

Item No. "37" DR STRUCTURE, COVER B

Payment for this item shall include all material, equipment and labor to furnish and install the cover for the 60-inch diameter storm structure as indicated on the Drawings. This work shall be done in accordance with methods and materials as outlined with the Charter Township of White Lake Specifications. The completed work shall be paid for at the contract unit price; Each (EA).

Item No. "38" DR STRUCTURE, 48 INCH DIA

Payment for this item shall include all material, equipment and labor to furnish and install the 48-inch diameter storm structure. This work shall be done in accordance with methods and materials as outlined with the Charter Township of White Lake Specifications. The completed work shall be paid for at the contract unit price; Each (EA).

Item No. "39" DR STRUCTURE, COVER, TYPE E

Payment for this item shall include all material, equipment and labor to furnish and install the cover for the 48-inch diameter storm structure as indicated on the Drawings. This work shall be done in accordance with methods and materials as outlined with the Charter Township of White Lake Specifications. The completed work shall be paid for at the contract unit price; Each (EA).

Item No. "40" SEWER, CL IV, 12 INCH, TR DET A

Payment for this item shall include all material, equipment and labor to furnish and install the class IV 12-inch storm sewer as indicated on the Drawings. This work shall be done in accordance with methods and materials as outlined with the Charter Township of White Lake specifications. The completed work shall be measured and paid for at the contract unit price; Foot (FT).

Item No. "41" CURB RAMP OPENING, CONC

Payment for this item shall include all material, equipment and labor to furnish and install the concrete curb ramp opening as indicated on the Drawings. This work shall be done in accordance with methods and materials as outlined in the 2020 MDOT Standard Specifications for Construction. The completed work shall be measured and paid for at the contract unit price; Foot (FT).

Item No. "42" EXCAVATION, EARTH

Payment for this item shall include all material, equipment and labor to complete excavation as indicated on the Drawings and/or as directed by the Engineer. This work shall be done in accordance with methods and materials as outlined with the Charter Township of White Lake specifications and the 2020 MDOT Standard Specifications for Construction. The completed work shall be measured and paid for at the contract unit price; Cubic Yard (CYD).

ALTERNATE BID – LUMP SUM PAY ITEMS*Item No. "1A"* MOBILIZATION

Payment for this item shall include project cost related to preparatory work, operations and General Requirement Division, Audio video and Traffic control and signage, less sub articles amounts paid as separate items. This work shall be done in accordance with methods and materials as outlined with the Charter Township of White Lake specifications. The Lump Sum (L.S.) amount shall be paid in increments on a basis of work completed%, 10% and 25% for pay of this item at 50%, 70% and 100% respectively.

Item No. "20A" RESTORATION

Payment for this item shall include all material, equipment, and labor to furnish and install restoration items as indicated on the Drawings and/or as directed by the Engineer. Restoration shall include ditching, grading, topsoiling, landscaping, seeding and fertilizing. This item will include the restoration of all areas disturbed by the Contractor. This work shall be done in accordance with methods and materials as outlined with the Charter Township of White Lake, Oakland County Water Resources Commissioner, and Road Commission of Oakland County specifications. The completed work shall be measured and paid for at the contract unit price; Square Yard (SYD).

Item No. "21A" TRAFFIC CONTROL AND SIGNAGE

Payment for this item shall include all material, equipment, labor to furnish and maintain the necessary traffic control measures and signage. The Lump Sum amount shall be paid in increments on a basis of the total cost divided by the months of projected work provided by the Contractor.

Item No. "22A" PERMIT ALLOWANCE

Payment for this item shall include Right-of-Way permit fees from MDOT. The permit fees will be reimbursed based on actual invoices from the permitting agencies.

Item No. "23A" SESC PERMIT ALLOWANCE

Payment for this item shall include permit fees from Oakland County Water Resources Commissioner Soil Erosion. The permit fees will be reimbursed based on actual invoices from the permitting agencies.

Item No. "24A" TESTING ALLOWANCE

Payment for this item shall all charges for the Contractor to hire a testing firm to perform material testing on the project site. This work shall be done in accordance with methods and materials as outlined with the Charter Township of White Lake, Road Commission for Oakland County, and Oakland County Water Resources Commissioner specifications. Payment for this item shall be by invoices from the testing company passed through the Contractor.

BASE BID - UNIT PRICE PAY ITEMS*Item No. "2A" SIGN TYPE III, SALVAGE*

Payment for this item shall include all material, equipment and labor to remove and salvage the existing signs as indicated on the Drawings and/or as directed by the Engineer. The completed work shall be paid for at the contract unit price; Each (EA).

Item No. "3A" HMA SURFACE, REM

Payment for this item shall include all material, equipment, and labor to remove existing curb as detailed on the Drawings. The completed work shall be paid for at the contract unit price; Foot (FT).

Item No. "4A" CULV, REM

Payment for this item shall include all material, equipment, and labor to remove the existing culvert end as detailed on the Drawings. The completed work shall be paid for at the contract unit price; Each (EA).

Item No. "5A" POST, REM

Payment for this item shall include all material, labor and equipment to remove existing posts as indicated on the Drawings and/or as directed by the Engineer. The completed work shall be paid for at the contract unit price; Each (EA).

Item No. "6A" EROSION CONTROL, INLET FILTER, FABRIC DROP

Payment for this item shall include all material, equipment and labor to furnish and install fabric drop inlet protection as indicated on the Drawings and/or as directed by the Engineer. This work shall be done in accordance with methods and

materials as outlined with the Charter Township of White Lake and Oakland County Water Resources Commissioner specifications. The completed work shall be measured and paid for at the contract unit price; Each (EA).

Item No. "7A" HYDRANT, ADJ

Payment of this item shall include all material, labor and equipment to adjust the existing hydrant as indicated on the Drawings and/or as directed by the Engineer. This work shall be done in accordance with methods and materials as outlined with the Charter Township of White Lake Specifications. The completed work shall be paid for at the contract unit price; Each (EA).

Item No. "8A" DRAINAGE STRUCTURE, ADJ

Payment for this item shall include all material, equipment and labor to adjust the existing drainage structures as indicated on the Drawings and/or as directed by the Engineer. This work shall be done in accordance with methods and materials as outlined with the Charter Township of White Lake and Oakland County Water Resources Commissioner specifications. The completed work shall be measured and paid for at the contract unit price; Each (EA).

Item No. "9A" EROSION CONTROL, SILT FENCE

Payment for this item shall include all material, equipment and labor to furnish and install silt fence as detailed on the plans and/or directed by the Engineer. This work shall be done in accordance with methods and materials as outlined with the Charter Township of White Lake specifications. The completed work shall be measured and paid for at the contract unit price; Foot (FT).

Item No. "10A" DR STRUCTURE, 12 INCH

Payment for this item shall include all material, equipment and labor to furnish and install the 12-inch diameter storm structure. This work shall be done in accordance with methods and materials as outlined with the Charter Township of White Lake Specifications. The completed work shall be paid for at the contract unit price; Each (EA).

Item No. "11A" SEWER CL F 12 INCH

Payment for this item shall include all material, equipment and labor to furnish and install the 12-inch storm sewer as indicated on the Drawings. This work shall be done in accordance with methods and materials as outlined with the Charter Township of White Lake specifications. The completed work shall be measured and paid for at the contract unit price; Foot (FT).

Item No. "12A" CULVERT END SECTION, 12 INCH

Payment for this item shall include all material, equipment and labor to furnish and install the 12-inch culvert end section as indicated on the Drawings. This work shall be done in accordance with methods and materials as outlined with the Charter Township of White Lake Specifications. The completed work shall be paid for at the contract unit price; Each (EA).

Item No. "13A" CURB RAMP OPENING

Payment for this item shall include all material, equipment and labor to furnish and install the concrete curb ramp opening as indicated on the Drawings. This work shall be done in accordance with methods and materials as outlined in the 2020 MDOT Standard Specifications for Construction. The completed work shall be measured and paid for at the contract unit price; Foot (FT).

Item No. "14A" CURB, TYPE F-2

Payment for this item shall include all material, equipment and labor to furnish and install the curb as indicated on the Drawings. This work shall be done in accordance with methods and materials as outlined in the 2020 MDOT Standard Specifications for Construction. The completed work shall be paid for at the contract unit price; Foot (FT).

Item No. "15A" HMA APPROACH, HMA

Payment for this item shall include all material, equipment and labor to furnish and install hot-mix asphalt for the HMA Approach as indicated on the drawings. This work shall be done in accordance with methods and materials as outlined in the 2020 MDOT Standard Specifications for Construction. The completed work shall be paid for at the contract unit price; Tons (TONS).

Item No. "16A" HMA APPROACH, AGGREGATE BASE, 10 INCH

Payment for this item shall include all material, equipment and labor to furnish and install the 10-inch aggregate base for the HMA Approach as indicated on the drawings. This work shall be done in accordance with methods and materials as outlined in the 2020 MDOT Standard Specifications for Construction. The completed work shall be paid for at the contract unit price; Square Yard (SYD).

Item No. "17A" SHARED USE PATH, HMA

Payment for this item shall include all material, equipment and labor to furnish and install hot-mix asphalt for the Shared Use Path as indicated on the drawings. This work shall be done in accordance with methods and materials as outlined in the 2020 MDOT Standard Specifications for Construction. The completed work shall be paid for at the contract unit price; Tons (TONS).

Item No. "18A" SHARED USE PATH, AGGREGATE, LM

Payment for this item shall include all material, equipment and labor to furnish and install the aggregate base for the Shared Use Path as indicated on the drawings. This work shall be done in accordance with methods and materials as outlined in the 2020 MDOT Standard Specifications for Construction. The completed work shall be paid for at the contract unit price; Cubic Yard (CYD).

Item No. "19A" SHARED USE PATH, GRADING

Payment for this item shall include all material, equipment and labor to provide grading for the Shared Use Path as indicated on the Drawings. This work shall be done in accordance with methods and materials as outlined in the 2020 MDOT Standard Specifications for Construction. The completed work shall be paid for at the contract unit price; Lineal Foot (LF).

01 29 00 PAYMENT PROCEDURES

01 29 00

Payment Application shall be submitted on the "Contractor's Application for Payment" form EJCDC- C-620 The Application shall list the 'Unit Prices' or 'Schedule of Values'.

The sum of the extended 'unit prices' or the 'schedule of values' shall equal the agreed "Contract Prices" (00520).

- A. 'Unit Prices' shall be the 'unit prices' and items listed in the Contract Proposal 00410
- B. Other Attachments to the "Contractors Application for Payment" shall be as listed"
 - 1. Noted in the Supplementary Conditions art .SC- 6.00 'Contractors Responsibilities' Required by Funding Agencies.

Contractor's Application For Payment No. _____

	Application Period:	Application Date:
To (Owner):	From (Contractor):	Via (Engineer)
Project:	Contract:	
Owner's Contract No.:	Contractor's Project No.:	Engineer's Project No.:

APPLICATION FOR PAYMENT

Change Order Summary

Approved Change Orders		
Number	Additions	Deductions
TOTALS		
NET CHANGE BY CHANGE ORDERS		

1. ORIGINAL CONTRACT PRICE	\$	
2. Net change by Change Orders	\$	
3. CURRENT CONTRACT PRICE (Line 1 ± 2)	\$	
4. TOTAL COMPLETED AND STORED TO DATE (Column F on Progress Estimate)	\$	
5. RETAINAGE:		
a. _____ % x \$ _____ Work Completed	\$	
b. _____ % x \$ _____ Stored Material	\$	
c. Total Retainage (Line 5a + Line 5b)	\$	
6. AMOUNT ELIGIBLE TO DATE (Line 4 - Line 5c)	\$	
7. LESS PREVIOUS PAYMENTS (Line 6 from prior Application)	\$	
8. AMOUNT DUE THIS APPLICATION	\$	
9. BALANCE TO FINISH, PLUS RETAINAGE (Column G on Progress Estimate + Line 5 above)	\$	

CONTRACTOR'S CERTIFICATION

The undersigned Contractor certifies that: (1) all previous progress payments received from Owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with Work covered by prior Applications for Payment; (2) title of all Work, materials and equipment incorporated in said Work or otherwise listed in or covered by this Application for Payment will pass to Owner at time of payment free and clear of all Liens, security interests and encumbrances (except such as are covered by a Bond acceptable to Owner indemnifying Owner against any such Liens, security interest or encumbrances); and (3) all Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective.

By: _____	Date: _____
-----------	-------------

Payment of:	\$ _____	(Line 8 or other - attach explanation of other amount)
is recommended by:	_____	_____ (Date)
	(Engineer)	
Payment of:	\$ _____	(Line 8 or other - attach explanation of other amount)
is approved by:	_____	_____ (Date)
	(Owner)	
Approved by:	_____	_____ (Date)
	Funding Agency (if applicable)	

01 31 00**PROJECT MANAGEMENT AND COORDINATION****01 31 00****A. General**

This Section discusses Contract requirements for project management.

1. Related Requirements
 - a. Submittal Procedure – 01 33 00
 - b. Specific specifications – where noted

B. Project Coordination:

1. Coordinate scheduling, submittals, and Work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements.
 - a. Coordinate space requirements, supports, and installation of mechanical and electrical Work which are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations for maintenance and for repairs.
 - b. Coordinate completion and clean-up of Work of separate sections in preparation for Substantial Completion.
2. Verify utility requirements and characteristics of operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
3. Inside all buildings except as otherwise indicated, pipes, ducts, and wiring may be surface mounted. Coordinate locations of fixtures and outlets with finish elements.
4. After Owner occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

C. Pre-Construction Meeting: Owner/Engineer are responsible for initiating this meeting.

1. Engineer will schedule a meeting after Notice of Award.
2. Attendance Required: Owner, Engineer and Contractor.
3. Agenda:
 - a. Execution of Owner-Contractor Agreement.
 - b. Distribution of Contract Documents.
 - c. Submission of list of Subcontractors, list of Products, schedule of values, and progress schedule.
 - d. Designation of personnel representing the parties in Contract and the Engineer.
 - e. Third Party interests; Drain Commission; Road commission; MDOT, as appropriate Third Party funding...required if Federal funding involved
 - f. Procedures and processing of field decisions, submittals, and substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
 - g. Scheduling.
 - h. Use of premises by Owner and Contractor.
 - i. Owner's requirements.
 - j. Construction facilities and controls provided by Owner.
 - k. Survey and construction layout.
 - l. Security and housekeeping procedures.
 - m. Procedures for testing.
 - n. Procedures for maintaining record documents.
 - o. Requirements for start-up of equipment.
 - p. Inspection and acceptance of equipment put into service during construction period.
4. Engineer will record minutes and distribute copies within five days after meeting to participants, with copies to Engineer, Owner, participants, and those affected by decisions made.

D. Progress Meetings: Contractors are responsible for initiating Progress Meetings:

1. Schedule and administer meetings throughout progress of the Work at monthly intervals. At request of Owner or Engineer, interval may be increased to bi-monthly.
2. Make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.
3. Attendance Required: Job superintendent, major Subcontractors and suppliers, and Owner, and/or Engineer, as appropriate to agenda topics for each meeting.
4. Agenda:
 - a. Review minutes of previous meetings.
 - b. Review of Work progress.

- c. Field observations, problems, and decisions.
 - d. Identification of problems which impede planned progress.
 - e. Review of submittals schedule and status of submittals.
 - f. Review of off-site fabrication and delivery schedules.
 - g. Maintenance of progress schedule and schedule changes.
 - h. Corrective measures to regain projected schedules.
 - i. Planned progress during succeeding work period.
 - j. Coordination of projected progress.
 - k. Maintenance of quality and work standards.
 - l. Effect of proposed changes on progress schedule and coordination.
 - m. Other business relating to Work.
 - n. Status of Federal requirements
5. Record minutes and distribute copies within five days after meeting to participants, with copies to Engineer, Owner, participants, and those affected by decisions made.
- E. Pre-Installation Equipment Meeting: Contractor is responsible for initiating Equipment pre-installation meetings.
- 1. When required in individual specification sections, convene a pre-installation meeting at the site prior to commencing work of the section.
 - 2. Require attendance of parties directly affecting, or affected by, work of the specific section.
 - 3. Notify Engineer four days in advance of meeting date.
 - 4. Prepare agenda and preside at meeting:
 - a. Review conditions of installation, preparation and installation procedures.
 - b. Review coordination with related work.

01 32 00**CONSTRUCTION PROGRESS DOCUMENTATION****01 32 00**

A. General

This Section includes preparation and submittal of documents regarding Construction Progress.

- 1. Related Requirements:
 - a. Submittals Section 01 33 00.
 - b. Audio-Video Section 01 32 33.

01 32 16**CONSTRUCTION PROGRESS SCHEDULE****01 32 16**

- A. Prepare a "Bar Chart Schedule" with separate lines for each major portion of the Work operation as Work area identifying the first work day of each week.
 - 1. Show complete sequence of construction by activity, identifying Work of separate stages and other logically grouped activities. Indicate the early and late start, early and late finish, float dates, and duration.
 - 2. Indicate submittal dates required for shop drawings, product data, samples, and product delivery dates.
- B. Submit Progress Schedule:
 - 1. Submit initial schedule in duplicate within 15 days after date established in Notice to Proceed.
 - 2. Submit revised schedules with each Application for Payment, identifying changes since previous version.

01 32 17**PROPOSED PRODUCT LIST****01 32 17**

- A. Within 15 days after date of Notice to Proceed, submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
- B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

01 32 23**SURVEY AND LAYOUT DATA****01 32 23**

- A. The Engineer will provide control lines/points and bench mark staking.
 - 1. Additionally, Engineer will provide stakes at radius and deflection points shown on the drawings.
 - 2. All other lines and levels necessary to the location and construction of the work under the contract shall be established by the Contractor, unless otherwise stated in the Supplemental Specifications
- B. The Contractor shall carefully compare all elevations given on the drawings with the information shown on the

construction survey stakes and shall call the Owner's attention to any discrepancies before proceeding with the work. When stakes are to be set, the Owner and Engineer must each be given 48 hours notice that stakes will be required.

1. The Contractor shall carefully preserve bench marks, reference points and stakes, and in case of willful or careless destruction, he shall be charged with the resulting expense and also shall be responsible for delays and errors caused by their unnecessary loss or disturbance.
2. All stakes are to be 1" x 18" hardwood, and are to be provided by the Contractor.
3. Contractor shall review technical specifications and they may list specific cross slope and longitudinal slope criteria.

01 32 33 AUDIO-VIDEO DOCUMENTATION**01 32 33**

1.01 SUMMARY

A. This Section lists procedure equipment and submittals to document the surface features within the proposed construction zone of influence. The color photography shall take place on site:

1. Pre-construction Documentation prior to the placement of equipment and materials on the job site.

B. Related Requirements:

1. Submittals Section 01 33 00.

1.02 REFERENCES

A. Definitions:

1. Construction Zone of Influence:
 - a. The area within the permanent and temporary easements and the areas adjacent to these areas which may be affected by routine construction operations.
 - b. Road R.O.W. plus twenty feet beyond the R.O.W. line.
 - c. As directed by the Owner/Engineer.
2. Surface features shall include but not be limited to all visible roadways, pavements, curbs, driveways, sidewalks, culverts, headwalls, retaining walls, buildings, landscaping, trees, shrubbery and fences. Of particular concern shall be the existence of any faults, fractures, and or defects.

1.03 ADMINISTRATIVE

A. Scheduling: Contractor shall notify the Owner/Engineer prior to audio-video documentation.

1. Scheduling shall determine:
 - a. Special areas of documentation.
 - b. Use of plan stationing vs GPS.
 - c. Alternate methods of video location.

1.04 SUBMITTALS

A. Audio-Video Data:

1. Submit a complete set of digital image, audio, and video files through an email, USB, or approved file sharing site.

1.05 QUALITY ASSURANCE

- A. The supplier/subcontractor shall have five (5) years experience as a known skilled firm providing color audio-video documentation.
- B. High quality color camcorders with 1/4", 1/3", or 1/2" charged coupled device imaging systems must be used. Camera must have optical stabilization, electronic stabilization is not acceptable. Camera must be capable of 20x minimum optical magnification. Camera must be capable of producing NTSC 525 lines resolution√ 60 fields / 30 frames per second. Minimum illumination capabilities of at least 3-lux.
- C. Video must be mastered on high quality formats only. High quality master formats acceptable are DVD. Where video links are necessary Y/C (S-V) connections are to be used.

1.06 SITE CONDITIONS

- A. All video taping shall be done during times of good visibility. No video taping shall be done when more than 10% of the ground is covered with snow, unless otherwise authorized by Owner/Engineer.
- B. Documentation shall occur prior to the placement of equipment and/or materials on the project site.
- C. The following table classifies typical areas and sets the maximum average rates of travel in those areas:

AREA TYPE	TYPICALLY CHARACTERIZED BY	AVG. FEET/MIN.
High Density	Hard surface streets, curbs, drives & sidewalks 50 ft. lots; very few empty lots	48
Medium Density	Gravel roads, hard and soft surface drives No sidewalks, culverts and headwalls, 100' lots Few empty lots	60
Low Density	Gravel roads, small fields or woods, occasional Houses or buildings	90
Extra Low Density	Gravel roads, large fields, sparse number of houses	120

2.01 AUDIO-VIDEO DOCUMENTATION

- A. Audio-Video Documentation shall be supplied by email, USB drive, or approved filing sharing site.
 - 1. Disc shall be labeled with appropriate project information and shall be able to be cross-referenced with runsheets. Information on labels shall include disc number, Project title, Project location, date, particular set (if multiple copies), and a quick reference list of tape contents.
 - 2. Have a corresponding and simultaneously recorded audio track containing the commentary of the camera operator. The commentary shall assist in the maintenance of viewer orientation, identification of surface features, and objective description of the points of interest being shown on the video portion of the recording.
 - 3. Display
 - a. Time and date of recording.
 - b. Location of recording i.e. street name, and address or engineering stationing

3.00 AUDIO-VIDEO DOCUMENTATION

- A. Vehicle Coverage:
 - 1. Where conventional wheeled vehicles are used, camera is to be mounted securely to produce steady viewing. Camera lens is to be a minimum of 8 feet from ground of viewing area, or at a level to facilitate best perspective and line of sight.
 - 2. Vehicles used while performing documentation must be plainly marked with Company name and phone number. Caution signs, flags and strobes may be utilized on vehicle as necessary.

3.01 DOCUMENTATION

- A. Panning and zoom rates shall be electronically or manually controlled to provide clear viewing on playback.
- B. Location:
 - 1. Houses and buildings shall be identified visually by house number, when visible, in such a manner that structures of the proposed system can be located by reference. In all instances, location shall be identified by audio or visual means at intervals not to exceed 100 lineal feet.
 - 2. The engineering stationing must be continuous and accurate and reflect the stationing within the field of view. The engineering stationing must coincide with stationing on project plans and utilize standard engineering symbols i.e. 5+00. Global Positioning Satellites may be used with or in place of engineering stationing as directed by engineer.
 - 3. Condition of visible surface street/structures should also be described.

01 33 00 SUBMITTAL PROCEDURES**01 33 00****1.01 GENERAL****A. SUMMARY:**

1. The Contractor shall submit to the Engineer full information indicating the source of materials and names of major suppliers which the Contractor proposes to use. This information shall be complete to the extent that the Engineer may judge if the proposed materials and supplies will meet the contract requirements. Prior to the Engineer's approval, any work done by the Contractor shall be at his own risk.
2. The Contractor shall submit to the Owner such schedule of quantities and costs, progress schedules, payrolls, reports, estimates, records and other data as the Owner may request, concerning work performed or to be performed under this contract.
3. The Engineer's approval of information, supplied by the Contractor, shall in no way release the Contractor from his responsibility for the proper installation and performance of any material, equipment or arrangement, or from his liability to replace same should it prove defective.

B. Related Requirements:

1. General Requirement Sections:
 - a. Meeting Minutes 01 31 00
 - b. Schedules/Lists 01 32 16, and 17
 - c. Audio-Visual 01 32 33
 - d. Project Closure
2. Technical Specifications

1.02 PREPARATION OF SUBMITTALS BY CONTRACTOR

- A. Review submittal items for legibility, conformance to the Contract Documents, coordination between work items, and completeness according to submittal requirements of each specification section; certify review by signing transmittal form; and list the Contractor's comments.
- B. The transmittal form, attached herein, shall identify submittals, and provide information required in Contractor's portion of form, including:
 1. Date of submittal.
 2. Project Name, Contract No., and Location.
 3. Submittal No., in sequence, beginning with 1.
 4. Contractor's name, address, and contact person.
 5. Items within submittal, numbered in sequence.
 6. Specification sections no.
 7. Manufacturer/Designer/Supplier.
 8. Special Instructions (when response is needed, if there is a deviance, etc.).
 9. Signature certifying that the Contractor has reviewed the submittal.
- C. Cross-reference actual items in submittal by labeling them clearly by item number listed in transmittal, and provide them in the sequence listed.
- D. Provide three copies of submittals to the Engineer. If the Contractor anticipates review will require markup and return of the actual submittal, rather than a separate comment sheet to be faxed, then he shall provide an additional copy for mark up and return to the Contractor. A legible fax may be accepted to initiate review, if followed by hard copy. Electronic submittals may be submitted as follows:
- E. Electronic submittals shall follow the procedures as noted above and the documents shall be made in one of the standard formats: DXF, DWG, or PDF. Reviewed submittals will be returned in PDF format for the Contractor's printing and distribution.

1.03 REVIEW BY ENGINEER

- A. Upon receipt, Engineer will log in submittals and review for conformance with the design intent.
 1. The Engineer will return submittal review forms and comments via fax. Review of items noted critical by the Contractor will be expedited.
 2. The Engineer will log out submittal upon faxing comments to the Contractor, and will further distribute submittal and comments to the Engineer's and Contractor's organization as required for orderly progression of the project. Submittal contents with Engineer review will be returned within 10 working days from date

of received.

- B. Review is for general conformance with design concept for the project and general compliance with the information given in the Contract Documents. Review action are listed below.
1. No Exceptions Taken: Fabrication and installation may proceed.
 2. Make Corrections Noted: The Contractor shall make the changes noted, and then may proceed with fabrication or installation.
 3. Amend and Resubmit: The Contractor shall make the changes noted, and resubmit for an additional review cycle.
 4. Rejected – See Remarks: The Contractor shall make the changes noted, which may involve a complete new product submittal, and resubmit for an additional review cycle.

1.04 RESPONSIBILITIES OF THE CONTRACTOR

- A. The Contractor remains responsible for dimensions, job site correlation, fabrication processes, construction methods, and coordination of installation work, as well as manufacturers' testing and operational requirements.
- B. Contractor shall promptly distribute submittal review actions and comments to its suppliers, and otherwise as required for orderly progression of the job, and shall modify or replace products to comply with comments.
- C. Products fabricated or installed before receiving Review (D1 or D2) shall be modified or replaced at the Contractor's expense, to conform with the design intent, as directed by the Engineer.

1.05 RESUBMISSION

- A. Items receiving a Review (D1 or D2) do not require resubmission, unless the original product becomes unavailable, or changes in the project make the original product incompatible.
- B. The Contractor shall repeat the submittal process for items receiving Review [Amend & Resubmit] [Rejected – See Remarks]. The original submittal number shall be used with a letter code suffix appended in ascending order for each resubmission of the item.
- C. The Contractor shall relate item numbers in resubmissions to prior submittals of that series. For example, if original submittal No. 1 items 1, 4, and 6 require resubmission, they should be provided as [re]submittal No. 1A, items 1, 4, and 6.
- D. The resubmission coding systems described above are designed to expedite review processes and simplify filing and retrieval for the Project Manager, the Engineer, the Contractor, and the On-Site Representative. When additional cross-referencing is required for the sake of clarity, the Contractor shall provide explanatory notes.

01 33 02 SPECIFIED SUBMITTALS

01 33 02

When specified in the Technical Specification sections, submit the following to the Engineer for project records.

- A. Design Data
- B. Test Reports
- C. Manufacturers Instructions:
 1. Submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, to Engineer for delivery to Owner in quantities specified for Product Data.
 2. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.
- D. Manufacturers Field Reports:
 1. Submit report within 30 days of observation to Architect/Engineer for information.
 2. Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.
- E. Certificates:
 1. Submit certification by the manufacturer, installation/application Subcontractor, or the Contractor to Engineer, in quantities specified for Product Data.
 2. Indicate material or Product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
 3. Certificates may be recent or previous test results on material or Product, but must be acceptable to

Engineer.

TRANSMITTAL FOR ACCEPTANCE OF SHOP AND VENDOR DRAWINGS						01 33 03
Date	Project Name and Contract No.				Location	Submittal No.
Submittal Type: HC – Hard Copy <input type="checkbox"/> or Electronic <input type="checkbox"/>						
To:	DLZ Michigan, Inc.				From:	
	4494 Elizabeth Lake Road					
	Waterford, MI 48328					
Attn: _____, P.E.			Contractor/Vendor Job No.			
No. Copies	Item No.	Description (Name, Type, Size, Capacity Use)	Spec. Sect. No.	Manufacturer/ Designer	DLZ	
					Action Code	Review
Special Instructions by Contractor/Vendor			DLZ Comments			
Checked by Contractor for Project Conformance:						
Signed:/Title:						
Acceptance Action Code:						
1. No Exceptions Taken	■ Installation shall proceed only when acceptance code is #1 or #2.					
2. Make Corrections Noted						
3. Amend and resubmit.	■ Acceptance coded 3 or 4 shall be resubmitted unless otherwise noted.					Date Returned by DLZ Michigan, Inc.
4. Rejected – see remarks.						
Approval is only for conformance with the design concept of the Project and compliance with the information given in the Contract Documents. Contractor is responsible for dimensions to be confirmed and correlated at the job site; for information that pertains solely to the fabrication processes or to techniques of constructions; and for coordination of the work of all trades.						
IN-HOUSE SHOP DRAWING AND VENDOR DRAWING REVIEW						
Seq.	Discipline	Individual	Initial	Date	Comments	
	Project Manager				Review Period	days
	Civil					
	Structural/Arch.					
	Electrical/Instr.					
	Mechanical					
	Process					

01 41 00

REGULATORY REQUIREMENTS

01 41 00

- A. This Section includes requirements and procedures for local permits and related fees.
- B. Related Requirements: Work Area Section 01-14-00.
- C. Permit Responsibility – Owner:
 - 1. The Owner has filed application for the following permits. The Contractor shall obtain the permits: , pay application and inspection fee and other land inspection fees post bond and provide insurance.
 - a. Road Commission for Oakland County – Right of Way Permit
 - b. Oakland County Water Resources Commissioner - Soil Erosion -part 91, Act 451, PA 1994
- D. Permit Responsibility – Contractor:
 - 1. The Contractor shall obtain Owner filed permit applications (C.2 above).
 - 2. The Contractor shall also apply for, obtain and pay for all other permits to conduct/complete the work.

01 45 23

TESTING AND INSPECTION SERVICES

01 45 23

- A. This section specifies administrative and procedural requirements of Testing and Inspection Services.
- B. Related Requirements:
1. Submittal Section 01-33-00.
 2. Technical Specifications Section 02-nn to 45-nn.
- C. Cost of Testing and Inspection Services:
1. The Contractor will employ and pay for and “independent testing laboratory” to perform specific testing.
- D. Administration:
1. The Contractor shall:
 - a. Cooperate with laboratory personnel, provide access to Work, and to manufacture’s operations.
 - b. Provide to laboratory, preliminary representative samples of materials to be tested, in required quantities.
 - c. Furnish incidental labor and facilities: To provide access to Work to be tested.
 2. The Testing Laboratory shall perform:
 - a. Field tests as listed, and
 - 1) Mark on the Inspector and/or Contractor field drawing the specific location test and;
 - 2) Note “P”assing and/or “F”ailing.
 - b. Submit test reports to the Engineer (3 copies).
- E. Specific Test required are:
1. Trenching, Backfilling and Compacting: Testing laboratory will perform the following, unless otherwise determined by Owner:
 - a. Determine grain size analysis for all soil materials in accordance with ASTM C136.
 - b. Make Optimum moisture-maximum density curves for soil materials having a well-defined moisture-density relationship in accordance with ASTM D698, Method D (T-99 Test).
 - c. Make field density tests of compacted trench backfill material for on the basis: one each per 50linear feet per lift of soil material placed each day. Minimum per day: 3.tests
 2. Aggregate Base Course: Testing laboratory will perform the following, unless otherwise determined by Owner:
 - a. Determine grain size analysis of aggregate base course material in accordance with ASTM C136.
 - b. Make optimum moisture-maximum density curves for aggregate base course material in accordance with ASTM D1557, Method T-180.
 - c. Make field density tests of subgrade after proof rolling on the basis of 3 tests plus one additional test per 10,000 sq. ft., or fraction thereof.
 - d. Determine field density by ASTM D2167 or ASTM D2922.
 3. Concrete: Testing laboratory shall perform the following, unless otherwise determined by Owner.
 - a. Secure composite samples in accordance with ASTM C 172. Each sample shall be obtained from a different batch of concrete on a random basis.
 - b. Mold and cure 3 specimens for each sample in accordance with ASTM C31. Any deviations from the requirements of ASTM C31 shall be reported in the test reports. Cure one specimen in the field and cure two specimens in the laboratory.
 - c. Test specimens in accordance with ASTM C39. The field cured specimen shall be tested at seven days for information and the two laboratory cured specimens shall be tested at 28 days for acceptance. The acceptance test results shall be the average of the strength of the two specimens tested at 28 days. If one specimen in a test manifests evidence of improper sampling, molding or testing, it shall be discarded and the strength of the remaining cylinder shall be considered the test result. In the event both specimens in a test show any of the above defects, the entire test shall be discarded.
 - d. Make at least one strength test for each 30 cubic yards or fraction thereof of each concrete class designation placed in any one day except that in no case shall any concrete class designation be represented by less than 5 strength tests.
 - e. Determine slump of the concrete sampled for each strength test and whenever consistency of concrete appears to vary. Measure slump in accordance with ASTM C 143.
 - f. Determine air content of the concrete sampled for each strength test in accordance with either ASTM C231, ASTM C173, or ASTM C138.
 - g. Determine temperature of concrete sampled for each strength test.

- h. Evaluation of Quality Control Tests:
 - 1) Concrete compressive tests shall be considered satisfactory if the average of any group of 5 consecutive compressive strength tests which may be selected is in each instance equal to or greater than the 28-day design compressive strength of the concrete class designation or if not more than one compressive strength test in ten has a value less than 90 percent of the 28-day design compressive strength.
 - 2) If the compressive strength tests fail to meet the minimum requirements specified above, the Engineer may, at the Contractor's expense: require testing the concrete for strength or, may declare all concrete work, of which the above mentioned strength tests are representative samples, in violation of the Specifications.
 - 3) If air content tests indicate at any time that the concrete being produced does not have a total air content within the specified limits, the Contractor shall modify the materials, proportions, or procedure of mixing materials as may be necessary for compliance, at no expense to the Owner.
- 4. Hot Mixed Asphalt HMA: Testing Laboratory shall perform the following unless otherwise determined by the Owner:
 - a. Make field density test of HMA leveling and wearing courses. One [1] test for each 200 linear feet of paving lane.
 - b. Determine field density by ASTM D2922.
 - c. HMA density shall be greater than 92.0 percent of the Gmm (maximum specific gravity). Gmm shall be from the job mix formula (JMF).

01 52 00 CONSTRUCTION FACILITIES 01 52 00

- A. This Section specifies temporary facilities and controls necessary for the Work completion.
- B. Related Requirements:
1. Temporary Utilities 01-51-00.
 2. Storage Areas 01-55-29.
 3. Contract Closeout 01-74-00.
- C. Sanitary Facilities: Necessary sanitary convenience for the use of workmen on the work, properly secluded from public observation, shall be constructed and maintained in sanitary condition by the Contractor, and their use shall be strictly enforced. He shall also furnish a convenient supply of drinking water from a safe and wholesome source
- D. Field Offices and sheds: Contractor shall construct field offices on sheds required for the administration of the Work.
1. Sheds for temporary storage of equipment shall be constructed for special equipment stored on site.
 2. Contractor shall establish a Field Offices for project administration at the project site;
 - a. Telephone and fax services shall be provided.
 - b. A complete set of Contract Documents and shop drawings shall be available.
 3. The Contractor field office shall also have separate office space, in the same building, for use by the Engineer/Inspector. Space shall have adequate lighting, heat, and a telephone service.

01 55 00 VEHICULAR ACCESS & TRAFFIC 01 55 00

- A. This Section discusses procedures and requirement for access and maintenance of Trucking and Vehicular use.
- B. Related Requirements:
1. Dust Control 01-56-00.
 2. Permits 01-41-00.
- C. Local Traffic Access:
1. The Contractor shall maintain access for local vehicular traffic and emergency vehicles at all times.
 2. Emergency vehicles shall have access at all times and shall be assisted by the Contractor if necessary. The Contractor shall inform the local police, fire department, on a daily basis of project street obstructions and detours.
 3. The Contractor shall be responsible for facilitating and coordinating mail delivery and residential garbage collection within the project area. The Contractor shall coordinate these activities with the United States Postal Service and the appropriate garbage collection companies respectively.
 - a. The Contractor shall not remove residential mailboxes until temporary mailboxes have been established and the homeowner notified of the temporary location.
 - b. In the event that residential garbage is not collected by garbage companies due to the Contractor's construction activities, the Contractor shall be responsible for collection and disposal of the garbage in a timely manner and as directed by the Engineer.
- D. Haul Routes(-16): The Contractor shall work with the appropriate government agency(ies) in determining truck routes on this project and shall have such routes approved by same before the routes can be used. Upon approval of the truck routes, the Contractor shall note the condition of the streets and notify the Owner and said government agency(ies) in writing, where deficiencies are present. It shall thereafter be the responsibility of the Contractor to maintain the truck routes for the period of time such routes are used by the Contractor.

The Contractor shall keep clean all streets used in his operations. Trucks hauling excavated materials, cement, sand, stone, or other loose materials from or to the site, shall be tight so that no spilling will occur. Before trucks start away from the site, their loads shall be carefully trimmed to prevent spillage.

The above requirements likewise apply to suppliers making deliveries to the site, and the Contractor will be held responsible for compliance by his suppliers.

- E. Temporary Roads (-23):
1. Maintenance and restoration of road surfaces, shall be commenced and completed as the Work progresses.
 2. If the opinion of the Engineer work has not progressed in a reasonably manner, the Owner shall have the right to direct the Contractor to proceed with the work or any portion thereof immediately. In the event the Contractor does not proceed with the Work immediately, as directed by the Engineer, the Engineer may order any and all other operations to cease until the maintenance and restoration of road surfaces, structures and trench backfill is proceeding in an acceptable manner.

- 3. Temporary access roadways and temporary driveways shall be constructed and maintained with a minimum of 6-inches deep by 10-foot wide of approved aggregate material. Temporary access roads and driveways shall be routinely graded level and maintained for ingress and egress until final roadway restoration.
 - a. Temporary access roads shall be clearly marked with lighted barrels to maintain traffic flow. Lighted barrels shall be placed at a minimum of every 100 feet or as directed by the Engineer.

01 55 24 STAGING AREA

01 55 26

- A. General:
 - 1. Contractor shall confine construction equipment, the storage of materials and equipment and the operations of workers to the areas, rights-of-way, permits and easements, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment.
- B. Adjacent/Remote Property:
 - 1. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof or of any land or areas contiguous thereto, 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 attempt to settle with such other party by agreement or otherwise resolve the claim by arbitration or at law.
 - 2. Contractor shall, to the fullest extent permitted by Laws and Regulations, indemnify and hold the Owner and Engineer harmless from and against all claims, damages, losses and expenses (including, but not limited to, fees of engineers, architects, attorneys and other professionals and court and arbitration costs) arising directly, indirectly, or consequentially out of any action, legal or equitable, brought by any such other party against Owner or Engineer.

01 55 26 TRAFFIC CONTROLS

01 55 26

- A. This Section specifies procedures, methods and sequences for traffic control devices in the Public Right-of-Way.
- B. Related Requirements:
 - 1. Permits Section 01-41-00.
- C. Maintenance of Traffic:
 - 1. During the progress of the Work, the Contractor shall accommodate both vehicular and pedestrian traffic. Access to fire hydrants, water and gas valves shall always be maintained. The Contractor's truck and equipment operations on public streets shall be governed by the County Road Commission regulations and by all local traffic ordinances and regulations of the Fire Department and Police Department.
 - 2. Shaft locations shall be selected at points where they will interfere with traffic as little as possible and their working site arrangements shall be done in accordance with the requirements of the County Road Commission.
 - 3. The Contractor shall inform the local Police Department and Fire Department in advance of his program of street obstruction and detours, so that the Police Department and Fire Department can set up plans for servicing the area in case of an emergency. He shall notify the County Road Commission at least one week prior to obstructing any street.
 - 4. The Contractor shall provide flagmen, warning lights, signs and barricades necessary to direct and protect vehicular and pedestrian traffic.
- D. Traffic Control Devices: During construction the Contractor shall control traffic in accordance with the current Michigan Manual of Uniform Traffic Control Devices edition, by the Michigan Department of Transportation.
 - 1. The construction influence zone shall be properly signed in accordance with the recommendations outlined in the latest edition of the Michigan Manual of Uniform Traffic Control Devices.
 - 2. The Contractor shall provide all required Type II and Type III barricades, flashers, flashing arrows, flaggers, and all signing required to properly and safely maintain traffic flow through the construction area in accordance with the Michigan Manual of Uniform Traffic Control Devices.

01 55 27 TRAFFIC CONTROLS

01 55 27

- A. This Section specifies procedures, methods and sequences for traffic control devices in the Public Right-of-Way.
- B. Related Requirements:
 - 1. Permits Section 01-41-00.
 - 2. Unit Price Payment:

- C. Traffic Signing Plan:
1. Traffic signing plan showing signing plan and sign types, to be used at the Contractors work locations shall be submitted to the Engineer for review by the County Road Commission.
 - a. Sub-local roads (subdivision streets)
 - b. Major local roads
- D. Traffic Control Devices: During construction the Contractor shall control traffic in accordance with the current Michigan Manual of Uniform Traffic Control Devices edition, by the Michigan Department of Transportation.
1. The construction influence zone shall be properly signed in accordance with the recommendations outlined in the latest edition of the Michigan Manual of Uniform Traffic Control Devices.
 2. The Contractor shall provide all required Type II and Type III barricades, flashers, flashing arrows, flaggers, and all signing required to properly and safely maintain traffic flow through the construction area in accordance with the Michigan Manual of Uniform Traffic Control Devices.

01 56 00 TEMPORARY BARRIERS AND ENCLOSURES**01 56 00**

- A. General:
1. This Section includes requirements for temporary items of work to complete the project.
 2. Related requirements:
 - a) Vehicular Access Section 01-55-00.
 - b) Permits Section 01-41-00.
- B. Dust Control: All haul roads, detour roads, and other public and private roads, driveways and parking lots used by the Contractor must be maintained in a dust free condition during the life of this contract. The control of the dust shall be accomplished by the application of dust control materials and methods of application which are in accordance with the requirements of the agency having jurisdiction over the roadway or driveway. Such dust control materials shall be applied as often as is necessary to control the dust. The use of road oils and waste oils to control dust is prohibited.
1. Should the Contractor be negligent of his duties in providing dust control, and/ or 'dust control 'on public roads is not performed within 36 hours after written notice, by the Engineer, to the Contractor:
 2. The Owner may take the necessary steps to perform such work and will charge the Contractor for all costs.

The CONTRACTOR shall maintain all traveled areas in a safe, dust-free condition at all times. To accomplish this, the CONTRACTOR shall remove any tracked material such as mud, dirt, ect. and haul roads, furnish and apply treatment to temporary roads, furnish and install temporary road patches or surfaces, or any other approved methods or systems. Unless otherwise specified, no direct payment will be made for any such work performed or material used to control dust under this Contract.

- C. Barricades:
1. The Contractor shall furnish, install, and maintain as long as necessary adequate barriers, fencing, warning signs, or lights at all dangerous points throughout the Work for protection of property, workers, and the public. The Contractor shall remove such material when deemed no longer required.
 2. Barricades shall be closed and secured in place at all times when Work under the Contract is not in progress.
 3. Contractor shall supply to the Owner 24 hour emergency telephone numbers for installation, maintenance and replacement of barricades.

01 57 00**TEMPORARY CONTROLS****01 57 00****A. General:**

1. This Section includes requirements for items of Work to be constructed and removed at the completion of the project.
2. Related Requirements: Permits 01-41-00 – Soil Erosion Permit.

B. Temporary Soil Erosion and Control (-13):

The intent of the Soil Erosion Control is to minimize the transfer and deposition of sediment to drains, streams, rivers and lakes. Devices and methods shall comply with the “Soil Erosion and Sedimentation Act” Act, 347,PA 1972, and “Inland Lakes and Streams Act” Act 346, PA 1972.

1. When the plans call for a specific erosion control structure or practice, the Contractor will be required to implement and maintain such practice or structures throughout the life of the project.
2. Soil Erosion devices shall be maintained weekly and after every major storm event.
3. Specific areas to control and to be corrected are when the plans call for a specific erosion control structure or practice, the Contractor will be required to implement and maintain such practice or structures throughout the life of the project. Specific areas to control and to be corrected are:
 - a. Mud or soil tracked on to existing streets and highways.
 - b. Erosion from pumping operations due to high velocities at the discharge.
 - c. Drain and steam crossings by open cut operations.
 - d. Existing drainage structures, such as catch basins, which intercept drainage running off the disturbed area.
 - e. Excavations ‘open’ more than 24 hours, require silt fencing.
 - f. Excavated/disturbed ground surfaces, not covered/or work occurring in any two week (14 day) cycle shall be seeded and mulched.
4. Pumped water from well points or dewatering wells installed to lower the water table to facilitate the proposed construction shall be conveyed by pipe, hose, or stabilized channel, to a settling basin or other suitable sedimentation control facility.
5. Existing ground surfaces disturbed [excavate and backfilled] by construction shall be seeded and mulched as follows:
 - a. Temporary Seed applied at a rate of 3lb./1000 sf.
 - i) MDOT seed TSM 6/24 [50% rye and 50% oats]
 - b. Straw Mulch covering the disturbed surface.
 - i) Straw or marsh hay; air dried condition.

C. Temporary Storm Water Control (-23): If it is necessary in the execution of the work to interrupt existing surface drainage, temporary drainage facilities shall be provided until the existing drainage facilities are restored. The construction of all temporary drainage facilities shall be considered as incidental to the construction of the project. The flow in all existing drains and sanitary sewers which interfere with construction, whether shown on the drawings or not, shall be adequately maintained by the Contractor at his own expense.

1. Adequate pumping and drainage facilities shall be provided and all water from whatever sources entering the work during any stage of construction shall be promptly removed and disposed of. All pumping and drainage shall be done without damage to property or structures and without interference with the rights of the public, owners of private property, pedestrians, vehicular traffic, or the work of other contractors.
2. The overloading or obstructing of existing drainage facilities will not be permitted and the CONTRACTOR shall be solely responsible for damage caused by his operations.
3. Both the dry weather and storm flows in all existing sewers, ditches, catch basins, gutters, streams, rivers and drains, which may in any way be affected by the new construction, shall be adequately maintained. Surface water inlets and drains which interfere with the CONTRACTOR’s operations may be temporarily altered or relocated by the CONTRACTOR as directed or approved by the ENGINEER.

D. Trench/Excavation Water Control: The CONTRACTOR shall determine to what extent, if any, variations in surface water levels and underground water levels may affect the work under this Contract. It is the intention of these Contract Documents that all work shall be performed in the dry, and that normal means and methods shall be employed to protect the work as necessary at no additional cost to the OWNER.

01 71 00 EXAMINATION AND PREPARATION**01 71 00**

MOBILIZATION

- A. Mobilization consists of
1. The establishment of the Contractor's offices, buildings, and other facilities to work on the project.
 2. The movement of personnel, equipment, supplies and incidentals to the project site.
 3. Construction costs which are necessary direct costs to the project (bonds, insurance, permits) are of a general nature and items noted in this General Requirement Division (01-00-00) excluding:
 - a. Allowances (01-21-00)
 - b. Prior Bidding costs
- B. Maximum amount for "Mobilization" shall not be greater than ten (10%) of the total bid price.

01 74 00 CLEANING & WASTE MANAGEMENT**01 74 00**

- A. General
1. This Section includes requirements for Waste Management resulting from the work and at the project site.
 2. Related Requirements: Environmental Procedures 01-35-43.
- B. Progress Cleaning: The Contractor shall keep the work area and all property occupied by him in neat and orderly condition at all times. Waste materials, rubbish, and debris shall not be allowed to accumulate. Contractor's equipment, temporary buildings, scaffolding and excess materials shall be promptly removed as they become no longer needed for the progress of the work. At the completion of construction, the work area shall be left raked clean. If, in the opinion of the Engineer, cleanliness of the project is not progressing in a reasonable manner, he shall have the right to direct the Contractor to proceed with such work, or any portion thereof, immediately.
- C. Site Maintenance: Material or equipment delivered on the streets shall be neatly and compactly placed along the sides of the roadway in such a manner so as to cause the least inconvenience to the property owners and to the general public. The Contractor shall erect a material storage shed or sheds necessary as required for the proper storage of materials subject to damage by weathering.
- D. Construction Waste Management and Disposal: All materials in excess of the quantity required for backfilling and all materials unsuitable for backfilling shall be hauled away by the Contractor. It shall be the responsibility of the Contractor to obtain such spoil sites as may be required. The Contractor shall leave such spoil sites in a neat and generally level condition satisfactory to the Engineer.
- E. Waste Disposal: Contractor is responsible to provide trash containers and fund the removal/disposal of construction debris and general trash. Contractor is also responsible for the proper collection, labeling, transporting, manifesting and disposal of polluting or hazardous wastes such as solvents, paints, oil or antifreeze (and rags contaminated with any of these materials), per 40 CFR Part 261 and Michigan Act 64 of 1979. Copies of all manifests should remain available for Owner review upon request. Under no circumstances may hazardous wastes be disposed of in Owner-owned dumpsters, waste containers, drains or sewers, or drained onto roads, parking lots, ditches, wetlands, dirt piles or other soil.
- F. Spills and Accidents: Contractor must immediately notify the Owner in the event that its activities result in a (non-negligible) spill of a hazardous material, or an accident or an injury (to any individual). Contractor must complete the Report and return it to the Engineer within twenty-four (24) hours of occurrence.
- G. Final Cleaning: Upon completion of construction and before final payment is made, the Contractor shall restore his working area to as clean a condition as existed before his operations were started. He shall go over the entire line and refill any places that may have settled. He shall then regrade and put it shape all backfilled trenches, all fills he may have made from excess excavated materials, and all other areas that may have been disturbed through his operations.
- H. Final Cleaning: Execute final cleaning prior to final project assessment/closeout.
1. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces.
 2. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.
 3. Replace filters of operating equipment, as necessary.
 4. Clean debris from roofs, gutters, downspouts, and drainage systems.
 5. Clean site; sweep paved areas, rake clean landscaped surfaces.
 6. Remove waste and surplus materials, rubbish, and construction facilities from the site.

01 77 00 CLOSEOUT PROCEDURES**01 77 00****A. General**

This Section includes requirements for Project Closeouts.

1. Related Requirements
 - a. Closeout Submittals 01-78-00.

B. Substantial Completion:

1. When the Contractor considers the Work is substantially complete, he may submit to Engineer:
 - a. A written notice that the Work is substantially complete, he may submit to Engineer.
 - b. A list of items to be completed or corrected.
2. Engineer together with Owner's Representative will make an inspection, within a reasonable time after receipt of such notice, to determine the status of completion.
 - a. Should Engineer determine that the work is not substantially complete:
 - 1) Engineer will immediately notify Contractor, in writing, stating reasons.
 - 2) Contractor shall remedy the deficiencies in the Work, send a second written notice of substantial completion to the Engineer.
 - 3) Engineer will reinspect the Work.
 - b. When the Engineer finds that the Work is substantially complete, he will:
 - 1) Prepare and deliver to the Owner a tentative Certificate of Substantial Completion on EJCDC Form C-625, with a tentative list of items to be completed or corrected before final payment.

C. Final Inspection:

1. When Contractor considers the Work is complete, he shall submit a written certification that:
 - a. Contract Documents have been reviewed.
 - b. Work has been inspected for compliance with Contract Documents.
 - c. Work has been completed in accordance with Contract Documents.
 - d. Systems have been tested in presence of Owner.
 - e. Work is complete and ready for final inspection.
2. Engineer will make an inspection to verify the status of completion within a reasonable time after receipt of such certification.
3. Should Engineer consider that the Work is incomplete or defective:
 - a. Engineer will promptly notify the Contractor in writing, listing the incomplete or defective work.
 - b. Contractor shall take immediate steps to remedy the stated deficiencies, and send a second written certification to Engineer that the Work is complete.
4. When the Engineer finds that the Work is acceptable under the Contract Documents, he shall request the Contractor to make closeout submittals.

D. Closeout Procedures:

1. Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Engineer's review.
2. Provide submittals to Engineer that are required by governing or other authorities and as listed in Section 01-78-00.
3. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.

01 78 00 CLOSEOUT SUBMITTALS**01 78 00****A. General**

This Section includes requirements for submittal of documents regarding Closeout.

1. Related Requirements:
 - a. Closeout Procedure 01-77-00.

B. Certificates:

1. Evidence of compliance with requirements of governing authorities: Certificates of Inspection.
2. Evidence of Payment and Release of Liens: Executed Section: 00652 "Contractor's Sworn Statement".
3. Certificates of Insurance for products and completed operations.
4. Evidence of Bonding Company approval: Executed section 00653 "Consent of Surety"

- C. Final Adjustments of Accounts: Submit a final statement of accounting to Engineer. Statement shall reflect all adjustments to the Contract Price.
1. The original Contract Price.
 2. Additions and deductions resulting from:
 - a) Previous Change Orders.
 - b) Unit Prices.
 - c) Deductions for liquidated damages.
 - d) Other adjustments.
 3. Total Contract Price, as adjusted.
 4. Previous Payments.
 5. Sum remaining due.

The Engineer will prepare final Change Order, reflecting the adjustment to Contract Price not previously made by Change Orders of as-built quantities and all previous Change Orders.

- D. Final Application: The Contractor shall submit to the Engineer for submission to the Owner final application for payment in accordance with the procedures and requirements stated.
- E. Warranties and Bonds: Provide duplicate notarized copies. Execute and assemble transferable warranty documents from Subcontractors, suppliers, and manufacturers. Provide Table of Contents and assembly in three D side ring binder with durable plastic cover. Submit prior to final Application for Payment. For items of Work delayed beyond date of Substantial Completion, provide updated submittal within 10 days after acceptance, listing date of acceptance as start of warranty period.

Certificate of Substantial Completion

Project:	Owner:	Owner's Contract No.:
Contract:		Date of Contract:
Contractor:		Engineer's Project No.:

This [tentative] [definitive] Certificate of Substantial Completion applies to:

- All Work under the Contract Documents:
 The following specified portions:

_____ Date of Substantial Completion

The Work to which this Certificate applies has been inspected by authorized representatives of Owner, Contractor and Engineer, and found to be substantially complete. The Date of Substantial Completion of the Project or portion thereof designated above is hereby declared and is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below.

A [tentative] [revised tentative] [definitive] list of items to be completed or corrected, is attached hereto. This list may not be all-inclusive, and the failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

The responsibilities between OWNER and CONTRACTOR for security, operation, safety, maintenance, heat, utilities, insurance and warranties shall be as provided in the Contract Documents except as amended as follows:

- Amended Responsibilities
 Not Amended

Owner's Amended Responsibilities:

Contractor's Amended Responsibilities:

The following documents are attached to and made part of this Certificate:

This Certificate does not constitute an acceptance of Work not in accordance with the Contract Documents nor is it a release of Contractor's obligation to complete the Work in accordance with the Contract Documents.

Executed by Engineer	Date
Accepted by Contractor	Date
Accepted by Owner	Date

SECTION 02 41 16 - STRUCTURE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Demolishing designated structures.
2. Demolishing designated slabs-on-grade.
3. Disconnecting and capping designated utilities.
4. Removing designated items for reuse and Owner's retention.
5. Protecting items designated to remain.
6. Removing demolished materials.

1.2 UNIT PRICES

A. Demolished Materials:

1. Basis of Measurement: By cubic yard.
2. Basis of Payment: Includes demolition, loading, removal from Site.

1.3 SUBMITTALS

A. Shop Drawings: Indicate:

1. Demolition and removal sequence and location of salvageable items.
2. Location and construction of barricades fences and temporary Work.

B. Delegated Design Submittals: Signed and sealed Shop Drawings with design calculations and assumptions for bracing, shoring, and underpinning.

C. Permits: Copies of permits required by regulatory agencies for demolition and sidewalk and street closings.

1.4 CLOSEOUT SUBMITTALS

A. Project Record Documents: Accurately record actual locations of capped utilities and subsurface obstructions.

1.5 QUALITY ASSURANCE

A. Perform Work according to White Lake Township standards.

- B. Conform to applicable Road Commission for Oakland County and SESC details for demolition of structures, safety of adjacent structures, dust control, runoff control and disposal
- C. Permits: Obtain required permits from authorities having jurisdiction.

1.6 EXISTING CONDITIONS

- A. Do not sell demolished materials on-Site.
- B. Maintain existing sidewalks to greatest extent possible.

PART 2 - PRODUCTS

2.1 FILL MATERIALS

- A. Fill Material: Type Class II sand backfill, as specified in Section 31 05 13 - Soils for Earthwork 31 05 16 - Aggregates for Earthwork.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Notify affected utility companies before starting work and comply with utility's requirements.
- B. Erect and maintain temporary barriers and security devices at locations indicated, including warning signs and lights, and similar measures, for protection of public and existing improvements indicated to remain.
- C. Adjacent Surfaces: Protect existing landscaping materials, trees, appurtenances and structures indicated to remain.
- D. Prevent movement or settlement of adjacent structures. Provide bracing and shoring.

3.2 DEMOLITION

- A. Use of explosives is not permitted.
- B. Conduct demolition to minimize interference with adjacent structures and occupancies.
- C. Cease operations immediately when adjacent structures appear to be in danger. Notify Architect/Engineer. Do not resume operations until directed.
- D. Conduct operations with minimum interference to public or private accesses to occupied adjacent structures. Maintain protected continuous egress and access from adjacent structures.

- E. Obtain written permission from adjacent property owners when demolition equipment will traverse, infringe upon, or limit access to their property.
- F. Sprinkling: Sprinkle Work with water to minimize dust. Provide hoses and water connections as required for this purpose.
- G. Remove materials to be re-installed or retained in manner to prevent damage; store and protect.
- H. Backfill areas excavated resulting from demolition according to 31 23 23 - Fill.
- I. Rough grade and compact areas affected by demolition to maintain Site grades and contours.
- J. Continuously clean up and remove demolished materials from Site. Do not allow materials to accumulate on-Site.
- K. Do not burn or bury materials on-Site; leave Site in clean condition.

END OF SECTION 02 41 16

SECTION 03 10 00 - CONCRETE FORMING AND ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Formwork for cast-in-place concrete.
2. Shoring, bracing, and anchorage.
3. Architectural form liners.
4. Form accessories.
5. Form stripping.

1.2 SUBMITTALS

A. Product Data: Manufacturer information on void form materials.

B. Shop Drawings:

1. Formwork, shoring, and reshoring.
2. Pertinent dimensions, openings, methods of construction, types of connections, materials, joint arrangement and details, ties and shores, location of framing, studding and bracing, and temporary supports.
3. Means of leakage prevention for concrete exposed to view in finished construction.
4. Sequence and timing of erection and stripping, assumed compressive strength at time of stripping, height of lift, and height of drop during placement.
5. Vertical, horizontal, and special loads according to ACI 347, and camber diagrams if applicable.
6. Notes to formwork erector showing size and location of conduits and piping embedded in concrete according to ACI 318.
7. Procedure and schedule for removal of shores and installation and removal of reshores.

C. Manufacturer's Certificate: Products meet or exceed specified requirements.

D. Field Quality-Control Submittals: Indicate results of Contractor-furnished tests and inspections.

E. Qualifications Statement:

1. Qualifications for licensed professional.

1.3 QUALITY ASSURANCE

A. Perform Work according to ACI 347, 301, and 318.

B. Perform Work according to Road Commission for Oakland County, Michigan Department of Transportation standards.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Store materials off ground in ventilated and protected manner to prevent deterioration from moisture.

PART 2 - PRODUCTS

2.1 PERFORMANCE AND DESIGN CRITERIA

- A. Design, engineer, and construct formwork, shoring, and bracing according to ACI 318 to conform to design and applicable code requirements to achieve concrete shape, line, and dimension as indicated.

2.2 WOOD FORM MATERIALS

- A. Form Materials: At discretion of Contractor.

2.3 PREFABRICATED FORMS

- A. Manufacturers:
 1. EFCO - Economy Forms Corp.
 2. Molded Fiber Glass Construction Products.
 3. Sonoco Products Co.
 4. Symons by Dayton Superior.
 5. Wall-Ties & Forms, Inc.
 6. Western Forms.
 7. Substitutions: Permitted.
 8. Furnish materials according to RCOC, MDOT standards.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify lines, levels, and centers before proceeding with formwork.
- B. Verify that dimensions agree with Drawings.
- C. If formwork is placed after reinforcement resulting in insufficient concrete cover over reinforcement, request instructions from Architect/Engineer before proceeding.

3.2 INSTALLATION

A. Formwork:

1. Provide top form for sloped surfaces steeper than 1.5 horizontal to 1 vertical to hold shape of concrete during placement, unless it can be demonstrated that top forms can be omitted.
2. Positioning:
 - a. Verify horizontal and vertical positions of forms.
 - b. Correct misaligned or misplaced forms before placing concrete.
3. Complete wedging and bracing before placing concrete.
4. Stripping:
 - a. Arrange and assemble formwork to permit dismantling and stripping.
 - b. Permit removal of remaining principal shores.
5. Leave forms in place for minimum number of days according to ACI 347.

B. Form Removal:

1. Do not remove forms or bracing until concrete has gained sufficient strength to carry its own weight and imposed loads, and removal has been approved by Architect/Engineer.
2. Form Release Agent:
 - a. Apply according to manufacturer instructions.
 - b. Apply prior to placement of reinforcing steel, anchoring devices, and embedded items.
 - c. Do not apply form release agent if concrete surfaces are indicated to receive special finishes or applied coverings that may be affected by agent.
 - d. Soak inside surfaces of untreated forms with clean water, and keep surfaces coated prior to placement of concrete.
3. Form Cleaning:
 - a. Clean formed cavities of debris prior to placing concrete.
 - b. Flush with water or use compressed air to remove remaining foreign matter.
 - c. During cold weather, remove ice and snow from within forms without using de-icing salts, and use compressed air or other dry method to remove foreign matter.
4. Reuse and Coating of Forms:
 - a. Thoroughly clean forms and reapply form coating before each reuse.
 - b. For exposed Work, do not reuse forms with damaged faces or edges.
 - c. Apply form coating to forms according to manufacturer instructions.
 - d. Do not coat forms for concrete indicated to receive "scored finish."
 - e. Apply form coatings before placing reinforcing steel.

C. Forms for Surfaces to Receive Membrane Waterproofing:

1. Use plywood or steel forms.
2. After erection of forms, tape form joints to prevent protrusions in concrete.

- D. Arrange formwork to allow proper erection sequence and to permit form removal without damage to concrete.
- E. Construction Joints:
 - 1. Install surfaced pouring strip where construction joints intersect on exposed surfaces to provide straight line at joints.
 - 2. Just prior to subsequent concrete placement, remove strip and tighten forms to conceal shrinkage.
 - 3. Appearance:
 - a. Show no overlapping of construction joints.
 - b. Construct joints to present same appearance as butted plywood joints.
- F. Screeds:
 - 1. Set screeds and establish levels for tops of and finish on concrete slabs.
 - 2. Slope slabs to drain as required or as indicated.

3.3 FIELD QUALITY CONTROL

- A. Inspection:
 - 1. Inspect erected formwork, shoring, and bracing to ensure that Work complies with formwork design and that supports, fastenings, wedges, ties, and items are secure.
 - 2. Notify Architect/Engineer after placement of reinforcing steel in forms but prior to placing concrete.
 - 3. Schedule concrete placement to permit formwork inspection before placing concrete.

END OF SECTION 03 10 00

SECTION 03 20 00 - CONCRETE REINFORCING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Reinforcing bars.
 - 2. Welded wire fabric.
 - 3. Reinforcement accessories.

1.2 SUBMITTALS

- A. Shop Drawings:
 - 1. Bar sizes, spacings, locations, splice locations, and quantities of reinforcing steel and welded wire fabric.
 - 2. Bending and cutting schedules.
 - 3. Supporting and spacing devices.
- B. Manufacturer's Certificate: Products meet or exceed specified requirements.
- C. Submit certified copies of mill test report of reinforcement materials analysis.
- D. Welder Certificates: Certify welders and welding procedures employed on Work, verifying AWS qualification within previous 12 months.
- E. Source Quality-Control Submittals: Indicate results of shop factory tests and inspections.
- F. Field Quality-Control Submittals: Indicate results of Contractor-furnished tests and inspections.
- G. Qualifications Statement:

1.3 QUALITY ASSURANCE

- A. Perform Work according to RCOC, MDOT standards.
- B. Welders: AWS qualified within previous 12 months for employed weld types.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Store materials according to manufacturer instructions.
- B. Protection:

1. Protect materials from moisture by storing in clean, dry location remote from construction operations areas.
2. Provide additional protection according to manufacturer instructions.

1.5 EXISTING CONDITIONS

A. Field Measurements:

1. Verify field measurements prior to fabrication.
2. Indicate field measurements on Shop Drawings.

PART 2 - PRODUCTS

2.1 REINFORCEMENT

A. Reinforcing Steel:

1. Comply with ASTM A615.
2. Billet Bars: Plain.
3. Finish: Galvanized.

B. Plain Bar Mats:

1. Material: Steel bars.
2. Comply with ASTM A704.
3. Fabrication: ASTM A615 or ASTM A706.
4. Finish: Galvanized.

C. Plain Wire:

1. Comply with ASTM A1064.
2. Finish: Galvanized.

2.2 SHOP FINISHING

A. Galvanized Finish for Steel Bars:

1. Comply with ASTM A767.
2. Hot-dip galvanized after fabrication.

B. Epoxy-Coated Finish for Steel Bars: Comply with ASTM A775.

C. Epoxy-Coated Finish for Steel Wire: Comply with ASTM A884, Class A.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Place, support, and secure reinforcement against displacement.
- B. Do not weld crossing reinforcement bars for assembly except as permitted by Architect/Engineer.
- C. Spacing:
 - 1. Space reinforcement bars with minimum clear spacing according to ACI 318.
 - 2. If bars are indicated in multiple layers, place upper bars directly above lower bars.
- D. Conform to applicable code for concrete cover over reinforcement.

END OF SECTION 03 20 00

SECTION 03 30 00 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes Cast-in-Place Concrete for Following Items:
 - 1. Slabs on grade.
 - 2. Control, expansion, and contraction joint devices.
 - 3. Thrust blocks.
 - 4. Manholes.

1.2 UNIT PRICES

- A. Concrete - Slab-on-Fill or Grade:
 - 1. Basis of Measurement:
 - a. By cubic yard.
 - 2. Basis of Payment: Includes concrete, placement accessories, consolidating and leveling, troweling, and curing.
- B. Devices - Control, Expansion, and Contraction:
 - 1. Basis of Measurement: By linear foot.
 - 2. Basis of Payment: Includes component, placement, and accessories. Included with concrete placement work.

1.3 SUBMITTALS

- A. Product Data: Submit data on joint devices, attachment accessories, admixtures.
- B. Design Data:
 - 1. Submit concrete mix design for each concrete strength.
 - 2. Submit separate mix designs if admixtures are required for following:
 - a. Hot and cold weather concrete Work.
 - b. Air entrained concrete Work.
 - 3. Identify mix ingredients and proportions, including admixtures.
 - 4. Identify chloride content of admixtures and whether or not chlorides were added during manufacture.
- C. Manufacturer's Certificate: Products meet or exceed specified requirements.

- D. Manufacturer Instructions: Submit installation procedures and interfacing required with adjacent Work.
- E. Field Quality-Control Submittals: Indicate results of Contractor-furnished tests and inspections.

1.4 CLOSEOUT SUBMITTALS

- A. Project Record Documents: Record actual locations of embedded utilities and components concealed from view in finished construction.

1.5 QUALITY ASSURANCE

- A. Comply with ACI 305R when pouring concrete during hot weather.
- B. Comply with ACI 306.1 when pouring concrete during cold weather.
- C. Acquire cement and aggregate from one source for Work.
- D. Perform Work according to Road Commission for Oakland County standards.

1.6 AMBIENT CONDITIONS

- A. Maintain concrete temperature after installation at minimum 45 degrees F for minimum 7 days.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Concrete:
 - 1. Cement:
 - a. Comply with ASTM C150, Type I - Normal.
 - b. Type: Portland.
 - 2. Normal Weight Aggregates:
 - a. Comply with ASTM C33.
 - b. Coarse Aggregate Maximum Size: According to ACI 318.
 - 3. Lightweight Aggregate:
 - a. Comply with ASTM C330.
 - b. Coarse Aggregate Maximum Size: According to ACI 318.
 - 4. Water:

- a. Comply with ACI 318.
 - b. Potable, without deleterious amounts of chloride ions.
- B. Admixtures:
- a. Furnish materials according to Road Commission for Oakland County standards.
- 2. Air Entrainment: Comply with ASTM C260.
 - 3. Chemical:
 - a. Comply with ASTM C494.
 - 4. Fly Ash: Comply with ASTM C618, Class.
 - 5. Silica Fume: Comply with ASTM C1240.
 - 6. Slag:
 - a. Description: Ground-granulated blast-furnace slag.
 - b. Comply with ASTM C989.
- C. Joint Devices and Filler:
- 1. Joint Filler, Type A:
 - a. Description: Asphalt-impregnated fiberboard or felt.
 - b. Comply with ASTM D1751.

2.2 CONCRETE MIX

- A. Select proportions for concrete according to ACI 318 field test data.
- B. Select proportions for concrete according to ACI 318 without trial mixtures or field test data if approved by Architect/Engineer.
- C. Ready-Mixed Concrete: Mix and deliver concrete according to ASTM C94.
- D. Site-Mixed Concrete: Mix concrete according to ACI 318.

2.3 ACCESSORIES

PART 3 - EXECUTION

3.1 PREPARATION

- A. In locations where new concrete is doweled to existing work, drill holes in existing concrete, insert steel dowels, and pack solid with non-shrink grout.
- B. Remove debris and ice from formwork, reinforcement, and concrete substrates.
- C. Remove water from areas receiving concrete before concrete is placed.

3.2 INSTALLATION

A. Placing Concrete:

1. Place concrete according to ACI 301, 318.
2. Notify testing laboratory and Architect/Engineer minimum 24 hours prior to commencement of operations.
3. Ensure that reinforcement, inserts, embedded parts, formed expansion and contraction joints are not disturbed during concrete placement.
4. Install vapor retarder under interior slabs on grade according to ASTM E1643.
5. Joint Filler:
 - a. Separate slabs on grade from vertical surfaces with joint filler.
 - b. Place joint filler in pattern placement sequence; set top to required elevations; secure to resist movement by wet concrete.
6. Deposit concrete at final position, preventing segregation of mix.
7. Place concrete in continuous operation for each panel or section as determined by predetermined joints.
8. Consolidate concrete.
9. Maintain records of concrete placement, including date, location, quantity, air temperature, and test samples taken.
10. Place concrete continuously between predetermined expansion, control, and construction joints.
11. Saw-Cut Joints:
 - a. Saw-cut joints within 12 hours after placing.

B. Curing and Protection:

1. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.
2. Maintain concrete with minimal moisture loss at relatively constant temperature for period as necessary for hydration of cement and hardening of concrete.
3. Cure concrete according to ACI 308.1.

3.3 FIELD QUALITY CONTROL

- A. Inspection and Testing: Performed by Owner's testing laboratory according to ACI 318.
- B. Perform inspection and testing according to ACI 318.
- C. Provide unrestricted access to Work and cooperate with appointed testing and inspection firm.
- D. Submit proposed mix design of each class of concrete to inspection and testing firm for review prior to commencement of Work.
- E. Concrete Inspections:
 1. Continuous Placement Inspection: Inspect for proper installation procedures.

F. Strength Test Samples:

1. Sampling Procedures: Comply with ASTM C172.
2. Cylinder Molding and Curing Procedures:
 - a. Comply with ASTM C31.
 - b. Cylinder Specimens: Field cured.
3. Sample concrete and make one set of three cylinders for every 50 cu. yd. or less of each class of concrete placed each day, and for every 1000 sq. ft. of surface area for slabs and walls.
4. If volume of concrete for a class of concrete would provide less than five sets of cylinders, take samples from five randomly selected batches, or from every batch if less than five batches are used.
5. Make one additional cylinder during cold weather concreting and field cure.

G. Field Testing:

1. Slump Test Method: Comply with ASTM C143.
2. Air Content Test Method: Comply with ASTM C173.
3. Temperature Test Method: Comply with ASTM C1064.
4. Compressive Strength Concrete:
 - a. Measure slump and temperature for each sample.
 - b. Measure air content in air-entrained concrete for each sample.

H. Cylinder Compressive Strength Testing:

1. Test Method: Comply with ASTM C39.
2. Test Acceptance: According to ACI 318.
3. Test one cylinder at 7 days.
4. Retain one cylinder for 28 days for testing when requested by Architect/Engineer.
5. Dispose of remaining cylinders if testing is not required.

I. Defective Concrete:

1. Description: Concrete not conforming to required lines, details, dimensions, tolerances, or specified requirements.
2. Repair or replacement of defective concrete will be determined by Architect/Engineer.
3. Do not patch, fill, touch up, repair, or replace exposed concrete except upon express direction of Architect/Engineer for each individual area.

END OF SECTION 03 30 00

SECTION 03 39 00 - CONCRETE CURING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Initial and final curing of horizontal concrete surfaces.

1.2 SUBMITTALS

- A. Product Data: Manufacturer's information on curing compounds, mats, paper, and film, including compatibilities and limitations.
- B. Manufacturer's Certificate: Products meet or exceed specified requirements.
- C. Manufacturer Instructions: Installation requirements, including storage and handling procedures.
- D. Qualifications Statement:
 - 1. Qualifications for manufacturer.

1.3 QUALITY ASSURANCE

- A. Perform Work according to Road Commission for Oakland County standards.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Store materials according to manufacturer instructions.
- B. Protection:
 - 1. Protect materials from moisture and dust by storing in clean, dry location remote from construction operations areas.
 - 2. Provide additional protection according to manufacturer instructions.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Membrane-Curing Compound
 - 1. Comply with ASTM C309

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that substrate surfaces are ready to be cured.

3.2 APPLICATION

- A. Horizontal Surfaces:

1. Membrane-Curing Compound: Apply curing compound in two coats with second coat applied at right angles to first.
2. Non-membrane-Forming Curing Compound:
 - a. Apply curing compound in one coat.
 - b. Maintain surface wet with curing compound, without ponding, for time as recommended by manufacturer.

3.3 PROTECTION

- A. Do not permit traffic over unprotected floor surfaces.

END OF SECTION 03 39 00

SECTION 31 05 13 - SOILS FOR EARTHWORK

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Subsoil materials.
2. Topsoil materials.

1.2 UNIT PRICES

A. Topsoil:

1. Basis of Measurement: Square Yard
2. Basis of Payment: Includes excavating existing topsoil, supplying topsoil materials, and stockpiling.

1.3 SUBMITTALS

A. Product Data: Submit name of imported materials source.

1.4 QUALITY ASSURANCE

- A. Furnish each subsoil and topsoil material from single source throughout Work.
- B. Perform Work according to Oakland County standards.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Topsoil:

1. Type S3: Comply with Oakland County standard.
2. Type S4:
 - a. Excavated and reused material.
 - b. Graded and single screened.
 - c. Free of roots, rocks larger than 1 inch, subsoil, debris, large weeds, and foreign matter.
 - d. Imported borrow.
 - e. Friable loam.

- f. Reasonably free of roots, rocks larger than 1 inch, subsoil, debris, large weeds, and foreign matter.
- g. Single screened.
- h. pH: 5.5 to 7.5.
- i. Inorganic Material: Minimum 4 percent and maximum 25 percent.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Excavation:

- 1. Excavate topsoil from designated areas.
- 2. Strip topsoil to full depth of topsoil in designated areas.
- 3. Remove excess excavated materials, subsoil, and topsoil not intended for reuse from Site.
- 4. Remove excavated materials not meeting requirements for subsoil and topsoil materials from Site.

B. Stockpiling:

- 1. Stockpile excavated material meeting requirements for subsoil and topsoil materials.
- 2. Stockpile materials on Site at locations as designated by Architect/Engineer.
- 3. Stockpile in sufficient quantities to meet Project schedule and requirements.
- 4. Separate differing materials with dividers or stockpile apart to prevent intermixing of soil types or contamination.
- 5. Stockpile topsoil maximum 8 feet high.
- 6. Direct surface water away from stockpile to prevent erosion or deterioration of materials.
- 7. Stockpile unsuitable materials on impervious material and cover to prevent erosion and leaching until they are disposed.

3.2 CLEANING

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for cleaning.

B. Stockpile:

- 1. Remove stockpile and leave area in clean and neat condition.
- 2. Grade Site surface to prevent freestanding surface water.

C. Leave unused materials in neat, compact stockpile.

END OF SECTION 31 05 13

SECTION 31 05 16 - AGGREGATES FOR EARTHWORK

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Coarse aggregate materials.
 - 2. Fine aggregate materials.

1.2 UNIT PRICES

- A. Aggregate:
 - 1. Basis of Measurement: By cubic yard.
 - 2. Basis of Payment: Includes supplying aggregate materials, stockpiling, placement, compaction and maintenance.

1.3 SUBMITTALS

- A. Product Data: Submit name of imported materials source.
- B. Manufacturer's Certificate: Products meet or exceed specified requirements.

1.4 QUALITY ASSURANCE

- A. Furnish each aggregate material from single source throughout Work.
- B. Perform Work according to Road Commission for Oakland County standards.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Coarse Aggregate:
 - 1. Comply with Road Commission for Oakland County standard.
- B. Fine Aggregate:
 - 1. Comply with Road Commission for Oakland County standard.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Excavation:

1. Excavate aggregate materials from Site locations as indicated and as specified in Section.
2. Remove excess excavated coarse-aggregate and fine-aggregate materials not intended for reuse from Site.
3. Remove excavated materials not meeting requirements for coarse aggregate and fine aggregate from Site.

B. Stockpiling:

1. Stockpile materials on Site at locations as indicated.
2. Stockpile excavated material meeting requirements for coarse-aggregate and fine-aggregate materials.
3. Stockpile in sufficient quantities to meet Project schedule and requirements.
4. Separate different aggregate materials with dividers or stockpile apart to prevent intermixing of aggregate types or contamination.
5. Direct surface water away from stockpile site to prevent erosion or deterioration of materials.
6. Stockpile unsuitable materials on impervious material and cover to prevent erosion and leaching until they are disposed.

3.2 CLEANING

A. Stockpile:

1. Remove stockpile and leave area in clean and neat condition.
2. Grade Site surface to prevent freestanding surface water.

END OF SECTION 31 05 16

SECTION 31 05 19.13 - GEOTEXTILES FOR EARTHWORK

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Turf reinforcement mats (TRMs).
 - 2. Nonwoven geotextile material.

1.2 UNIT PRICES

- A. Geotextiles:
 - 1. Basis of Measurement: By square yard in place.
 - 2. Basis of Payment:
 - a. Includes materials, equipment, installation, and testing of geotextile material.
 - b. No allowance will be made for overlaps.

1.3 SUBMITTALS

- A. Product Data: Manufacturer information including tensile strength, elongation, thickness, UV resistance, and other material specifications.
- B. Shop Drawings: Fabric layout, seam locations, and overlap details in installation drawings.
- C. Manufacturer's Certificate: Products meet or exceed specified requirements.
- D. Manufacturer Instructions: Installation requirements, including storage and handling procedures.
- E. Qualifications Statements:
 - 1. Qualifications for manufacturer and installer.
 - 2. Manufacturer's approval of installer.

1.4 QUALITY ASSURANCE

- A. Perform Work according to Oakland County standards.
- B. Manufacturer: Company specializing in manufacturing products specified in this Section with three years' experience.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Comply with ASTM D4873.
- B. Store materials according to manufacturer instructions.
- C. Protection:
 - 1. Protect materials from moisture and dust by storing in clean, dry location remote from construction operations areas.
 - 2. Provide additional protection according to manufacturer instructions.

PART 2 - PRODUCTS

2.1 TRM

- A. Furnish materials according to Oakland County standards.
- B. Description:
 - 1. Non-biodegradable, UV-resistant, woven geotextile fabric.
 - 2. Material: Use wildlife-safe materials for erosion control and site restoration throughout the project area. Do not use erosion control products containing plastic mesh netting or other similar material.
 - 3. Edges: finished to prevent separation of outer material.
 - 4. Calendar such that yarns will retain relative positions.

2.2 ACCESSORIES

- A. Securing Pins:
 - 1. Material: Steel rods or bars.
- B. Wire Staples:
 - 1. Material: Steel.
 - 2. Minimum Size: Per manufacturer's recommendations
 - 3. Minimum Length: Per manufacturer's recommendations.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that underlying surface is smooth and free of ruts or protrusions that could damage geotextile material.

3.2 PREPARATION

- A. Subgrade Material and Compaction Requirements: As specified in Section 31 23 16.13 – Trenching, 31 23 23 - Fill.

3.3 INSTALLATION

A. Geotextile Material:

1. Lay and maintain smooth and free of tensile stresses, folds, wrinkles, or creases.
2. Ensure that material is in direct contact with subgrade.
3. Orientate with long dimension of each sheet parallel to direction of slope.

B. Securement Pins:

1. Insert through geotextile midway between edges of overlaps and minimum 18 inches from free edges.
2. Minimum Spacing:
 - a. Slopes Steeper than 3 Horizontal on 1 Vertical: 18 inches o.c.
 - b. Slopes 3 Horizontal on 1 Vertical to 4 Horizontal on 1 Vertical: 3 feet o.c.
 - c. Slopes Flatter than 4 Horizontal on 1 Vertical: 10 feet o.c.
3. Ensure that washer bears against geotextile.

C. Seams:

1. Minimum Seamed Joints Overlap: 12 inches at longitudinal and transverse joints.
2. Seams across Slope: Lap upper panel over lower panel.
3. Sewn Seams:
 - a. Continuously sew seams at locations indicated.
 - b. Stitch Type: As recommended by geotextile manufacturer.
 - c. Tie off thread at the end of each seam to prevent unraveling.
4. Thermal Seams:
 - a. As recommended by geotextile manufacturer.
 - b. Comply with ASTM D4886.

D. Penetrations: As recommended by geotextile manufacturer.

E. Repairing Damaged Geotextiles:

1. Repair torn or damaged geotextile by placing patch of same type of geotextile over damaged area minimum of 12 inches beyond edge of damaged area, and fasten as recommended by geotextile manufacturer.
2. Remove and replace geotextile rolls which cannot be repaired.

F. Fill and Cover:

1. Place fill to prevent tensile stress or wrinkles in geotextile.
2. Place fill from bottom of side-slopes upward.
3. Do not drop fill from height greater than 3 feet.

3.4 PROTECTION

- A. Ballast: Adequate to prevent uplift of material by wind.
- B. UV Exposure: Do not leave material uncovered for more than 5 days after installation.
- C. Do not use staples or pins to hold geotextiles in place where located adjacent to other geosynthetic layers that could be damaged.
- D. Do not operate equipment directly on top of geotextile.

END OF SECTION 31 05 19.13

SECTION 31 10 00 - SITE CLEARING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Removing surface debris.
2. Removing designated paving, curbs and other areas noted on the plans.
3. Removing designated trees, shrubs, and other plant life.
4. Removing abandoned utilities.
5. Excavating topsoil.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

A. Site Clearing:

1. Basis of Measurement: By square yard.
2. Basis of Payment: Includes clearing Site, loading and removing waste materials from Site, applying herbicide to designated plant life.

1.3 SUBMITTALS

- A. Product Data: Herbicide; indicate compliance with applicable codes for environmental protection.

1.4 QUALITY ASSURANCE

- A. Conform to applicable codes for environmental requirements, disposal of debris.
- B. Perform Work according to White Lake Township, Road Commission for Oakland County standards.

PART 2 - PRODUCTS

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify existing plant life designated to remain is tagged or identified.
- B. Identify waste area for placing removed materials.

3.2 PREPARATION

- A. Call local utility line information service at 811 or at 1-800-482-7171 not less than three working days before performing Work.
 - 1. Request underground utilities to be located and marked within and surrounding construction areas.

3.3 PROTECTION

- A. Locate, identify, and protect utilities indicated to remain from damage.
- B. Protect benchmarks, survey control points, and existing structures from damage or displacement.

3.4 CLEARING

- A. Clear areas required for access to Site and execution of Work to minimum depth of 4 inches.
- B. Remove trees and shrubs indicated. Remove stumps, main root ball, surface rock, and other areas shown on the drawings.
- C. Clear undergrowth and deadwood, without disturbing subsoil.
- D. Apply herbicide to remaining stumps to inhibit growth.

3.5 REMOVAL

- A. Remove debris, rock, and extracted plant life from Site.
- B. Partially remove paving, curbs, and, gutters as indicated. Neatly saw cut edges at right angle to surface.
- C. Remove abandoned utilities. Indicated removal termination point for underground utilities on record documents.
- D. Continuously clean-up and remove waste materials from Site. Do not allow materials to accumulate on Site.
- E. Do not burn or bury materials on Site. Leave Site in clean condition.

3.6 TOPSOIL EXCAVATION

- A. Excavate topsoil from areas to be further excavated, relandscaped, or regraded, without mixing with foreign materials for use in finish grading.
- B. Do not excavate wet topsoil.

- C. Stockpile in area designated on Site to depth not exceeding 8 feet and protect from erosion. Stockpile material on impervious material and cover over with same material until disposal.
- D. Remove excess topsoil not intended for reuse from Site.

END OF SECTION 31 10 00

SECTION 31 22 13 - ROUGH GRADING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Excavating topsoil.
2. Excavating subsoil.
3. Cutting, grading, filling, rough contouring, compacting site.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

A. Topsoil

1. Basis of Measurement: By square yard to elevations indicated.
2. Basis of Payment: Includes excavating existing soil, supplying soil materials, stockpiling, scarifying substrate surface, placing where required, and compacting.

1.3 QUALITY ASSURANCE

- A. Perform Work according to ASTM C136, ASTM D2419, and ASTM D2434.
- B. Perform Work according to White Lake Township, Road Commission for Oakland County, Oakland County WRC standards.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Topsoil: Type S3 S4 S5 as specified in Section 31 05 13.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify survey bench mark and intended elevations for Work are as indicated.

3.2 PREPARATION

- A. Call local utility line information service at 811 or 1-800-482-7171 not less than three working days before performing Work.

1. Request underground utilities to be located and marked within and surrounding construction areas.
- B. Identify required lines, levels, contours, and datum.
- C. Notify utility company to remove and relocate utilities.
- D. Protect utilities indicated to remain from damage.
- E. Protect plant life, lawns, and other features remaining as portion of final landscaping.
- F. Protect bench marks, survey control point, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

3.3 TOPSOIL EXCAVATION

- A. Excavate topsoil from areas to be further excavated, relandscaped, or regraded, marked areas, without mixing with foreign materials for use in finish grading.
- B. Do not excavate wet topsoil.
- C. Stockpile in area designated on Site to depth not exceeding 8 feet and protect from erosion. Stockpile material on impervious material until disposal.
- D. Remove excess topsoil not intended for reuse from Site.

3.4 FILLING

- A. Fill areas to contours and elevations with unfrozen materials.
- B. Place fill material in continuous layers and compact.
- C. Maintain optimum moisture content of fill materials to attain required compaction density.
- D. Slope grade away from building minimum 5 percent slope for minimum distance of 10 feet, unless noted otherwise.
- E. Make grade changes gradual. Blend slope into level areas.
- F. Repair or replace items indicated to remain damaged by excavation or filling.

3.5 TOLERANCES

- A. Top Surface of Subgrade: Plus or minus 1/10 foot from required elevation.

3.6 FIELD QUALITY CONTROL

- A. Perform laboratory material tests according to ASTM D1557. ASTM D698. AASHTO T180.

- B. Perform in place compaction tests according to following:
 - 1. Density Tests: ASTM D1556, ASTM D2167, or ASTM D2922.
 - 2. Moisture Tests: ASTM D3017.

- C. When tests indicate Work does not meet specified requirements, remove Work, replace and retest.

END OF SECTION 31 22 13

SECTION 31 23 16 - EXCAVATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Soil densification.
2. Excavating for paving, roads.
3. Excavating for slabs on grade.
4. Excavating for Site structures.
5. Excavating for landscaping.

1.2 UNIT PRICES

A. Excavating Soil Materials:

1. Basis of Measurement: By cubic yard.
2. Basis of Payment:
 - a. Includes general excavating to required elevations, loading and placing materials in stockpile removing from Site.
 - b. Over-Excavating: Payment will not be made for over-excavated Work nor for replacement materials due to over-excavated Work.

1.3 QUALITY ASSURANCE

- ##### A. Perform Work according to Road Commission for Oakland County and White Lake Township standards.

PART 2 - PRODUCTS

2.1 Not Used.

PART 3 - EXECUTION

3.1 PREPARATION

A. Utility Service Locator:

1. Call local utility service-line information at 811 or 1-800-482-7171 not less than three working days before performing Work.

2. Request that underground utilities be located and marked within and immediately surrounding construction areas.
 3. Identify required lines, levels, contours, and data.
- B. Existing Utilities:
1. Notify utility company to remove and relocate utilities.
 2. Protect from damage utilities indicated to remain.
- C. Protect plant life, lawns, rock outcroppings, and other features designated to remain as portion of final landscaping.
- D. Protect benchmarks, survey control points, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

3.2 EXCAVATION

- A. Underpin adjacent structures which may be damaged by excavation Work.
- B. Excavate subsoil to accommodate building foundations, slabs on grade, paving, Site structures, construction operations.
- C. Slope banks with machine to angle of repose or less until shored.
- D. Grade top perimeter of excavation to prevent surface water from draining into excavation.
- E. Trim excavation and remove loose matter.
- F. Notify Architect/Engineer of unexpected subsurface conditions.
- G. Correct over-excavated areas with structural fill Type Class II sand as specified in Section 31 23 23 - Fill.
- H. Remove excavated material from Site.
- I. Repair or replace items indicated to remain that have been damaged by excavation.

3.3 PROTECTION

- A. Prevent displacement or loose soil from falling into excavation and maintain soil stability.
- B. Protect structures, utilities, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards that may be created by earth operations.

END OF SECTION 31 23 16

SECTION 31 23 23 - FILL

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Backfilling Site structures to subgrade elevations.
 - 2. Fill under paving.
 - 3. Fill for over-excavation.

1.2 SUBMITTALS

- A. Materials Source: Submit name of imported materials suppliers.
- B. Manufacturer's Certificate: Products meet or exceed specified requirements.

1.3 QUALITY ASSURANCE

- A. Perform Work according to Road Commission for Oakland County and White Lake Township standards.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Subsoil Fill: Type S1 S2, as specified in Section 31 05 13 - Soils for Earthwork.
- B. Granular Fill: Type A1 A2 A3 A7, as specified in Section 31 05 16 - Aggregates for Earthwork.

2.2 ACCESSORIES

- A. Geotextile Fabric: As specified in Section 31 05 19.13 - Geotextiles for Earthwork.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Compact subgrade to specified density requirements for subsequent backfill materials.
- B. Soft Subgrade:

1. Cut out soft areas of subgrade not capable of compaction in place.
2. Backfill with granular fill and compact to density equal to or greater than specified requirements for subsequent fill material.

3.2 BACKFILLING

- A. Backfill areas to contours and elevations.
- B. Systematically backfill to allow maximum time for natural settlement.
- C. Do not backfill over porous, wet, frozen, or spongy subgrade surfaces, and do not backfill with frozen materials.
- D. Place fill material in continuous layers and compact.
- E. Use placement method that does not disturb or damage utilities in trench.
- F. Maintain optimum moisture content of fill materials to attain required compaction density.
- G. Make gradual grade changes, and blend slope into level areas.
- H. Remove surplus backfill materials from Site.
- I. Leave fill material stockpile areas free of excess fill materials.

3.3 FIELD QUALITY CONTROL

- A. Perform laboratory material tests according to AASHTO T180.
- B. In-Place Compaction Testing:
 1. Density Tests: ASTM D1556/D1556M, ASTM D2167, or ASTM D6938.
 2. Moisture Tests: ASTM D6031/6031M.
- C. If tests indicate that Work does not meet specified requirements, remove Work, replace, compact, and retest.
- D. Testing Frequency: once per 500 LF of trench.
- E. Proof-roll compacted fill surfaces under slabs on grade, pavers, paving, and concrete sidewalks.

3.4 PROTECTION

- A. Reshape and recompact fills subjected to vehicular traffic during construction.

END OF SECTION 31 23 23

SECTION 31 25 00 - EROSION AND SEDIMENTATION CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Sediment Traps.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

- A. Sediment Trap:
 - 1. Basis of Measurement: By each unit.
 - 2. Basis of Payment: Includes clearing, excavating, forming embankment, placing aggregate or rock and geotextile fabric, seeding, and mulching.

1.3 SUBMITTALS

- A. Product Data: Geotextile.
- B. Manufacturer's Certificate: Products meet or exceed specified requirements.

1.4 QUALITY ASSURANCE

- A. Perform Work according to Oakland County WRC standards.

PART 2 - PRODUCTS

2.1 GEOTEXTILE MATERIALS

- A. Geotextile Fabric:
 - 1. Furnish according to Oakland County WRC standards.
 - 2. Use wildlife-safe materials for erosion control throughout the project area. Do not use erosion control products containing plastic mesh netting or other similar material.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify compacted stabilized soil is acceptable and ready to support devices and imposed loads.

- B. Verify gradients and elevations of base or foundation for other Work are correct.

3.2 SEDIMENT TRAPS

- A. Install Work according to Oakland County WRC standards.

3.3 SITE STABILIZATION

- A. Incorporate indicated erosion control devices into Project at earliest practicable time.
- B. Construct, stabilize and activate erosion controls before Site disturbance within tributary areas of those controls.
- C. Stockpile and waste pile heights shall not exceed 35 feet. Slope stockpile sides at 2:1 or flatter.
- D. Stabilize any disturbed area of affected erosion control devices on which activity has ceased and which will remain exposed for more than 20 days.
 - 1. During non-germinating periods, apply mulch at recommended rates.
 - 2. Stabilize disturbed areas which are either at finished grade or will not be disturbed within one year according to Section 32 91 13 and Section 32 92 19 permanent seeding specifications.

3.4 FIELD QUALITY CONTROL

- A. Inspect erosion control devices on a weekly basis and after each runoff event. Make necessary repairs to ensure erosion and sediment controls are in good working order.

3.5 CLEANING

- A. When sediment accumulation in sedimentation structures has reached a point one-third depth of sediment structure or device, remove and dispose of sediment.
- B. Do not damage structure or device during cleaning operations.
- C. Do not permit sediment to erode into construction or Site areas or natural waterways.
- D. Clean channels when depth of sediment reaches approximately one half channel depth.

END OF SECTION 31 25 00

SECTION 32 05 13 - SOILS FOR EXTERIOR IMPROVEMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Subsoil materials.
2. Topsoil materials.

1.2 UNIT PRICES - MEASUREMENT AND PAYMENT

A. Subsoil:

1. Basis of Measurement: By cubic yard.
2. Basis of Payment: Includes excavating existing subsoil, supplying subsoil materials, stockpiling.

B. Topsoil:

1. Basis of Measurement: By cubic yard.
2. Basis of Payment: Includes excavating existing topsoil, supplying topsoil materials, stockpiling.

1.3 SUBMITTALS

- A. Materials Source: Submit name of imported materials source.
- B. Manufacturer's Certificate: Products meet or exceed specified requirements.

1.4 QUALITY ASSURANCE

- A. Furnish each subsoil and topsoil material from single source throughout Work.
- B. Perform Work according to Road Commission for Oakland County and White Lake Township standards.

PART 2 - PRODUCTS

2.1 SUBSOIL MATERIALS

- A. Subsoil Type S1: Conforming to Road Commission for Oakland County and White Lake Township standards.

B. Subsoil Type S2:

1. Excavated and reused material.
2. Graded.
3. Free of lumps larger than 3 inches, rocks larger than 2 inches, and debris.
4. Conforming to ASTM D2487 Group Symbol CL.

2.2 TOPSOIL MATERIALS

A. Topsoil Type S3: Conforming to Oakland County WRC standards.

B. Topsoil Type S4:

1. Excavated and reused material.
2. Graded.
3. Free of roots, rocks larger than 1/2 inch, subsoil, debris, large weeds and foreign matter.
 - a. Screening: Single screened.
4. Conforming to ASTM D2487 Group Symbol OH..

C. Topsoil Type S5:

1. Imported borrow.
2. Friable loam.
3. Reasonably free of roots, rocks larger than 1/2 inch, subsoil, debris, large weeds, and foreign matter.
 - a. Screening: Single screened.
4. Acidity range (pH) of 5.5 to 7.5.
5. Containing minimum of 4 percent and maximum of 25 percent inorganic matter.
6. Conforming to ASTM D2487 Group Symbol OH.

PART 3 - EXECUTION

3.1 EXCAVATION

- A. Excavate subsoil and topsoil from areas designated. Strip topsoil to full depth of topsoil in designated areas.
- B. Stockpile excavated material meeting requirements for subsoil materials and topsoil materials.
- C. Remove excess excavated materials not intended for reuse, from Site.
- D. Remove excavated materials not meeting requirements for subsoil materials and topsoil materials from Site.

3.2 STOCKPILING

- A. Stockpile materials on Site at locations indicated.
- B. Stockpile in sufficient quantities to meet Project schedule and requirements.
- C. Separate differing materials with dividers or stockpile apart to prevent mixing.
- D. Stockpile topsoil 8 feet high maximum.
- E. Prevent intermixing of soil types or contamination.
- F. Direct surface water away from stockpile site to prevent erosion or deterioration of materials.
- G. Stockpile unsuitable materials on impervious material and cover to prevent erosion and leaching, until disposed of.

3.3 STOCKPILE CLEANUP

- A. Remove stockpile, leave area in clean and neat condition. Grade Site surface to prevent free standing surface water.

END OF SECTION 32 05 13

SECTION 32 11 23 - AGGREGATE BASE COURSES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Aggregate subbase.
 - 2. Aggregate base course.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

- A. Aggregate Subbase:
 - 1. Basis of Measurement: By square yard to elevations indicated.
 - 2. Basis of Payment: Includes supplying fill material, stockpiling, scarifying substrate surface, placing where required, and compacting.
- B. Aggregate Base Course:
 - 1. Basis of Measurement: By square yard to elevations indicated.
 - 2. Basis of Payment: Includes supplying fill material, stockpiling, scarifying substrate surface, placing where required, and compacting.

1.3 SUBMITTALS

- A. Materials Source: Name of aggregate materials suppliers.

1.4 QUALITY ASSURANCE

- A. Furnish each aggregate material from single source throughout Work.
- B. Perform Work according to Road Commission for Oakland County standards.

PART 2 - PRODUCTS

2.1 AGGREGATE MATERIALS

- A. Subbase Aggregate: ASTM D2940; graded type.
 - 1. Percent Passing per Sieve Size:
 - a. 2 Inches 100.
 - b. No. 430 to 60.
 - c. No. 200 Zero to 12.

B. Base Aggregate: ASTM D2940; graded type.

1. Percent Passing per Sieve Size:
 - a. 2 Inches 100.
 - b. 1-1/2 Inches 95 to 100.
 - c. 3/4 Inch 70 to 92.
 - d. 3/8 Inch 50 to 70.
 - e. No. 435 to 55.
 - f. No. 3012 to 25.
 - g. No. 200 Zero to 8.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify compacted substrate is dry and ready to support paving and imposed loads.
 1. Proof-roll substrate in minimum two perpendicular passes to identify soft spots.
 2. Remove soft substrate and replace with compacted fill as specified in Section 31 23 23.
- B. Verify substrate has been inspected, gradients and elevations are correct.

3.2 PREPARATION

- A. Correct irregularities in substrate gradient and elevation by scarifying, reshaping, and re-compacting.
- B. Do not place fill on soft, muddy, or frozen surfaces.

3.3 AGGREGATE PLACEMENT

- A. Spread aggregate over prepared substrate to total compacted thickness of inches indicated.
- B. Roller compact subbase to 95 percent maximum density.
- C. Level and contour surfaces to elevations, profiles, and gradients indicated.
- D. Add small quantities of fine aggregate to coarse aggregate when required to assist compaction.
- E. Maintain optimum moisture content of fill materials to attain specified compaction density.
- F. Use mechanical tamping equipment in areas inaccessible to compaction equipment.

3.4 TOLERANCES

- A. Maximum Variation From Flat Surface: 1/4 inch measured with 10 foot straight edge.

- B. Maximum Variation From Thickness: 1/4 inch.
- C. Maximum Variation From Elevation: 1/2 inch.

3.5 FIELD QUALITY CONTROL

- A. Compaction testing will be performed according to AASHTO T180.
- B. When tests indicate Work does not meet specified requirements, remove Work, replace and retest.
- C. Frequency of Tests: One test for every 1,000 sq yd of each layer compacted aggregate.

3.6 COMPACTION

- A. Compact aggregate base course materials to 98 percent of maximum density as determined from test strip, according to ASTM D2940.

END OF SECTION 32 11 23

SECTION 32 12 16 - ASPHALT PAVING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Asphalt materials.
2. Aggregate materials.
3. Aggregate subbase.
4. Asphalt paving base course, binder course, and wearing course.
5. Asphalt paving overlay for existing paving.
6. Surface slurry.

1.2 SUBMITTALS

A. Product Data:

1. Submit product information for asphalt and aggregate materials.
2. Submit mix design with laboratory test results supporting design.

1.3 QUALITY ASSURANCE

- A. Mixing Plant: Conform to Road Commission for Oakland County standard.
- B. Obtain materials from same source throughout.
- C. Perform Work in accordance with Road Commission for Oakland County and Michigan Department of Transportation standards.
- D. Maintain one copy of document on site.

1.4 AMBIENT CONDITIONS

- A. Do not place asphalt when ambient air or base surface temperature is less than 40 degrees F, or surface is wet or frozen.
- B. Place bitumen mixture when temperature is not more than 15 degrees F below bitumen suppliers bill of lading and not more than maximum specified temperature.

PART 2 - PRODUCTS

2.1 ASPHALT PAVING

- A. Performance / Design Criteria:
- B. Paving: Design for main street arteries.
- C. Asphalt Materials:
 - 1. Asphalt Binder: In accordance with Road Commission for Oakland County and Michigan Department of Transportation standards.
 - 2. Primer: ASTM D2027, MC-30; medium curing, cutback asphalt. In accordance with of Road Commission for Oakland County and Michigan Department of Transportation standards.
 - 3. Tack Coat: In accordance with Road Commission for Oakland County and Michigan Department of Transportation standards.
 - 4. Reclaimed Asphalt Pavement (RAP): Processed material obtained by milling or full depth removal of existing asphalt paving.
 - 5. Oil: In accordance with of Road Commission for Oakland County and Michigan Department of Transportation standards.
- D. Aggregate Materials:
 - 1. Coarse Aggregate: In accordance with Road Commission for Oakland County and Michigan Department of Transportation standards.
 - 2. Fine Aggregate: In accordance with Road Commission for Oakland County and Michigan Department of Transportation standards.
 - 3. Mineral Filler: ASTM D242 or AASHTO M17; finely ground mineral particles, free of foreign matter.
- E. Aggregate Subbase: Specified in Section 32 11 23.

2.2 MIXES

- A. Use dry material to avoid foaming. Mix uniformly.
- B. Asphalt Paving Mixtures: Designed in accordance with Road Commission for Oakland County and Michigan Department of Transportation standards.
 - 1. Base Course: 4E03.
 - 2. Surface Course: 5E03.
- C. Paving Surfaces: Minimum solar reflectance index (SRI) of 29, calculated in accordance with ASTM E1980.
 - 1. Reflectance: Measured in accordance with ASTM E903, ASTM E1918, or ASTM C1549.
 - 2. Emittance: Measured in accordance with ASTM E408 or ASTM C1371.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify gradients and elevations of base.
- B. Verify compacted subgrade subbase is dry and ready to support paving and imposed loads.

3.2 INSTALLATION

A. Subbase

- 1. Prepare subbase in accordance with Road Commission for Oakland County and Michigan Department of Transportation standards.

B. Primer

- 1. Apply primer in accordance with Road Commission for Oakland County and Michigan Department of Transportation standards.
- 2. Use clean sand to blot excess primer.

C. Tack Coat

- 1. Apply tack coat in accordance with Road Commission for Oakland County and Michigan Department of Transportation standards.
- 2. Apply tack coat to contact surfaces of curbs, gutters and existing edges of pavement.
- 3. Coat surfaces of manhole frames with oil to prevent bond with asphalt paving. Do not tack coat these surfaces.

D. Double Course Asphalt Paving

- 1. Place asphalt base course within 24 hours of applying primer or tack coat.
- 2. Place base course to 4 inch compacted thickness.
- 3. Place surface course within 24 hours of placing and compacting binder course. When binder course is placed more than 24 hours before placing wearing course, clean surface and apply tack coat before placing wearing course.
- 4. Place wearing course to thickness indicated on Drawings.
- 5. Compact each course by rolling to specified density. Do not displace or extrude paving from position. Hand compact in areas inaccessible to rolling equipment.
- 6. Perform rolling with consecutive passes to achieve even and smooth finish, without roller marks.

E. Asphalt Paving Overlay

- 1. Place asphalt paving overlay within 24 hours of applying primer or tack coat.
- 2. Place overlay to thickness indicated on Drawings.
- 3. Compact overlay by rolling to specified density. Do not displace or extrude paving from position. Hand compact in areas inaccessible to rolling equipment.
- 4. Perform rolling with consecutive passes to achieve even and smooth finish, without roller marks.

3.3 TOLERANCES

- A. Flatness: Maximum variation of 1/4 inch measured with 10 foot straight edge.
- B. Scheduled Compacted Thickness: Within 1/4 inch.
- C. Variation from Indicated Elevation: Within 1/2 inch.

3.4 FIELD QUALITY CONTROL

- A. Take samples and perform tests in accordance with Road Commission for Oakland County standards.
- B. Asphalt Paving Mix Temperature: Measure temperature at time of placement.
- C. Asphalt Paving Thickness: ASTM D3549; test one core sample from every 1000 square yards compacted paving.
- D. Asphalt Paving Density: ASTM D2950 nuclear method; test one location for every 1000 square yards compacted paving.

END OF SECTION 32 12 16

SECTION 32 16 23 - SIDEWALKS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Concrete paving for sidewalks.

1.2 UNIT PRICES

- A. Sidewalks:
 - 1. Basis of Measurement: By square yard.
 - 2. Basis of Payment: Includes subbase, forms, reinforcing, concrete, accessories, placing, finishing, curing, and testing.

1.3 SUBMITTALS

- A. Product Data:
 - 1. Information regarding concrete materials, joint filler, admixtures, and curing compounds.
 - 2. Mix Design:
 - a. Concrete mix design for each concrete strength prior to commencement of Work.
 - b. Separate mix designs if admixtures are required for hot- and cold-weather concrete Work.
 - c. Identify mix ingredients and proportions, including admixtures.
 - 3. Identify chloride content of admixtures and whether or not chloride was added during manufacture.
- B. Manufacturer's Certificate: Products meet or exceed specified requirements.
- C. Field Quality-Control Submittals: Indicate results of Contractor-furnished tests and inspections.
- D. Qualifications Statement:
 - 1. Qualifications for manufacturer and installer.

1.4 QUALITY ASSURANCE

- A. Perform Work according to Sections 03 30 00 - Cast-in-Place Concrete.
- B. Obtain cementitious materials from same source throughout.

- C. Perform Work according to Road Commission for Oakland County and Michigan Department of Transportation standards.
- D. Installer: Company specializing in performing Work of this Section with three years' experience.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store materials according to manufacturer instructions.
- B. Protection:
 - 1. Protect materials from moisture and dust by storing in clean, dry location remote from construction operations areas.
 - 2. Provide additional protection according to manufacturer instructions.

1.6 AMBIENT CONDITIONS

- A. Minimum Conditions: Do not place concrete if base surface temperature is less than 40 deg. F, or if surface is wet or frozen.
- B. Subsequent Conditions: Maintain minimum 40 deg. F, for not less than 72 hours after placing, and at a temperature above freezing for remainder of curing period.

1.7 EXISTING CONDITIONS

- A. Field Measurements:
 - 1. Verify field measurements prior to fabrication.
 - 2. Indicate field measurements on Shop Drawings.

PART 2 - PRODUCTS

2.1 AGGREGATE SUBGRADE

- A. As specified in Section 32 11 23 - Aggregate Base Courses.

2.2 MATERIALS

- A. Forms:
 - 1. Material:
 - a. Wood: Straight and free from warping, twisting, loose knots, splits, or other defects.

2. Profile: To suit conditions.
3. Joint Filler:
 - a. Material: Asphalt-impregnated fiberboard or felt.
 - b. Comply with ASTM D1751.
 - c. Thickness: 1/2 inch.

B. Concrete:

1. Concrete Materials:
 - a. Furnish materials according to Road Commission for Oakland County standards.
2. Cement:
 - a. Comply with ASTM C150/C150M.
 - b. Type: I portland.
 - c. Color: Gray.
3. Fine and Coarse Aggregates:
 - a. Comply with ASTM C33/C33M.
 - b. Coarse Aggregate Maximum Size: 1 inch.
4. Water:
 - a. Description: Potable.
 - b. Comply with ASTM C94/C94M.
 - c. Without deleterious amounts of chloride ions.
5. Air Entrainment: Comply with ASTM C260/C260M.
6. Chemical Admixtures:
 - a. Comply with ASTM C494/C494M.
 - b. Type: A.
7. Fly Ash:
 - a. Comply with ASTM C618.
8. Slag:
 - a. Description: Ground-granulated blast-furnace slag.
 - b. Comply with ASTM C989/C989M.
9. Plasticizing:
 - a. Comply with ASTM C1017/C1017M.

2.3 MIXES

A. Concrete:

1. Mix concrete according to ACI 304, and deliver concrete according to ASTM C94/C94M.
2. Mix Design:
 - a. Compressive Strength: 3500 psi at seven days.
 - b. Compressive Strength: 4000 psi at 28 days.
 - c. Slump: 3.5 to 6.5 inches.
 - d. Air Entrainment:
 - 1) Comply with ASTM C94/C94M.
 - 2) Exposure Condition: Mild.
 - 3) Maximum Variation from Required Air Content: 1.0 percent.
3. Admixtures:
 - a. Use accelerating admixtures in cold weather only if approved by Architect/Engineer in writing.
 - b. Use of admixtures will not relax cold-weather placement requirements.
 - c. Use calcium chloride only if approved by Architect/Engineer in writing.
 - d. Use set-retarding admixtures during hot weather only if approved by Architect/Engineer in writing.

2.4 ACCESSORIES

- A. Curing Compound:
 1. Comply with ASTM C309.
 2. Type: 2.
 3. Class: B.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that compacted subgrade is dry and ready to support paving and imposed loads.
- B. Verify that gradients and elevations of subgrade are as indicated.
- C. Verify reinforcing placement for proper size, spacing, location, and support.

3.2 PREPARATION

- A. Moisten substrate to minimize absorption of water from fresh concrete.
- B. Notify Architect/Engineer minimum 24 hours prior to commencement of concreting operations.

3.3 INSTALLATION

- A. Subgrade:
 - 1. Install Work according to Road Commission for Oakland County standards.
- B. Forms:
 - 1. Wood Forms: Thoroughly wet with water before concrete is placed.
- C. Reinforcement:
 - 1. Place reinforcing as indicated.
 - 2. Interrupt reinforcing at expansion joints.
- D. Placing Concrete:
 - 1. Install Work according to Road Commission for Oakland County standards.
 - 2. Use slip-form technique.
 - 3. Place concrete in forms in one layer.
 - 4. Place concrete continuously over full width of panel and between predetermined construction joints.
 - 5. Do not break or interrupt successive pours such that cold joints occur.
- E. Joints:
 - 1. Place continuous transverse expansion joints at 10-foot intervals or width of sidewalk, whichever is less.
 - 2. Filler:
 - a. Place joint filler between paving components and building or other appurtenances.
 - b. Recess top of filler 1 inch for sealant installation.
- F. Finishing:
 - 1. Light broom and trowel edges of joints.
 - 2. Texture Direction: Transverse to paving direction.
 - 3. Ramps: Broom perpendicular to slope.
 - 4. Place curing compound on exposed concrete surfaces immediately after finishing.
- G. Curing:
 - 1. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
 - 2. Membrane Curing:
 - a. Apply membrane-curing compound uniformly to exposed surface after free water has disappeared from finished surface and before concrete has dried.
 - b. Apply compound in two coats, with second coat applied perpendicular to first coat.
 - c. If concrete has dried, moisten dried surface and apply curing compound as soon as free water disappears.
- H. Backfilling: After curing, backfill, grade, and compact adjacent disturbed area as indicated.

3.4 FIELD QUALITY CONTROL

A. Inspection and Testing:

1. Comply with Road Commission for Oakland County standards.
2. Samples:
 - a. Sampling Procedures: Comply with ASTM C172/C172M.
 - b. Cylinder Molding and Curing Procedures: Comply with ASTM C31/C31M, field cured.
 - c. Sample concrete and make one set of three cylinders for every 50 cu. yd. or less of each class of concrete placed each day, and for every 1000 sq. ft. of surface area paving.
 - d. Make one additional cylinder during cold-weather concreting, and field cure.
3. Cylinder Compressive Strength:
 - a. Comply with ASTM C39/C39M.
 - b. Acceptance:
 - c. Acceptance: According to Road Commission for Oakland County standards.
 - d. Test one cylinder at seven days, and two cylinders at 28 days.
 - e. Retain one cylinder for 30 days for testing when requested by Architect/Engineer.
 - f. Dispose of remaining cylinders if testing is not required.
4. Slump, Temperature, and Air Content:
 - a. Measure for each compressive-strength concrete sample.
 - b. Slump: Comply with ASTM C143/C143M.
 - c. Air Content: Comply with ASTM C173/C173M.
 - d. Temperature: Comply with ASTM C1064/C1064M.
5. Records:
 - a. Maintain records of placed concrete items.
 - b. Record date, location of pour, quantity, air temperature, number of test samples taken.

3.5 PROTECTION

- A. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, rain and flowing water, and mechanical injury.
- B. Do not permit traffic over paving until 90 percent design strength of concrete has been achieved.
- C. Damaged Concrete:
 1. Remove and reconstruct concrete that has been damaged for entire length between scheduled joints.
 2. Refinishing damaged portion is not acceptable.

3. Dispose of damaged portions.

END OF SECTION 32 16 23

SECTION 32 17 26 - TACTILE WARNING SURFACING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Tactile warning surfacing and accessories.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

- A. Traffic Warning Surfacing:
 - 1. Basis of Measurement: By square feet.
 - 2. Basis of Payment: Includes furnishing, installing, inspecting, and maintaining tactile warning surfacing for minimum of three years as well as related maintenance and protection of traffic.

1.3 SUBMITTALS

- A. Product Data: Submit manufacturer's information including characteristics, dimensions, domes, and special shapes.
- B. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- C. Manufacturer's Instructions: Submit detailed instructions on installation requirements, including storage and handling procedures.
- D. Source Quality-Control Submittals: Indicate results of factory tests and inspections.
- E. Field Quality-Control Submittals: Indicate results of Contractor-furnished tests and inspections.
- F. Manufacturer Reports:
 - 1. Certify that equipment has been installed according to manufacturer's instructions.
 - 2. Indicate activities on Site, adverse findings, and recommendations.
- G. Qualifications Statements:
 - 1. Submit qualifications for manufacturer and installer.
 - 2. Submit manufacturer's approval of installer.

1.4 QUALITY ASSURANCE

- A. Perform Work according to Road Commission for Oakland County and Michigan Department of Transportation standards.

- B. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum three years' documented experience.
- C. Installer: Company specializing in performing Work of this Section with minimum three years' documented experience.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store and protect materials according to manufacturer's instructions.

1.6 WARRANTY

- A. Furnish five-year manufacturer's warranty for tactile warning surfacing.

PART 2 - PRODUCTS

2.1 TACTILE WARNING SURFACING

A. Manufacturer List:

1. Detectable Warning Systems, Inc.
2. Engineered Plastics, Inc.
3. Substitutions: Permitted.
4. Furnish materials according to Road Commission for Oakland County standards.

B. Description:

1. ADA-compliant tactile warning surfaces for visually impaired pedestrians.
2. Suitable for installation on both asphalt and concrete.

C. Surface-Applied Mat Type:

1. Material: Polyurethane.
2. Adhesive: Pre-applied.
3. Edges: Beveled.
4. Color: Red.
5. Anchors: Stainless steel.

2.2 SOURCE QUALITY CONTROL

- A. Provide shop inspection and testing of tactile warning surfacing units.
- B. Certificate of Compliance: When fabricator is approved by authorities having jurisdiction, submit certificate of compliance indicating Work performed at fabricator's facility conforms to Contract Documents.
 1. Specified shop tests are not required for Work performed by approved fabricator.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that substrate is level or to correct grade, is smooth, is capable of supporting tactile warning surface units and imposed loads, and is otherwise ready to receive Work of this Section.

3.2 PREPARATION

- A. Surface Preparation:

- 1. Clean and dry paved surface prior to installing tactile warning surface modules.
- 2. Blow or sweep surface free of dirt, debris, oil, grease, or gasoline.

- B. Existing Work:

- 1. Remove existing tactile warning surface modules by methods that will cause least damage to pavement surface.
- 2. Repair pavement or surface damage caused by removal operations.

3.3 INSTALLATION

- A. Install tactile warning surfacing according to manufacturer's instructions.

3.4 FIELD QUALITY CONTROL

- A. Inspect for correct location, extent of coverage, and final grade.

3.5 CLEANING

- A. Clean tactile warning surfacing according to manufacturer's instructions.

3.6 PROTECTION

- A. Protect tactile warning surfacing from vehicular and pedestrian traffic on newly installed tactile warning surface modules for period of time as instructed by manufacturer.

3.7 MAINTENANCE

- A. Furnish service and maintenance of tactile warning surfacing for three years from date of Substantial Completion.

END OF SECTION 32 17 26

SECTION 32 91 13 - SOIL PREPARATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Preparation of subsoil.
2. Soil testing.
3. Placing topsoil.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

A. Grassed Areas:

1. Basis of Measurement: By square yard.
2. Basis of Payment: Includes preparation of topsoil, placing topsoil.

1.3 QUALITY ASSURANCE

A. Perform Work according to Oakland County WRC standards.

1.4 COORDINATION

A. Coordinate with installation of underground sprinkler system piping and watering heads.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

- A. Topsoil: Fertile, agricultural soil, typical for locality, capable of sustaining vigorous plant growth, taken from drained Site; free of subsoil, clay or impurities, plants, weeds and roots; pH value of minimum 5.4 and maximum 7.0.
- B. Topsoil: Excavated from Site and free of weeds.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify prepared soil base is ready to receive Work of this Section.

3.2 PREPARATION OF SUBSOIL

- A. Prepare sub-soil to eliminate uneven areas and low spots. Maintain lines, levels, profiles and contours. Make changes in grade gradual. Blend slopes into level areas.
- B. Remove foreign materials, weeds and undesirable plants and their roots. Remove contaminated sub-soil.
- C. Scarify subsoil to depth of 3 inches where topsoil is to be placed. Repeat cultivation in areas where equipment, used for hauling and spreading topsoil, has compacted sub-soil.

3.3 PLACING TOPSOIL

- A. Spread topsoil to minimum depth of 4 inches over area to be seeded. Rake until smooth.
- B. Place topsoil during dry weather and on dry unfrozen subgrade.
- C. Remove vegetable matter and foreign non-organic material from topsoil while spreading.
- D. Grade topsoil to eliminate rough, low or soft areas, and to ensure positive drainage.
- E. Install edging at periphery of seeded areas in straight lines to consistent depth.

END OF SECTION 32 91 13

SECTION 32 92 19 - SEEDING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Fertilizing.
2. Seeding.
3. Hydroseeding.
4. Mulching.
5. Maintenance.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

A. Grassed Areas:

1. Basis of Measurement: By square yard.
2. Basis of Payment: Includes seeding, watering and maintenance to specified mowings.

1.3 DEFINITIONS

- A. Weeds: Include dandelion, jimsonweed, quack grass, horsetail, morning glory, rush grass, mustard, lamb's quarters, chickweed, cress, crabgrass, Canadian thistle, nut grass, poison oak, blackberry, tansy ragwort, Bermuda grass, Johnson grass, poison ivy, nut sedge, nimble will, bindweed, bent grass, wild garlic, perennial sorrel, and brome grass.

1.4 SUBMITTALS

- A. Product Data: Seed mix, fertilizer, mulch,, and other accessories.
- B. Manufacturer's Certificate: Products meet or exceed specified requirements.

1.5 QUALITY ASSURANCE

- A. Provide seed mixture in containers showing percentage of seed mix, germination percentage, inert matter percentage, weed percentage, year of production, net weight, date of packaging, and location of packaging.
- B. Perform Work according to Oakland County WRC standards.
- C. Seed Supplier: Company specializing in manufacturing products specified in this Section with three years' experience.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver grass seed mixture in sealed containers. Seed in damaged packaging is not acceptable.
- B. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.

1.7 MAINTENANCE SERVICE

- A. Maintain seeded areas immediately after placement until grass is well established and exhibits vigorous growing condition.

PART 2 - PRODUCTS

2.1 SEED MIXTURE

- A. Furnish materials according to Oakland County WRC standards.

2.2 ACCESSORIES

- A. Mulching Material: Oat or wheat straw, free from weeds, foreign matter detrimental to plant life, and dry. Hay or chopped cornstalks are not acceptable.
- B. Fertilizer: Commercial grade; recommended for grass; of proportion necessary to eliminate deficiencies of topsoil.
- C. Water: Clean, fresh and free of substances or matter capable of inhibiting vigorous growth of grass.
- D. Stakes: Softwood lumber, chisel pointed.
- E. String: Inorganic fiber.

2.3 SOURCE QUALITY CONTROL

- A. Analyze to ascertain percentage of nitrogen, phosphorus, potash, soluble salt content, organic matter content, and pH value.
- B. Provide recommendation for fertilizer and lime application rates for specified seed mix as result of testing.
- C. Testing is not required when recent tests and certificates are available for imported topsoil. Submit these test results to testing laboratory. Indicate, by test results, information necessary to determine suitability.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify prepared soil base is ready to receive Work of this Section.

3.2 FERTILIZING

- A. Apply after smooth raking of topsoil and prior to roller compaction.
- B. Do not apply fertilizer at same time or with same machine used to apply seed.
- C. Mix fertilizer thoroughly into upper 2 inches of topsoil.
- D. Lightly water soil to aid dissipation of fertilizer. Irrigate top level of soil uniformly.

3.3 SEEDING

- A. Apply seed at rate of 8-10 lbs per 1,000 sq ft evenly in two intersecting directions. Rake in lightly.
- B. Do not seed areas in excess of that which can be mulched on same day.
- C. Do not sow immediately following rain, when ground is too dry, or when winds are over 12 mph.
- D. Roll seeded area with roller not exceeding 112 lb/linear ft.
- E. Immediately following seeding and compacting, apply mulch to thickness of 1/8 inch. Maintain clear of shrubs and trees.
- F. Apply water with fine spray immediately after each area has been mulched. Saturate to 4 inches of soil.

3.4 SEED PROTECTION

- A. Cover seeded slopes where grade is 4 inches per foot or greater with erosion fabric. Roll fabric onto slopes without stretching or pulling.
- B. Lay fabric smoothly on surface, bury top end of each section in 6 inch deep excavated topsoil trench. Overlap edges and ends of adjacent rolls minimum 12 inches. Backfill trench and rake smooth, level with adjacent soil.
- C. Secure outside edges and overlaps at 36 inch intervals with stakes.
- D. Lightly dress slopes with topsoil to ensure close contact between fabric and soil.

- E. At sides of ditches, lay fabric laps in direction of water flow. Lap ends and edges minimum 6 inches.

3.5 MAINTENANCE

- A. Mow grass at regular intervals to maintain at maximum height of 2-1/2 inches. Do not cut more than 1/3 of grass blade at each mowing. Perform first mowing when seedlings are 40 percent higher than desired height.
- B. Neatly trim edges and hand clip where necessary.
- C. Immediately remove clippings after mowing and trimming. Do not let clippings lay in clumps.
- D. Water to prevent grass and soil from drying out.
- E. Roll surface to remove minor depressions or irregularities.
- F. Control growth of weeds. Apply herbicides. Remedy damage resulting from improper use of herbicides.
- G. Immediately reseed areas showing bare spots.
- H. Repair washouts or gullies.
- I. Protect seeded areas with warning signs during maintenance period.

3.6 SCHEDULE

- A. Front Seeded Area: Grass seed mixture as specified; 3 inches top soil.
- B. Rear Seeded Area: Grass seed mixture as specified except substitute clover for Kentucky Blue Grass; 2 inches top soil.

END OF SECTION 32 92 19