

Bidding Documents and
Technical Specifications

**2018 STREET & UTILITY IMPROVEMENTS
– SIGGELKOW ROAD**

Village of McFarland, Wisconsin

TOWN & COUNTRY ENGINEERING, INC.

Madison ♦ Rhinelander ♦ Kenosha
2912 Marketplace Drive, Suite 103 • Madison, WI 53719 • (608) 273-3350 • tce@tcengineers.net

Bidding Documents and Technical Specifications

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Village of McFarland, Wisconsin

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PRE-BID DOCUMENTS

ADVERTISEMENT FOR BIDS

PROJECT: **2018 STREET & UTILITY IMPROVEMENTS – SIGGELKOW ROAD**

OWNER: Village of McFarland
5915 Milwaukee Street
P.O. Box 110
McFarland, WI 53558

CONTRACTS AND BID DEADLINE:

Sealed bids for a single contract for storm sewer construction, street excavation and base course construction, street asphalt pavement construction, and for curb & gutter and sidewalk construction will be received by the Village of McFarland until 2:00 p.m., local time on February 8, 2018. The bids will be publicly opened and read aloud immediately thereafter in the Village Hall meeting room.

The contract consists of the following approximate quantities:

Street Pulverizing and Grading	30,000 square yards
Hot-Mix Asphalt Pavement	8,500 tons

Appurtenances to the above construction items, such as manhole adjustments are included, but are not listed above. The quantities are subject to change without notice prior to document distribution.

CONTRACT DOCUMENTS:

The Contract Documents, consisting of Advertisement for Bids, Instructions to Bidders, Bidder's Proof of Responsibility, Bid Proposal Form, Affidavit of Organization and Authority, Bid Bond (in the amount of 5% of the maximum amount of the bid), Notice of Award Form, Agreement Form, Notice to Proceed Form, Performance/Payment Bond (100%), Certificate of Insurance, General Conditions, Supplementary Conditions, Technical Specifications, Drawings and Addenda (if any) may be examined at the following locations:

Village of McFarland
5915 Milwaukee Street
P.O. Box 110
McFarland, WI 53558

Town & Country Engineering, Inc.
2912 Marketplace Drive, Suite 103
Madison, WI 53719

Copies of the Contract Documents and the Construction Plans may be obtained at the office of Town & Country Engineering, Inc., 2912 Marketplace Drive, Suite 103, Madison, WI 53719. There is a \$25.00 **non-refundable** copying and distribution charge for these documents. Electronic bidding documents are available on-line at Questcdn.com, Project No. 5500248.

QUALIFICATIONS:

Bidders must be pre-qualified with the Village of McFarland within the last year or must be pre-qualified for this work 5 days prior to the bid deadline in accordance with Section 66.0903 of the Wisconsin Statutes. Each bidder must deposit, with his bid, security in the amount of 5% of the maximum bid amount. Bidders must be experienced in municipal street construction.

RIGHTS RESERVED:

The Village of McFarland reserves the right to reject any and all bids, for whatever reason, and to waive any informalities in bids or in the bid process.

Published by the authority of:
Matthew Schuenke, Village Administrator

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ARTICLE 1 - DEFINED TERMS

Terms used in these Instructions to Bidders will have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below which are applicable to both the singular and plural thereof:

Bidder - Any individual or entity who submits a Bid directly to the Owner.

Issuing Office - Town & Country Engineering, Inc.

Successful Bidder - The lowest responsible Bidder submitting a responsive Bid to whom the Owner makes an award.

ARTICLE 2 - COPIES OF BIDDING DOCUMENTS

Complete sets of the Bidding Documents including drawings and specifications may be obtained from the office of Town & Country Engineering, Inc. Refer to the Advertisement for Bid for mailing address and fees required.

Complete sets of Bidding Documents must be used in preparing Bids; neither the Owner nor Town & Country Engineering, Inc. assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

The Owner and Town & Country Engineering, Inc. is 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 or grant for any other use.

ARTICLE 3 - QUALIFICATION OF BIDDERS

Bidders who have not formally qualified with the Owner for similar bids within twelve (12) months of the Bid Deadline shall do so by filing a Bidder's Proof of Responsibility form enclosed in the Contract Documents and Technical Specifications. In accordance with Wisconsin Statutes, this form should be filed with the Owner prior to five (5) days before the Bid Deadline. A formal evaluation of the qualifications of bidders may not be made prior to the bid opening.

ARTICLE 4 - BID SUBMITTAL DOCUMENTS

Documents to be submitted to the Owner by the Bid Deadline shall include the Bid Proposal including all Bid Schedules, the addendum acknowledgement and signature pages; Affidavit of Organization and Authority; and a Bid Bond or Bid Security.

ARTICLE 5 - EXISTING SITE CONDITIONS

Copies of reports and drawings referenced below will be made available from Town & Country Engineering to any Bidder on request. Those reports and drawings may not be part of the Contract Documents, but the "Technical Data" contained therein upon which Bidder is entitled to rely as provided in Article 5 of the General Conditions has thus been identified and established. Each 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 report or indicated in such drawings. The Article 5 of the General Conditions establishes responsibilities and procedures to be followed regarding reasonable interpretation of the information, and uncovering unidentified site conditions.

Subsurface and Physical Conditions

The Supplementary Conditions identify those reports of explorations and tests of subsurface conditions at or contiguous to the Site, if any, that the Engineer has used in preparing the Bidding Documents. The parts of such documents that shall be considered Technical Data are defined in the Supplementary Conditions. The Technical Data describe certain select subsurface conditions that are anticipated to be encountered by a Contractor during construction in specified locations. The provision of the Technical Data is intended to reduce uncertainty and the degree of contingency in submitted Bids. However, Bidders cannot rely solely on the provided Technical Data. Bids should be based upon a comprehensive approach

that includes independent review and analysis of the Technical Data, all other Contract Documents, other available information and observable surface conditions. The Contractor should not assume all potential subsurface conditions are described in the Technical Data. The provision of the Technical Data is not intended to relieve Bidders of the responsibility to conduct their own investigations and make their own determinations regarding construction costs, bidding strategies and Bid prices, nor of the responsibility to select and be responsible for the means, methods, techniques, sequences and procedures of construction and for safety precautions and programs incident thereto.

Underground Facilities

Information and data shown or indicated on the Plan Sheets and within the Specifications with respect to existing underground facilities or structures at or contiguous to the site is based upon information and data furnished to the Owner and Town & Country Engineering, Inc. by the Owners of such underground facilities or structures. The Successful Bidder shall make contact with the Owner's representatives of these facilities to establish locations before starting construction

Hazardous Environmental Condition

The Supplementary Conditions identify those reports relating to a hazardous environmental condition identified at the site, if any.

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.

Upon request, the Owner will provide Bidder access to the Site to conduct such examinations, investigations, explorations, tests, and studies as Bidder deems necessary for preparing and submitting a successful Bid. 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. Bidder shall comply with all applicable laws and regulations relative to excavations, "utility locates", liability insurance and applicable safety programs.

Site construction limits are identified on the Plan Sheets and/or within the Specifications. All additional lands and access thereto required for temporary

construction facilities, construction equipment, or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by the Contractor. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by the Owner unless otherwise provided in the Bidding Documents.

ARTICLE 6 - GENERAL BIDDER RESPONSIBILITIES AND REPRESENTATIONS

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

- Examine and carefully study the Bidding Documents, including the Plans and any Addenda and the other related data identified in the Bidding Documents;
- Visit the Site and become familiar with and satisfy Bidder as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;
- Become familiar with all federal, state, and local laws and regulations that may affect cost, progress, or performance of the Work;
- Carefully study all reports as described above in the Existing Site Conditions section and identified in the Supplementary Conditions as containing reliable “technical data”;
- Undertake additional testing or studies at the Bidder’s expense that the Bidder considers necessary to adequately prepare a Bid for the Work, and agree at the time of submitting a Bid that 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(s) bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents;
- Consider the information known to Bidder; 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;
- Agree, based on the information and observations referenced in the preceding paragraphs, 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.

- 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;
- Promptly provide Town & Country Engineering, Inc. written notice of all conflicts, errors, ambiguities, or discrepancies that the Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Town & Country Engineering, Inc. is acceptable to the Bidder; and
- Determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work.

The submission of a Bid will constitute an incontrovertible representation that the Bidder has complied with every requirement of this Instructions to Bidders including those listed above and that without exception the Bid is premised upon performing and furnishing the Work required by the Bidding Documents.

In addition, by submitting a Bid the Bidder agrees to the following:

- The Engineer shall be the sole authority for determining conformance of substitute bid items with the Contract Documents.
- The Engineer shall not be required to justify decisions made on substitute bid items.

Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by Owner unless otherwise provided in the Bidding Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment, or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by Contractor.

ARTICLE 7 - INTERPRETATIONS AND ADDENDA

All questions about the meaning or intent of the Bidding Documents are to be submitted to Town & Country Engineering, Inc. in writing. Interpretations or clarifications considered necessary by Town & Country Engineering, Inc. in response to such questions will be issued by Addenda mailed, e-mailed, faxed or delivered to all parties recorded by Town & Country Engineering, Inc. as having received the Bidding Documents. Questions received less than five working 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.

Addenda may be issued to clarify, correct, supplement or change the Bidding Documents as deemed advisable by Owner or Engineer.

All Addenda so issued shall become part of the Contract Documents and Technical Specifications and must be acknowledged by the Bidder on the Bid Proposal Form. Failure of any bidder to receive any such addendum shall not relieve that bidder from any obligation under his bid as submitted. Failure to acknowledge addenda shall, at the Owner's discretion, be grounds for rejection of the bid.

ARTICLE 8 - BID SECURITY

Each Bid must be accompanied by Bid security made payable to the Owner in an amount of 5% of the Bidder's maximum Bid Price (determined by adding the base bid and any alternates and supplemental bid items), or in an amount otherwise required in the Advertisement for Bid, in the form of a certified check, bank money order or a Bid Bond on the form enclosed in the Bidding Documents or on a form issued by a surety meeting the requirements of paragraph 6.01 of the General Conditions. Bonds shall be executed by the Bidder and a surety corporation licensed to transact business in Wisconsin. Attorneys-in-fact who signs bid bonds must file with each bond a certified and current copy of their power of attorney.

The Bid security of the apparent Successful Bidder will be retained until such time that the Bidder has executed the Contract Documents, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within 10 days after the Notice of Award, the Owner may consider Bidder to be in default, annul the Notice of Award and the Bid security of that Bidder will be forfeited. Such forfeiture shall be the Owner's exclusive remedy if Bidder defaults.

The Bid security of other Bidders whom the Owner believes to have a reasonable chance of receiving the Contract Award may be retained by the Owner until the earlier of seven days after the Effective Date of the Agreement or one day after the end of the acceptance period established in Article 17 of this Instruction to Bidders, whereupon Bid security furnished by such Bidders will be returned.

Bid security of other Bidders whom Owner believes do not have a reasonable chance of receiving the award will be returned within seven days after the Owner makes such determination.

ARTICLE 9 - CONTRACT TIMES AND LIQUIDATED DAMAGES

The number of days within which, or the dates by which, the Work (or milestones, thereof) is to be (a) Substantially Completed and (b) also completed and ready for final payment are set forth in the Bid Proposal or Section 01000-Summary of Work of the Specifications and will be included in the final Contract Agreement. In addition, the Bid Proposal and/or Division 1 sections establish the liquidated damage amounts that can be assessed against the Contractor for failure to comply with the Contract times.

ARTICLE 10 - SUBSTITUTE MATERIAL AND EQUIPMENT ITEMS; "OR EQUAL" ITEMS

The Contract, if awarded, will be made to include equipment and materials from identified Manufacturers and Suppliers listed in the Bid Schedules or described in the Bidding Documents, Plans and Specifications without consideration of possible substitute or "or-equal" items. Bidder's proposals for "or equal" or substitute items of materials and equipment not listed in the Bid Form, Plans or Specifications will not be considered by Town & Country Engineering, Inc. until after the effective date of the Agreement. The procedure for submission of any such application by Contractor and consideration by Town & Country Engineering, Inc. is set forth in paragraphs 7.04 and 7.05 of the General Conditions and may be supplemented in Division 1 sections or other Technical Specification sections.

Pursuant to Federal and State regulations, it is not the intent of the Contract Documents to contain proprietary, exclusionary or discriminatory requirements other than those based on performance and/or life cycle cost.

ARTICLE 11 – SUBCONTRACTORS, SUPPLIERS, AND OTHERS

Major Subcontractors and suppliers shall be listed on the appropriate Schedule of the Bid Proposal. If Subcontractors or Suppliers are not specifically listed on the Schedule, a complete listing of these must be submitted to the Owner from the Successful Bidder within five days after the Bid opening. Failure to do so may constitute grounds for rejection of the bid. When so requested by the Owner, a Bidder shall submit an experience statement with pertinent information regarding similar projects and other evidence of qualification for Subcontractors, Suppliers, individuals, or similar entities. Before the Notice of Award is given, if the Owner and Town & Country Engineering, Inc., after due investigation, have reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, the Owner may require the apparent successful Bidder to submit a substitute. In this case the Bidder's Base 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.

If the apparent Successful Bidder declines to make any such substitution, the Owner may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers, individuals, or entities. Declining to make requested substitutions will not constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity so listed and against which Owner or Town & Country Engineering, Inc. makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner subject to revocation of such acceptance after the effective date of the Agreement as provided in paragraph 6.06 of the General Conditions.

The Contractor shall not be required to employ any Subcontractor, Supplier, individual, or entity against whom the Contractor has reasonable objection.

ARTICLE 12 - PREPARATION OF BID

The Bid Form is included with the Bidding Documents.

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, base bid item, alternate bid item and supplemental bid item for which a blank space has been provided. In the case of optional alternatives, the words "No Bid", "No Change" or "Not Applicable" may be entered as appropriate. Unless labeled as "required" in the Bid Proposal form, all alternates shall be considered as optional.

A Bid by a corporation shall be executed in the corporate name by the president or a vice-president or other corporate officer accompanied by evidence of authority to sign. The corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown.

A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership shall be shown.

A Bid by a limited liability company shall be executed in the name of the firm by a member 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.

A Bid by an individual shall show the Bidder's name and official address.

A Bid by a joint venture shall be executed by each joint venturer in the manner indicated on the Bid Form. The official address of the joint venture shall be shown.

All names shall be printed in ink below the signatures.

The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.

Postal and e-mail addresses and telephone number for communications regarding the Bid shall be shown.

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 13 - AFFIRMATIVE ACTION

Bidders shall agree not to discriminate against any employee or applicant for employment because of age, race, religion, color, handicap, sex, physical condition, and developmental disability as defined by Wisconsin State Statutes. This provision shall include but not be limited to the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rate of pay or other forms of compensation, and selection for training including apprenticeship. The Contractor further agrees to take affirmative action to ensure equal employment opportunities for persons with disabilities. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of the non-discrimination clause.

ARTICLE 14 - SUBMITTAL OF BID

A Bid shall be received no later than the date and time prescribed and at the place indicated in the Advertisement for Bids and shall be enclosed in an opaque sealed envelope or package plainly marked 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 envelope plainly marked on the outside with the notation "BID ENCLOSED." A mailed Bid shall be addressed to the OWNER at the address set forth on the first page of the Bid Proposal. Faxed or e-mailed Bids are not acceptable, unless specifically authorized by the OWNER prior to the Bid Deadline. Bids received after the date and time prescribed, 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 15 - CORRECTIONS OF ERRORS IN BIDS

Section 66.0901 (5) of Wisconsin Statutes applies to modification, withdrawal and corrections of errors in bids, stating as follows:

"(5) CORRECTIONS OF ERRORS IN BIDS. If a person submits a bid or proposal for the performance of public work under any public contract to be let by a municipality and the bidder claims a mistake, omission or error has been made in preparing the bid, the bidder shall, before the bids are opened, make known the fact that an error, omission or mistake has been made. If the bidder makes this fact known, the bid shall be returned to the bidder unopened and the bidder may not bid upon the public contract unless it is readvertised and relet upon the readvertisement. If a bidder makes an error, omission or mistake and discovers it after the bids are opened, the bidder shall immediately and without delay give written notice and make

known the fact of the mistake, omission or error which has been committed and submit to the municipality clear and satisfactory evidence of the mistake, omission or error and that it was not caused by any careless act or omission on the bidder's part in the exercise of ordinary care in examining the plans or specifications and in conforming with the provisions of this section. If the discovery and notice of a mistake, omission or error causes a forfeiture, the bidder may not recover the moneys or certified check forfeited as liquidated damages unless it is proven before a court of competent jurisdiction in an action brought for the recovery of the amount forfeited, that in making the mistake, error or omission the bidder was free from carelessness, negligence or inexcusable neglect."

ARTICLE 16 - OPENING OF BIDS

Bids will be opened at the time and place indicated in the advertisement and, unless obviously non-responsive, read aloud publicly. Unsigned bids, incomplete bids and bids not accompanied by bid bonds may be considered unresponsive for purposes of reading the bids aloud. In the case of unsigned bids, if a legally authorized representative of the Bidder is present, the authorized representative will be allowed to sign the bid before it is read aloud publicly. The Owner will then decide whether such a bid will be accepted. An abstract of the amounts of the Bids, including alternates, if any, will be made available to Bidders after the opening of Bids.

ARTICLE 17 - BIDS TO REMAIN SUBJECT TO ACCEPTANCE

All Bids will remain subject to acceptance for the period of time stated in the Advertisement for Bid, in the Bid Form or as outlined above in the description of the Bid Security. The Owner may in its sole discretion release any Bid and return the Bid security prior to the end of this period. If no such period of time is stated in the Advertisement for Bids or in the Bid Form, the bids will remain subject to acceptance for a period of sixty (60) calendar days from the Bid Deadline.

ARTICLE 18 - BASIS OF BIDS, COMPARISON OF BIDS AND AWARD OF CONTRACT

For Lump Sum Bids

Bidders shall submit a Bid on a lump sum basis for the Base Bid and include a separate price for each supplemental bid item and for each required alternate described in the Bidding Documents as provided in the Bid Form. In the evaluation of Bids to determine a low bidder, the Base Bid plus alternates in any number and in any order and the total of the supplemental bid items may be selected for award unless otherwise identified in the Bid Proposal form.

For Unit Price Bids

Bidders shall submit a Bid on a unit price basis for each item of work listed in the Bid Schedule and include a separate price for each supplemental bid item and for each required alternate described in the Bidding Documents as provided in the Bid Form. The total of all subtotal prices will be determined as the sum of the products of the estimated quantity of each item and the unit price Bid for the item.

Discrepancies in the results of 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. The final quantities and Contract Price will be determined in accordance with Paragraph 13.03 of the General Conditions. The rules for application of alternate bids, if accepted, are set forth in the Bidding Documents. In the evaluation of Bids to determine a low bidder, the Base Bid plus alternates in any number and in any order and the total of the supplemental bid items may be selected for award.

The Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, non-responsive, unbalanced, or conditional Bids. Bids may be rejected for failure to comply with any requirements of this section, for alterations of the form, additions to or qualifications on the form, erasures, use of lead pencil to fill out the form, mathematical errors, failure to sign the form, failure to submit bid security, or irregularities of any kind. The Owner further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to be non-responsible. The Owner also reserves the right to waive all informalities not involving price, time, or changes in the Work and to negotiate contract terms with the Successful Bidder. The Owner also reserves the right to waive any minor informality and to determine what constitutes a minor informality.

More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.

In evaluating Bids, the Owner will consider whether or not the Bids comply with the prescribed requirements, as may be requested in the Bid Form or prior to the Notice of Award.

In evaluating Bidders, the Owner will consider the qualifications of Bidders and may consider the qualifications and experience of Subcontractors, Suppliers, and other individuals or entities proposed for those portions of the Work for which the identity of Subcontractors, Suppliers, and other individuals or entities must be submitted as provided in the Supplementary Conditions.

The Owner may conduct such investigations as deemed necessary to establish the responsibility, qualifications, and financial ability of Bidders, proposed

Subcontractors, Suppliers, individuals, or entities to perform the Work in accordance with the Contract Documents.

If the Contract is to be awarded, OWNER will award the Contract to the Bidder whose Bid is in the best interests of the Project.

ARTICLE 19 - CONTRACT SECURITY AND INSURANCE

Article 6 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth The Owner's requirements as to performance and payment Bonds and insurance. When the Successful Bidder delivers the executed Agreement to the Owner, it must be accompanied by the required contract security and Certificate of Insurance.

ARTICLE 20 - SIGNING OF AGREEMENT

When OWNER gives a Notice of Award to the Successful Bidder, it shall be accompanied by the required number of unsigned counterparts of the Agreement with the other Contract Documents that are identified in the Agreement as attached thereto. Within ten (10) days thereafter, the Successful Bidder shall sign and deliver the required number of counterparts of the Agreement and attached documents to the Owner. Within ten (10) days thereafter, the Owner shall deliver one fully signed counterpart to Successful Bidder with a complete set of the Drawings with appropriate identification, unless such complete set of drawings has already been delivered.

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BIDDER'S PROOF OF RESPONSIBILITY

-Confidential to the Extent Permitted by Laws and Regulations-

The Bidder's Proof of Responsibility must be filed with the Owner five days prior to the bid deadline. The Bidder must submit this statement, full and complete, sworn to before an officer authorized to administer oaths.

The purpose of this document is to enable the Owner to decide if the bidder has the financial ability, the equipment and the experience to perform the contract in a manner consistent with protection of the Owner's and the general welfare. It is not intended to discourage beginning contractors nor to make it difficult for qualified contractors to bid.

The Owner reserves the right to require additional information before awarding the contract in order to determine a prospective contractor's qualifications for the project. If the Owner determines that the answers to the questionnaire and the financial statement are insufficient or demonstrate that the bidder is not qualified the Owner may reject the bid.

Statement of Bidder's Qualifications

1. Name of Bidder _____
2. Bidder's address _____

3. Contact person _____
4. Telephone number _____
5. When organized _____
6. When incorporated _____
(if Sole Proprietorship or Partnership, so indicate)
7. Years in business under present name _____
8. Licenses (type and license number) _____
9. Certifications (check those that apply):
 - a. Disadvantaged Business Enterprise _____
 - b. Minority Business Enterprise _____
 - c. Woman-Owned Business Enterprise _____
 - d. Small Business Enterprise _____
10. Contracts on hand
(Attach a list of present uncompleted contracts, a schedule of their completion dates, % completed as of this date, and gross amount of each contract.)

11. General character of work typically performed by your firm _____

12. Has your firm or a firm for which a corporate officer of your firm was working ever defaulted on a contract or failed to complete any work awarded it?
Yes _____ No _____
(If yes, attach a statement setting forth when this occurred, where and why.)
13. Are there any judgments, claims, disputes or litigation pending or outstanding against your firm? Yes _____ No _____
(If yes, attach a statement setting forth when this occurred, where and why.)
14. Attach a list of major contracts completed by your firm within the last five years, including the kind of work and the amount of the contract.
15. Attach a statement of experience in the construction of work similar in nature to the project for which your firm intends to submit a bid and references that may be contacted to verify the timeliness and quality of your work.
16. Attach a list of major equipment now owned or leased full-time by your firm.
17. Attach a list of principal employees of your firm, including the officers, and a short resume of the background and experience of these principal employees.
18. Attach a list of credit references, showing credit available. Banks or other financial institutions are preferred references.
19. Financial statement:
Condition at the close of business on _____, 20 ____.
- Assets:
- a. Cash _____
 - b. Accounts receivable _____
 - c. Work in progress _____
 - d. Real estate equity _____
 - e. Materials in stock _____
 - f. Book value of equipment _____
 - g. Book value of furniture and fixtures _____
 - h. Other assets _____

Liabilities:

a. Accounts, notes and interest payable _____

b. Other liabilities _____

Net Worth:

(A standard financial statement may be submitted, if desired.)

Date at _____ this _____ day of 20 ____

Name of Organization _____

By _____

Title _____

State of _____, County of _____,

hereby certifies that the answers to all the foregoing questions and the other information provided are true and correct.

(signature)

Subscribed and sworn to before me this _____ day of

_____, 20 ____.

_____ Notary Public

City/Village _____ County _____

My commission expires on _____

(Attachments consist of _____ sheets.)

BIDDING DOCUMENTS

**(TO BE SUBMITTED
WITH THE BID)**

BID PROPOSAL FORM

PROJECT: **2018 STREET & UTILITY IMPROVEMENTS – SIGGELKOW ROAD**

OWNER: Village of McFarland
5915 Milwaukee Street
P.O. Box 110
McFarland, WI 53558

BID DEADLINE: February 8, 2018 at 2:00 p.m. local time

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, including provision of a Performance Bond and a Payment Bond each in the amount of 100% of the Contract amount.

ACKNOWLEDGMENTS

The undersigned acknowledges that failure to bid all items will be grounds for rejection of our bid.

The undersigned acknowledges the right of the Owner to reject any and all bids, including bids which in the opinion of the Owner, are excessive or are not sufficient to properly carry out the work.

The undersigned acknowledges the right of the Owner to reject the bid of bidders who have previously failed to properly perform or complete on time contracts of similar nature.

Bidder accepts all of the terms and conditions of the Advertisement to Bid and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. The 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.

BIDDER'S REPRESENTATIONS & CERTIFICATIONS

In submitting this Bid, Bidder represents, as set forth in the Agreement, that:

- A. Bidder has examined and carefully studied the Bidding Documents, the other related data identified in the Bidding Documents, and the following Addenda, receipt of all of which is hereby acknowledged.

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

- B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local and Site conditions that may affect cost, progress, and performance of the Work.

- C. Bidder is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress and performance of the Work.
- D. Bidder has carefully studied (1) reports of explorations and tests of subsurface conditions at or near to the site and all drawings of physical conditions relating to existing surface or subsurface structures at the site that have been identified in the Supplementary Conditions especially with respect to technical data in such reports and drawings, and (2) reports and drawings of Hazardous Environmental Conditions, if any, at the site that have been identified in the Supplementary Conditions especially with respect to technical data in such reports and drawings.
- E. Bidder has considered the information known to Bidder; 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 the Bidder and (3) Bidder's safety precautions and programs.
- F. Bidder agrees, based upon 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(s) bid and within the times 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 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. Bidder certifies that 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.
- K. Bidder further certifies that 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 agreement or rules of any group, association, organization or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any individual or entity to refrain from bidding; and Bidder has not engaged in corrupt, fraudulent, collusive or coercive practices in competing for the contract.

Bidder will complete the Work in accordance with the Contract Documents for the following

NO.	DESCRIPTION OF WORK	ESTIMATED QUANT.	UNITS	NUMERICAL UNIT PRICE	SUBTOTAL
BASE BID - SIGGELKOW ROAD					
1.	Standard Sanitary Manhole Castings	5 each		(\$ _____)	\$ _____
2.	Sanitary Manhole Chimney Reconstruction	5 vert. ft.		(\$ _____)	\$ _____
3.	Sanitary Manhole Casting Adjustments	10 each		(\$ _____)	\$ _____
4.	Pulverizing and Grading of Existing Asphalt Pavement	30,000 sq. yds.		(\$ _____)	\$ _____
5.	3" Breaker Run	7,000 tons		(\$ _____)	\$ _____
6.	Excavation/Fill to Subgrade	1 lump sum		(\$ _____)	\$ _____
7.	Excavation and Disposal of Bad Subbase Materials	2,500 cu. yds.		(\$ _____)	\$ _____
8.	¾" Crushed Aggregate Base Course	2,500 tons		(\$ _____)	\$ _____
9.	30" Concrete Curb & Gutter - Remove and Replace (< 50-foot sections)	350 lin. ft.		(\$ _____)	\$ _____
10.	30" Concrete Curb & Gutter - Remove and Replace (> 50-foot sections)	3,500 lin. ft.		(\$ _____)	\$ _____
11.	5" Sidewalk Removal and Replacement	7,000 sq. ft.		(\$ _____)	\$ _____
12.	8" Concrete Pavement	170 sq. yds.		(\$ _____)	\$ _____
13.	Truncated Dome Panels	112 sq. ft.		(\$ _____)	\$ _____
14.	Sawcutting	1,500 lin. ft.		(\$ _____)	\$ _____
15.	2¾" Type 3 LT Lower Course Asphalt	5,200 tons		(\$ _____)	\$ _____
16.	2¼" Type 4 LT Surface Course Asphalt	4,300 tons		(\$ _____)	\$ _____
17.	3" Type 5LT Asphalt Driveways and Medians	300 sq. yds.		(\$ _____)	\$ _____
18.	Erosion Control	1 lump sum		(\$ _____)	\$ _____
19.	Traffic Control	1 lump sum		(\$ _____)	\$ _____
20.	Pavement Markings	1 lump sum		(\$ _____)	\$ _____
21.	Clean and Tack	30,000 sq. yds.		(\$ _____)	\$ _____
22.	Path Pavement Removal	1,000 sq. yds.		(\$ _____)	\$ _____
23.	3" Type 5LT Asphalt Path (8 Feet Wide)	1,000 sq. yds.		(\$ _____)	\$ _____
24.	Topsoil Restoration, Seeding, Fertilizing and Mulching	2,700 sq. yds.		(\$ _____)	\$ _____

NO.	DESCRIPTION OF WORK	ESTIMATED QUANT.	UNITS	NUMERICAL UNIT PRICE	SUBTOTAL
25.	Rectangular Storm Sewer Inlets	4	each	(\$ _____)	\$ _____
26.	Storm Sewer Castings	8	each	(\$ _____)	\$ _____
27.	12" RCP Storm Sewer	90	lin. ft.	(\$ _____)	\$ _____
28.	Storm Sewer Casting Adjustments	14	each	(\$ _____)	\$ _____
29.	Replace Water Valve Boxes (Top Section)	6	each	(\$ _____)	\$ _____
30.	Saddle Storm Sewer Inlet & Casting, Constructed Directly on Pipe	2	each	(\$ _____)	\$ _____
31.	Hydrant Relocation	2	each	(\$ _____)	\$ _____
32.	3" Schedule 80 PVC Conduit	672	lin. ft.	(\$ _____)	\$ _____
33.	Conduit Handhole	4	each	(\$ _____)	\$ _____
34.	Remove and Reinstall Signs & Mailboxes	1	lump sum	(\$ _____)	\$ _____
35.	Tree Allowance			(\$ 3,500)	\$ 3,500
TOTAL BASE BID				\$	

ALTERNATE BID - TRIANGLE STREET

A1.	Standard Sanitary Manhole Castings	3	each	(\$ _____)	\$ _____
A2.	Sanitary Manhole Chimney Reconstruction	4	vert. ft.	(\$ _____)	\$ _____
A3.	Manhole Casting Adjustments	4	each	(\$ _____)	\$ _____
A4.	Pulverizing and Grading of Existing Asphalt Pavement	12,000	sq. yds.	(\$ _____)	\$ _____
A5.	3" Breaker Run	2,000	tons	(\$ _____)	\$ _____
A6.	Excavation and Disposal of Bad Subbase Materials	1,000	cu. yds.	(\$ _____)	\$ _____
A7.	¾" Crushed Aggregate Base Course	1,000	tons	(\$ _____)	\$ _____
A8.	30" Concrete Curb & Gutter - Remove and Replace (< 50-foot sections)	550	lin. ft.	(\$ _____)	\$ _____
A9.	Sawcutting	150	lin. ft.	(\$ _____)	\$ _____
A10.	1¾" Type 4 LT Lower Course Asphalt	1,300	tons	(\$ _____)	\$ _____
A11.	1½" Type 5 LT Surface Course Asphalt	1,100	tons	(\$ _____)	\$ _____
A12.	Erosion Control	1	lump sum	(\$ _____)	\$ _____
A13.	Traffic Control	1	lump sum	(\$ _____)	\$ _____
A14.	Pavement Markings	1	lump sum	(\$ _____)	\$ _____
A15.	Clean and Tack	12,000	sq. yds.	(\$ _____)	\$ _____
A16.	Replace Water Valve Boxes (Top Section)	14	each	(\$ _____)	\$ _____
TOTAL ALTERNATE BID				\$	

Unit Prices have been computed in accordance with paragraph 11.03.B of the General Conditions.

ACKNOWLEDGMENT

Bidder acknowledges that (1) each Bid unit price includes an amount considered by Bidder to be adequate to cover the 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.

TIME OF COMPLETION

Bidder agrees that the Work 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 set forth below and indicated in the Agreement.

Work on Siggelkow Road and Triangle Street must be completed by September 7, 2018.

BASIS OF AWARD

Award of contract will be made to the lowest responsible, responsive bidders in the Owner's best interests on the basis of the total bid amounts or the total bid amounts plus supplemental bid amounts.

LIQUIDATED DAMAGES

The undersigned agrees that time is of the essence in performing this Contract and that the Owner will suffer financial loss if the Work (and each individual milestone) is not completed within the specified time frames. The undersigned also acknowledges the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by the Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, the Contractor agrees that as liquidated damages to compensate the Owner for additional engineering, legal and administrative costs associated with delay (and not as a penalty or as compensation for other losses), Contractor shall pay Owner the following sums for each day that expires after the times specified for completion as set forth above and in the contract documents:

\$1,000 per calendar day

Bidder accepts the provisions of the Agreement as to liquidated damages.

GUARANTEE

By signing this Bid Proposal form the undersigned guarantees workmanship, materials and equipment for a period of one (1) year after final acceptance of the work and component parts by the Owner as indicated by final payment.

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

- A. Required Bid security in the form of _____ payable to the Owner, which is at least 5% of the total of all Estimated Base Bid Prices.

- B. The following tabulation of Subcontractors, Suppliers and other individuals and entities:
 - 1. _____

 - 2. _____

 - 3. _____

- C. Affidavit of Organization & Authority

DEFINED TERMS

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

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SUBMITTED on _____, 2018.

If Bidder is:

An Individual

Name (typed or printed): _____

By: _____ (SEAL)
(Individual's signature)

Doing business as: _____

Business address: _____

Phone No.: _____ FAX No.: _____

A Partnership

Partnership Name: _____ (SEAL)

By: _____
(Signature of general partner – complete attached Affidavit of Organization and Authority)

Name (typed or printed): _____

Business address: _____

Phone No.: _____ FAX No.: _____

A Corporation

Corporation Name: _____ (SEAL)

State of Incorporation: _____

Type (General Business, Professional, Service, Limited Liability): _____

By: _____
(Signature – complete attached Affidavit of Organization and Authority)

Name (typed or printed): _____

Title: _____

Attest _____
(Signature of Corporate Secretary)

Business address: _____

Phone No.: _____ FAX No.: _____

Date of Qualification to do business is _____.

A Joint Venture

Joint Venturer Name: _____ (SEAL)

By: _____
(Signature of joint venture partner – complete attached Affidavit of Organization and Authority)

Name (typed or printed): _____

Title: _____

Business address: _____

Phone No.: _____ FAX No.: _____

Joint Venturer Name: _____ (SEAL)

By: _____
(Signature – complete attached Affidavit of Organization and Authority)

Name (typed or printed): _____

Title: _____

Business address: _____

Phone No.: _____ FAX No.: _____

Phone and FAX Number, and Address for receipt of official communications:

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

AFFIDAVIT OF ORGANIZATION AND AUTHORITY

_____, being first duly sworn on oath, deposes and says that the bidder on the attached bid proposal is organized as indicated below and that all statements herein made are made on behalf of such bidder and that this deponent is authorized to make them.

(Fill Out Applicable Paragraphs)

1. CORPORATION

The bidder is a corporation organized and existing under the laws of the state of _____ and its president is _____, its secretary is _____ and it does/does not have a corporate seal. The _____ is authorized to sign construction contracts and bids for the company by action of its Board of Directors on _____, a certified copy of which is hereto attached. (Strike out this last sentence, if not applicable).

2. PARTNERSHIP

The bidder is a partnership consisting of _____ and _____ partners doing business under the name of _____

3. SOLE TRADER

The bidder is an individual and, if operating under a trade name, is as follows: _____

4. ADDRESS

The business address of the bidder is as follows: _____

Telephone Number: _____

5. STATUTORY SWORN STATEMENT

_____ also deposes and says that he has examined and carefully prepared his bid proposal from the plans and specifications and has checked the name in detail before submitting this proposal or bid; that the statements contained herein are true and correct.

(Signature)

Subscribed and sworn to before me this _____ day of _____, 20____.

Notary Public, _____ County, _____

My commission expires upon _____

(THIS AFFIDAVIT MUST BE ATTACHED TO AND FILED WITH THE BID PROPOSAL.)

BID BOND

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*):

BID

Bid Due Date:

Description (*Project Name— Include Location*):

BOND

Bond Number:

Date:

Penal sum _____

\$ _____

(Words)

(Figures)

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

(Seal)

(Seal)

Bidder'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

Note: 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 the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum 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 the 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 the 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.

AGREEMENT FORMS

NOTICE OF AWARD

Date of Issuance:

Owner: Village of McFarland

Owner Address: 5915 Milwaukee Street
P.O. Box 110
McFarland, WI 53558

Engineer: Town & Country Engineering, Inc. Engineer's Project No.: MC 118

Project: 2018 Street & Utility Improvements –
Siggelkow Road

Bidder:

Bidder's Address:

TO BIDDER:

You are notified that Owner has accepted your Bid dated _____ for the above Contract, and that you are the Successful Bidder and are awarded a Contract for _____

The Contract Price of the awarded Contract is \$ _____

Three (3) unexecuted counterparts of the Agreement and the Contract Documents accompany this Notice of Award.

You must comply with the following conditions precedent within 10 days of the date of receipt of this Notice of Award:

1. Deliver to Owner three (3) counterparts of the Agreement, fully executed by Bidder.
2. Deliver with the executed Agreements the Contract security [*e.g., performance and payment bonds*] and insurance documentation as specified in the Instructions to Bidders and General Conditions, Articles 2 and 6.

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 Agreement, together with any additional copies of the Contract Documents as indicated in Paragraph 2.02 of the General Conditions.

Owner: _____
Authorized Signature

By: Matthew Schuenke

Title: Village Administrator

cc: Town & Country Engineering, Inc. (2912 Marketplace Drive, Suite 103, Madison, WI 53719)

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

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

Prepared by



Issued and Published Jointly by



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1420 King Street, Alexandria, VA 22314-2794
(703) 684-2882
www.nspe.org

American Council of Engineering Companies
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www.acec.org

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

THIS AGREEMENT is by and between _____ (“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:

ARTICLE 2 – THE PROJECT

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

ARTICLE 3 – ENGINEER

- 3.01 The Project has been designed by Town & Country Engineering, Inc.
- 3.02 The Owner has retained Town & Country Engineering, 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 4 – CONTRACT TIMES

4.01 *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.

4.02 *Contract Times: Dates*

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

[or]

4.02 *Contract Times: Days*

- A. The Work shall be substantially completed within _____ days after the date when the Contract Times commence to run as provided in Paragraph 4.01 of the General Conditions, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions within _____ days after the date when the Contract Times commence to run.

4.03 *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. Substantial Completion: Contractor shall pay Owner \$ [REDACTED] for each day that expires after the time (as duly adjusted pursuant to the Contract) specified in Paragraph 4.02.A above for Substantial Completion until the Work is substantially complete.
2. Completion of Remaining Work: After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Time (as duly adjusted pursuant to the Contract) for completion and readiness for final payment, Contractor shall pay Owner \$ [REDACTED] for each day that expires after such time until the Work is completed and ready for final payment.
3. Liquidated damages for failing to timely attain Substantial Completion and final completion are not additive and will not be imposed concurrently.

ARTICLE 5 – CONTRACT PRICE

- 5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents an amount in current funds equal to the sum of the amounts determined pursuant to the paragraphs below:

For all Unit Price Work, an amount equal to the sum of the established unit price for each separately identified item of Unit Price Work times the actual quantity of that item as stated in Contractor's Bid, attached hereto as Exhibit A.

The Bid prices for Unit Price Work set forth as of the Effective Date of the Agreement 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.

ARTICLE 6 – PAYMENT PROCEDURES

6.01 *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.

6.02 *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 1st 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. 95 percent of Work completed (with the balance being retainage); and
 - b. 95 percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).
- B. Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to 97.5 percent of the Work completed, less such amounts set off by Owner pursuant to Paragraph 15.01.E of the General Conditions, and less 100 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.

6.03 *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 7 – INTEREST

- 7.01 All amounts not paid when due shall bear interest at the rate of 6 percent per annum.

ARTICLE 8 – CONTRACTOR'S REPRESENTATIONS

- 8.01 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 that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.
 - 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 9 – CONTRACT DOCUMENTS

9.01 Contents

- A. The Contract Documents consist of the following:
 - 1. This Agreement (pages 1 to [REDACTED], inclusive).
 - 2. Performance bond (pages 1 to 3, inclusive).
 - 3. Payment bond (pages 1 to 3, inclusive).
 - 4. General Conditions (pages cover to 65, inclusive).
 - 5. Supplementary Conditions (pages 1 to [REDACTED], inclusive).
 - 6. Specifications as listed in the table of contents of the Project Manual.
 - 7. Drawings consisting of [REDACTED] sheets with each sheet bearing the following general title: [REDACTED].
 - 8. Addenda (numbers [REDACTED] to [REDACTED], inclusive).
 - 9. Exhibits to this Agreement (enumerated as follows):
 - a. Contractor's Bid (pages [REDACTED] to [REDACTED], inclusive).
 - 10. 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 10 – MISCELLANEOUS

10.01 *Terms*

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

10.02 *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.

10.03 *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.

10.04 *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.

10.05 *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.

10.06 *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.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement.

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

OWNER:

CONTRACTOR:

By: _____

By: _____

Title: _____

Title: _____

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

Attest: _____

Attest: _____

Title: _____

Title: _____

Address for giving notices:

Address for giving notices:

License No.: _____
(where applicable)

NOTICE TO PROCEED

Owner: Village of McFarland

Contractor:

Engineer: Town & Country Engineering, Inc. Engineer's Project No.: MC 118

Project: 2018 Street & Utility Improvements – Effective Date of Contract:
Siggelkow Road

TO CONTRACTOR:

Owner hereby notifies Contractor that the Contract Times under the above Contract will commence to run on _____.

On that date, Contractor shall start performing its obligations under the Contract Documents. No Work shall be done at the Site prior to such date. In accordance with the Agreement, [the date of Substantial Completion is _____, and the date of readiness for final payment is _____] **or** [the number of days to achieve Substantial Completion is _____, and the number of days to achieve readiness for final payment is _____].

Before starting any Work at the Site, Contractor must comply with the following:

Owner: _____ Date: _____
Authorized Signature

By: Matthew Schuenke

Title: Village Administrator

cc: Town & Country Engineering, Inc. (2912 Marketplace Drive, Suite 103, Madison, WI 53719)

PERFORMANCE BOND

CONTRACTOR (name and address):

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

OWNER (name and address):

CONSTRUCTION CONTRACT

Effective Date of the Agreement:

Amount:

Description (name and location):

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

(seal)

Contractor's Name and Corporate Seal

By: _____
Signature

Print Name

Title

Attest: _____
Signature

Title

SURETY

(seal)

Surety's Name and Corporate Seal

By: _____
Signature (attach power of attorney)

Print Name

Title

Attest: _____
Signature

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:

CERTIFICATE OF INSURANCE

This certifies to the Addresses shown below that the following described policies, subject to their terms, conditions and exclusions, have been issued to:

NAME AND ADDRESS OF INSURED: _____

DATE: _____

COVERING (Show Project Name and/or Number and Location) _____

Addresses:
 (Owner) _____

Date: _____

KIND OF INSURANCE	POLICY NO.	ACTIVE DATES	LIMITS OR LIABILITY
1. (a) Worker's Compensation	_____	_____	\$ _____ Statutory Worker's Compensation
(b) Employer's Liability	_____	_____	\$ _____ One Accident and Aggregate Disease
2. Comprehensive General Liability	_____	_____	\$ _____ Each Occur.-Premises & Operations
(a) Bodily Injury	_____	_____	\$ _____ Each Occur.-Independent Contractors
	_____	_____	\$ _____ Each Occur.-Completed Oper. & Prod
	_____	_____	\$ _____ Each Occurrence-Contractual
	_____	_____	\$ _____ Aggregate-Completed Oper. & Prod.
(b) Personal Injury	_____	_____	\$ _____ Each Person Aggregate
	_____	_____	\$ _____ General Aggregate
(c) Property Damage	_____	_____	\$ _____ Each Occur.- Premises & Operations
	_____	_____	\$ _____ Each Occur.-Independent Contractors
	_____	_____	\$ _____ Each Occur.-Completed Oper. & Prod
	_____	_____	\$ _____ Each Occurrence-Contractual
	_____	_____	\$ _____ Aggregate-
	_____	_____	\$ _____ Aggregate-Operations, Independent Contractors, Prod. & Contractual
3. Comprehensive Automobile Liability	_____	_____	\$ _____ Each Person
	_____	_____	\$ _____ Each Occurrence
	_____	_____	\$ _____ Each Occurrence
4. Umbrella	_____	_____	\$ _____

UNDER GENERAL LIABILITY POLICY OR POLICIES

	<u>YES</u>	<u>NO</u>
1. Does Property Damage Liability Insurance shown include coverage for XC and U hazards?	_____	_____
2. Is Occurrence Basis Coverage provided under Property Damage Liability?	_____	_____
3. Is Board Form Property Damage Coverage provided for this Project?	_____	_____
4. Does Personal Injury Liability Insurance include coverage for personal injury sustained by any person as a result of an offense directly or indirectly related to the employment of such person by the Insured?	_____	_____
5. Is coverage provided for Contractual Liability (including indemnification provision) assumed by Insured?	_____	_____

UNDER AUTOMOBILE LIABILITY POLICY OR POLICIES

1. Does coverage above apply to non-owned and hired automobiles?	_____	_____
2. Is Occurrence Basis Coverage provided under Property Damage Liability?	_____	_____

(NAME OF INSURANCE COMPANY)

(ADDRESS)

(SIGNATURE OF AUTHORIZED REPRESENTATIVE)

CANCELLATION OR NON-RENEWAL

In the event of cancellation or non-renewal of any of the foregoing, fifteen (15) days written notice shall be given to the party to whom this certificate is addressed.

EXTENT OF CERTIFICATION

This certificate is issued for information purposes, only, and confers no rights upon the holder. By its issuance the company does not alter, change, modify or extend any of the provisions of the above policies.

ADDITIONAL PARTIES LISTED AS INSURED UNDER CONTRACTOR'S GENERAL LIABILITY POLICY:

		<u>YES</u>	<u>NO</u>
Engineer:	Town & Country Engineering, Inc.	_____	_____
Owner:	Village of McFarland, Wisconsin	_____	_____

CONDITIONS OF THE CONTRACT

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

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by



Issued and Published Jointly by



These General Conditions have been prepared for use with the Agreement Between Owner and Contractor for Construction Contract (EJCDC® C-520, Stipulated Sum, or C-525, Cost-Plus, 2013 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other.

To prepare supplementary conditions that are coordinated with the General Conditions, use EJCDC's Guide to the Preparation of Supplementary Conditions (EJCDC® C-800, 2013 Edition). The full EJCDC Construction series of documents is discussed in the Commentary on the 2013 EJCDC Construction Documents (EJCDC® C-001, 2013 Edition).

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CONSTRUCTION CONTRACT**

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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 2. *Agreement*—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.
 3. *Application for Payment*—The 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.

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*

- 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*

- 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*

- 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;
 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*

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

- 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.

- 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*

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

6.01 *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.
- 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.
- 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*

- 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:
 - 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.

- 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*

- 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*

- 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*

- 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

- 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"

- 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*

- 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. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable, during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within five days.

- E. Owner may require the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors, Suppliers, or other individuals or entities for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor, Supplier, or other individual or entity so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity.
- F. 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.
- G. 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.
- H. On a monthly basis Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.
- I. Contractor shall be 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.
- J. 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.
- K. 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.
- L. 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.
- M. 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.
- N. 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.

- O. 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*

- 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*

- 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

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.
 - 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*

- 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 Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
 - c. determined and verified the suitability of all materials 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*

- 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*

- 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

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.
- 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*

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

8.03 *Legal Relationships*

- A. If, in the course of performing other work 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

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*

- 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*

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

ARTICLE 10 – ENGINEER'S STATUS DURING CONSTRUCTION

10.01 *Owner's Representative*

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

10.02 *Visits to Site*

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.
- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 10.08. 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

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*

- 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

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:*
 - 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

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.
 - 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*

- 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.

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

14.01 *Access to Work*

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and authorities having jurisdiction 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*

- 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*

- 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

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. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or

- e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.

D. *Payment Becomes Due:*

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

E. *Reductions in Payment by Owner:*

- 1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:
 - a. claims have been made against Owner 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.
- 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*

- 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*

- 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*

- 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

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*

- 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

17.01 *Methods and Procedures*

- A. *Disputes Subject to Final Resolution:* The following disputed matters are subject to final resolution under the provisions of this Article:
 - 1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full; 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*

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

18.05 *No Waiver*

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

18.06 *Survival of Obligations*

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

SUPPLEMENTARY CONDITIONS

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These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract, EJCDC® C-700 (2013 Edition). All provisions that 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

SC-2.02 Copies of Documents

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

Owner shall furnish to Contractor three copies of the Contract Documents (including one fully executed counterpart of the Agreement).

ARTICLE 3 – DOCUMENTS: INTENT, REQUIREMENTS, REUSE

SC-3.01 Intent

Delete paragraph 3.01C in its entirety.

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

SC-5.03 Subsurface and Physical Conditions

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

- A. No reports of explorations or tests of subsurface conditions at or adjacent to the Site, or drawings of physical conditions relating to existing surface or subsurface structures at the Site, are known to Owner.

SC-5.06 Hazardous Environmental Conditions

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 at the Site are known to Owner.
- B. Not Used.

ARTICLE 6 – BONDS AND INSURANCE

SC-6.01 Performance, Payment, and Other Bonds

Add the following sentence at the end of paragraph 6.01F:

Owner may furnish to any Subcontractor, Supplier or Contractor’s Bonding Company, to the extent practicable, information about amounts paid to Contractor on account of Work performed for Contractor by a particular Subcontractor or Supplier.

SC-6.03 Contractor’s Insurance

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. Worker’s Compensation Insurance and related coverages under Paragraphs 6.03 of the General Conditions. Prime Contractors are required to provide Workmen’s Compensation Insurance for the duration of this project meeting statutory requirements. Prime Contractors shall require subcontractors to provide Workmen’s Compensation Insurance for all subcontractor employees working on this project, unless covered by Prime Contractor’s policy.

Employer’s Liability	\$500,000
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Projects in Wisconsin constructed by out-of-state contractors or subcontractors must be so endorsed on the policy and noted on the certificate.

- 2. Contractor’s General Liability Insurance under Paragraphs 6.03B and 6.03C of the General Conditions. This policy shall be provided by and in the name of each Prime Contractor and shall include completed operations and product liability coverages, and independent Contractor’s Contingent coverage. Minimum limits:

\$1,000,000	Each Person
\$1,000,000	Each Occurrence

\$2,000,000

General Aggregate

Delete exclusions for X-C-U (Explosion, Collapse, and Underground) perils and any exclusion with respect to property under the care, custody and control of the Contractor.

- 3. Automobile Liability Insurance under Paragraph 6.03.D of the General Conditions. This policy shall be provided by and in the name of each Prime Contractor. Coverage shall include all owned, non-owned, and hired vehicles. Prime Contractors shall require similar coverages by subcontractors. Minimum Limits:

Bodily Injury	\$1,000,000	Each Person
	\$1,000,000	Each Occurrence
Property Damage	\$1,000,000	Each Occurrence
Combined Single Limit	\$1,000,000	

- 4. Umbrella Coverage. This policy shall be provided by and in the name of each Prime Contractor. Coverage shall include all the categories above and shall be for the following minimum limits: \$5,000,000, each occurrence and general aggregate.

- 5. Contractor’s Pollution Liability:

Each Occurrence	\$N/A
General Aggregate	\$N/A

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

- 6. Contractor’s Professional Liability:

Each Claim	\$N/A
Annual Aggregate	\$N/A

For purposes of these requirements additional insureds shall be:

the OWNER: Village of McFarland, Wisconsin

the ENGINEER: Town & Country Engineering, Inc.

SC-6.05 Property Insurance

Add the following new subparagraph after subparagraph 6.05.A.1:

- a. In addition to Owner, Contractor, and all Subcontractors, include as insureds the following: Town & Country Engineering, Inc.

ARTICLE 7 – CONTRACTOR’S RESPONSIBILITIES

SC-7.02 Labor; Working Hours

Add the following new subparagraphs immediately after Paragraph 7.02.B:

- 1. Regular working hours will be 7 a.m. to 7 p.m.
- 2. Owner's legal holidays are Memorial Day, July 4th and Labor Day.

Amend the first and second sentences of Paragraph 7.02.B to state “...all Work at the Site shall be performed during regular working hours, 7 a.m. through 7 p.m. Contractor will not perform Work on any legal holiday.”

SC-7.09 Taxes

Add a new paragraph immediately after Paragraph 7.09.A:

- B. Owner is exempt from payment of some sales and compensating use taxes of the State of Wisconsin according to the provisions of Wisconsin Statutes Section 77.54 (9m) and other applicable laws and of cities and counties thereof on all materials to be incorporated into the Work.
 - 1. Owner will furnish the required certificates of tax exemption to Contractor for use in the purchase of supplies and materials to be incorporated into the Work.
 - 2. Owner’s exemption does not apply to construction tools, machinery, equipment, or other property purchased by or leased by Contractor, or to supplies or materials not incorporated into the Work.

ARTICLE 9 – OWNER’S RESPONSIBILITIES

SC-9.13 Owner’s Site Representative

Add the following new paragraph immediately after Paragraph 9.12 of the General Conditions:

SC-9.13 Owner will furnish an “Owner’s Site Representative” to represent Owner at the Site and assist Owner in observing the progress and quality of the Work. The Owner’s Site Representative is not Engineer’s consultant, agent, or employee.

ARTICLE 10 – ENGINEER’S STATUS DURING CONSTRUCTION

SC-10.03 Project Representative

- B. On this Project, by agreement with the Owner, Engineer will not furnish a Resident Project Representative to represent Engineer at the Site or assist Engineer in observing the progress and quality of the Work.

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

SC-13.03 Unit Price Work

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 5 percent or more of the Contract Price (based on estimated quantities at the time of Contract formation) and the variation in the quantity of that particular item of Unit Price Work actually furnished or performed by Contractor differs by more than 15 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; SET-OFFS; COMPLETION; CORRECTION PERIOD

SC-15.03 Substantial Completion

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 – FINAL RESOLUTION OF DISPUTES

Add the following new paragraph immediately after Paragraph 17.01:

SC-17.02 Arbitration

- A. All matters subject to final resolution under this Article will be decided by arbitration in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association 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 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

Add the following new paragraph immediately after Paragraph 17.02.

SC-17.03 Attorneys' Fees: 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 arbiter of the matter subject to final resolution, taking into account the parties' initial demand or defense positions in comparison with the final result.

TECHNICAL SPECIFICATIONS

DIVISION 1

GENERAL REQUIREMENTS

**SECTION 01000
SUMMARY OF THE WORK; SPECIAL CONDITIONS**

PART 1 - GENERAL

1.1 Description of Work Covered by this Section

This section summarizes the work covered by the contracts, and defines special conditions peculiar to this project which modify the technical specifications. This section is not intended to be all-inclusive. Contractors should closely review Section 01001 – Measurement and Payment, the standard technical specification sections and the plan sheets.

1.2 Summary of Work

This project consists of storm sewer construction, sanitary manhole casting replacement and manhole chimney reconstruction, and spot curb & gutter removal and replacement, pulverizing, shaping, and compaction of millings to produce an acceptable crown and the installation of hot-mix asphalt pavement on Siggelkow Road, from Terminal Drive to Marsh Road and similar work on an alternate bid for Triangle Street from Siggelkow Road north approximately 2,700 lineal feet.

Bid quantities are estimates only. Actual locations of spot repairs will be marked by the Village prior to construction and may vary significantly from bid quantities.

Contractor will install all necessary erosion control installation and maintain it during the curb & gutter removal and replacement.

Siggelkow Road will be widened from Freese Road to Marsh Road. After the existing curb & gutter is removed, the area behind the existing curb shall be excavated, compacted and prepared with Breaker Run base course. The excess millings can be used to grade and compact as base for the new curb in this area.

Following the curb & gutter construction, Contractor shall pulverize the existing street surface and grade and compact to a maximum four percent crown unless otherwise shown in the cross-sections. The Contractor shall remove and dispose of any excess material created by the pulverizing operation. The prepared base shall be test-rolled in the presence of the Owner or Engineer. The Owner or Engineer will determine if there are any soft areas to be excavated and replaced with breaker run base course. Once a street has been test-rolled, it is the

responsibility of the contractor to pave the street as soon as possible. In the event that a street has been test rolled, and inclement weather adversely affects the street base, any remedial action required will be the responsibility of and at the expense of the Contractor. Consequently, it is in the best interest of this contractor to coordinate grading and test rolling with the paving operation. All work on these streets shall be completed by the dates indicated on the bid form.

All manhole and valve box adjustments shall be completed after the final base course preparation and prior to the asphalt pavement construction. Valve box adjustments, including excavation of the top section of the valve box sufficient to allow turning up or down, shall be incidental to the units in the bid proposal. Only where the valve box is broken prior to the start of construction will a valve box replacement be authorized by the Owner. The Contractor and Owner will do a pre-construction walk-through to verify if valve boxes are broken and to be paid for repair. Any valve boxes broken after this walk-through shall be repaired at the expense of the Contractor. "Cheater rings" will not be allowed in either manholes or valve boxes.

1.3 Erosion Control

Erosion control shall consist of protecting drainage channels and inlets downstream of disturbed areas so that no sediment leaves the site. Erosion control shall consist of placement of stone weepers or silt fence in drainageways where runoff can exit the project. Street inlets shall be protected with Type-D inlet protection, as shown on the Construction Details. These erosion control measures will be maintained and removed by the Contractor upon completion of the project and approval and acceptance by the Engineer.

1.4 Sequencing of Construction

The Contractor shall sequence his activities so as to maintain one lane of traffic in each direction on Siggelkow Road and one lane of traffic on Triangle Street at all times. Care must be taken when paving through intersections of other streets or driveways included in the project to not create a dead-end for more than two hours.

1.5 Items of Emphasis

Each section of the specifications may include reference to specific material types and/or specific equipment items. Unless approved by the Engineer, the

Contractor will be allowed to furnish only those materials or products listed in the specifications and/or described on the plan sheets.

When the word “provide” or “provision” is used herein it shall mean to “furnish and install, complete in place, fully tested as required, with final acceptance by the Owner.

Engineer will not provide separate grade stakes for the street subbase course or base course construction. Contractor shall perform his own “blue-topping” or “red-topping” to establish control for construction of the crushed aggregate base course using the existing curb & gutter.

The Contractor shall provide barricades controlling traffic of all kinds in the construction areas. “Road Closed – Local Traffic Only” signed barricades shall be placed on the streets leading to the construction areas at the nearest intersections in all directions. All traffic control signs and devices shall comply with the Manual of Uniform Traffic Control Devices (MUTCD). The Contractor shall submit a traffic control plan for Village approval prior to start of construction.

The Contractor shall coordinate with the local garbage collection firm or agency regarding access on days garbage is to be collected and, where necessary, shall arrange alternate collection sites and shall notify affected residents and businesses at least two days prior to the scheduled garbage pick-up.

The police, fire and EMS departments, project area businesses and churches, and, during the school year, the school bus operator, shall be notified by the Contractor at least 24 hours in advance of any access restrictions or any changes in access or traffic patterns. At no time shall property owners or tenants be without emergency access. Access into each driveway shall be restored at the end of each working day, except during concrete curing periods.

1.6 Utility and Regulatory Agency Contacts

Electric

Mr. Matthew Weir
Alliant Utilities
1521 Progress Lane
Stoughton, WI 53589
(608) 877-1620
MatthewWeir@alliantenergy.com

Cable

Mr. Glen Jakusz
Charter Communications
2701 Daniels Street
Madison, WI 53718-6792
(608) 209-3202

Gas

Mr. Don McClain
Madison Gas & Electric
133 South Blair Street
P.O. Box 1231
Madison, WI 53703
(608) 252-7000

Phone

Mr. Russ Ryan
Frontier Communications
118 Division Street
Plymouth, WI 53073
(920) 583-3275
(Cell) (920) 737-9662

Mr. Matthew Weir
Alliant Utilities
1521 Progress Lane
Stoughton, WI 53589
(608) 877-1620
MatthewWeir@alliantenergy.com

1.7 Incidental Work

The bid items represent complete compensation for all work. Any work shown on the plans or described in the Technical Specification sections for which no specific bid item is provided shall be considered incidental to those bid items which are provided.

“Incidental”, as used in these documents, means included as part of other work and has no implication regarding size or magnitude.

1.8 Exploratory Excavations and Unforeseen Conditions

Contractor shall expect that some time will be required to excavate, find and expose existing underground features. Exploratory excavations of up to four hours following marking of the utilities in the field by the appropriate party for finding and exposing any individual underground feature shall be considered incidental to the contract prices, unless specific bid items are provided. The Contractor is encouraged to make these exploratory excavations early in the project. Should the Contractor fail to do so and relocations of underground utilities are required such that the contractor’s normal sequence of operation is disrupted or such that additional remobilizations are required, the Contractor shall merit no extra payment for these interruptions in excess of four hours or for remobilizations.

During the course of the work it is anticipated that there will be periods of time when unforeseen conditions will be encountered. These circumstances will require investigative time and consultation by the Engineer, the Contractor and

the Owner to make appropriate decisions as to the course of action to be undertaken. This time will be considered as ordinary down time and the Contractor will not be eligible for compensation for this down time for crew time or equipment time unless there is no other work to which the crew and equipment can be diverted **and** unless the downtime exceeds four hours.

1.9 Changes in Quantities

The unit bids shown in the Bid Proposal will be used to add to or deduct from the total price if the Owner chooses to install more or less units than shown in the Bid Proposal.

1.10 Change Orders

Should change orders be necessary which cannot be made on a unit price basis and which require the Contractor to alter his normal plan of operation, the contractor shall be reimbursed only for changes in actual work performed, not for ordinary crew or equipment “down time”.

1.11 Required Postings and Compliance with State Reporting Requirements

Contractors shall post the erosion control/stormwater Notice of Intent on the job site. Notice of Intent documents will be furnished by the Engineer to the Contractor upon request.

1.12 Plans - Limitations

The plans are schematic depictions only.

Underground utilities known at the time of plan preparation are shown. No warranty is given that the locations shown are exactly correct. The Contractor shall verify prior to making his bid what underground utilities will be encountered and shall make suitable provision for working around those utilities and for coordination with the utility companies, as necessary. The exact utility locations should be marked in the field prior to construction. The Contractor shall call the utility companies at least three working days prior to the time when construction in that area will commence to provide time for such markings.

END OF SECTION

**SECTION 01001
MEASUREMENT AND PAYMENT**

PART 1 - GENERAL

1.1 Description of Work Covered by this Section

This section provides descriptions of the payment items used in the bid proposal, establishes criteria for measurements associated with these payment items, and provides information regarding what work is considered incidental to those payment items.

Where there is a conflict between this section and subsequent technical Specification Sections, the provisions of this section shall govern.

Any related work for which a pay item has not been provided in the proposal shall be considered incidental to the prices for the bid items provided.

1.2 Items of Emphasis

The Contractor shall, at his own cost, incidental to the bid prices, obtain any discharge permits required by the DNR. The Contractor should note that even a discharge of runoff from rainfall that might have accumulated in a trench requires a DNR discharge permit.

Rock Excavation and groundwater dewatering, of whatever type necessary, including well-pointing or deep well construction, and granular bedding around and to 12 inches over the pipe shall be INCIDENTAL to the contract unit prices for pipe construction. Each bidder should conduct whatever pre-bid investigations are necessary to satisfy him regarding the amount of such work items which will be necessary. The Contractor shall, at his own cost, obtain the DNR dewatering permit.

The Contractor shall, at his own cost, perform (or retain an engineer to perform) whatever calculations are necessary to design dewatering and shoring systems that may be required to perform the work and to avoid any damages to properties outside the public right-of-way, and shall assume all responsibility for the sufficiency of these calculations and these systems.

The presumption of this specification is that the excavated material will be suitable for trench backfill. If unsuitable backfill materials are encountered, such that materials must be hauled in from off the project site, the supplemental bid prices will be used, or if no appropriate supplemental bid price exists, an extra price will be negotiated.

All trench compaction shall be Class I. Compaction testing may be conducted at various depths in the trench to verify the required density has been achieved. If compaction tests fail, the Contractor shall pay for a second set of tests to demonstrate that the inadequate compaction condition has been remedied.

Completed erosion control inspection forms shall be completed by the Contractor and submitted with applications for payment. Forms covering the interval of time between applications for payment shall be submitted with each such application. No payment on any contract item will be made until the completed inspection forms are submitted.

1.3 Description of Bid Items

- Standard Sanitary Manhole Castings (Items 1, A1) covers the provision and placement of a manhole casting, including mastic and grouting the casting into place, as specified or shown in Section 02601 of the specifications. The manhole castings shall be Neenah R-1550. The unit of measurement is each casting. These will be marked in the field, and it is possible that this quantity will change significantly.
- Sanitary Manhole Chimney Reconstruction (Items 2, A2) covers removal and disposal of the existing manhole casting and adjusting rings or blocks, and provision and placement of new adjusting rings with mastic. Grouting of the adjusting rings, inside and out, is included in the unit price. The unit of measurement shall be per vertical foot, as measured from the top of the manhole structure remaining to the bottom of the new manhole casting. The manhole casting will be paid in addition to this bid item. These will be marked in the field, and it is possible that this quantity will change significantly.
- Sanitary Manhole Casting Adjustments (Items 3, A3) covers raising or lowering existing manhole castings 6 inches, or less, including provision of adjusting rings and mastic and grouting the rings and casting inside and out. Unless this adjustment is done when the roadway is closed to through traffic for street reconstruction this bid item shall include provision and maintenance of a traffic barricade, with flashing lights, over the adjusted casting until such time as the pavement surface is adjusted to match the rim elevation of the casting. The unit of measurement shall be each casting. (The adjustment of manholes that require chimney reconstruction shall be incidental to the sanitary manhole chimney reconstruction bid item.) These will be marked in the field, and it is possible that this quantity will change significantly.

- Pulverizing and Grading of Existing Asphalt Pavement (Items 4, A4) covers the breaking of existing asphalt materials in-place and the reuse of these materials as base course to the limits marked by the Village. Fine grading to create the specified street crown shall be incidental to the contract unit price. Maximum cross-slope shall be 4% unless otherwise shown in the cross-sections. Existing asphalt thicknesses on streets to be pulverized are estimated to be approximately 4 to 5 inches thick. Costs for pulverizing pavement thicker than 4 to 5 inches will be paid via negotiated change order. Hauling of excess millings not utilized for base course shall be incidental to this bid item. The unit of measurement shall be per square yard.
- 3" Breaker Run (Items 5, A5) covers provision, placement and compaction of 3-inch maximum size, well graded crushed aggregate as the lower layer of the base course in areas where curb and/or storm sewer are relocated or the street is widened, and as replacement of materials in areas where bad subbase has been excavated.

Breaker Run base course shall be paid for at the contract unit price, per ton, complete and compacted in place. Payment shall be on the basis of quantity tickets collected at the job site and signed by the Engineer or the Owner's Authorized Representative.

- Excavation/Fill to Subgrade (Item 6) covers excavation and disposal of existing curb & gutter, sidewalk, driveways, street pavements (including underlying concrete where it exists) and soil on the various streets to create the Plan subgrades (bottom surface of the lowest crushed aggregate or Breaker Run base course shown on the cross-sections). The bottom of the subgrade shall be considered to be 18 inches plus the asphalt pavement thickness designated for that street below the edge of the new gutter. After this elevation has been achieved the subgrade surface shall be test-rolled in the presence of the Engineer. If additional material must be removed to eliminate soft spots that removal shall be made under the Excavation of Bad Subbase bid item.

Excavation to subgrade necessary to construct the path on a new alignment from North Autumn Lane to Sta. 47+00 shall be included under this bid item. The bottom of the path subgrade shall provide for 12 inches of ¾-inch base course and 3 inches of asphalt pavement paid for under separate bid items.

All work covered in Section 02230 of the specifications and the removal and disposal of all existing gravel, asphalt, concrete or brick street pavements, curb & gutter, sidewalk and driveway aprons shown on the

plans or necessary to create the blends shown on the cross-sections shall be considered incidental to the lump sum price for excavation to subgrade. No additional compensation will be allowed unless rock excavation or man-made objects are encountered which cannot be easily excavated and which were not shown on the plans. Removal and disposal of existing unneeded storm sewers and street inlets shall also be incidental to this bid item. The measurement quantity shall be lump sum.

- Excavation and Disposal of Bad Subbase Materials (Items 7, A6) is for excavation below the subgrade (bottom of crushed aggregate base course) elevations shown on the plan cross-sections. No payment will be made on this item until the Plan subgrade elevations are created as described under the Excavation to Plan Subgrade Bid Item and the excavations are specifically approved by the Engineer. This Bid item includes all excavation, trucking and disposal costs, but does not include replacement of the bad subbase. Replacement of these subgrade materials shall be with 3-inch "Breaker Run" on a per ton basis under a separate bid item. The unit of measurement is per cubic yard.
- ¾" Crushed Aggregate Base Course (Items 8, A7) covers provision, placement and compaction of the base course of the maximum dimension specified which lies immediately below the asphalt or concrete pavement, curb & gutter and sidewalk. The Contractor may substitute, at no cost difference, 1¼-inch crushed aggregate base course for ¾-inch crushed aggregate base course.

Crushed aggregate base course shall be paid for at the contract unit price, per ton, complete and compacted in place. Payment shall be on the basis of quantity tickets collected at the job site and signed by the Engineer or the Owner's Authorized Representative.

- 30" Concrete Curb & Gutter - Remove and Replace (Items 9, 10, A8) covers removal of existing and construction of the new concrete curb & gutter and all cylinder testing. The cost of clearing and grubbing, removing and disposing of shrubbery and trees, grading and preparing the subgrade, and cut or fill, as necessary to bring the underlying areas up to the necessary grade, shall be incidental to the unit price for curb & gutter, unless separate pay items are provided in the bid proposal.

Transitions, flumes, curb ramp opening sections, drive-over or mountable curb & gutter sections and radius curb & gutter sections shall be measured for payment as part of the standard curb & gutter, no special payment shall be made for these items unless separate pay items are provided in the bid proposal. Adjustment of utility structures, such as curb

stops, existing and new storm water inlets (including a No. 5 reinforcing rod across the front of all inlets and to a point 6 inches on either side of the inlets), and manholes shall be incidental to the contract unit price for curb & gutter.

Payment for curb & gutter shall be per lineal foot, as measured at the base of the curb face or along the flow line of the gutter and shall be continuous across storm water inlets and manholes, curb transitions and gutter sections for ramps, driveways, and alleys.

Restoration behind the curb & gutter will be paid for separately. The provision and placement of crushed aggregate base under the new curb & gutter will be performed under a separate bid item.

- 5" Sidewalk Removal and Replacement (Item 11) covers the construction of new concrete sidewalk and driveway aprons. No special payment shall be made for sidewalk ramps. Rather the ramps shall be measured as concrete sidewalk. Related topsoil restoration shall be paid for separately. The provision and placement of 8 inches of crushed aggregate base under the new sidewalk will be paid for separately under the crushed aggregate base course bid item. (This crushed aggregate base may not be shown in the plan cross-sections.) The unit of measurement is per square foot.
- 8" Concrete Pavement (Item 12) covers all labor, equipment and materials to construct the concrete pavement as shown on the plans. This shall include all steel dowels and re-bars, hi-early strength concrete pavement, and jointing. Payment shall be by square yard. Concrete pavement section details are included at the end of Section 01001 – Measurement and Payment.
- Truncated Dome Panels (Item 13) covers the provision and installation of unpainted 24" x 24" or 24" x 36" gray cast iron detectable warning plates embedded in sidewalk ramps as shown on the plans and details, and in accordance with Section 4.29 of the ADA Accessibility Guidelines. The cast iron shall conform to ASTM A-48, Class 30A minimum. The plates shall have 0.2-inch high truncated domes with a base diameter of 0.9 inches to 1.4 inches, and a top diameter of 50% to 65% of the base diameter. These domes shall be located at a center-to-center spacing of 1.6 inches to 2.4 inches, and a minimum base-to-base spacing of 0.65 inches in a square grid pattern. The plates shall be as provided by Neenah Foundry Company. The unit of measurement shall be per square foot.

- Sawcutting (Items 14, A9) covers butt joint sawcuts necessary to blend new pavements to old. The unit of measurement shall be per lineal foot of sawcut.
- Lower Course Asphalt (Items 15, A10) covers construction of the lowest layer, of the hot-mix asphaltic concrete street pavement to the thickness and type specified in the bid proposal or on the plans cross-sections.

The contract price shall represent total payment for providing and placing the asphalt mixture, and for compaction tests, gradation tests, and percent asphalt cement analysis, and other required tests. The pavement material shall be weighed on an approved truck scale calibrated within the six months prior to the date of weighing, and equipped with a digital recorder or printer. Weight tickets showing the new weight of each load of paving materials shall be supplied to the Engineer or the Owner's Authorized Representative. If requested by the Engineer, the Contractor shall furnish to the Engineer a copy of a certified scale test performed by an independent testing laboratory.

Asphaltic concrete pavement shall be paid for at the contract price per ton, complete and in place.

- Surface Course Asphalt (Items 16, A11) covers construction of the surface layer of the hot-mix asphaltic concrete street pavement to the thickness and type specified in the bid proposal or on the plan details.

The contract price shall represent total payment for providing and placing the asphalt mixture, for touch-up of the prepared base course, and for compaction tests, gradation tests, and percent asphalt cement analysis, and other required tests. The pavement material shall be weighed on an approved truck scale calibrated within the six months prior to the date of weighing, and equipped with a digital recorder or printer. Weight tickets showing the net weight of each load with a digital recorder or printer. Weight tickets showing the new weight of each load of paving materials shall be supplied to the Engineer or the Owner's Authorized Representative. If requested by the Engineer, the Contractor shall furnish to the Engineer a copy of a certified scale test performed by an independent testing laboratory.

Asphaltic concrete pavement shall be paid for at the contract price per ton, complete and in place.

- 3" Type 5 LT Asphalt Driveways and Medians (Item 17) covers replacement of asphalt driveway and median pavements removed during the process of construction or construction of new driveways with a single course 3 inches thick of Type 5 LT hot-mix asphaltic concrete surface material. Twelve inches of crushed aggregate base course shall be placed under a separate bid item. The unit of measurement shall be per square yard of pavement constructed.
- Erosion Control (Items 18, A12) covers control of sediment leaving the construction site by means of placement of stone barriers in the gutter at all points downstream of the project site where sediment could escape and the placement of filter fabric "baskets" in accordance with the plan details in street inlets which may receive runoff from the site. The unit of measurement shall be lump sum.
- Traffic Control (Items 19, A13) covers the provision, placement and maintenance of barricades and signage in accordance with the provision of the Manual on Uniform Traffic Control Devices. This item covers all traffic control on all streets which will be necessary to perform the work. The unit of measurement shall be lump sum.
- Pavement Markings (Items 20, A14) covers all labor, equipment and materials to place the striping and markings on each street in the appropriate color, size, and location. A schematic sketch of the markings is shown on the plans. All permanent pavement markings shall be of the epoxy type, as specified in the Wisconsin Department of Transportation Standard Specifications for Highway and Structure Construction.

The approximate quantities of markings are as follows:

	Siggelkow Road <u>Item 17</u>	Triangle Street <u>Item A14</u>
4-Inch White Solid Line – Lanes (lin. feet)	8,500	0
4-Inch Dashed Yellow Line (lin. feet)	8,300	0
4-Inch Double Yellow Solid Line (lin. feet)	3,500	2,750
6-Inch White Line (for Crosswalks) (lin. feet)	1,600	110
Right/Through Arrow (each)	2	0
Right Arrow (each)	1	0
Left/Through Arrow (each)	4	0
Left Arrow (each)	7	0
18-Inch White Solid Line (for stop bar)(lin. feet)	350	20
Bike Symbol (each)	24	0

Payment will be by lump sum for installing the approximate quantities listed.

- Clean and Tack (Items 21, A15) covers the re-entry to the project site, sweeping the street with mechanical equipment to remove all particles or other foreign matter and application of an asphaltic tack coat in accordance with Specification Section 02514. Payment shall be on the basis of the square yards of asphalt cleaned and tacked.
- Path Pavement Removal (Item 22) covers all labor, equipment and materials to remove and dispose asphalt pavement (approximately 2 to 3 inches thick) from existing paths. Grading and recompacting the remaining crushed aggregate base course is also included in this item. Excavation to subgrade to reconstruct the path from North Autumn Lane to Sta. 47+00 on a new alignment will be paid for under the excavation/fill to subgrade item. This portion of path will require 12 inches of ¾-inch crushed aggregate paid for under separate bid items. Measurement will be by the square yard.
- 3" Type 5LT Asphalt Path (8 Feet Wide) (Item 23) covers construction of new 8-foot wide asphalt path with a single course 3 inches thick of Type 5 LT hot-mix asphaltic concrete surface material. The existing crushed aggregate base course shall be fine graded under a separate item. The unit of measurement shall be per square yard of pavement constructed.
- Topsoil Restoration, Seeding, Fertilizing and Mulching (Item 24) is intended to cover restoration of disturbed grass surfaces in all the project areas. This restoration item includes stripping existing sod, fill, if necessary, salvage of topsoil, placement of topsoil, new topsoil provision, where necessary, and grading of all areas which were disturbed or which are shown on the cross-section sheets of the Plans as requiring either cuts or fills. The Owner will obtain any necessary easements. Because some of the area being restored as grass may be gravel, topsoil may have to be imported incidentally to this bid item.

The topsoil placed shall be compacted so that no appreciable settlement is likely and shall be raked to a smooth finish by the Contractor. The finished topsoil surface shall be slightly above the top of the curb or sidewalk to allow some settlement to occur. A minimum thickness of four inches of topsoil shall be placed by the Contractor or shall exist on all areas to be seeded.

The unit of measurement is per square yard of area restored in accordance with Specification Section 02486 or 02570, as applicable.

- Rectangular Storm Sewer Inlets (Item 25) covers the installation of new 24" x 36" rectangular pre-cast concrete inlet boxes in the curb in accordance with Section 02721 of these specifications. These inlets shall not have a sump. Payment for inlets shall be at the amount per each unit constructed, including the setting and grouting of all adjusting rings and castings and grouting of the bottom of the inlet to create a smooth channel.

Inlets shall be installed with a weeper pipe. Casting will be Neenah Foundry R-3067 where water flows into the inlet from both directions or Neenah Foundry R-3067L, where water flows into the inlet from one direction, only.

- Storm Sewer Castings (Item 26) covers the provision and placement of a manhole or inlet casting to replace an existing manhole or inlet casting with the specified casting, including mastic and grouting the casting into place, as specified or shown in Section 02601 of the specifications and as shown on the plans and/or the standard detail sheet of the drawings. Manhole castings shall be Neenah R-1550-A with Type B non-rocking lid. For existing inlets that will no longer be in curb, inlet castings shall be Neenah R-3067-C with Type A grate that is bicycle safe. The unit of measurement is each casting.
- 12" RCP Storm Sewer (Item 27) covers the installation of the reinforced concrete storm sewer of the diameter and class indicated in the bid proposal or as shown on the plans. Dewatering, trench excavation, bedding and covering the pipe to a level 12 inches above the top of the pipe, with ¾-inch crushed aggregate hauled in from off the job, and rock excavation, if necessary, shall be included as incidental to this Bid Item. Also included as incidental is the removal and disposal of any existing storm sewer pipe or structure in the same location.

Payment shall be at the contract unit price per lineal foot measured horizontally from the inside edge to inside edge of proposed or existing manholes or to the end of the sewer pipe (beginning at the endwall-pipe connection, if an endwall is present) not terminating in a manhole. For new sewers which begin at an existing connection one foot or more outside an existing manhole wall measurement will begin from the connection.

Payment for installation of storm sewer water lead pipes shall be at the contract unit price per lineal foot measured horizontally from the inside edge of the catch basin or storm inlet to the inside edge of the manhole, or sewer. Connections to existing pipes or manholes, including reshaping

inverts or existing manhole bases, shall be incidental to the unit price for storm sewer installation.

- Storm Sewer Casting Adjustments (Item 28) covers raising or lowering existing manhole castings 6 inches, or less, including provision of adjusting rings and mastic and grouting the rings and casting inside and out. Unless this adjustment is done when the roadway is closed to through traffic for street reconstruction this bid item shall include provision and maintenance of a traffic barricade, with flashing lights, over the adjusted casting until such time as the pavement surface is adjusted to match the rim elevation of the casting. The unit of measurement shall be each casting. (The adjustment of new inlets shall be incidental to the inlet and inlet casting bid items.)
- Replace Water Valve Boxes (Top Section) (Items 29, A16) covers all costs of providing and installing a new valve box top section for existing valves. The existing valve box top section shall be removed, all gravel or other material removed from the inside of the remaining valve box, and the new top section installed. Disposal of the old top section, additional gravel backfill and compaction are incidental to this item. The unit of measurement is per valve box top section replaced.
- Saddle Storm Sewer Inlet & Casting, Constructed Directly on Pipe (Item 30) covers the provision and placement of a casting and adjusting rings, including mastic seal between rings and backplastering inside and out, directly over a 24 inch diameter hole cut into the storm sewer. No manhole base, top, cone sections or barrel sections will be part of this construction. The Contractor shall provide whatever concrete and grout is necessary to create a firm, level seat under the entire bottom surface of the bottom adjusting ring as a base for the casting. Where necessary this concrete shall extend down and around the pipe itself. Casting shall be Neenah Foundry R-3067 where water flows into the inlet from both directions or Neenah Foundry R-3067-L, where water flows into the inlet from one direction only. The unit of measurement is per each inlet.
- Hydrant Relocation (Item 31) covers all costs of relocating existing hydrants and adjusting valve boxes, as shown on the plans and in accordance with Section 02701 of the technical specifications, including the cost of additional ductile iron hydrant lead pipe. Hydrants shall be both buttressed with concrete and rodded to the main. Contact Village of McFarland and/or City of Madison Public Works Department to operate valves if needed to relocate hydrant. The unit of measurement shall be per each hydrant relocated.

- 3" Schedule 80 PVC Conduit (Item 32) covers the provision and installation as shown on the plans of PVC conduit of the schedule specified in the Bid Proposal suitable for future pulling of electrical lines. A pull cord or mule tape shall be left in each conduit. The unit of measurement shall be lineal feet of conduit installed. Trenchless installation of conduit using directional drilling or other methods will be required for installation outside of areas disturbed by the street construction. Double 3-inch diameter conduits shall be placed across Siggelkow Road with handholes at either end as shown on the plans as part of the base bid. Any curb removed as part of this work will be replaced incidental to the cost of these items.
- Conduit Handhole (Item 33) covers provision and installation of handholes behind the curb in locations as shown on the plans. Handholes shall be 24" x 36" x 24" fiberglass/polymer concrete with load ratings for traffic for parking lot and sidewalk manufactured by New Basis or equivalent, as approved by the Engineer. Handholes shall be paid for each installed.
- Remove and Reinstall Signs & Mailboxes (Item 34) covers the removal of mailboxes from sawhorse assemblies constructed by others, matching of the mailboxes to posts stored by others in a location designated by the Owner, remounting the mailboxes on the posts, and reinstallation of the mailbox-post assemblies at the appropriate addresses in such a manner that the front of the mailbox is flush with the back of the curb and the bottom of the mailbox is 42 inches above the gutter or vehicle wheel level. The unit of payment shall be lump sum. Any posts which are so damaged that they cannot be reused shall be replaced with new, treated 5-inch diameter circular wood posts with a two foot burial allowance. The cost of such new posts shall be added by change order.
- Tree Allowance (Item 35) – See Section 01020 Allowances. The Contractor shall provide and install street trees as directed by the Village of McFarland Public Works Department.

END OF SECTION

GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE SPECIFIED, CONTRACTION JOINTS SHALL BE NORMAL TO THE CENTERLINE. THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS SHALL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

CONTRACTION JOINTS SHALL NOT BE SEALED OR FILLED.

DOWEL BARS SHALL BE INSTALLED PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

FOR PAVEMENT SLABS OF VARYING WIDTHS, CENTER THE DOWEL ASSEMBLY ACROSS THE LANES. LOCATE THE INNER AND OUTER MOST DOWEL BARS SO THAT THE CENTER OF THE BARS ARE A MINIMUM OF 6 INCHES AND A MAXIMUM OF 12 INCHES FROM THE LONGITUDINAL JOINT AND THE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

CONSTRUCTION JOINTS SHALL BE A MINIMUM OF 4 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGNED EITHER PARALLEL TO CONTRACTION JOINTS OR AT 90° TO THE CENTERLINE. TIE BARS MAY BE INSERTED THROUGH THE HEADER BOARD AFTER THE CONCRETE HAS BEEN PLACED.

① ALTERNATE DESIGNS OF THE DOWEL ASSEMBLY MAY BE USED WHEN APPROVED BY THE ENGINEER. MECHANICAL DOWEL BAR IMPLANTERS MAY BE USED INSTEAD OF DOWEL ASSEMBLIES.

② DOWEL BARS SHALL BE ANCHORED INTO DRILL HOLES WITH AN APPROVED EPOXY GROUT.

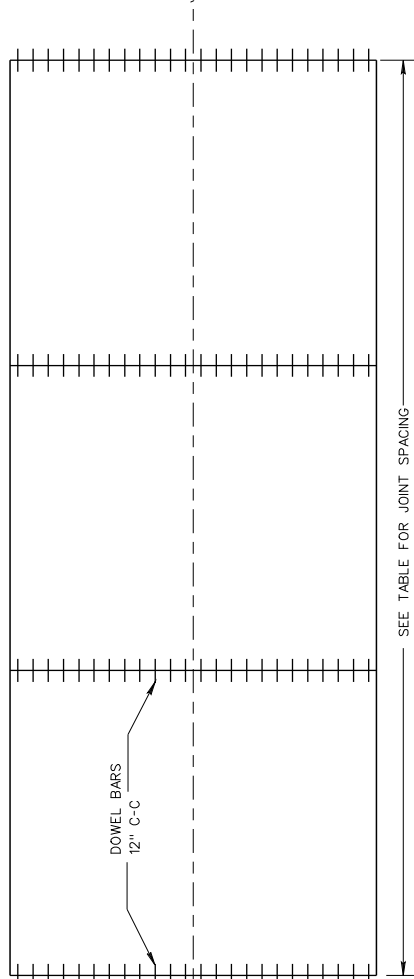
③ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF THE DOWEL BARS TO PREVENT BONDING.

④ DOWEL BARS INSTALLED BY DRILLING SHALL BE SPACED 1'-3" ON CENTER. THE GROUPING OF DOWEL BARS SHALL BE CENTERED INSIDE THE SLAB BASED ON ALL THE FOLLOWING SITUATIONS:

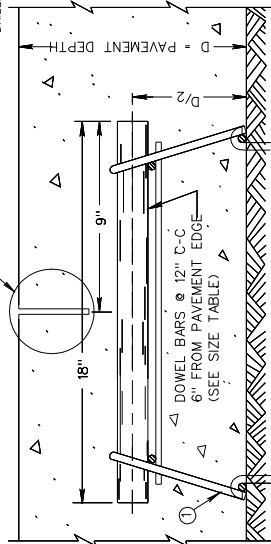
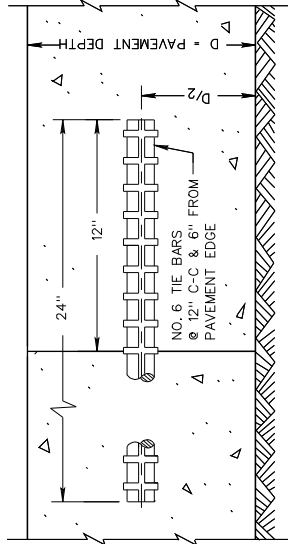
BETWEEN THE EDGES OF PAVEMENTS WITHOUT LONGITUDINAL JOINTS OR BETWEEN THE EDGE OF PAVEMENT AND NEAREST LONGITUDINAL JOINT OR BETWEEN TWO ADJACENT LONGITUDINAL JOINTS.

⑤ SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT, TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.

NOTE: THE CLEAR DISTANCE FROM THE EDGE OF PAVEMENT OR LONGITUDINAL JOINT TO THE NEAR EDGE OF DOWEL BAR NEAREST THAT EDGE OR JOINT SHALL BE A MINIMUM OF 6 INCHES AND A MAXIMUM OF 14 INCHES. THE BARS & DOWEL BARS FOR ALL NEW PAVEMENT SHALL BE DRILLED INTO EXISTING CONCRETE PAVEMENT OR CURB & GUTTER.



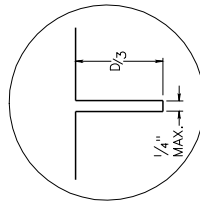
CONTRACTION JOINT LOCATIONS



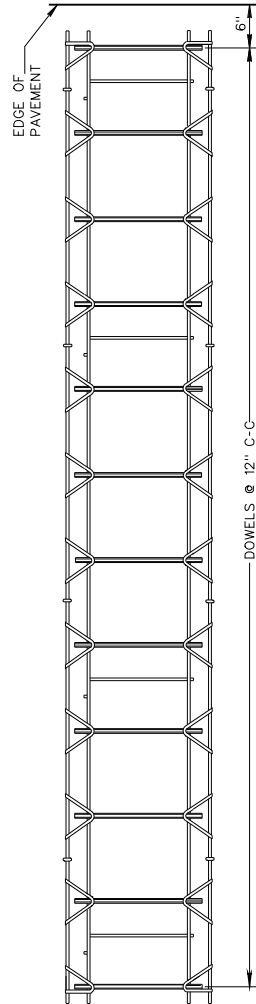
SEE JOINT DETAIL

CONSTRUCTION JOINT

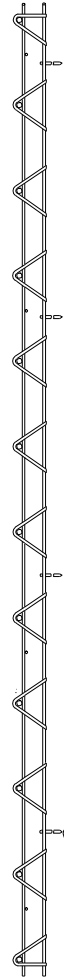
DOWELED CONTRACTION JOINT



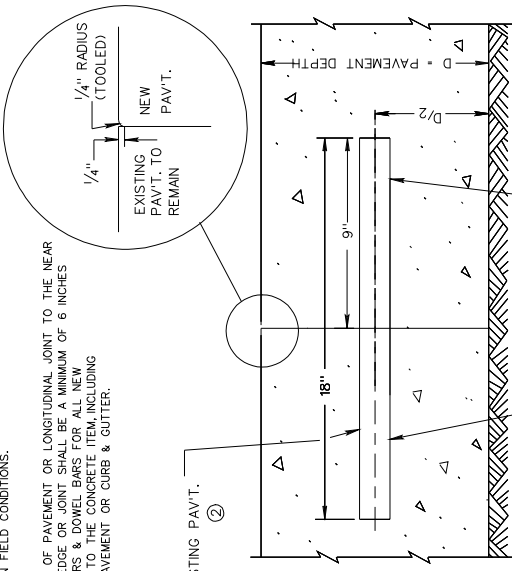
JOINT DETAIL



PLAN VIEW



CONTRACTION JOINT DOWEL ASSEMBLY ①



TRANSVERSE CONTRACTION JOINTS ABUTTING EXISTING PAVEMENT

④ DOWEL BAR DETAIL

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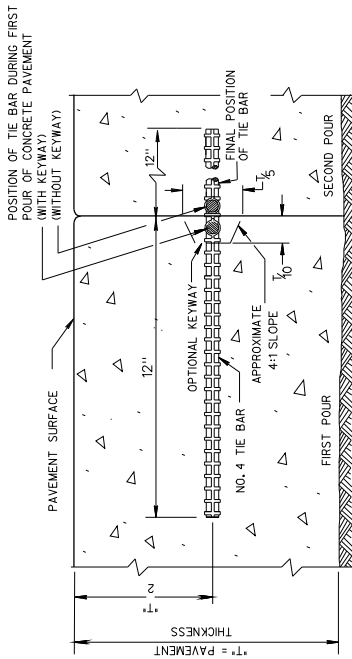
CITY OF MADISON
ENGINEERING DIVISION

DOWELED CONCRETE PAVEMENT DETAIL

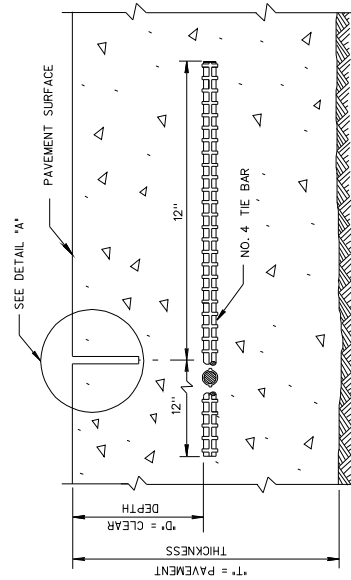
STANDARD DETAIL DRAWING 3.11

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

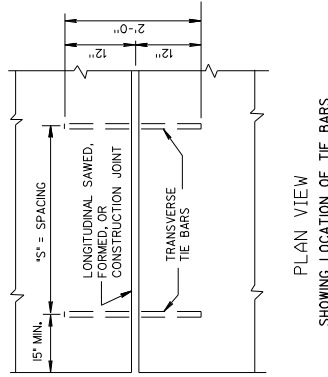
PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
6'-6 1/2"	1 1/4"	12'
7'-7 1/2"	1 1/4"	14'
8'-8 1/2"	1 1/4"	15'
9'-9 1/2"	1 1/4"	15'
10" & ABOVE	1 1/2"	15'



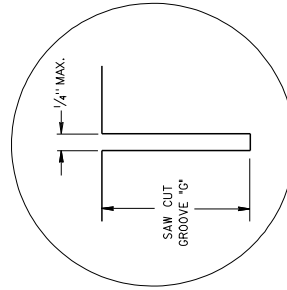
CONSTRUCTION JOINT



SAWED JOINT



PLAN VIEW
SHOWING LOCATION OF TIE BARS



DETAIL "A"

GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

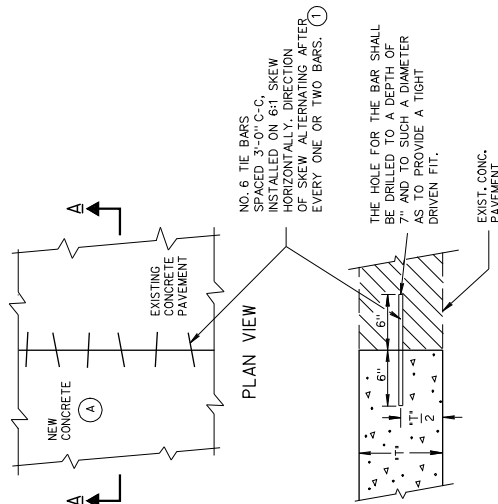
TIE BARS & DOWEL BARS FOR ALL NEW CONSTRUCTION SHALL BE INCIDENTAL TO THE CONCRETE ITEM, INCLUDING DRILLING INTO EXISTING CONCRETE PAVEMENT OR CURB & GUTTER.

LONGITUDINAL JOINTS SHALL NOT BE SEALED OR FILLED.

TIE BAR SPACINGS ARE VALID ONLY FOR PAVEMENT WIDTHS IN THE TABLE. FOR WIDER PAVEMENTS, TIED CONCRETE SHOULDERS OR RAMPS, THE TIE BAR SPACING SHALL BE AS SHOWN ON THE PLANS.

① ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

① NEW CONCRETE INCLUDES NEW CURB & GUTTER, SURFACE DRAINS, CONCRETE PAVEMENT OR OTHER CONCRETE



SECTION A-A
PAVEMENT TIES

PAVEMENT THICKNESS "T"	CLEAR DEPTH "D"	SAW CUT GROOVE "G"	MAXIMUM TIE BAR	
			SPACING "S"	PAVEMENT WIDTH
6, 6 1/2"	3"√2"	2"	48"	30'
7, 7 1/2"	3 1/4"√1"	2 1/4"	45"	24' OR 26'
8, 8 1/2"	3 3/4"√1"	2 1/2"	39"	
9, 9 1/2"	4 1/4"√1"	3"	33"	
10, 10 1/2"	4 3/4"√1"	3 1/4"	30"	
11, 11 1/2"	5 1/4"√1"	3 3/4"	27"	
12"	5 3/4"√1"	4"	24"	

2012

CITY OF MADISON
ENGINEERING DIVISION

LONGITUDINAL JOINTS
AND PAVEMENT TIES
DETAIL

STANDARD DETAIL DRAWING 3.10

**SECTION 01011
MISCELLANEOUS REQUIREMENTS
APPLYING TO ALL CONTRACTORS**

PART 1 - GENERAL

1.1 Description of Work Covered by This Section

This section lists miscellaneous requirements which apply to all Contractors, but which are not lengthy enough to merit individual specification sections.

1.2 Permits and Fees

Each Contractor shall provide all necessary licenses and permits, and shall pay all fees, taxes, and royalties as necessary to complete construction. Each Contractor shall provide copies of all licenses and permits to the Engineer.

For projects involving dewatering, the Contractor shall obtain a permit from the Department of Natural Resources Private Water Supply Section if the installed or operated capacity of the well(s), either singly or in aggregate, exceeds 70 gallons per minute. The address of this section is:

Wisconsin Department of Natural Resources
Private Water Supply Section
P.O. Box 7921
Madison, Wisconsin 53707

If dewatering is to occur near an operating or abandoned landfill, leaking underground storage tank or a hazardous substance spill the contractor shall contact the Wisconsin Department of Natural Resources district solid waste coordinator for assistance prior to installing the dewatering system.

A Wisconsin Pollutant Discharge Elimination System Permit will also be required for the discharge from the dewatering system and for the discharge from pipeline disinfection processes. **A Wisconsin Pollutant Discharge Elimination System Permit will also be required for any “sumping” and pumped discharge of groundwater, of stormwater runoff that enters or accumulates in the work area, or of any other pumped discharge, whether to a surface water, a ditch, a drainage channel, or a storm sewer .** The Contractor shall obtain the necessary permit from the appropriate DNR office. The requirements of such discharge permits are hereby incorporated as requirements of this Specification, and the Contractor shall assume responsibility for any fines levied against the Owner due to the failure of the Contractor to obtain the required permits.

1.3 Labor and Materials

Each Contractor shall furnish all labor and materials necessary to complete the items of work required by Division 1 - General Requirements, of these specifications, in addition to the work specified in the individual sections of the other divisions of the specifications which address actual construction on the project and materials and equipment for that construction.

1.4 Completion Date(s); Coordination to Meet Completion Date(s)

The Contract completion date(s) are defined in the contract(s). All Contractors must coordinate their respective work to meet these deadlines.

It shall be the responsibility of all Contractors and Subcontractors to periodically inspect the work in progress so that each Contractor can insure proper preparation for installation of work and not cause delay in the progress of the work.

1.5 Field Measurements; Inspection of Site Conditions; Certification of Constructability

Each Contractor shall verify grades, lines, levels, locations, and dimensions as shown on the Plans and in the specification details, and shall report errors or inconsistencies to the Engineer before commencing work. By the act of starting work, each Contractor implies his acceptance of the data presented on the Plans and in the details, and agrees that he can construct the project as shown on the Plans as specified.

Each Contractor shall obtain complete data at the site and inspect surfaces that are to receive this work before proceeding with ordering of materials or actual construction work. The Contractor(s) shall be solely responsible for the accuracy of measurements and layout of the work. The Contractor(s) shall make good any errors or defects due to faulty measurements taken, information obtained, improper layout, or failure to report discrepancies.

The Contractor(s) shall notify the Engineer in writing in case of unsuitable conditions, defective substrates, or discrepancies between existing conditions and the Contract Documents. Starting of work shall imply acceptance of the conditions. Removal and replacement of work applied to defective surfaces shall be done at the expense of the Contractor.

1.6 Fire Protection

Each Contractor shall provide and maintain, at the site of the work during the entire construction period, a minimum of two (2) fire extinguishers, and other

such fire protection equipment and devices as necessary and suitable for any possible class or type of fire. Extinguishers shall be non-freeze type, such as A-B-C rated dry chemical extinguishers of not less than ten (10) pounds capacity each.

1.7 Protection of Existing Facilities, Work and Workmen

Each Contractor shall comply with OSHA and the General Orders on Safety in Construction as issued by the Wisconsin Department of Commerce and shall observe the safety provisions of applicable laws and building codes. Each shall exercise precautions in accordance with safety provisions of the Associated General Contractors of America Manual of Accident Prevention in Construction.

Each Contractor shall:

1. Erect and maintain all required barricades, guard rails, fences, safety lanterns and temporary walkways of sufficient size, strength and type necessary for protection of material storage, adjoining property and the new construction, as well as to prevent accidents to workmen, and others, at the job site.
2. Notify the Owner if existing property interferes with the work sufficiently in advance that the situation can be evaluated by Owner and Engineer.
3. Provide and maintain temporary shoring and bracing, as necessary, for existing underground utilities and other improvements and shall protect them from collapse or other damage until such times as they are to be removed, incorporated into work of the new construction, or can be properly backfilled upon completion of new work. All damages to active utilities and other existing improvements shall be repaired.
4. Protect the work against damage from rain, groundwater, backup from sewers and all other sources of water, snow, wind, ice, storms, or heat. Maintain all work, materials, apparatus, and fixtures incorporated in the work or stored on the site free from injury or damage. At the end of the day, protect all new work and active utilities from damage.
5. Provide dust control.
6. Locate material storage and earth stockpiles on the Owner's property to avoid interference with the installation of the work and to prevent damage to existing utilities and structures. Any damages to existing utilities or structures resulting from traffic loads or lack of proper protection shall be repaired by the responsible Contractor.

7. Burn no materials or debris on the premises without specific permission from the Owner, and then only in approved locations after securing the necessary permits.
8. Maintain the site in a safe and clean condition.

1.8 Site Cleanliness

Periodically, as necessary, each Contractor shall clean the premises of accumulations of surplus materials and rubbish caused by his activities and the activities of his subcontractors, and dispose of such materials in a legal manner. The Contractor(s) shall remove combustible debris and flammable liquids promptly.

If the Contractor does not remove rubbish or maintain the work area as specified above, the Owner reserves the right to have work done by others and the cost will be deducted from monies due the Contractor.

1.9 Dump Sites and Materials & Equipment Storage Sites

The Contractor(s) shall be solely responsible for arranging his own dumpsites for waste materials and sites for storage of equipment and construction materials incidental to the bid items provided. The municipality assumes no responsibility for the arrangement of, the payment for, or the cleanup of such sites. The Contractor(s) shall not, in any way, depend upon verbal representations by representatives of the municipality in this regard.

1.10 Protection of Finished Construction

Each Contractor shall assume the responsibility for the protection of his finished construction until acceptance by the Owner. Any damage occurring to completed work before acceptance by the Owner shall be repaired and restored by the Contractor who completed that work at the Contractor's expense.

1.11 Compliance with Statutory Requirements for Substance Abuse Testing Program

Each Contractor shall comply with the provisions of Section 103.503 of Wisconsin Statutes regarding substance abuse prevention on public works projects. By the act of signing the Bid Proposal form the Bidder certifies that such a program is in place and meets the statutory requirements.

END OF SECTION

**SECTION 01020
ALLOWANCES**

PART 1 - GENERAL

1.1 Description

- A. To provide a budget to cover items not precisely determined by the Owner prior to bidding, include in the proposed contract sum the cash allowance described by this section.

- B. If the cost of materials, service or equipment exceeds that set forth above, the Contractor shall be reimbursed for the additional cost by the Owner. If the cost of materials, services or equipment is less than as set forth above, the Owner shall be credited for the difference between cost as stated below and actual cost. The costs shall be actual costs, Contractor's mark-ups for administrative, overhead or profit are not allowed and will not be part of the allowance cost.

1.2 Schedule of Allowances

- A. Tree Allowance \$3,500.00

*** END OF SECTION ***

**SECTION 01048
NOTIFICATIONS & COORDINATION**

PART 1 - GENERAL

1.1 Description of Work Covered by This Section

This section establishes the Contractor's responsibility to notify other parties of his initiation of work and his need for actions by other parties. It also establishes the time requirements for such notifications.

1.2 Notification to the Engineer

The Contractor shall notify the Engineer not less than three (3) working days prior to the date of commencing the work or the date of adding another crew. He shall also notify the Engineer not less than three (3) working days prior to the date that he wishes to have the project grade stakes placed for any particular segment of the project.

1.3 Notification of and Coordination with Utilities

The Contractor shall notify in writing all affected utility companies of his construction operations not less than three (3) working days prior to the date upon which he intends to commence work. The Contractor shall make arrangements with the utility companies for those companies to determine the exact locations of gas mains, water mains, buried electrical conduits, buried television cables, other buried conduits, valves, and buried appurtenances or structures owned or managed by such utilities. In addition, the Contractor shall make arrangements with the utility companies for any relocation of interfering utilities such as, but not limited to, poles, wires, valves and valve boxes, junction boxes and pads for such boxes, and for buried wires, conduits, cables and pipelines. Where it is available, the Contractor shall utilize the "One-Call" notification system. "Utilities" shall include, but not be limited to, electric companies, natural gas companies, telephone and fiber optic companies, cable television companies, water utilities and companies, and sewerage utilities.

On projects in which there are multiple contracts, each Contractor shall be responsible for all such notifications necessary for the execution of his own work.

No Contractor shall depend upon the engineer or representatives of the municipality to arrange for marking or adjustments of such utilities. Nor shall the Contractor(s) depend upon verbal representations of the Engineer or representatives of the municipality that such markings or adjustments have been arranged or made.

1.4 Notification to Fire, E.M.S., Police and Sheriff's Department

The Contractor shall give written notice to the Fire and Police Departments of the municipality in which the work is being performed, and/or the Sheriff's Department seven (7) days in advance and again not less than twenty-four (24) hours before closing off, or in any manner affecting through vehicular traffic on any street. Such notification shall include the expected length of the disruption. Emergency Medical Services shall be notified of all route and access limitations as they occur, including the expected length of the disruption.

1.5 Notifications for County Trunk, State Arterial, and Federal Highways

Whenever the work will obstruct, or in any way disrupt, vehicular traffic on County trunk, State arterial, or Federal highways, the Contractor shall obtain the necessary permits and shall give written notice ten (10) days in advance and again not less than three (3) days prior to the date of disruption to the County Highway Department in case of County trunk highways, and to the State of Wisconsin Department of Transportation, Division of Highways, in the case of State arterial or Federal highways. Should such disruptions on such highways be within the limits of an incorporated municipality the Contractor shall also give such notice to the Traffic Division of that municipality, if applicable.

1.6 Notification to Railroads

The Contractor shall notify by registered mail the District or Division Engineer or persons in charge of the operations of trains for any railroad at least ten (10) days prior to doing any work on the right-of-way or track zone of that railroad.

1.7 More Stringent Notifications

If permits required by law and issued by utilities, highway or traffic departments, railroads or others incorporate more stringent notifications requirements the Contractor shall abide by those more stringent requirements.

1.8 Copies of Written Notifications

The Contractor shall provide a copy of each written notification to the Engineer.

1.9 Emergency Notifications

The person who engages in emergency excavations shall take all reasonable precautions to avoid to the extent possible interference with existing transmission or other utility facilities in and near the construction area and shall notify as promptly as possible the owners of the transmission or other utility facilities which

may be affected by the emergency excavation. Every person or Contractor who engages in emergency excavation or other emergency activities shall inspect, prior to backfilling, all transmission or other utility facilities exposed during the excavation to ascertain if these facilities have been or may have been struck, damaged, dislocated, or disrupted and shall notify promptly before backfilling the owner of those facilities which have been or may have been struck, damaged, dislocated or disrupted.

Should a Contractor damage a utility facility during the normal construction operations, such that a situation occurs which endangers the public health and welfare, or that of his own workmen, the Contractor shall suspend construction operations and shall immediately notify the utility of the emergency condition.

1.10 Non-Emergency Notification of Damage to Utility Facilities

If any transmission line or other utility facility has been or may have been struck, damaged, dislocated or disrupted in connection with any excavation, emergency or non-emergency, the Contractor responsible for the excavation operations shall immediately notify the Owner of the facility.

1.11 Coordination Between Contractors

Contractors and subcontractors shall coordinate activities to facilitate general progress of work, inspect Contract Documents for interrelated work and afford to others reasonable opportunity to install their work. No Contractor or trade may exclude from the site any other contractor or trade or interfere with others executing work. Each Contractor shall acknowledge a duty to plan, schedule, coordinate and perform prior work needed by other Contractors.

Each Contractor shall perform each item or work in proper sequence and arrangement to other activities and join to work of others in accordance with the intent of the Contract Documents and construction schedule. Each Contractor shall give due notice and proper information for special requirements necessary to place or set work which may interrelate with work of others and shall pay for alterations and repairs necessitated by neglect or failure to give proper notice. Extra costs caused by defective or ill-timed work shall be borne by the responsible party.

END OF SECTION

**SECTION 01060
REGULATORY REQUIREMENTS, CODES, AND FEES**

PART 1 - GENERAL

1.1 Applicable Codes and Regulations

- A. The contractor shall comply with all local and municipal ordinances and all applicable codes of the Wisconsin Department of Safety and Professional Services, the Wisconsin Board of Health, Board of Fire Underwriters, National Electrical Codes, Wisconsin Department of Commerce, and State of Wisconsin electrical codes. The Contractor shall also comply with the regulations of plumbing, heating and building inspection authorities of jurisdiction and with requirements of local utilities. All work, including equipment, shall be executed, inspected and/or tested in strict accordance with all local, county and/or state laws, rules, ordinances or regulations and the America Insurance Association (formerly National Board of Fire Underwriters) or the Owner ' s Insurance Underwriters.
- B. This article is not to be construed to permit the use of materials, workmanship, or arrangement inferior to that required by those Specifications, even though approved by above listed authorities.
- C. Contractor shall obtain required permits from all regulatory governmental agencies governing dewatering. (See Section 01011 Subsection 1.2).
- D. Conform to plan approval requirements specified by the Wisconsin Department of Natural Resources, Division of Environmental Standards.

1.2 Permits and Fees

- A. The Contractor shall make application for, obtain and pay for all permits and fees for inspections and tests required by local, state or federal authorities having jurisdiction.

1.3 Certifications

- A. The Contractor shall furnish appropriate certificates of inspection and approval from authorities having jurisdiction. Certificates for approval or acceptance of the work shall be obtained in duplicate form, duly signed by the proper authorities and forwarded to the Engineer upon completion of work.

1.4 Patented Products

- A. Each Contractor shall secure the right to use any patented article, method, equipment or apparatus if use of the patented item requires permission, thus relieving the Owner of any liability.

1.5 Underground Utilities

- A. Under the provisions Section 182.0175, of Wisconsin Statutes, all contractors, subcontractors, and any firm or individual intending to do work on this contract shall contract all utility firms in the affected area of construction a minimum of three (3) working days prior to beginning construction so that affected utilities will be located and marked.

END OF SECTION

SECTION 01300 SUBMITTALS

PART 1 - GENERAL

1.1 Description of Work Covered by This Section

- A. This Section sets forth the requirements and procedures for submittal, review and approval of shop drawings, operation and maintenance data, equipment maintenance data cards, warranties, and final operation and maintenance manuals.
- B. Submittals must be made for all equipment and materials to be incorporated into the Work as specified herein.

1.2 Submittal Procedure

- A. A preliminary submittal schedule must be made per the requirements of Section 01200 - Project Meetings.
- B. Unless otherwise indicated, each of the documents discussed in this section shall be submitted to:

Town & Country Engineering, Inc.
Attn: (Individual to be designated at the pre-construction meeting)
2912 Marketplace Drive, Suite 103
Madison, WI 53719

- C. The typical procedure for complying with this section shall include an Initial Submittal, resubmittal if required, and provision of Final Operation and Maintenance Manuals as required.
- D. Initial Submittals shall include shop drawings for all material and equipment to be used on the project, and also, for equipment only, operation and maintenance data, equipment maintenance data cards, and warranties.
- E. The Final Operation and Maintenance Manuals shall be as specified herein.
- F. Every effort will be made by the Engineer to return reviewed submittals, or resubmittals, within a period of six (6) weeks. The six (6) week review period shall begin when the submittals are officially recorded into the

Engineer's log sheet. Submittals will not be logged in until a complete submittal is made.

- G. Reviewed submittals shall be classified in one of four categories, which are:
 - 1. Reviewed, No Comments
 - 2. Comments as Noted
 - 3. Revise and Resubmit
 - 4. Rejected

- H. The first two (2) categories will not require resubmittal. If the Manufacturer or Supplier chooses to make a resubmittal to verify that comments made by the Engineer are incorporated correctly, the resubmitted documents shall be reviewed for those items commented on in the original submittal only. These copies will then be marked as follows:
 - 1. Amendment to Original Submittal
 - 2. Revise and Resubmit

- I. If submittals, or resubmittals, have been stamped "Revise and Resubmit" or "Rejected", changes or modifications shall be incorporated into new documents, and revised copies shall be submitted in the same quantity as required for the original submittal.

1.3 Shop Drawings

- A. Shop Drawings are required for all materials and equipment to be incorporated into the work, inclusive of all items specified in Divisions 2 through 16.

- B. Seven (7) copies of Shop Drawings shall be forwarded as part of the Initial Submittal to the address listed above, and one (1) additional copy of the drawings shall be delivered to the Engineer's field representative at the construction site. Shop drawings shall be submitted and approved before equipment and material fabrication and delivery.

- C. Shop Drawings will not be officially logged into the Engineer's records until a complete Initial Submittal is made. Refer to paragraph 1.2 above for the Initial Submittal requirements. Partial submittals shall not be logged in unless approved in writing from the Engineer.

- D. Shop Drawings shall be identified by the project name, numbered per the corresponding specification number, and bear the stamp of approval of the Contractor. As a minimum, Shop Drawings shall include:

1. Product information sheets addressing all the requirements and conditions of the corresponding specification section, formatted similarly to the project specifications.
 2. Installation procedures.
 3. Specific references to materials and equipment to be provided by others, but which are critical to the proper installation of the supplied material or equipment.
 4. Verification of existing dimensions and elevations, as they affect the proposed use of the specified equipment or material.
 5. Complete dimensional drawings, as appropriate, depicting the material or equipment in the proposed location.
 6. Color charts and product samples as appropriate.
 7. Material safety data sheets as appropriate.
 8. Components which differ from the specification language, but which meet the specification intent, shall be included on a separate listing page, and provided with adequate support documentation to prove its acceptability.
 9. All requested exceptions or deviations from the specification shall be clearly noted within the submittal, as well as noting the reason for said deviation/exception.
- E. Shop Drawings will be reviewed only for general conformance with the specifications. The review shall not absolve the Contractor of sole responsibility for the proper incorporation of materials and equipment into the Work. Corrections or changes indicated on Shop Drawings shall not be cause for extra payment, nor considered a change order for additional work.
- F. If Shop Drawings are designated as "Reviewed, No Comments" or "Comments as Noted", four (4) copies of the reviewed shop drawings shall be returned to the Contractor, which will not require resubmittal, unless noted otherwise. However, if resubmittal is not made, and subsequent revisions have been made to the shop drawings per the Engineer's comments, two (2) copies of the revised Shop Drawings shall accompany the delivery of the equipment or material to the construction site. One (1) of these copies must be clearly marked as "Engineer's Copy".
- G. Shop Drawings shall not be used on the job unless they bear the stamp and signature of the Engineer, or if the Shop Drawings are one of the two supplied with the equipment delivery as described in the preceding paragraph.

1.4 Operation & Maintenance Data

- A. Four (4) copies of Operation and Maintenance Data shall be included as part of the Initial Submittal. This information shall be submitted for each equipment item specified in Divisions 11 through 16 inclusive.
- B. Approved Operation and Maintenance Data submittals shall be incorporated into the Final Operation and Maintenance Manuals to be submitted at a later date, therefore, this submittal should adhere to the same format as specified in paragraph 1.7B below.
- C. As a minimum, the following information shall be provided as part of this submittal:
 - 1. For each item of equipment list name, address and telephone number for the Contractor, Manufacturer, and Equipment Representative.
 - 2. List name and telephone number of the Manufacturer designated local service company, and source for supply of parts.
 - 3. Mark-up each product data sheet to identify specific product or part installed. Delete references to inappropriate data.
 - 4. Provide start-up and shutdown procedures in a logical and consistent format. Include all points of regulation and control.
 - 5. Describe normal and emergency operating procedures in detail.
 - 6. Provide capacities, performance curves, and other applicable engineering data specific to the equipment proposed for the project.
 - 7. Provide supplementary information including test results and equipment drawings, as necessary, to illustrate the relationship of component parts to equipment and processes, controls, and accessories.
 - 8. Provide a complete parts list, and parts stocking recommendation.
 - 9. Provide a complete instrumentation loop diagram, as appropriate, with tabulated listing of all loop components.
- D. If resubmittal is not required, three copies of the submittal shall be returned to the Contractor, which shall then be incorporated into the Final O&M Manuals which are described below.

1.5 Equipment Maintenance Data Cards

- A. Four (4) copies of Equipment Maintenance Data Cards shall be submitted for each equipment item for which operation and maintenance data has

been submitted, as described in the previous paragraph. This submittal shall be made as part of the Initial Submittal to be made for all equipment.

- B. The format required for this submittal is shown on the attached form at the end of this specification section.
- C. Three (3) copies of the submittal shall be returned to the Contractor which shall then be incorporated into the Final O&M Manuals. If the data cards are not filled out in sufficient detail, or an incorrect format used, resubmittal of four (4) copies shall be required before the Initial Submittal is considered complete.

1.6 Warranties

- A. Unless indicated otherwise, standard Warranties or extended warranties required by the specifications, shall be forwarded as part of the Initial Submittal for each equipment item. Four (4) copies of all Warranties shall be submitted. As a minimum, warranties shall be in effect for a period of one (1) year from the time the equipment is placed in operation identified in the substantial completion certificate.
- B. Repair and replacement of any defective parts shall be covered by the warranty and shall result in no additional cost to the Owner.
- C. Three (3) copies of each Warranty shall be returned to the Contractor for inclusion into the Final O&M Manuals described below.
- D. If submitted Warranties do not meet the specified requirements, the Initial Submittal shall be considered incomplete.

1.7 Final Operation and Maintenance Manuals

- A. Three (3) sets of Final Operation and Maintenance Manuals shall be submitted no later than ninety (90) days prior to substantial completion.
- B. The Final Operation and Maintenance Manuals shall be submitted in the following format:
 - 1. Pages shall be punched for standard 8 ½" x 11" size and shall be placed in a three ring binder.
 - 2. 20-lb. min. sulphite paper shall be used.
 - 3. Data sheets 11" x 17" and smaller shall be provided with reinforced binder holes.

4. Larger data sheets shall be folded and placed in an 8 ½" x 11" envelope, furnished with reinforced binder holes, and labeled with appropriate identification.
 5. Separate equipment sections of the information binder shall be tabbed and labeled with a sequential number related to the corresponding specification number.
- B. The Final Operation and Maintenance Manuals shall include operation and maintenance data, Shop Drawings, Equipment Maintenance Data Cards and Warranties for each equipment item to be used on the project.
- C. The Shop Drawings, Data Cards and Warranties shall be incorporated into the operation and maintenance binders which are part of the Initial Submittal.
- D. The Equipment Maintenance Data Cards shall be updated to include all information which was not available at the time of the Initial Submittal for any equipment item, which may include serial numbers for equipment and motors.
- E. Any other miscellaneous documentation requested by the Engineer during the submittal process shall also be included.

END OF SECTION

SECTION 01571 TRAFFIC CONTROL AND ACCESS

PART 1 - GENERAL

1.1 Description of Work Covered by This Section

This section establishes the Contractor's responsibilities for providing traffic control necessitated by his construction activities and for maintaining access to properties.

1.2 Traffic Control

Whenever possible all public traffic shall be permitted to pass through the work with as little inconvenience and delay as possible. Existing traffic signal and highway lighting systems shall be kept in operation for the travelling public during progress of the work. The Contractor shall remove existing traffic and street name signs that will interfere with construction, store them in a safe place, and replace them with suitable temporary signs.

Flagmen, barricades, signs, and traffic control furnished by the Contractor for construction purposes shall conform to the standards of the State Department of Transportation, Division of Highways, and the latest edition of the "Manual on Uniform Traffic Control Devices," published by the U.S. Department of Transportation.

When the Contractor's operations obstruct or endanger a traffic lane, and no marked detour has been provided, the Contractor shall furnish a flagman, or flagmen, as necessary to direct traffic through or around the construction area. When a street is closed to through traffic, barricades shall be placed at the adjacent intersections, as well as at the location of the obstruction. Detour signs shall be attached to the barricades at the adjacent intersections and shall be adequately illuminated and/or reflectorized to be clearly visible at all times.

1.3 Maintaining Access to Adjacent Properties

Construction shall be conducted so as to cause as little inconvenience as possible to owners of abutting property. Convenient access to and into driveways, houses, and buildings shall be maintained and temporary approaches to such driveways and crossing or intersecting highways shall be provided and kept in good condition.

Local traffic, both vehicular and pedestrian, shall be provided access into private properties at all times, except during some urgent stages of construction when it is impractical to carry on the construction and maintain traffic simultaneously. In such cases, the affected property owner(s) shall be notified by the Contractor twenty-four (24) hours in advance and shall be told the approximate duration of the limited access. Access shall be restored before the Contractor leaves the site, even overnight. Emergency traffic, such as fire, police, ambulance and disaster units shall be provided reasonable access at all times. The Contractor shall be liable for any damages that may result from his failure to provide such reasonable access.

END OF SECTION

**SECTION 01573
PUBLIC SAFETY BARRICADES, WARNING LIGHTS AND SIGNS**

PART 1 - GENERAL

1.1 Description of Work Covered by This Section

This section establishes the Contractor's responsibility for providing barriers, warning lights and signs to protect the public's safety. The work specified in this section shall be incidental to the payment items in the proposal and the contract.

1.2 Requirement for Safety Barricades, Warning Lights and Signs

The Contractor shall be solely responsible for the erection and maintenance of all barricades, lights and signs necessary to assure the safety of the public and to minimize inconvenience to the public. All hazards within the limits of the work and upon detours around the work shall be well marked with barricades, lights, and signs in sufficient numbers and at appropriate locations to safeguard against injuries to workers, on-lookers, pedestrians, and drivers and passengers of vehicles, both in daylight and during nighttime. These safeguards shall be moved, changed, increased in number or removed as required during the progress of the work to meet changing conditions. All warning devices shall be kept clean and in good repair so as to be readily discernible at all times.

The Contractor shall investigate and satisfy the safety requirements of all local, state, and Federal agencies. Signing shall be in accordance with the provisions of the Manual on Uniform Traffic Control Devices.

The Contractor covenants that he will indemnify the Owner and the Engineer from any loss, damage, costs, charges, or expenses, whether to persons or property, to which the Owner, the Engineer, or both may have been party by reason of act, action, neglect, omission, or default on the part of the Contractor.

END OF SECTION

**SECTION 01600
MATERIALS & EQUIPMENT**

PART 1 - GENERAL

1.1 Scope

All the materials and equipment necessary for the construction of this project shall be obtained, transported, stored, and handled in accordance with the requirements of the Contract Documents, this section, and individual sections of the specifications dealing with specific parts of the project.

1.2 Obtaining Materials

All the materials and equipment installed in this project shall be new products purchased specifically for this project, conditioned and manufactured for application for the uses shown and so advertised by the manufacturers. All equipment shall comply with the National Electric Code. In order that repair, replacement, or expansion of this project in the future may be facilitated, the source of all materials and equipment should be nearby, of domestic origin, and maintain a ready stock.

1.3 Transportation

The Contractor shall arrange for all material and equipment to be transported to the project site. Means of transportation shall be used which will assure a safe and timely arrival of the materials and equipment. Materials and equipment shall be undamaged, free from defects, clean and dry upon arrival at the project site. Shipping costs shall be included in the contract prices.

1.4 Storage of Materials and Equipment

The Contractor shall provide storage for materials and equipment in accordance with the manufacturers' and suppliers' recommendations. Storage methods used shall protect the materials and equipment from the effects of rain, snow, and sunlight. Storage methods shall maintain the integrity of the equipment and materials and shall prevent chipping, cracking, breakage, damage of coatings, or damage of any other type.

1.5 Handling

The Contractor shall select methods of material and equipment handling as may be appropriate to assure that no damage to the material and equipment occurs. The handling methods chosen shall assure that the equipment and materials are not scraped or dropped.

1.6 Acceptable Manufacturers: Substitutions

Materials or equipment identified on the Plans or in these Specifications by reference to manufacturers' names, number designations, or trademarks are identified for the purpose of establishing a standard of quality or performance. Any material or equipment offered by another manufacturer which will meet the intent of these specifications and will perform the functions of the materials or equipment specified in a manner equal to that material or equipment specified may be used. However, before using such a substitute, the Contractor shall obtain the approval of the Engineer by submitting a written request for substitution and providing manufacturer's literature and test results necessary to demonstrate the equality of such a substitution. Such a request shall be made at least twenty-one (21) days before the Contractor wishes to place his order for the equipment, or for the materials. This substitute method does not apply to the equipment that is listed in the base bid or specified elsewhere. If equipment is listed in the base bid, an alternate bid space can be provided as called out in the specifications and bid proposals.

1.7 Payment for Materials Not Incorporated Into the Work

Partial payments will be made by the Owner for materials not incorporated into the work only where such materials are stored in a secured, insured, lockable area owned or under the formal control of the Owner. However, the Owner is not obligated hereunder to provide such secured, lockable area for the Contractor. The Contractor is totally responsible for proper maintenance and care of that equipment until it is incorporated into the project and accepted by the Owner.

END OF SECTION

**SECTION 01700
CONTRACT CLOSEOUT AND CLEAN-UP**

PART 1 - GENERAL

1.1 Acceptance Tests

When the work is complete in accordance with the Contract Documents and the technical specifications, it shall be subjected to performance test at conditions that simulate as nearly as possible full operating conditions. The Contractor shall make all adjustments necessary to fulfill the requirements of the Contract Documents, to comply with manufacturer's recommendations, and to comply with all codes and regulations.

1.2 Final Clean-up

When the work is completed, each Contractor shall promptly cleanup the project site of stones, dirt, and rubble created by their construction operations. This cleanup shall be done in a timely manner so that any Contractor whose operations follow this can begin work as soon as possible. The stones, dirt, and rubble shall be disposed of in a lawful manner off the project site. If a Contractor does not remove rubbish or clean the project site as specified, the Owner reserves the right to have the cleanup work done by others and the cost will be deducted from monies due the Contractor.

1.3 Certificates

Prior to final acceptance, the Contractor shall complete and submit all certificates required by law or by these specifications.

END OF SECTION

DIVISION 2

SITE WORK

**SECTION 02230
ROAD SUBGRADE EXCAVATION, BACKFILL,
EMBANKMENT & COMPACTION**

PART 1 - GENERAL

1.1 Description of Work Covered by This Section

The Contractor shall complete excavation, backfill, embankment, compaction, and grading as necessary to prepare the roadway for application of base course and pavement to the cross-section shown on the plan sheets. The work covered by this section includes legally disposing of all excess or unsuitable materials. This section also includes excavation and/or embankment to blend private driveway and alley entrances (from the property line to the edge of the roadway) with the new road grade.

PART 2 - MATERIALS & EQUIPMENT

2.1 Backfill and Embankment Materials

Materials used for embankment shall not contain logs, stumps, brush, perishable materials, frozen lumps of soil, or rocks or pieces of pavement of such size or conformation that they would interfere with proper compaction. Materials to be incorporated in the top 18 inches of earth embankments shall be free of stones, or pieces of pavement, which are greater than six (6) inches in any dimension.

2.2 Classification of Excavation

Excavation will be classified according to the definitions listed below by the Engineer, based upon his judgment of the character of the materials and the site conditions.

COMMON EXCAVATION

Common excavation shall be defined as the excavation of all materials that can be excavated, transported, and unloaded by the use of heavy ripping equipment and wheel tractor scrapers with pusher tractors or that can be excavated and dumped into place or loaded onto hauling equipment by means of excavators having a rated capacity of one (1) cubic yard equipped with attachments (such as shovel, bucket, backhoe, dragline, or clam shell) appropriate to the character of the materials and the site conditions.

For the purposes of this classification heavy ripping equipment shall be defined as a rear-mounted, heavy duty, single tooth, ripping attachment mounted on a tractor having a power rating of 200-300 net horsepower, at the flywheel, such equipment being in well-maintained condition. Pusher tractor shall be defined as a track-type tractor having a power rating of 200-300 net horsepower, at the flywheel, equipped with appropriate attachments and being in well-maintained operating condition.

ROCK EXCAVATION

Rock excavation shall be defined as the excavation of all hard, compacted or cemented materials, the excavation of which requires blasting or use of excavators larger than defined for common excavation. Such rock excavation shall include all hard, solid rock ledges, bedded deposits or any other material as firmly-cemented as to present all the characteristics of solid rock. The excavation and removal of isolated boulders or rock fragments larger than one (1) cubic yard in volume encountered in materials otherwise conforming to the definition of common excavation shall be classified as rock excavation. Rock excavation will merit extra payment unless a separate bid item has been provided or unless elsewhere in the specifications such rock excavation is declared incidental to the work.

Existing asphaltic or concrete pavements, curb & gutter, sidewalk and utility structures shall be classified as common excavation.

The presence of isolated boulders or rock fragments larger than one (1) cubic yard in size will not, in itself, be sufficient cause to change the classification of surrounding material.

PART 3 - CONSTRUCTION

3.1 Clearing and Grubbing; Stripping and Stockpiling Topsoil; Protection of Trees and Shrubs

Clearing and grubbing, the Contractor shall strip and stockpile whatever suitable topsoil exists within the excavation and embankment limits. This topsoil shall be used in surface restoration at the completion of construction of the roadway. Excess topsoil remaining after construction shall be stockpiled as directed by the Owner.

Trees and shrubs shall be preserved when so indicated on the plans or in the field by the Engineer. The Contractor shall protect such trees and shrubs from scarring or from injury of any type. The excavation operations shall not disturb the original ground surface within one (1) foot of trees or shrubs or within twice the diameter of trees, whichever is greater. Roots which may be exposed as a result of excavation shall be cut cleanly and covered with soil with high humus content. When

necessary, or when required by the Plans or the Special Conditions, tree wells shall be constructed to protect trees and shrubs from embankments. In such cases, tree well design shall be as shown on the Plans or as approved by the Engineer.

3.2 Salvage of Existing Granular Material for Use as Fill

The Contractor shall salvage and stockpile existing granular material that must be excavated to establish the new roadway grade. Existing asphaltic pavements, broken into small pieces, which may be suitable for reuse as granular subbase course, shall be stockpiled separately in such a manner as to minimize material segregation.

3.3 Earthwork

The Contractor shall excavate as shown on the Plans and legally dispose of all excess materials to allow construction of the roadway. Earthwork shall include, but not be limited to, excavation within the roadway; embankments with the roadway; excavation and embankments to create intersections, ditches, channels, waterways and dikes; grading of the roadway subgrade, entrances and approaches; and other such activities outside the right-of-way as may be specifically designated on the Plans. Earthwork shall include the removal and reuse or satisfactory disposal of existing pavements and base courses, masonry or concrete structures, and other structures that may be within the right-of-way.

Monuments from land surveys which are shown on the plans or which are clearly visible in the field and which are in the path of the work shall be carefully protected from movement. If the Contractor feels that removal is necessary he shall notify the Engineer at least 48 hours in advance of such removal. If the Engineer concurs that removal is necessary, the municipality will assume the cost of resetting those monuments, unless a bid price is provided in the Bid Proposal or unless elsewhere in the specifications it is stated that removal and replacement of monuments is incidental to the bid price(s). Monuments that the Contractor moves due to failure to exercise reasonable precautions or proper construction techniques, or for which he has failed to notify the Engineer sufficiently in advance, shall be replaced at the Contractor's cost.

The Contractor shall notify utility companies of any interfering structures or cables and shall arrange for those structures or cables to be moved, if necessary. The project plans show the approximate location and size of sewers, drains, culverts, gas mains, water mains, electric, and telephone conduits and other underground structures or utilities, as such locations and sizes are available to the municipality, or as surface markings indicate their existence. The Contractor shall arrange with the utility companies for exact location of utilities and for necessary relocations or modifications of interfering utilities. The cost of arranging such relocations or

modifications, and the cost of any “downtime” resulting from delays or changes to the Contractor’s work schedule as a result of waiting for a private utility (gas, electric, telephone, cable TV) to make the relocation or modifications shall be incidental to the Contractor's bid. The Contractor shall use caution in excavating and trenching so that the exact location of underground structures, both known and unknown, may be determined; the Contractor shall be held responsible for the repair of such structures when broken or otherwise damaged during construction. When the Owner permits the Contractor to make a change in the project to avoid utility relocation, the Engineer shall determine whether the change constitutes extra work as defined in the General Conditions. Such relocations shall not be cause for extension of contract time of completion.

The Contractor shall also, at least one week in advance of his operations, notify private property owners who have structures or who have planted trees, shrubbery, or flowers in the right-of-way so that the private property owners may remove and reinstall such features if they so wish. The Contractor shall be responsible for removal, temporary relocation, and replacement of all mail and newspaper delivery boxes. The Contractor shall contact the local postmaster to determine acceptable locations and heights of such boxes. Replacement of such boxes shall be in locations acceptable to the property owner.

Deposits of frost heave material, unstable soils such as clay or muck, soil containing considerable amounts of organic matter, or other undesirable foundation material shall be excavated as directed by the Engineer. The Contractor shall notify the Engineer of such questionable materials and obtain the Engineer's approval prior to excavating them. Failure to notify the Engineer of such questionable materials shall be cause for the forfeiture of right to extra payment.

The Contractor shall scarify the subgrade to such depth as necessary to accomplish grading and shaping operations as specified in Subsection 3.5 of this section.

The Contractor shall conduct earthwork operations in such a manner as to avoid removing or disturbing any material or structure outside of the designated construction limits, as shown on the Plans or as defined in the Special Conditions. Should any such material or structure be removed or disturbed the Contractor shall assume the expense of restoring it to its original condition.

3.4 Backfill and Embankment

The Contractor shall, if possible and feasible, utilize all suitable excavated material for backfill and embankment with the roadway in conformity with the lines, grades, cross-sections and dimensions shown on the Plans or in these Specifications or at other places shown on the Plans. When excavated materials are insufficient or unsuitable the Contractor shall furnish materials from borrow pits approved by the

Engineer. Before use of borrow materials, the Contractor shall notify the Engineer so that the materials may be inspected.

Backfill or embankments shall be made in successive uniform layers not exceeding 12 inches in depth. Each layer shall cover the entire area and shall be compacted before additional layers are placed. Prior to compaction each layer shall be worked to break up clods over six (6) inches in any dimension and to obtain uniform moisture content. In the case of filling on steep slopes construct the fill in such layers as can be achieved by the equipment until the fill can be constructed in 12 inch layers. Each layer shall be compacted to 95 percent of maximum density as measured by AASHTO Designation: T99, Method C, with replacement of the fraction of material retained on the $\frac{3}{4}$ inch sieve with No. 4 to $\frac{3}{4}$ inch material.

3.5 Grading and Shaping

The Contractor shall shape the subgrade for the full width of the roadbed in advance of base or surface laying operations. The grade of the completed course shall at all points be within + or - 0.04 foot of the grade shown on the Plans, as measured at the curb line or the edge of the pavement, but without more than 5 percent net over-excavation or under-excavation of the subgrade materials for the project. Subgrade need not be crowned between measurement points at opposite edges of the roadway. He shall maintain the subgrade in a firm smooth condition, removing any ruts or surface irregularities produced by hauling equipment or other traffic until final acceptance or until laying of the subbase or base course. The subgrade shall have a compaction of 95 percent of maximum density as measured by AASHTO Designation: T99, Method C, with replacement of the fraction of material retained on the $\frac{3}{4}$ inch sieve with No. 4 to $\frac{3}{4}$ inch material. Any soft or yielding places, holes or other defects which may develop in the subgrade by reason of traffic, hauling, poor drainage, unstable materials, or from any other cause shall be corrected before acceptance or before the base or surface course is placed thereon.

Unless otherwise approved by the Engineer, the subbase shall be compacted before any crushed aggregate is added in order to minimize crushed aggregate being forced down into the subbase.

All intersecting road, approaches, entrances and driveways shall be graded as shown on the Plans or as designated in the field by the Owner's Authorized Representative.

3.6 Drainage During Construction

During construction, the Contractor shall assure that all ditches and channels are drained at all times by keeping the excavation areas and embankments sloped to the approximate section of the final earth grade. If existing surface drainage must be interrupted alternate drainage shall be provided.

Construction in and adjacent to flowing streams shall be performed to avoid washing, sloughing or deposition of materials into the channel which may obstruct or impair stream flow or which may result in contamination and/or silting of the waterway. The Contractor shall comply with any requirements or permits from the Owner or obtained by the Owner from the Department of Natural Resources and shall use erosion control measures in the locations shown on the Plans or as specified elsewhere in the specifications.

The Contractor shall take precautions to preserve, protect, and continue service of all existing tile drains, sewers and other subsurface utilities and shall repair any damage to drains, sewers and utilities.

3.7 Performance Testing

A test-roll of the graded and compacted subbase will be required. This test-roll shall be performed with a fully loaded tri-axle dump truck (60,000 pound minimum total weight) with the tag-wheels lifted, provided by the Contractor. The test-roll shall be performed on the entire length and width of the subbase in the presence of an Engineer. Any deflection of the sub-base, wheel rutting, or cracking of the subbase will signify a failure of the subbase. The Engineer shall make the determination of subbase course acceptance or failure. In the case of subbase failure, the Engineer shall determine the area and depth of undercut or other corrective action.

*** END OF SECTION ***

**SECTION 02232
CRUSHED AGGREGATE BASE COURSE**

PART 1 - GENERAL

1.1 Description of Work Covered by This Section

The Contractor shall provide the necessary materials, equipment and labor to construct, on the prepared road subgrade, a crushed aggregate base course, and shall construct such a base course in the locations shown on the Plans to the depths shown in Section 02230 of these Specifications. Fine grading of the base course to the tolerances discussed in Paragraph 3.1 is included in the scope of work under this section.

1.2 Relationship to Other Contracts

On contracts under which the prepared roadbed or subbase has been substantially completed under a previous contract, any requirements of the specifications shall not be considered presumptive as to the character of the materials which may be encountered on the work to be performed under this section.

PART 2 - MATERIALS & EQUIPMENT

2.1 Crushed Aggregate Base Material

The material used for constructing crushed aggregate base coarse shall be hard, durable particles of virgin crushed stone or virgin crushed gravel and a filler of natural sand, stone sand, or other finely divided mineral matter. Unless specifically allowed in the Bid Proposal recycled materials shall not be used. Oversize material encountered in deposits from which the material is taken shall be removed by screening or shall be crushed to the required sizes. The composite material shall be free from organic matter, shale and lumps or balls of clay and shall meet the gradation requirements specified in Paragraph 2.2 of this section.

The right is reserved to prohibit the use of crushed stone from limestone deposits having thinly bedded strata or strata of shale or to reject material from any source where the character of the material will not meet the applicable requirements.

The aggregate, including any blended filler, shall have a liquid limit of not more than 25 and a plasticity index of no more than 6, except in the case of

aggregates for base course placed between old and new pavements, where the plasticity index shall not exceed 3.

At least 45 percent of the particles of aggregate retained on the No. 4 sieve shall have at least one (1) surface or face produced by the fracture of a larger particle.

Aggregate shall have a percentage of wear of not more than 50, as determined by AASHTO Designation: T 96, unless otherwise noted.

When the fraction of aggregates retained on the No. 4 sieve is subjected to five cycles of the sodium sulfate soundness test (AASHTO Designation: T 104), the weighted loss shall not exceed 18 percent, by weight.

2.2 Gradation Requirements - 3/4-Inch Crushed Aggregate

The aggregates shall be well graded between the limits specified and unless otherwise specified, shall conform to the gradation requirements for 3/4-inch dense graded base of the State of Wisconsin Department of Transportation Standard Specifications for Highway and Structure Construction, most current edition Specification No. 305.2.2.1, as follows:

Sieve Size	Percent Passing, by weight
1 inch (25 mm)	100
3/4 inch (19 mm)	95 - 100
3/8 inch (9.5 mm)	50 - 90
No. 4 (4.75 mm)	35 - 70
No. 10 (2.00 mm)	15 - 55
No. 40 (425 µm)	10 - 35
No. 200 (75 µm)	5 - 15

If filler is necessary in addition to that naturally present in the base coarse material for meeting the gradation requirement, or for satisfactory binding of the material, it shall be uniformly blended with the base course at the screening plant or on the road. The material obtained for such purpose shall be obtained from sources approved by the Engineer, shall be free from agglomerations or lumps, and shall contain not more than 15% of material retained on a No. 4 sieve.

2.3 Gradation Requirements – 1 1/4-Inch Crushed Aggregate

Where 1/4-inch base course is specified the aggregate shall be well graded between the limits specified and shall conform to the gradation requirements for 1 1/4-inch dense graded base of the State of Wisconsin Department of

Transportation Standard Specifications for Highway and Structure Construction, most current edition, , Specification No. 305.2.2.1, as follows:

	<u>Percent Passing, by weight</u>
1¼ inch (37.5 mm)	95 – 100
1 inch (25.0 mm)	-
¾ inch (19.0 mm)	70 – 93
⅜ inch (9.5 mm)	42 – 80
No. 4 (4.75 mm)	25 – 63
No. 10 (2.00 mm)	16 – 48
No. 40 (425 µm)	8 – 28
No. 200 (75 µm)	2 – 12

2.4 Gradation Requirements - Breaker Run

The aggregate shall be Breaker Run, with fines, well graded between the limits specified, as follows:

Sieve Size	Percent Passing, by weight
6-inch	100
1½-inch (37.5 mm)	60 – 85
1-inch (25.0 mm)	-
¾-inch (19.0 mm)	40 – 65
⅜-inch (9.5 mm)	-
No. 4 (4.75 mm)	15 – 40
No. 10 (2.0 mm)	10 – 30
No. 40 (425 µm)	5 – 20
No. 200 (75 µm)	2 - 12

PART 3 - CONSTRUCTION

3.1 Placing the Base Course

The Contractor shall place the crushed aggregate base material to the depth, line, and grade shown on the Plans. Contractor shall do his own “blue-top” staking to establish crown elevation. Engineer will not perform such staking.

Base course placement shall be in conformance with Sections 301 and 305 of the State of Wisconsin Department of Transportation Standard Specifications for Highway and Structure Construction, most current edition available of the Department of Transportation website, except as modified below. The grade of

the completed course shall at all points be within + or - 0.04 feet of the grade shown on the Plans, providing that the thickness of the course is at least that specified and there will not be more than a 5 percent total increase or decrease in the planned overlay asphalt or concrete thickness over the points measured. This includes fine grading in preparation for pavement construction. The Contractor shall maintain the prepared roadbed or subbase course ahead of the crushed aggregate base course laying operations in a smooth condition and at not less than the densities specified in paragraph 3.2, below. Any ruts or surface irregularities produced on the prepared road bed or subbase course by reason of traffic, hauling, poor drainage, unstable materials, or from any other cause, shall be corrected before crushed aggregate base course is placed. Snow or ice, if any, shall be removed from the prepared roadbed before the base course is placed. The base course Contractor shall coordinate with the paving Contractor and give written notice to the Engineer and paving Contractor at least seven (7) calendar days prior to acceptance of the base course. Once the base course is accepted by the Owner/Engineer, any damage to the base by traffic, poor drainage, or any other cause shall not be the responsibility of this Contractor. The repair of that damage shall be the responsibility of the paving Contractor.

If the required compacted depth of the base course exceeds 12 inches, the base shall be constructed in two or more layers of approximately equal thickness. The $\frac{3}{4}$ -inch and $1\frac{1}{4}$ -inch material shall be compacted in lifts not greater than 6 inches. The 3-inch material shall be compacted in lifts not greater than 9 inches. The base course material shall be deposited in such a manner as to minimize segregation and to facilitate spreading in a uniform layer of the required thickness. Excessive manipulation or mixing that causes segregation between the course and fine materials shall be avoided.

The work shall generally proceed so that the hauling equipment will travel over previously placed material, and the hauling equipment shall be routed as uniformly as possible over all portions of the previously constructed courses or layers of the base course.

The Contractor shall refer to Specification Section 02601 and the Plan Detail sheet for manhole adjustment requirements. Manhole rims shall be tipped, if necessary, to match the slope of the finished pavement surface. Water valve boxes and curb boxes shall be adjusted by the Contractor after coordinating with the Owner.

3.2 Compaction

The Contractor shall compact the base course to 95 percent of maximum density as determined by AASHTO Designation: T 99, Method C, with replacement of the fraction of material retained on the $\frac{3}{4}$ -inch sieve with No. 4 to $\frac{3}{4}$ -inch material.

3.3 Acceptance Testing

The Engineer, if he questions the compliance with the material specification for the crushed aggregate base, may order the Contractor to demonstrate compliance by obtaining, at the Contractor's own expense, tests by an independent laboratory. Such tests shall be performed in accordance with the following AASHTO standard testing methods:

Sampling Aggregate	T 02
Material Finer Than No. 200	T 11
Sieve Analysis of Aggregates	T 27
Sieve Analysis of Mineral Filler	T 37
Liquid Limit of Soils	T 89
Plastic Limit of Soils, Plasticity Index of Soils	T 90
Los Angeles Abrasion of Coarse Aggregate	T 96
Specific Gravity and Absorption of Fine Aggregate	T 84
Specific Gravity and Absorption of Coarse Aggregate	T 85*
Soundness of Aggregates	T 104

** As revised by the Department of Transportation Method T 85-1*

A test-roll of the fine graded and compacted base course will be required. This test-roll shall be performed with a fully loaded tri-axle dump truck (60,000 pound minimum gross weight) with the tag-wheels lifted, provided by the Contractor. The test-roll shall be performed on the entire length and width of the base course in the presence of the Engineer. Any deflection of the base course, wheel rutting, or cracking of the base will signify a failure of the base. The Engineer shall make the determination of base course acceptance or failure. In the case of failure, the Engineer shall determine the area and depth of undercut or other corrective action.

If the Owner so desires, compaction tests may be taken. The Owner shall pay for the first set of such tests at locations to be designated by the Engineer. If these tests show that compaction in accordance with these specifications has not been achieved, the Contractor shall re-compact the areas designated by the Engineer at its own expense. The Contractor shall then pay for tests to be performed by an independent testing laboratory to verify compliance with the specifications.

END OF SECTION

**SECTION 02239
PULVERIZING OF ASPHALTIC PAVEMENTS
AS BASE COURSE**

PART 1 - GENERAL

1.1 Description of Work Covered by This Section

This section describes pulverizing and use of the ground material as a base course for the overlay of new asphaltic concrete pavement.

PART 2 - MATERIALS & EQUIPMENT

2.1 General

Equipment used for this work shall include a power-operated self-propelled grinding machine which will result in chips of asphaltic material two inches, or less in the widest dimension. This machine shall be equipped with a pressurized watering system for dust control. It shall be suitable for efficiently grinding the pavement and for pulverizing all loosened material. The grinding equipment shall also be capable of grinding and removing concrete utility patches and loosely cemented concrete pavements. The grinding equipment shall also be equipped with a spray bar to allow addition of water to the pulverized material and with electronic devices which can provide accurate depth, grade and slope control.

PART 3 - CONSTRUCTION

3.1 Construction - General

The existing asphaltic surface shall be ground and pulverized for the full depth of the asphaltic pavement, replaced on the street, compacted and fine graded in preparation for placement of new hot-mix asphalt pavement, all in accordance with Section 325 of the Wisconsin Department of Transportation Standard Specification for Highway and Structure Construction, latest edition available on the Department of Transportation website as of the date of bidding.

3.2 Obstructions

Grinding around obstructions, such as utility castings, which can be observed from the surface shall be incidental to the unit bid price. Such obstructions will be included in the area measured for payment.

END OF SECTION

SECTION 02270 EROSION CONTROL

PART 1 - GENERAL

1.1 Description of Work Covered by This Section

This section describes the requirements for control of erosion on construction sites. The Contractor shall provide the necessary materials, equipment, and labor to control erosion by the methods specified herein. If no specific quantities are shown on the Plans, the Contractor shall use whatever quantities are necessary to prevent sediment transport into adjacent storm water conveyances or streams. Other similar products may be used only with the prior approval of the Engineer.

PART 2 - MATERIALS & EQUIPMENT

2.1 Temporary Grass Seed

Temporary grass seed shall be annual ryegrass, annual oats or winter wheat, depending upon the time of year as set forth in Part 3. Grass seed shall be delivered to the site in bags, tagged, or labeled to show the percentage of purity and germination. The seed shall have been tested by a recognized seed-testing laboratory within one (1) year before the date of seeding and shall conform to the latest laws of the U.S. and the State of Wisconsin. Upon request, the Contractor shall furnish to the Engineer copies of the test results.

2.2 Straw Mulch

Unless otherwise specified, mulch shall be straw, reasonably free of grain, weed, seed, and mold. Mulch materials shall not contain excessive moisture that might prevent feeding through a mulch blower machine. Other fibers may be used only upon approval by the Engineer.

2.3 Filter Fabric

Filter fabric for inlet bags shall meet the requirements of the Wisconsin Department of Transportation Product Acceptability List, Type D, or equal, and shall be ultraviolet stabilized.

2.4 Sediment Control (Silt) Fence

Sediment control fence shall meet the requirements of the Wisconsin Department of Natural Resources Conservation Practice Standard 1056.

2.5 Double Sediment Control Barrier

Double sediment control barrier shall consist of a combination of sediment control fence and straw or hay bale erosion control barrier, with the fence being installed on the upstream side of the bales. The bales used in the double sediment control barrier shall be either hay or straw, have rectangular surfaces, and be tightly bound with twine, not wire. The material in the bales shall be reasonably free of grain, weed, seed, and mold, and shall be dry and suitable for the purpose intended.

2.6 Construction Entrance Material

The aggregate for construction entrances shall be 3 to 6 inch clear or washed stone. All material shall be retained on a 3-inch sieve.

2.7 Coconut Fiber Erosion Control Mat

The coconut fiber erosion control mat shall meet the requirements of the Wisconsin Department of Transportation Product Acceptability List, Class II, Type B machine-produced 100% biodegradable mat with a 100% coconut fiber matrix.

The erosion mat shall be of consistent thickness with the coconut fiber evenly distributed over the entire area of the mat. The mat shall be covered on the top and bottom with photodegradable woven netting. The netting shall consist of photodegradable polypropylene mesh openings of approximately $\frac{5}{8}$ inch by $\frac{5}{8}$ inch. The blanket shall be sewn together on two (2) inch centers photodegradable polypropylene thread.

2.8 Soil Stabilizers

Soil Stabilizers shall meet the requirements of the Wisconsin Department of Transportation Product Acceptability List, Type B. The polymer shall have no odor. The polymer shall be protected from ignition sources. Contact with strong oxidizing agents and heat shall be avoided.

2.9 Temporary Ditch Checks (Wattles)

Temporary ditch checks, also called wattles, shall be in accordance with the latest edition of the Wisconsin Department of Transportation Product Acceptability List.

PART 3 - CONSTRUCTION

3.1 Erosion Control Requirements - General

Water pumped from the site shall be treated by appropriate controls designed and used to remove particles of 100 microns or greater for the highest dewatering pumping rate. If the water is demonstrated to have no particles greater than 100 microns during dewatering operations, then no control is needed before discharge. Water may not be discharged in a manner that causes erosion of the site or receiving channels. The Contractor must obtain a pit/trench dewatering WPDES permit from the Wisconsin DNR prior to initiating operation if dewatering is required.

The Contractor shall construct clear stone entrance pads to the construction site and shall take all other possible precautions to prevent sediment from being tracked onto public or private roadways. Any sediment reaching a public or private road shall be removed by street cleaning (not flushing) before the end of each workday and before any rainfall occurs.

All storm drain or culvert inlets shall be protected utilizing acceptable methods approved by the Engineer.

Channelized runoff from adjacent areas passing through the site shall be diverted around disturbed areas, if practical. Otherwise, the channel shall be protected. Sheet flow runoff from adjacent areas greater than 10,000 square feet in area shall also be diverted around disturbed areas.

Diverted runoff shall be conveyed in a manner that will not erode the conveyance and receiving channels. (Note: Soil and Conservation Service guidelines for allowable velocities in different types of channels should be followed.)

All activities on the site shall be conducted in a logical sequence to minimize the area of bare soil exposed at any one time.

All disturbed ground left inactive for seven (7) or more days shall be stabilized by temporary seeding and mulching or by covering, or by other equivalent control measure.

Sediment control fences or equivalent control measures shall be placed along all sideslope and downslope sides of the site where runoff can reach a surface water course, wetland, or as shown on the Plans or specified in the Special Conditions. If a channel or area of concentrated runoff passes through the site, sediment control fences shall be placed along the channel edges to reduce sediment reaching the channel.

Any soil or dirt storage piles containing more than ten cubic yards of material should not be located with a downslope drainage length of less than 25 feet to a roadway or drainage channel. If remaining for more than seven (7) days, they shall be stabilized by mulching, vegetative cover, tarps, or other means. Erosion from piles, which will be in existence for less than seven (7) days, shall be controlled by placing hay bales or sediment control fence barriers around the pile. In-street utility repair or construction soil, or dirt storage piles located closer than 25 feet to a roadway or drainage channel must be covered with tarps or a suitable alternative control must be used if exposed for more than seven (7) days, and storm drain or culvert inlets must be protected with straw bales or other appropriate filtering barriers.

3.2 Seeding

Seeding, where used for erosion control, shall be temporary grass seed as follows:

Before June 15	Annual Oats
June 15 to September 15	Annual Ryegrass
After September 15	Winter Wheat

The Contractor shall apply the seed using a hydroseeder, a power-drawn drill, or spreader, or approved blower equipment with an adjustable disseminating device capable of maintaining a constant measurement rate of material discharge that will insure an even distribution of seed and fertilizer. Seed mixture shall be applied at the rates of 3 lbs/1,000 ft².

Seedbeds shall be maintained in a moist growing condition. When necessary, the Contractor shall soak the seedbed by sprinkling with water.

3.3 Application of Straw Mulch

The Contractor shall furnish, haul and evenly apply straw mulch at a rate not less than 1½ tons per acre. Mulch shall be placed loose and open enough to allow some sunlight to penetrate and air to circulate but still cover a minimum of 70% of the soil surface. The mulch spreading equipment shall utilize forced air to blow mulch material onto the seeded area, unless otherwise approved by the Engineer. Where mulch is used, alone, as a temporary cover, the rate of application shall be not less than three (3) tons per acre cover a minimum of 80% of the soil surface. .

Unless otherwise designated the Contractor shall anchor the straw mulch by crimping so that the mulch is partially embedded in the soil.

3.4 Placing Straw or Hay Bale Barriers as Part of Double Sediment Control Barrier

Sufficient bales shall be on the site to create the necessary barriers before the start of groundbreaking operations. The bales shall be stacked and covered with plastic sheeting until required for use.

The bales shall be placed with the cut side of the bale downward, in a shallow trench excavated for that purpose. The bales shall be fixed in place using reinforcing rod or steel fence posts extending completely through the bale and driven at least 18 inches into the ground. Two (2) rods or posts shall be placed in each bale, one at each $\frac{1}{3}$ point.

If a bale in a barrier is wholly or partially destroyed during the course of the project the Contractor shall, at its own expense, replace the bale with a fresh, unused bale.

3.5 Construction of Sediment Control Fence

Sediment control fence shall be constructed according to the manufacturer's recommendations and generally as follows:

- Excavate a six inch by six inch (6"x 6") trench along the upslope perimeter of the fence location
- Unroll the fencing fabric a section at a time and position the posts against the downslope side of the trench, with the fabric on the upslope side of the posts. Drive the posts into the ground until the support netting is approximately two (2) inches from the trench bottom (the fabric should extend several inches below the netting.)
- Lay the toe-in flap of fabric onto the undisturbed trench bottom, backfill the trench and tamp the soil down firmly.

3.6 Installing Coconut Fiber Erosion Control Mat

Coconut Fiber Erosion Control mat shall be constructed according to the manufacturer's recommendations and generally as follows:

- Prepare soil before installing blankets, including any application of fertilizer and seed.
- Begin at the top of the channel by anchoring the blanket in a six (6) inch deep by six (6) inch wide trench with approximately 12 inches of blanket extended beyond the up-slope portion of the trench. Anchor the blanket with a row of staples/stakes approximately 12 inches apart in the bottom of the trench. Backfill and compact the trench after stapling. Apply seed to compacted soil and fold remaining 12-inch portion of blanket back over seed and compacted soil. Secure blanket over compacted soil with a row

of staples/stakes spaced approximately 12 inches apart across the width of the blanket.

- Roll center blanket in direction of water flow in bottom of channel. Blankets will unroll with appropriate side against the soil surface. All blankets must be securely fastened to the soil surface by placing staples/stakes in appropriate locations as recommended by the manufacturer.
- Place consecutive blankets end over end (shingle style) with a four (4) to six (6) inch overlap. Use a double row of staples staggered four (4) inches apart and four (4) inches on center to secure blankets.
- Full-length edge of blankets at top of side slope must be anchored with a row of staples/stakes approximately 12 inches apart in a six (6) inch deep by six (6) inch wide trench. Backfill and compact the trench after stapling.
- Adjacent blankets must be overlapped four (4) inches (depending on blanket type) and stapled.
- A staple check slot is required at 30 to 40 foot intervals. Use a double row of staples staggered four (4) inches apart and four (4) inches on center over entire width of the channel.
- The terminal end of the blankets must be anchored with a row of staples/stakes approximately 12 inches apart in a six (6) inch deep by six (6) inch wide trench. Backfill and compact the trench after stapling.

NOTE: In loose soil conditions, the use of staples or stake lengths greater than six (6) inches may be necessary to properly anchor the blankets.

3.7 Application of Soil Stabilizer

Minimum application rates shall be as recommended by the manufacturer.

PART 4 – DOCUMENTATION

4.1 Inspections

Contractor shall be responsible for all inspections of erosion control provisions from the beginning of the project to stabilization of all disturbed surfaces. Inspections of implemented erosion control best management practices must be performed weekly and within 24 hours after a precipitation event of 0.5 inches or greater which results in runoff. Department of Natural Resources form 3400-187 (Construction Site Inspection Report) shall be used.

END OF SECTION

SECTION 02486 LAWN SEEDING

PART 1 - GENERAL

1.1 Description of Work Covered by This Section

This section describes the requirements for restoration of disturbed earth surface by the Contractor. Part 2 specifies materials and equipment to be used. Part 3, Subsection 3.1, specifies the general requirements the Contractor is expected to follow.

The Contractor shall provide the necessary materials, equipment and labor to accomplish the seeding by the methods specified herein.

PART 2 - MATERIALS & EQUIPMENT

2.1 Topsoil

Topsoil shall be fertile, friable, natural loam surface soil, completely free of subsoil, clay lumps, brush, weeds, weed seed and free of roots, stumps, stones larger than one (1) inch in any dimension, and other matter harmful to plant growth. Topsoil to supplement insufficient topsoil on the site shall originate from local sources, but not from bogs or marshes. Such topsoil shall be shredded immediately prior to placement.

2.2 Lime

Lime used for soil amendment shall be agricultural grade limestone ground sufficiently fine so that 80 percent passes a No. 8 sieve. Lime shall contain 80 percent calcium carbonate equivalent. Moisture shall not exceed 10 percent.

2.3 Fertilizer

Fertilizer used in conjunction with seeding shall be dry, free-flowing granular fertilizer suitable for application by agricultural fertilizer spreaders or blower equipment, or non-volatile liquid commercial fertilizer, having an analysis of 20-10-10 (Nitrogen-Phosphoric Acid-Potash), or approved equal. Fertilizer having other analysis shall be applied at a rate to achieve at least the individual following amounts of nutrient per unit area:

<u>Nutrient</u>	<u>Per Acre</u>	<u>Per 1000 Square Ft.</u>
Nitrogen (N)	100 pounds	2.3 pounds
Phosphoric Acid (P ₂ O ₅)	50 pounds	1.2 pounds
Potash (K ₂ O)	50 pounds	1.2 pounds

2.4 Grass Seed

Grass seed shall be delivered to the site in bags, tagged or labeled to show the percentage of purity and germination. The seed shall have been tested by a recognized seed testing laboratory within one (1) year prior to the date of seeding and shall conform to the latest laws of the U.S. and the State of Wisconsin. Upon request the Contractor shall furnish to the Engineer copies of the test results. Permanent seed mixtures shall consist of the following percentages of various varieties of grass seed, each of which shall have the designated minimum percent purity and germination:

Species	Purity Min. %	Germination Min. %	Mixture Proportions, Percent
Kentucky Bluegrass	85	80	35
Creeping Red Fescue	97	85	20
Improved Hard Fescue	97	85	20
Improved Fine Perennial Ryegrass	96	85	25
*Pure Live Seed. These grasses shall contain no improved varieties			

The "Madison Parks" mix may be used as a permanent seed mixture.

As a companion seeding to the above seed mixture annual ryegrass of the same purity and germination standards shall be provided and applied as set forth in Part 3.

2.5 Straw Mulch

Unless otherwise specified in the Special Conditions to the specifications, mulch shall be straw, free of grain, weed, seed and mold. Mulch materials shall not contain excessive moisture which might prevent feeding through a mulch blower machine. Wood cellulose fiber, hay or "marsh hay" may not be used.

PART 3 - CONSTRUCTION

3.1 Preparation

The Contractor shall grade and smooth the area to be seeded, filling in all gullies and washes. A minimum of four (4) inches of topsoil shall be placed over the entire area before seeding takes place. No clumps of dirt larger than 1½ inches shall remain after preparation of the area to be seeded. All stones or other foreign material larger than one (1) inch in any dimension shall be removed. The presence of gravel in the top four inches of the topsoil will not be allowed. Any topsoil containing gravel shall be removed and replaced with fresh top soil. Immediately prior to seeding the topsoil shall be loosened to a depth of three (3) inches. (If necessary, the Contractor shall apply lime to produce a soil pH of 6.5 and shall mix the lime thoroughly into the topsoil.) After preparation and prior to seeding the Contractor shall notify the Engineer so that the prepared surface may be inspected. Seeding shall not take place until the prepared surface is inspected by the Engineer or the Owner's Authorized Representative.

3.2 Fertilizing

Fertilizer shall be applied with a hydroseeder, power-drawn drill or spreader, or blower equipment either separately from or concurrently with the grass seed. Fertilizing shall not be done with "broadcast"-type equipment during windy weather, and not at all when the ground is frozen or excessively moist. Fertilizer shall be applied at the rates specified in Part 2 of this section of the specifications.

3.3 Seeding

The Contractor shall apply the seed using a hydroseeder, a power-drawn drill or spreader, or approved blower equipment with an adjustable disseminating device capable of maintaining a constant measurement rate of material discharge that will insure an even distribution of seed and fertilizer.

Permanent seed mixture shall be applied at the rate of 2 lbs/1000 sq. ft. A companion seeding of annual ryegrass shall also be made at an application rate of 1 lb/1000 sq. ft.

After the seeding is completed and prior to mulching the contractor shall rake the surface with an inverted leaf rake to set the seed.

3.4 Application of Straw or Hay Mulch

The Contractor shall furnish, haul and evenly apply straw or hay mulch at a rate not less than 1½ tons per acre to a loose depth of one (1) to two (2) inches. The mulch spreading equipment shall utilize forced air to blow mulch material onto the seeded

area, unless otherwise approved by the Engineer. Mulching shall not be conducted during very windy conditions.

The mulch shall not be left in clumps and shall not be blown onto healthy grass, trees, shrubs, curbs, pavements, vehicles, etc. Any mulch which blows onto areas not intended to be mulched, such as those defined above, shall be immediately removed.

Following application of the mulch, the Contractor shall anchor the straw or hay mulch by cutting the mulch into the soil with notched edges of a weighted disc so that the mulch is partially embedded in the soil, or by other methods acceptable to the Engineer.

3.5 Watering

The Contractor shall soak the seed bed by thoroughly sprinkling with water upon completion of the seeding, fertilizing and mulching operation.

3.6 Post-Construction Care Instruction

After the seeding operation is completed the Contractor shall provide and distribute to each property owner a sheet of instructions on how to care for the seed bed and insure acceptable grass growth.

*** END OF SECTION ***

**SECTION 02511
ASPHALTIC CONCRETE PAVING (HOT-MIX)**

PART 1 - GENERAL

1.1 Description of Work Covered by This Section

The Contractor shall apply an asphaltic pavement consisting of a lower course and an upper course, placed on the prepared base course, to the thickness and cross-sections shown on the Plan Detail Sheets, and to the lines and grades shown on the Plans. Fine grading in preparation for paving will have been completed under Specification Section 02232. Any repair of this fine grading due to damage by poor or excessive drainage, traffic, or other causes shall be part of this paving work.

Manhole casting adjustment methods are described in Specification Section 02601. Payment provisions and responsibility for work associated with manhole casting adjustments and paving around manhole castings are set forth in Specification Sections 01000 and 01001. The paving contractor shall turn valve boxes to finished grade as part of the paving work without extra payment.

The Contractor shall conform to the requirements of the following sections of the State of Wisconsin Department of Transportation (WisDOT) Standard Specifications for Highway and Structure Construction, most current edition, and all incorporated errata, annotated revisions, and subsequently issued supplemental specifications, except where this specification is stricter.

450 General Requirements for Asphaltic Pavement
455 Asphaltic Materials
460 Hot-Mix Asphalt Pavement

Except that:

- Section 460.2.8 regarding Owner verification testing is omitted
- Section 460.3.3 requiring Owner density testing in the field and the related incentives and disincentives is omitted
- Section 455.2.2 and 455.2.3 regarding binder and tack coat sampling and testing is omitted
- Section 440 regarding ride quality testing is omitted

The Engineer may elect to enforce the most stringent testing requirements in these specifications regardless of the tonnage placed under the project.

Unless otherwise specified in the Special Conditions or the Measurement and Payment specification section, the pavement shall be Asphaltic Concrete Pavement, Classification LT standard.

PART 2 - MATERIALS & EQUIPMENT

2.1 Asphaltic Concrete

Unless otherwise specified in the Special Conditions or the Measurement and Payment specification section, the asphaltic materials used in or north of the following counties shall be LT 58-34S: Trempealeau, Jackson, Clark, Taylor, Lincoln, Langlade, Menominee and Oconto, and shall be LT 58-28S south of the counties listed above.

2.2 Lower Course Aggregate

Unless otherwise specified in the Special Conditions or Measurement and Payment section of the specifications the Contractor shall use hard, durable angular crushed stone conforming to the gradation requirements for nominal 12.5 millimeter aggregate size as specified under the appropriate section of the Wisconsin Standard Specifications for Highway and Structure Construction as referenced above.

2.3 Upper Course or Surface Course Aggregates

Unless otherwise specified in the Special Conditions or Measurement and Payment section of the specifications the Contractor shall use hard, durable angular crushed stone, which, including mineral filler, shall conform to the gradation requirements for nominal 9.5 millimeter aggregate size as specified under the appropriate section of the Wisconsin Specifications for Highway and Structure Construction as referenced above.

2.4 Recycled Asphaltic Materials

The mix shall contain no more of such materials than allowed by the appropriate section of the Wisconsin Specifications for Highway and Structure Construction as referenced above.

2.5 Paving Equipment

The Contractor shall use hauling, paving and compacting equipment, as specified in the appropriate section of the State of Wisconsin Department of Transportation Standard Specifications for Highway and Structure Construction as referenced above.

PART 3 - CONSTRUCTION

3.1 Submittals Prior to Construction

The Contractor shall submit the job mix formula for the aggregate and bitumen content to the Engineer prior to use. The formula shall have been derived from tests performed and approved by Wisconsin Department of Transportation within the previous 12 months. A previous mix design using the same aggregates from the same source and using the same brand and type of asphaltic material may be used with the approval of the Engineer. The tests shall have been performed by a qualified, certified testing laboratory.

3.2 Fine Grading

The Contractor shall repair, as necessary, fine-graded unpaved surfaces to the grade shown on the Plans before paving operations begin. Fine grading will have been completed previously in accordance with Section 02232 of these Specifications. Any repair due to traffic, poor or excessive drainage, or other causes shall be the responsibility of the Asphalt Paving Contractor. Soft spots shall be excavated and such cavities and other holes or depressions filled with crushed aggregate base course in accordance with Section 02232 of these Specifications.

3.3 Construction Prerequisites

The Contractor shall place asphaltic paving mixture only on a prepared, firm, and compacted base or foundation course, substantially surface -dry and free and clear of loose and foreign material. The Contractor shall incorporate loose aggregate existing on the roadbed into shoulder construction, if any, or dispose of such aggregates as directed by the Engineer.

Holes and depressions in existing paved surfaces which are to be overlaid shall be prepared by removing all loose and defective material from the hole or depression and replacing with a hot-mix asphalt patching material, compacted to produce a tight surface conforming to the adjacent area.

If any repair work in the fine graded surface is necessary, the Contractor shall proof-roll prepared surfaces to check for unstable areas requiring additional compaction. If the Contractor finds such areas, notification of these unsatisfactory conditions to the Engineer shall be made and paving work shall not begin until such conditions have been corrected.

The Contractor shall not place asphaltic paving mixtures during the calendar period from October 15 to May 1, of the next succeeding year, regardless of temperature, except with the written authorization of the Owner or the Engineer.

Immediately prior to paving, the Contractor shall saw cut all intersecting streets and adjacent pavements to form a straight, vertical joint line.

Asphaltic paving mixtures shall not be placed over frozen subgrade or base or where the roadbed underlying the foundation or base is temporarily unstable from the effects of frost heaving.

The Contractor shall not place asphaltic paving mixtures when it is raining or snowing; any mixture exposed to rain or snow before final rolling which has, in the judgment of the Engineer, been adversely affected thereby, shall be removed and replaced at the Contractor's expense.

The Contractor shall not place asphaltic paving mixtures when the air temperature at the site of work, approximately three (3) feet above the ground in the shade and away from the effects of artificial heat is less than 36° F. The Contractor may place lower layer mixtures at a lower temperature with the Engineer's written approval.

3.4 Preparation and Transport of the Mixture

The paving mixture shall be composed of a homogeneous mixture of coarse and fine aggregate, mineral filler (when required), and asphalt cement heated to the proper viscosity for uniform distribution throughout the mixture.

Aggregates shall be fed uniformly to the plant so that surpluses and shortages will not occur, thereby causing breaks in the continuous operation. The aggregate shall be heated to provide a paving mixture temperature immediately after mixing of 300°F, plus or minus 15°. Mixing time shall be sufficient to provide uniformly coated aggregate.

Contractor shall deliver the mixture to the paver receiving hopper at a temperature no lower than 275°F (135°C). Contractor shall cover all loads during transport in periods of inclement weather or when the ambient temperature falls below 65°F (18°C).

The Engineer may reject asphaltic paving mixture not sufficiently mixed or defective in any manner.

3.5 Spreading and Finishing

The Contractor shall place the asphaltic mixtures by use of self-propelled spreading and finishing machines conforming to the specified requirements to the thicknesses shown on the Plans. The compacted thickness of individual lower courses shall not be greater than three (3) inches nor less than 1¾ inches. The compacted thickness

of individual surface courses shall not be greater than 2 inches nor less than 1½ inches.

The operating speed of the paving machine when it is placing the asphaltic mixtures shall be consistent and shall not exceed that speed which is appropriate for the type of paver and type of mixture to produce a uniformly spread and struck-off layer having a dense, smooth texture without any tearing or segregation of the material, and without rolls or bumps in the surface. The speed shall coincide as closely as possible with the rate of delivery of the asphaltic mixture to provide, as nearly as possible, a continuous paving operation. The speed of the paver shall be subject to the approval of the Engineer.

Spreading and finishing shall be in accordance with the requirements of the appropriate section of the State of Wisconsin Department of Transportation Standard Specifications for Highway and Structure Construction as referenced above.

3.6 Compaction

The Contractor shall compact the course thoroughly and uniformly by rolling after spreading and strike-off. The initial rolling shall begin as soon as practical after the mixture is spread but not until the mixture will bear the roller weight without displacement, hair-cracking, or checking. The roller speed shall be slow enough to avoid undue displacement of the mixture. Keep roller wheels moistened to keep the mixture from sticking to them, without using excessive water. Rolling shall begin at the sides and proceed longitudinally parallel to the road centerline, each trip overlapping the previous trip and progressing to the crown of the road, except that when paving abuts a previously placed strip, the longitudinal joint shall be rolled first.

The Contractor shall compact with hot hand tampers or vibratory compactors in areas inaccessible to rollers. The Contractor shall not use pneumatic tire rollers for rolling of driveways and other areas where roller tire marks will not roll out smooth.

The Contractor shall check the surface after the initial rolling and shall repair displaced areas by loosening and filling, if required, with hot material. Following initial rolling and while the mixture has been compacted to the degree that no further appreciable consolidation is evidenced under the action of the compaction equipment.

The Contractor shall perform finish rolling while the mixture is still warm enough for removal of roller marks, and shall continue rolling until all roller marks are eliminated.

The lower course shall be compacted to 91½ percent Laboratory Density as determined by the nuclear density tests performed by a nuclear density technician certified at Level 1 and provided by the Contractor. Where a lower course is constructed directly over base course the compaction shall be 89½ percent density determined by the same test. The surface course shall be compacted to 91½ percent density determined by the same test. There will be no incentive pay adjustment for densities above the minimum specified.

3.7 Joints

The placing of any course or layer thereof shall be as nearly continuous as possible without joints. The Contractor shall not roll the unprotected end of the freshly laid mixture unless placement is discontinued long enough to permit the mixture to cool. The Contractor shall make joints between old and new pavement and between fresh and previously cooled work so as to ensure bonding for the full depth of the course or layer. When laying is resumed, the Contractor shall clean the contact surfaces and apply emulsified asphalt tack coat. Joints for continuing work shall be formed by cutting back on the previous run so as to expose the full depth of the course or layer with a ½- to 1-inch vertical notch being created at the top of tapers on all layers. When a new mat is adjoining an old mat, the joint shall be formed by sawcutting the old mat on a straight line to provide a butt joint for the full depth of the new mat. The surface of the two courses or layers shall be co-planer across the joint.

3.8 Surface Requirements

The finished surfaces shall be smooth and true. The Contractor shall test surfaces by means of a 10 foot straightedge laid parallel to the centerline of the road. Irregularities in the binder course surface which vary in excess of ¼ inch from the lower edge of the straightedge between any two contact points shall be corrected.

Irregularities in the surface course that vary in excess of ⅛ inch from the lower edge of the straightedge between any two contact points shall be corrected.

3.9 Maintenance

Maintain and protect the work during the various stages of construction until the final acceptance. Any rich or bleeding areas, any breaks, raveled spots, or other unsatisfactory areas in the wearing surfaces shall be corrected during such maintenance period.

3.10 Traffic – Protection of Work

One lane of traffic shall be maintained on the street at all times. Access to private driveways shall not be prevented for more than one 24 hour period. Property owners shall be notified one day in advance of periods of restricted access.

The work shall be properly protected by barricades, flares, and flagmen to prevent damage to freshly placed asphalt until the pavement has cooled and hardened, and to prevent damage to vehicles.

3.11 Alley and Driveway

All requirements for grading, compaction and supplementing the base course that are set forth herein for the roadway, also apply to alleys and driveways, and for pavement construction shown on the Plans or specified to be paved.

3.12 Acceptance Testing

For all projects, the Contractor shall provide to the Engineer a sample of the job mix to be kept for future testing if required. The sample shall be of sufficient size to measure asphalt content, aggregate gradation, and volumetrics. The sample shall be taken from the actual mix delivered to the job site.

When so determined by the Engineer or the Owner's Authorized Representative the Contractor shall cut samples from the finished pavement at locations selected by the Engineer and restore the surface with new compacted material. The samples shall be tested by a recognized testing laboratory approved by the Engineer for pavement thickness, pavement density, asphalt content, and aggregate gradation. Samples shall extend the full depth of the pavement and shall be not less than 65 square inches.

One sample may be required from each day's run. The cutting of the sample, restoration of the surface and testing of the sample shall be incidental to the contract unit price for asphaltic concrete paving.

For all projects, the Contractor shall submit test results for the mixtures used from the manufacturer's Quality Management Program. Such tests shall be performed under the supervision of a Certified Asphaltic Technician. Such tests shall include aggregate gradation, percent asphalt content, and air voids.

3.13 Guarantee

The Contractor shall guarantee all materials and workmanship for one year from the date of approval of the final payment request by the Owner. This guarantee shall

cover, but not be limited to, edge cracking, block cracking and raveling. Defects appearing within that period shall be corrected by the Contractor at his own expense.

*** END OF SECTION ***

**SECTION 02514
ASPHALTIC TACK COAT**

PART 1 - GENERAL

1.1 Description of Work Covered by This Section

The Contractor shall provide and apply an asphaltic tack coat on all existing asphaltic surfaces. The Contractor shall conform to the requirements of the State of Wisconsin Department of Transportation Standard Specifications for Highway and Structure Construction, most current edition, and all incorporated errata, annotated revisions, and subsequently issued supplemental specifications, unless the requirements set forth elsewhere in this section are more stringent.

PART 2 - MATERIALS & EQUIPMENT

2.1 Tack Coat

The tack coat shall be emulsified asphalt, conforming to AASHTO Designation, M140 or M208, as appropriate. The tack coat shall be SS-1, SS-1h, or CSS-1h with the asphalt emulsion diluted with equal parts water. The Contractor shall submit the material specification to the Engineer for approval prior to use.

2.2 Application Equipment

The Contractor shall furnish and use a pressure distributor capable of applying tack material uniformly, without atomization. He shall provide all tools as necessary to complete the work.

PART 3 - CONSTRUCTION

3.1 Construction Methods

The Contractor shall place tack coat in a single operation, but only during daylight hours when the air temperature is 40 degrees Fahrenheit or more and only upon a prepared, existing pavement which is dry and free of loosen dirt, dust or other foreign matter. The tack coat shall not be applied when it appears probable that the surface may be exposed to moisture during the penetration period. Immediately prior to the application of tack coat the prepared base shall

be thoroughly swept with a power broom to remove dust and loose dirt. Care shall be taken to avoid overlapping of joints.

3.2 Heating and Applying Tack Coat Materials: Application Rate

The asphaltic materials shall be heated and applied by equipment suitable for that purpose. The rate of application shall be 0.05 to 0.15 gallons per square yard, with a target application rate of 0.10 gallons per square yard. The amount shall be sufficient to wet, but not flood the surface.

3.3 Protection of Surfaces

The Contractor shall protect all adjacent surfaces, including curb and gutter, by some method satisfactory to the Engineer, to prevent their being spattered or disfigured by tacking operations. Traffic shall not be permitted on the tack coat until paving has occurred or for a period of time sufficient to allow the tack coat to penetrate and/or evaporate so that vehicles and pedestrians are not spattered. One line of the street shall remain open and untacked at all times. The work shall be properly protected by barricades and flagmen to prevent damage to freshly placed tack coat.

3.4 Drying Time

Daily application of the tack coat shall be limited to approximately that area of surface which can reasonably be expected to be paved during the same day. The area tacked shall not be paved until a period sufficient to allow for proper penetration and curing has elapsed.

3.5 Correction of Deficient Work

Any areas containing an excess or deficiency of asphaltic material and any breaks, reveled spots or other unsatisfactory areas in the tack coat shall be corrected prior to paving by the Contractor at his own expense.

END OF SECTION

SECTION 02522 CONCRETE CURB & GUTTER

PART 1 - GENERAL

1.1 Description of Work Covered by This Section

The Contractor shall construct curb & gutter, curb transitions, gutter sections for ramps for the handicapped, drive-over gutter sections, and incidental appurtenances. The Contractor shall construct these structures in the locations and to the lines and grades shown on the Plans. The work includes protecting the work against damage until restoration is complete.

1.2 Codes and Standards

The Contractor shall construct the curb and gutter in accordance with the provisions of the current edition of the State of Wisconsin Department of Transportation, Standard Specifications for Highway and Structure Construction, latest version, as set forth on the Department of Transportation website, and in conformance with Wisconsin Statutes, 66.0909, Curb Ramping.

PART 2 - MATERIALS & EQUIPMENT

2.1 Concrete

The Contractor shall use concrete that complies with the specifications for Type BB concrete as set forth in Section 03301 of these specifications. Special care shall be taken to use aggregates that yield concrete of the proper workability for this application.

2.2 Forms

Forms may be either stationary or slip-type forms. If machine pavers and slip forms are used for placing, forming, and consolidating the concrete, the finished curb and gutter shall be of quality equal to that produced by stationary forms and the methods described below.

Forms for straight sections shall be steel and shall be straight and free from defects. They shall be of such size and strength that when properly supported they can resist movement in any direction during concrete placement and can retain horizontal and vertical alignment. Bent, warped, split, or defective form materials are not permitted. Forms shall be full depth of curb and gutter sections.

The Contractor shall use flexible spring steel forms or laminated boards to form

radius sections.

2.3 Joint Fillers

Joint fillers shall be used in expansion joints and for joints between the curb and existing sidewalk or other structures. Such fillers shall be pre-molded joint fillers, bituminous fiber type, or asphalt-impregnated felt type, complying with ASTM D994 or AASHTO Designation M213. Such fillers shall be ½ inch in thickness and shall extend the full depth of the concrete. Pre-molded joint fillers shall be kept on a flat surface in storage before insertion in the concrete. No warped or damaged material shall be used.

2.4 Curing Compound

Curing compound shall be wax resin, white-pigmented, conforming to the requirements of ASTM C309, Type 2. It shall be ready-mixed for immediate use without alteration other than stirring. It shall adhere firmly to concrete, either partially set or hardened.

2.5 Granular Base Course

Base course materials shall comply with the materials specification paragraphs in Section 02232 of these specifications.

PART 3 - CONSTRUCTION

3.1 Curb and Gutter Conformation

The Contractor shall construct curb and gutter to the conformations shown for Standard Curb and Gutter in detail shown on the Plan detail sheets except for drive-over curb, where noted on the Plans or ordered by the Engineer in the field and where sidewalk ramps are required. If curb and gutter terminates at a ditch, the Contractor shall construct a flared flume to match the topography.

3.2 Line and Grade

Line and grade shall be as shown on the Plans and as shown on the Plan detail sheet. The Contractor shall notify the Engineer at least three (3) working days in advance of his need for lines and grades. Stakes will be provided at 25 foot intervals at an offset convenient to the Contractor. All stakes and reference marks shall be carefully preserved by the Contractor. If these marks are disturbed, they shall be replaced at the Contractor's expense.

Care shall be taken to provide a uniform grade. The Contractor shall carefully check the grade and shall report irregularities to the Engineer. Deviations from established lines and grades shall be cause for rejection of all or part of the work.

3.3 Clearing and Grubbing, Removal of Obstructions

The Contractor shall coordinate with the local postmaster regarding relocation of mailboxes during the construction period. The Contractor shall, incidentally to the curb & gutter bid items, temporarily move such mailboxes as required by the local postmaster and shall permanently reinstall such mailboxes in locations and at elevations acceptable to the local postmaster and the property owner.

The Contractor shall cut and dispose of trees and shrubs, remove and dispose of roots, stumps, old curb and gutter, sidewalks, driveways, pavements, drains and other obstructions in the curb area, as necessary to complete the construction as shown on the Plans. Roots of trees shall be cut at a point at least one (1) foot from the nearest surface of the curb and gutter. Any items or materials of apparent value, such as culvert pipes, shall be salvaged for the Owner and transported to a location designated by the Owner, such location being within the municipality. Holes remaining from the removal of obstructions shall be filled with granular subbase course or crushed aggregate base course, and such fill material shall be thoroughly compacted.

3.4 Excavation, Backfilling and Grading

The Contractor shall excavate or backfill as necessary to meet the line and grades established in the field by the Owner, shown on the Plans, defined in the Special Conditions, or defined in these specifications. All existing sod, pavement, and other surface materials obviously unsuitable for subgrade materials must be removed and disposed of.

The costs of excavation and backfill shall be incidental to the unit bid price for curb & gutter being constructed in that location, unless the materials being excavated are being removed after the surface sod, pavements, etc., have been removed, are below the subgrade, are unsuitable for subgrade materials and are ordered removed by the Engineer. In such cases, an extra payment shall be negotiated as provided in the General Conditions.

Obstructions shown on the Plans or visible from the ground surface prior to clearing and grubbing and which can reasonably be expected to be removed in order for construction of new curb & gutter will not be basis for extra payment. Nor will extra payment be allowed for excavations below grade or for backfill materials required to fill such excavations when such excavation is caused by negligence of the Contractor.

Backfilling shall be accomplished by placing $\frac{3}{4}$ inch crushed aggregate material in lifts not to exceed 12 inches. Each lift shall be mechanically compacted to a density greater than or equal to 95 percent of maximum density as determined by the Modified Proctor test or by AASHTO Designation: T99, Method C, with replacement of the Fraction of material on the $\frac{3}{4}$ inch sieve with No. 4 to $\frac{3}{4}$ inch material. The Owner shall pay for the first series of compaction tests, if such tests are ordered by the Engineer. If the compaction tests fail, the Contractor shall re-compact those areas and shall pay for the compaction tests on the re-compacted areas.

3.5 Base Preparation

The Contractor shall fill all holes and depressions with crushed aggregate base course, compact this backfill, and smooth the surface of the subgrade. The Contractor shall place four (4) inches of crushed aggregate base course under the entire curb and gutter area and to a point one (1) foot beyond the front and back faces of the curb and gutter.

If it is specified in the Special Conditions that the base course will be placed by another contractor in the process of construction of a new street, the Contractor shall grade and thoroughly compact the base to the foundation elevation necessary to construct the curb and gutter. The Contractor shall thoroughly moisten the surface of the base course and lightly oil the forms immediately before placing the concrete.

The Contractor shall also, before placing the concrete, adjust valve boxes, curb stops, storm water inlets, manhole frames and other utility structures to finished grade of new construction in a manner such that the new construction will not interfere with proper operation of the structures. Storm water inlets and manhole frames shall be adjusted by removing or adding concrete adjusting rings or masonry and then fixing them in place with a collar of concrete masonry. Storm water inlets shall be adjusted with a 1" PVC drainage pipe being incorporated from the base course on the street side of the inlet, through the adjusting ring to the inside of the inlet.

3.6 Forms

The Contractor shall set the forms to the required lines and grades and brace and secure the forms to assure rigidity. The Contractor shall use sufficient forms to allow continuous progress of the work and to permit the forms to remain in place for at least six hours after concrete placement.

The vertical face of the forms shall not vary from the established line by more

than one (1) inch, and the change in line of the vertical face shall not exceed $\frac{1}{4}$ inch in 10 lineal feet of curb. The top of the curb shall not vary from the established grade more than $\frac{1}{2}$ inch, and the change in grade of the top of the curb relative to the established grade shall not exceed $\frac{1}{8}$ inch in 10 lineal feet.

Slip forming methods shall produce equivalent results.

3.7 Joints

The Contractor shall construct expansion, contraction, and construction joints with faces perpendicular to the curb surface and at right angles to the curb line.

Expansion joints shall be constructed at each end of radius sections; at about three (3) feet from one side of abutting storm water inlets, at abutting walks, structures, and other fixed objects; and at 300 foot centers. Where practical, expansion joints in the curb should be placed at the same locations as existing expansion joints in adjacent pavements.

The Contractor shall extend joint fillers the full width and depth of expansion joints. Such fillers shall terminate not less than $\frac{1}{2}$ inch or more than one (1) inch below the under-surface of the curb and gutter. Joint fillers shall be in one piece, wherever possible. Where more than one piece is required, the Contractor shall lace or clip joint filler sections together.

The Contractor shall construct contraction joints consisting of a slot or groove at least two (2) inches in depth by $\frac{1}{4}$ inch in width, at not less than six (6) nor more than twelve (12) foot intervals, and at two (2) feet from the top of the flare on each side of driveway aprons, at about three (3) feet from the side of street inlets opposite the side on which the expansion joint is placed. When machine methods are used for forming and finishing, the Contractor shall saw construction joints or create planes of weakness by insertion of partial separator plates having a minimum depth of two (2) inches. The depth of cut and the equipment used in sawing shall be done as soon as practical after the concrete has set sufficiently to preclude raveling during the sawing and before any shrinkage cracking takes place in the concrete. If this method results in random cracking, the Contractor shall use separator plates. Separator plates shall be removed as soon as practical after the concrete has been struck off, consolidated, and set sufficiently to preserve the shape and width of the joint.

3.8 Curb Ramping

The Contractor shall provide transitions and gutter sections to accommodate ramps at all intersections. (See the Plan Detail sheet.)

3.9 Driveover Sections

At all driveway and alley entrances and at other locations designated on the Plans the Contractor shall construct drive over sections as shown on the Plan detail sheet.

3.10 Curb and Gutter Terminations

Where curb and gutter ends, including at the ends of radius sections, the Contractor shall create a four (4) foot long transition section in which the curb back is brought down to the gutter elevation. These transition sections may not be shown on the Plans and will be in addition to the length shown on the Plans. The transition section shall be separated from the standard curb and gutter by means of a contraction joint.

3.11 Concrete Placement

The Contractor shall comply with the requirements of Section 03301 for proportioning, mixing, testing, and placing concrete. The Contractor shall not place concrete until the base on which the curb and gutter will be poured and the forms have been checked for line and grade. The Contractor shall clean the forms before each use and coat them with non-staining form release agent to insure separation from concrete without damage, or discoloration to the concrete.

He shall moisten the base, as required to provide a dampened condition at the time concrete is placed. Concrete shall not be placed around structures and frames until they have been brought to the required grade and alignment.

3.12 Finishing

After consolidating and striking-off concrete, the Contractor shall float the surface to smooth it, compact it and to produce a uniform texture.

The Contractor shall test the surface for trueness with a 10 foot straightedge. He shall distribute concrete as required to remove surface irregularities and honeycombed areas, and shall float repaired areas to provide a continuous, smooth finish.

The work shall be performed in a manner that results in curb and gutter uniform in appearance and structurally sound. Curbs found with unsightly bulges, ridges, low spots in the gutter or other defects shall be removed and replaced at the

Contractor's expense if the Engineer considers them to be irreparable.

The faces of the curb and gutter shall be thoroughly troweled and brushed. The Contractor shall round the edges of gutters, the back edge of curb and edges adjacent to expansion and contraction joints with a $\frac{1}{8}$ inch to $\frac{1}{4}$ inch radius edging tool. The Contractor shall then eliminate any tool marks on the concrete surface.

The Contractor shall create a brushed or broomed finish unless otherwise designated on the Plans or in the Special Conditions. After excess moisture (surface sheen) has disappeared, he shall provide this finish by drawing a fine-hair broom across concrete surfaces perpendicular to the line of traffic. The brooming operation shall be repeated if required to produce a fine-line texture.

The location of all sewer and water services crossing under the curb & gutter shall be marked by stamping an "S" or "W" in the top of the curb at the location of the crossing. The stamp shall be cast with 3" tall letters approved by the Village or the Engineer.

After removal of forms, the Contractor shall repair honeycombed and defective area with Portland cement grout.

3.13 Curing

The concrete shall be protected against excess loss of moisture and rapid temperature changes by use of approved curing methods. The Contractor shall wet cure the concrete using waterproof paper or white polyethylene sheets, or shall cure-finish the concrete with curing compound. If curing compound is used the Contractor shall apply it at a rate of 200 square feet per gallon to all formed surfaces immediately after the forms are removed. If the curing compound is damaged by rain or any other cause, it shall be restored to the original condition by reapplication.

3.14 Protection

The Contractor shall protect curbs from damage until acceptance of the work. He shall exclude traffic from curbs for at least seven (7) days after placement and shall repair or replace broken or defective curbs as directed. He shall make provisions for pedestrians and vehicular traffic both during construction and during the seven (7) day traffic exclusion period using whatever barricades, warning signs, lanterns and lights may be necessary.

3.15 Restoration of Adjacent Areas

The Contractor shall restore all surfaces or disturbed areas accordance with the provisions of Section 02270, Section 02570, Section 02486 or Section 02489, as applicable, but at least to the condition which existed before construction. Restoration shall continue from the curb to the blend lines or points shown on the plans or plan cross-sections. If only blend points are shown on the plan cross sections the Contractor shall, for bid purposes, interpolate between adjacent sections. For blend areas where topsoil cover will be greater than two (2) inches, the existing sod shall be removed before new topsoil is placed. Contractor shall leave a small amount of additional topsoil on each side of driveways to be restored with asphalt to allow property owners to blend topsoil to the edge of the driveway after the paving has been completed. If base course exists on the street side of the gutter the Contractor shall backfill and compact this base course adjacent to the new gutter so that the base course is suitable for subsequent paving and as necessary to protect the new curb and gutter. He shall backfill and grade the complete area from the curb to the sidewalk or property line. He shall provide four (4) inches of topsoil and shall apply fertilizer, seed, and mulch.

3.16 Guarantee

The Contractor shall, for a period of one (1) year following acceptance of the work as indicated by the Owner's approval of the final payment application, guarantee that the curb and gutter will not chip, crack, or spall from natural causes. Should such defects occur, the Contractor shall return to the job site and replace the defective sections of curb and gutter at his own expense.

END OF SECTION

SECTION 02601 MANHOLES

PART 1 - GENERAL

1.1 Description of Work Covered by This Section

This section establishes the Contractor's responsibility for providing all necessary materials and equipment to construct manholes and for the construction of manholes where shown on the Plans.

PART 2 - MATERIALS & EQUIPMENT

2.1 Concrete Manhole Materials

For the vertical walls of the manholes, the Contractor shall provide forty-eight (48) inch internal diameter precast reinforced concrete rings conforming to ASTM C478. Joint shape shall be compatible with the joint materials specified below. Only where noted on the Plans or where specified in the Special Conditions shall rings of greater internal diameter than forty-eight inches be used.

Joints between manhole riser sections and/or between manhole riser and manhole top shall be sealed with a preformed butyl sealant. The butyl sealant shall meet or exceed the requirements of Federal Specification SS-S-210(210A), AASHTO M-198 and ASTM C990. The sealant shall be ConSeal CS-102 or CS 202, E-Z Stik by Press-Seal Gasket Corp, or approved equal.

Precast bases shall be a minimum of eight (8) inches thick, integral with the first riser section. Cast-in-place concrete bases shall be cast with the first riser section embedded at least four (4) inches into the base. Concrete for cast-in-place manhole bases shall be Type CC, as specified in Section 03301.

The manhole top shall be a precast eccentric cone, with a chimney of precast reinforced adjusting rings. The chimney shall not be greater than 9 inches high. Where space does not permit a cone top, a slab top with an eccentric opening may be used.

2.2.1 Manhole Pipe Seals - Sanitary Sewer Manholes

Flexible, watertight, rubber wedge ring, O-ring compression, or boot-type clamp-on seals for pipe entrance holes meeting the requirements of ASTM C923 shall be installed in the manholes. Grouting in pipes will not be allowed. Wedge ring type

seals shall be Press-Seal II, manufactured by the Press-Seal Gasket Corporation, or approved equal. O-ring type seals shall be Res-Seal, by Scales Manufacturing Corporation, A-LOK or approved equal. Boot-type external clamp-on seals shall have a stainless steel, external, adjustable clamp and shall be Kor-N-Seal, by NPC, Inc., or approved equal. Pipe to manhole connectors shall be of a size specifically designed for the pipe material and size specified on the plans.

2.2.2 Manhole Pipe Seals - Storm Sewer Manholes

Pipe to manhole connections for storm sewer shall be made by thoroughly grouting the connection both inside and outside the manhole to provide a smooth surface.

2.3 Manhole Castings

Manhole frames, lids, grating and steps shall be cast iron, ASTM A48, Class 35-B, of uniform quality, free from blow holes, porosity, hard spots, shrinkage defects, cracks or other serious defects. Castings shall have no jagged edges, shall be blast cleaned and shall be coated with a tar pitch varnish which will make a smooth, tough coating, not tacky under any weather conditions. Lids for sanitary manholes shall have concealed pick holes. The type of castings shall be as designated in Detail 02601-A of the Construction Details in the Plans.

2.4 Manhole Steps

Manhole steps shall consist of a ½" grade 60 steel reinforcing rod meeting the requirements of ASTM A615 encapsulated by an injection molded copolymer polypropylene meeting the requirements of ASTM D4101. Steps shall meet the requirements of ASTM C478 and shall be ML-10 steps as manufactured by American Step Company, Inc., steps provided by M.A. Industries, Inc., or approved equal.

PART 3 - CONSTRUCTION

3.1 Manhole Construction

The Contractor shall construct manholes in the locations shown on the Plans, using the precast or cast-in-place bases, precast risers, adjusting rings, and precast top sections specified in Part 2. Precast bases shall be set on firm, compacted level granular bedding. Compaction shall be to a density of 95% of Modified Proctor density. If over-excavation occurs, the Contractor must backfill with gravel and compact the backfill to a density of 95% of Modified Proctor density. If the Contractor uses cast-in-place concrete bases, they shall be poured on a 12 inch thick layer of compacted crushed aggregate over undisturbed earth. The first

riser section shall be supported on brick and be embedded in the base a minimum of four (4) inches.

Risers, top sections, adjusting rings, and castings shall be joined using compatible rubber rings or plastic gasket materials specified in Part 2. When plastic gasket material is used, the joining surfaces shall receive the manufacturer's approved primer. Under the weight of superimposed riser sections, the gasket material shall form a tightly packed, watertight seal in the annular joint space.

Lift plugs shall be completely grouted shut and smoothed to match the inner surface of the manhole. Adjusting rings shall be grouted in place, with grout being placed so that the outer surface is completely covered with a thin layer of grout.

No visible leakage shall occur at any joint.

3.2 Pipe Connection to Manholes

Smooth flow channels connecting inlet and outlet pipes, with smooth radius transitions when manholes have more than one entrance pipe and when there are changes in alignment or grade at the manhole shall be constructed. For sanitary sewers, the flow channel of the invert may be precast where possible. It shall be troweled smooth and the bench shall be finished with a brush.

For sanitary sewer construction, the Contractor shall install pipe seals in accordance with the recommendations of the manufacturer of the seals. For storm sewer construction, the pipe to manhole connections shall be thoroughly grouted to form a smooth, watertight surface both inside and outside the manhole.

The Contractor shall take extreme care to support the pipes immediately outside manholes until those pipes reach undisturbed soil.

Connections for future sanitary sewers, where indicated on the Plans, shall consist of a short piece of sewer terminating with a bell end and stopper, or bulkhead, not more than one (1) foot or one stub diameter outside the manhole wall, unless otherwise shown on the Plans. If no elevation is given, the Contractor shall set the invert of the stub equal to the invert of the main sewer entrance.

Variations of greater than 0.02 feet from the manhole pipe inverts shown on the plans shall be cause for rejection of the manhole. Unless shown otherwise on the plans a minimum drop of 0.10 feet shall be provided from the lowest incoming sanitary sewer invert to the outgoing sanitary sewer invert.

3.3 Pipe Drop Connection

Where the vertical distance from the invert of the incoming sewer to the spring line of the out-going sewer is equal to or greater than two (2) feet, manhole connections shall be drop connections, with concrete encasement, constructed according to the Construction Detail sheets in the Plans. The drop assembly shall consist of a tee or wye connecting to the inflowing sewer, a drop pipe of the same diameter as the inflowing sewer, and a 90-degree bend at the bottom. Unless otherwise indicated, the entire assembly shall rest on the manhole base or an extension of the manhole base. When encasement is required, in order to allow for some in-field adjustment of pipe inverts, the upper pipe connection shall be encased in concrete in the field and shall not be pre-cast. The lower pipe connection may be pre-cast to a point no closer than six inches below the upper pipe connection. The final upper pipe connection shall have a removable bulkhead or cap on the inside of the manhole.

3.4 Setting of Castings

Manhole castings shall be set by the Contractor to the elevations shown on the plans. On street construction projects, if the surface asphalt will not be constructed in the same year as the manhole, the casting shall be adjusted by setting to final plan grade and constructing an asphalt ramp surrounding the casting. Ramp diameter shall be sufficient to not impede snowplowing operations, minimum ten feet. The ramp shall be milled prior to surface course construction. This method shall be used unless otherwise called out on the plan sheets.

*** END OF SECTION ***

SECTION 02721 STORM SEWERS

PART 1 - GENERAL

1.1 Description of Work Covered by This Section

The Contractor shall furnish all materials, labor, tools, and equipment to construct, complete in place, storm sewer and all appurtenances.

This section specifies materials to be used in storm sewer construction and how to handle and install the pipe, and contains general information regarding line and grade, testing for acceptance and measurements for payment.

PART 2 - MATERIALS & EQUIPMENT

2.1 Sewer Pipe

Each length of pipe shall bear the name or trademark of the manufacturer, the location of the plant, and the date of the manufacturer. Each length shall likewise be marked to designate the class, wall thickness designation, and strength of the pipe. The markings shall be made on the exterior or interior of the pipe barrel and shall be clearly visible. Pipe with either elliptical or quadrant reinforcement shall have the words "top" or "bottom" clearly stenciled on the inside of the pipe at the correct place to indicate the proper position for installation.

Pipe handling holes are permitted only on reinforced concrete storm sewer pipe 21 inches in diameter, or larger. One (1) handling hole is permitted on straight lengths of pipe less than 48 inches in diameter, and two (2) on pipe 48 inches in diameter and greater. After the pipe has been installed the handling holes shall be promptly plugged with mortar.

Pipe shall be subject to rejection for:

- cracks passing through the pipe wall, or socket
- chips or fractures on the interior of the pipe
- defects that indicate improper proportioning, mixing and molding
- variations of more than $\frac{1}{8}$ -inch per lineal foot in alignment of pipe intended to be straight
- damaged ends which would, in the opinion of the Engineer, prevent or make difficult the completion of a satisfactory joint
- extensive patching or painting of any surface of the pipe

Unless a specific pipe material and type is designated on the Plans or in the Special Conditions, the Contractor shall use Reinforced Concrete Pipe, as specified below, for all areas under pavement. Joints shall be of the designated type, unless otherwise approved by the Engineer.

The Engineer may require that standard ASTM specification tests be made on pipe supplied. These tests shall be made by an independent laboratory, at no extra cost to the Owner, and a certified test report shall be furnished to the Engineer.

Reinforced Concrete Pipe -

Reinforced concrete pipe shall conform to ASTM C76 for circular pipe or ASTM C507 for elliptical pipe. If the class of pipe is not specified elsewhere Class III will be the minimum strength class acceptable.

The following types of pipe are permissible only in areas where they are not under pavement and where they are called out on the Plans or specified elsewhere in the specifications.

Smooth Interior Wall Polyethylene

Polyethylene pipe shall be smooth interior wall, corrugated exterior wall pipe, and joined with gasketed, water-tight, integral bell & spigot joints, meeting the following specifications:

AASHTO M252, Type S, eight (8) inches and 10 inches
AASHTO M294, Type S, 12 inches to 60 inches
ASTM F2306

Such pipe shall be ADS N-12WT, or approved equal. Saddle gaskets are not allowed. All endwalls shall be concrete.

Smooth Interior Wall Polypropylene

Polypropylene pipe shall be smooth interior wall, corrugated exterior wall pipe, and joined with gasketed, water-tight, integral bell & spigot joints, meeting the following specifications:

AASHTO M330
ASTM F2736 (12" - 30")
ASTM F2881 (36" - 60")

Such pipe shall be ADS HP, or approved equal. All endwalls shall be concrete.

Corrugated Metal Pipe, Pipe Arch, and Structural Plate -

Corrugated metal pipe (CMP) and pipe arch shall meet the requirements set forth in AASHTO M-36. Structural plate shall meet the requirements of AASHTO M-167.

2.2 Joints, Coupling Bands and Gaskets

Concrete pipe shall have flat internal compression type rubber ring gaskets, external joint wrap-around gaskets, or flexible plastic gaskets.

Flat internal compression gaskets shall conform to ASTM designation C443. These flat internal joint gaskets shall have at least two (2) rubber sealing fins and shall be of such conformation that the gaskets are compressed as the pipe is seated. Flat internal compression gaskets shall be Press-Seal, Tylox Type CR, or approved equal.

External wrap-around gaskets for concrete pipe, where required on the Plans or specified in the Special Conditions, or if used in lieu of flat gaskets shall consist of an outer layer of polypropylene, with an under layer of rubberized mastic that is reinforced with a woven polypropylene fabric. There shall be a peelable protective paper against the mastic that is to be removed when the collar is applied to the joint. The gasket shall have a minimum width of not less than twice the depth of the groove of the pipe, or as follows:

Pipe Diameter	Gasket Width	Permissible Joint Opening If Gasket Is Used Alone
21-33 inches	7 inches	$\frac{3}{8}$ -inch
36-54 inches	9 inches	$\frac{1}{2}$ -inch
60-78 inches	11 inches	$\frac{3}{4}$ -inch
84 inches and larger	13 inches	1-inch

The length of the gasket shall be equal to the outside circumference of the pipe plus the width of the gasket so that adequate overlap is achieved.

Flexible plastic gasket joints for concrete pipe shall comply with the physical requirements for Type "B" gaskets in AASHTO Designation M198, or Federal Specifications SS-S-00210.

Joints for polyethylene pipe shall be watertight, meeting the requirements of ASTM D3212. Gaskets shall meet the requirements of ASTM F477, and shall be provided by the pipe manufacturer.

Joints for polypropylene pipe shall be watertight, meeting the requirements of ASTM F2736 and ASTM D3212. Gaskets shall meet the requirements of ASTM F477, and shall be provided by the pipe manufacturer.

Joints for corrugated metal pipe shall be coupling bands conforming to AASHTO M36, fabricated from the same base material as the pipe. These bands shall be at least seven (7) inches wide for pipe diameters of eight (8) inches to 30 inches, at least 12 inches wide for pipe diameters of 36 inches to 60 inches, and at least 24 inches wide for pipe diameters greater than 60 inches. Bands shall be constructed to lap an equal portion on each pipe section being connected, and shall be connected at the ends by galvanized steel angles having minimum dimensions of two-inch -inch by two-inch -inch by $\frac{3}{16}$ -inch -inch (2"x2"x $\frac{3}{16}$ "). Seven (7)-inch -inch bands shall have at least two (2) galvanized bolts, each not less than $\frac{1}{2}$ -inch -inch in diameter. Twelve-inch bands shall have three (3) such $\frac{1}{2}$ -inch diameter bolts. Twenty-four-inch bands shall have at least five (5) such $\frac{1}{2}$ -inch diameter bolts. Bands shall be gasketed using $\frac{3}{8}$ -inch thick be 12-inch minimum width closed cell synthetic sponge rubber, conforming to the requirements of ASTM D1056, grade SCE-43, fabricated in the form of a cylinder with a diameter of approximately 10 percent less than the nominal pipe diameter. The gasket shall be centered under the band and lapped an equal distance on the ends of the adjoining pipe sections.

2.3 Castings

Castings for storm water inlets and catch basins, shall be of uniform quality, free from blow holes, porosity, hard spots, shrinkage defects, cracks or other serious defects. They shall be smooth and well cleaned by sand or shot blasting, and coated with a tar pitch varnish which will make a smooth, tough and tenacious coating, not tacky under any weather condition. Iron used shall conform to ASTM A48, Class 30 B. All manhole castings shall be true to pattern with machined bearing faces between the frame and cover. Castings shall be manufactured by Neenah Foundry, Badger Iron Works, or equal. The type of castings shall be as designated on the Detail(s) at the end of this section.

2.4 Endwalls

All endwalls shall be precast concrete, unless otherwise stated in the Special Conditions, Measurement & Payment section, Bid Proposal or on the Plans.

PART 3 - CONSTRUCTION

3.1 Line and Grade

Line and grade on stakes, nails, or markings set at an offset convenient to the Contractor shall be provided at the Owner's expense. The Contractor shall be responsible for the preservation of the line and grade stakes, nails, or markings and if these markings are disturbed, he shall pay the cost of replacement. The Contractor shall give notice to the Engineer at least three (3) working days in advance of the time line and grade is desired.

The Contractor shall transfer the line and grade from the offset to the sewer by means of laser beam equipment, batter grade boards and plumb line, or other methods approved by the Engineer. The Contractor shall, prior to construction, inform Engineer of this proposed methods and the equipment to be used for transferring grades. The Engineer may order any method discontinued if at any time the method or equipment being used does not produce an accurate control for setting line and grade.

3.2 Laying of Sewer Pipe

The Contractor shall begin to lay the sewer at the lowest point of the line. Pipe shall be laid with the bell end or receiving groove edge-up stream in the direction of laying. The Contractor shall cut in and connect to the existing manhole, where applicable. If connecting to an existing sewer the Contractor shall uncover the end of the existing sewer and contact the Engineer if any adjustments are necessary.

Laying of the sewer pipe may begin following the trench preparation and bedding provisions of Section 02221, except as noted below for flexible sewer pipe, or unless special bedding types are designated on the Plans.

Ropes, slings, or other devices must be used for lowering the pipe into the trench. Pipe shall not be dropped into the trench. Only pipe which is undamaged and is suitable for use is to remain on the site of the work. Damaged or broken pipe is to be immediately separated from acceptable pipe, and the damaged or broken pipe is to be removed immediately from the site of the work.

All pipes shall be laid uniformly to line and grade on a prepared bedding which will provide even support along the entire barrel. Bell holes shall be excavated in the bedding material so that the pipe will be resting on the barrel and not on the bell.

Each pipe that is laid and graded shall be carefully bedded by hand and shall be backfilled to provide 12 inches of cover before subsequent pipes are laid. The space filled between the pipe and trench wall shall be compacted manually in six (6)-inch layers. Pipe sizes larger than 18 inches in diameter may require mechanical compaction of the bedding material.

Bedding and initial backfill for PVC SDR-35, and other designated flexible pipe used in storm sewers, shall be placed in accordance with Class I or II of ASTM D2321 rather than as shown in Section 02221.

As work progresses, the interior of the sewer shall be cleared of all dirt and debris. No pipe shall be laid where water is above the bedding material. Water may be allowed to flow into the newly installed pipe when pipe laying is not in progress and when provisions are made to prevent dirt from washing in with the water.

3.3 Special Requirement for Laying Corrugated Metal Pipe, Pipe Arch, and Structural Plate Sections

Laying of corrugated metal pipe, metal arch pipe and structural plate sections shall be in accordance with the provisions of Specification Section 02221 and of Subsection 3.2 above, with the following exceptions:

The trench shall be wide enough to permit thorough compaction of backfill materials, but the width on each side of the pipe 24 inches in diameter, and larger, shall be one (1) foot. After bedding is completed the pipe shall be backfilled simultaneously on both sides of the pipe to a level even with the top of the pipe with sand or gravel passing a one (1)-inch screen, mechanically tamped in six (6)-inch layers to 85 percent of Standard Proctor density.

CMP or arch pipe shall not be allowed to deflect during construction more than 5 percent of its nominal vertical dimension. Supports shall be used if necessary to prevent deflection during installation and backfill.

When corrugated metal pipe is used as an inlet or outlet section, the lower 90 degree quadrant of the pipe shall be bedded in undisturbed or compacted soil which has been shaped to fit the pipe. The bedding and backfill material around the pipe and to a level one (1) foot above the outside top of the pipe shall be dry, finely broken up clay or loam, brought up simultaneously on both sides of the pipe. The backfill shall be tamped in six (6)-inch layers, except that no tamping shall be done directly over the pipe.

3.4 Construction of Joints

Joint procedures shall conform to the manufacturer's recommendations and good pipe-laying practice.

Rubber ring gasket joints for concrete pipe shall be completed as follows:

Thoroughly clean the receiving bell and spigot end of any sand or dirt. Spread a liberal amount of lubricant/sealer of vegetable origin on the resilient material and upon all sliding surfaces. Position the spigot end to the bell end of the pipe previously laid, and, using slight pressure with the aid of a bar and wood block or shovel, force the pipe home.

Joints of external wrap-around gaskets shall be made as follows:

After the pipes are joined together, the area of the outer pipe barrel at the joint where the gasket will be applied shall be cleaned and pre-wetted. The gasket shall then be formed to the barrel of the pipe by pressing it against the pipe by hand to assure maximum contact with the pipe surface. When the inside joint opening between the ends of pipes exceeds the permissible joint opening, the entire inner joint shall be filled with mortar.

Joints for CMP shall be made with coupling bands installed in accordance with the manufacturer's recommendations.

Alternate methods of pipe coupling shall be submitted to the Engineer for approval.

3.5 Laying Sewer Pipe for Curves

Sewers laid on curves shall be constructed by one of the following methods:

- ◆ Deflection of Pipe Joints
- ◆ Miter or Cut-off Pipe

Deflection of pipe joints will be permitted when the joint opening is less than $\frac{1}{4}$ of the length of the tongue when rubber gasket joints are used. Otherwise cut-off pipe or miter pipe must be used to make the bends.

Cut-off pipe shall be molded with the difference between the longest and shortest sides, measured along the outside of the pipe, conforming to the values given in the table below. Only four (4) foot long pipe sections shall be used.

Miter pipe shall be manufactured by the removal of the wedge from the center of the pipe to provide for the required angle of deflection. Sufficient additional reinforcement shall be added at the spring lines and top and bottom of the pipe to prevent shearing after installation. Repairs to complete the pipe shall be such that the concrete shall have strength equivalent to that of the remainder of the pipe barrel and shall not spall or separate.

Miter pipe shall be used for all elliptical pipe laid on a curve. Miter pipe for circular sewers shall be used only with the approval of the Engineer.

Cut-Off of Pipe for Curved Sewer (Inches)
Radius of Curve (Feet)

Pipe I.D. (Inches)	40	50	57.3	60	70	80	90	100
21	2 5/8	2 1/8	1 3/4	1 3/4	1 1/2	1 3/8	1 1/4	1 1/8
24	2 7/8	2 3/8	2	2	1 3/4	1 1/2	1 3/8	1 1/4
27	3 1/4	2 5/8	2 1/4	2 1/8	1 7/8	1 5/8	1 1/2	1 3/8
30	3 1/2	2 7/8	2 1/2	2 3/8	2 1/8	1 7/8	1 5/8	1 1/2
36	4 1/4	3 3/8	3	2 7/8	2 1/2	2 1/8	1 7/8	1 3/4
42	-	3 7/8	3 3/8	3 1/4	2 7/8	2 1/2	2 1/4	2
48	-	4 3/8	3 7/8	3 3/4	3 1/4	2 7/8	2 1/2	2 1/4
54	-	-	4 3/8	4 1/8	3 5/8	3 1/8	2 7/8	2 1/2
60	-	-	-	-	4	3 1/2	3 1/8	2 3/4
66	-	-	-	-	4 3/8	3 3/4	3 3/8	3
72	-	-	-	-	-	4 1/8	3 5/8	3 3/8
78	-	-	-	-	-	4 3/8	4	3 5/8
84	-	-	-	-	-	4 3/4	4 1/4	3 7/8
96	-	-	-	-	-	-	4 7/8	4 3/8

3.6 Catch Basins and Inlets

Catch basins, street inlets and inlet manholes shall be constructed as shown on the Detail(s) at the end of this section and placed in the locations shown on the Plans. Adjusting rings shall be grouted into place. A one (1)-inch grout allowance shall be made between the top of the uppermost ring and the bottom of the casting. Steps 16 inches, on center, shall be provided wherever the depth of the structure is greater than five (5) feet. Concrete sections shall be cast-in-place or precast concrete. Castings shall be as shown on the Detail(s) at the end of this section.

Standard manhole construction, including standard castings (not inlet castings) stubs for future manhole connections and related accessories shall be constructed in accordance with Section 02601.

3.7 Acceptance Testing

All storm sewers will be checked by the Engineer for infiltration or bedding leakage. All infiltration sites and bedding leaks shall be repaired by the Contractor at the Contractor's expense.

The alignment and grade of the sewer shall be checked by laser or lamping methods, with all equipment to be provided by the Contractor. Defects shall be corrected by the Contractor before final acceptance. If closer inspection is warranted, the Owner may arrange for a televised inspection. The Owner will assume the cost of televised inspection if no serious defect is found. If defects are found which the Engineer attributes to the failure of proper installation or flawed materials, the Contractor shall pay for the test. Defects shall be promptly corrected, and the Contractor shall pay for a second television inspection to demonstrate that such correction has been successful.

Deflections in HDPE pipe and polypropylene pipe shall be limited to 5 percent of the base inside pipe diameter within thirty days of backfill and 7 percent thereafter. The Contractor shall supply and hand pull through the sewer an appropriate sized mandrel within thirty days following completion of the street or ground surface above the pipe. If the surface course of asphalt is delayed until the year following the completion of the lower course of asphalt this acceptance test shall be performed within thirty days following completion of the lower course of asphalt. Failure of the mandrel to freely pass through shall be cause for rejection of the sewer. The Contractor, at his own expense, shall repair or replace the sections which have been rejected and restore all affected surfaces.

*****END OF SECTION*****

DIVISION 3

CONCRETE

**SECTION 03301
CAST-IN-PLACE CONCRETE FOR
MUNICIPAL UTILITY CONSTRUCTION**

PART 1 - GENERAL

1.1 Description of Work Covered by This Section

This section establishes the specifications by which the Contractor shall abide in supplying and placing concrete. Such concrete shall be Portland cement concrete composed of a mixture of an air-entraining type Portland cement, fine, and course aggregates, and water. Admixtures may be added to achieve a desired result provided they are first approved by the Engineer and provided such admixture does not adversely affect the strength and durability of the concrete.

The materials for each class of concrete shall be apportioned according to Part 2 and Table 1. The Contractor shall use Class BB concrete if the exact use is not indicated in the Table or if the class is not specified elsewhere on the Plans or in these specifications.

1.2 Cost of Testing

The cost of the tests, including materials, transportation, and reports, shall be paid for by the Contractor, except for initial base compaction tests.

PART 2 - MATERIALS & EQUIPMENT

2.1 Cement

The cement used shall be air-entraining Portland cement, ASTM C150, Type IA. When high early strength is specified, Type IIIA shall be used.

2.2 Aggregates

All aggregates used shall comply with ASTM C33. Aggregate shall consist of clean, hard, durable sand and crushed stone, fine gravel or crushed gravel. Fine aggregate shall conform to the following grading requirements:

Sieve Size	Percent Passing, by weight
3/8 inch	100
No. 4	90-100
No. 16	45-80
No. 50	10-30
No. 100	2-10

Course aggregate shall meet the following grading requirements:

Sieve Size	Percent Passing, by weight	
	No. 1	No. 2
2 inch	-	100
1 1/2 inch	-	90-100
1 inch	100	20-55
3/4 inch	90-100	0-15
3/8 inch	20-55	0-5
No. 4	0-10	-
No. 8	0-5	-

Of the total coarse aggregate, all shall be No. 1, or there shall be a mixture of No. 1 and No. 2, such that 35 to 65 percent is No. 1, and the remainder No. 2.

The ratio of coarse aggregates to fine aggregates shall not be less than 1:1, or more than 2:1, by weight.

2.3 Water

Mixing water shall be free of oil, acid, excessive alkalinity, organic matter, and salts.

2.4 Admixtures

Admixtures shall be used only when specified or with the written permission of the Engineer, and they shall be used in strict accordance with the manufacturer's instructions. Care shall be exercised to assure that the admixture does not increase or decrease the air content outside of allowable limits.

2.5 Reinforcing Steel

Reinforcing steel shall be ASTM A615, Grade 40, new billet steel bars. The Contractor shall provide metal spacers to support the reinforcing steel and to insure that displacement of the steel during the placement of concrete will not occur.

2.6 Concrete Mixture

The concrete mixture shall be proportioned in accordance with the requirements of Table 1.

PART 3 - CONSTRUCTION

3.1 Preparation

Surfaces that will be in contact with the new concrete shall be prepared as follows:

- Forms shall be wetted with light oil and the subgrade shall be sprinkled with water.
- Old concrete and adjacent structures shall be separated from new pours with ½ inch asphalt-impregnated felt, as specified under subsection 3.2 below.
- All reinforcing steel shall be positioned to provide a minimum of 1½ inch concrete cover.

Concrete shall not be placed around castings, frames, joints, and other embedded fixtures until they have been accurately adjusted and set to the required alignment and grades. Before placing of concrete, castings, frames, and embedded metal, fixtures shall be painted on their contact surfaces with a heavy coat of asphaltic mastic or separated from the concrete with expansion joint material.

3.2 Joints

Expansion joints shall consist of ¾ inch asphalt-impregnated felt or other approved expansion joint fillers placed the full depth of the concrete.

Contraction joints shall consist of a slot or groove, at least one (1) inch in depth and ¼ inch wide, constructed in a manner approved by the Engineer.

3.3 Mixing Concrete

If "ready-mix" concrete is used, it shall be produced, delivered, and handled in accordance with the requirements of the most recent edition of the State of Wisconsin Department of Transportation *Standard Specifications for Highway and Structure Construction*. The concrete shall be deposited at the job site within one (1) hour after introduction of water into the mix. Care shall be taken in transferring concrete from the truck or mixer to avoid segregation of aggregates in the mixture. The concrete shall not be diluted with water to make it more fluid after slump tests have been taken.

3.4 Inspection

Before placing concrete, the Contractor shall notify the Engineer for inspection and approval of reinforcing steel, if any.

3.5 Placing Concrete

The concrete shall be deposited on the subgrade in a manner requiring as little re-handling as possible. Necessary hand-spreading shall be done with shovels, not with rakes. Workers shall not walk in the concrete with boots coated with earth.

Sufficient spading, rodding, and mechanical vibrating shall be provided to ensure concrete flow into the smallest corners, under pipes, and all places where concrete will not readily flow. The finished concrete shall be watertight and shall be devoid of honeycomb.

Placing of concrete shall be continuous between transverse joints without the use of intermediate bulkheads. In case a temporary shutdown is required, the concrete at the unfinished end of slabs shall be covered with wet burlap. When delays are necessary and they are of such length that the concrete deposited will attain its initial set, or if any interruption in the concrete placing operations of more than thirty (30) minutes occurs, a joint shall be installed in accordance with the provisions of subsection 3.2

Batches shall be dumped so that the concrete will not displace or disarrange the joint installations. The concrete shall be shoveled into place against the expansion joints or other joint installations that might otherwise be displaced or disarranged by concrete flowing against them. The concrete shall be placed simultaneously against both sides of intermediate joint installations.

Any rock pockets or voids found after the forms are removed shall be filled immediately with a well-mixed grout composed of one (1) part Portland cement and three (3) parts of fine aggregate and the grout shall then be finished to the true surface of the concrete.

Except when authorized in writing by the Engineer, concrete shall not be poured or cast when the air temperature in the shade away from artificial heat falls below 40° Fahrenheit. During the season of the year when freezing temperatures can be expected or when the atmospheric temperature are forecast to drop below 40° Fahrenheit within the 24 hours following the pour, curing of concrete may be omitted and the newly laid concrete shall be protected by covering with a layer of impermeable paper or plastic. When the temperature is forecast to drop below 22°

Fahrenheit, the plastic shall be covered with not less than 12 inches of loose dry hay or straw. The covering shall be retained in place for a period of 10 days.

Neither salt nor chemical admixtures shall be added to the concrete to prevent freezing.

3.6 Testing Requirements

The Contractor shall conduct tests, at the Contractor's cost, on the proposed concrete mixture to determine the slump, entrained air content, compressive strength, or other appropriate criterion, to determine compliance with these specifications.

Tests for slump and air entrainment shall be made before placement of the concrete. Testing shall be done under the supervision of the Engineer or other Owner's representative. Failure to meet the slump or air entrainment requirements of Table 1 may result in rejection of the load.

The concrete shall be subjected to compressive strength tests. The Contractor shall supply the standard cylinders and the Engineer or other Owner's representative may fill the cylinders or may require the Contractor to do so. Three (3) cylinders, one for a compressive strength test at seven (7) days and two (2) for compressive strength tests at twenty-eight (28) days shall be cast for each test. One test is required for each twenty-five (25) cubic yards poured in each day, and one for each multiple of twenty-five (25) cubic yards.

Test procedures shall be according to ASTM C31, C39, C143, and C172. The choice of the testing laboratory shall be subject to the Engineer's approval.

Initial Proctor or field density tests to determine the adequacy of compaction of the subgrade or base materials, if deemed necessary by the Owner, shall be conducted at the Owner's expense. If the tests show that satisfactory compaction has not been obtained the Contractor shall, at its own expense, re-compact the areas designated by the Engineer and obtain compaction tests from an independent laboratory at his own cost demonstrating that satisfactory compaction has been obtained.

3.7 Finishing

The surface of the concrete shall be thoroughly floated after the concrete has been struck off. After the concrete has begun to set up, the Contractor shall lightly broom the surface of walks, pavements, curb and gutter and driveways to create a grain perpendicular to the direction of vehicle or pedestrian travel. Edges shall be neatly trimmed with a ¼ inch radius-edging tool. Any honeycombed areas shall be pointed with mortar.

3.8 Curing

All exposed concrete slabs and formed structures above grade shall have provisions to prevent loss of moisture for at least 24 hours after placement. Methods to prevent loss of moisture may include covering with plastic sheets, constant wetting of the surface with water, covering with curing paper, or application of an approved commercial curing compound conforming to AASHTO Designation M148, Type 2. The rate of application of such a compound shall be not more than two hundred (200) square feet per gallon of compound. The compound shall be applied in accordance with manufacturer's recommendations.

TABLE 1 - CONCRETE CLASSIFICATIONS						
CLASS OF CONCRETE	MINIMUM CEMENT BAGS PER CUBIC YD.	MAXIMUM WATER GALLONS CUBIC YD.	AIR CONTENT PERCENT BY VOLUME	SLUMP INCHES	MINIMUM COMPRESSIVE STRENGTH P.S.I.	USES
AA	7	32	5-8	1-3	2,000 (3 Days)	High Early Strength, Special Construction, Pavement
BB	6	33	5-8	1-3	3,500 (28 Days)	Curbs, Walks, Open Channels, Walls
CC	5.5	30	2-4	1-4	3,000 (28 Days)	Manhole bases, Envelopes, Cradles
DD	4.5	24	2-4	1-4	2,000 (28 Days)	Pavement Base

Maximum water contents include aggregate moisture.

END OF SECTION