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**BIDDING DOCUMENTS  
FOR THE  
FINN ROAD PARK IMPROVEMENTS  
HAMPTON CHARTER TOWNSHIP**

**BAY COUNTY, MICHIGAN**

Prepared By:  
SPICER GROUP, INC.  
SAGINAW, MICHIGAN  
July, 2016

**Plans Included**

DPL-1110- 01-12

Project I.D. Number: 123229SG2016

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**AFFIDAVIT OF COMPLIANCE-IRAN ECONOMIC SANCTIONS ACT**  
**MICHIGAN PUBLIC ACT 517 OF 2012**

The undersigned, as owner or authorized officer of the below named CONTRACTOR, pursuant to the compliance certification requirement by the State of Michigan, and as referenced by OWNER in the BIDDING DOCUMENTS, hereby certifies, represents and warrants that the CONTRACTOR (including its Officers, Directors and Employees) is not an "Iran linked business" as defined by the Iran Economic Sanctions Act, Michigan Public Act 517 of 2012 (THE ACT). And, that in the event CONTRACTOR is awarded a contract as a result of the aforementioned BIDDING DOCUMENTS, the Contractor will not become an "Iran linked business" at any time during the course of performing the work or any services under the contract.

The CONTRACTOR further acknowledges that any person who is found to have submitted a false certification is responsible for a civil penalty of not more than \$250,000.00 or 2 times the amount of the contract or proposed contract for which the false certification was made, whichever is greater. The cost of the OWNER'S investigation and reasonable attorney fees may also be added in addition to the fine. Moreover, any person who submitted a false certification shall be ineligible to bid on any other of the OWNER'S projects for three (3) years from the date that it is determined that the person has submitted the false certification.

CONTRACTOR:

\_\_\_\_\_  
Name of Contractor  
By: \_\_\_\_\_  
Its: \_\_\_\_\_  
Date: \_\_\_\_\_

STATE OF \_\_\_\_\_

COUNTY OF \_\_\_\_\_

This instrument was acknowledged before me on the \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_  
by \_\_\_\_\_, Notary Public \_\_\_\_\_ County, State of \_\_\_\_\_

My Commission expires: \_\_\_\_\_

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

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## GENERAL CONDITIONS

### ARTICLE 1—DEFINITIONS

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Wherever used in these General Conditions or in the other Contract Documents the following terms have the meanings indicated which are applicable to both the singular and plural thereof:

1.1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct or change the Bidding Requirements or the Contract Documents.

1.2. *Agreement*—The written contract between OWNER and CONTRACTOR covering the Work to be performed; other Contract Documents are attached to the Agreement and made a part thereof as provided therein.

1.3. *Application for Payment*—The form accepted by PROFESSIONAL which is to be used in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

1.4. *Asbestos*—Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

1.5. *Bid*—The offer or proposal of the bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

1.6. *Bidding Documents*—The advertisement or invitation to Bid, instructions to bidders, the Bid form and the proposed Contract Documents (including all Addenda issued prior to receipt of Bids).

1.7. *Bidding Requirements*—The advertisement or invitation to Bid, instructions to bidders and the Bid form.

1.8. *Bonds*—Performance and Payment bonds and other instruments of security.

1.9. *Change Order*—A document recommended by PROFESSIONAL, 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, issued on or after the Effective Date of the Agreement.

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1.10. *Contract Documents*—The Agreement, Addenda (which pertain to the Contract Documents), CONTRACTOR's Bid (including documentation accompanying the Bid and any post Bid documentation submitted prior to the Notice of Award) when attached as an exhibit to the Agreement, the Notice to Proceed, the Bonds, these General Conditions, the Supplementary Conditions, the Specifications and the Drawings as the same are more specifically identified in the Agreement, together with all Written Amendments, Change Orders, Work Change Directives, Field Orders and PROFESSIONAL's written interpretations and clarifications issued pursuant to paragraphs 3.5, 3.6.1, and 3.6.3 on or after the Effective Date of the Agreement. Shop Drawing submittals approved pursuant to paragraphs 6.26 and 6.27 and the reports and drawings referred to in paragraphs 4.2.1.1 and 4.2.2.2 are not Contract Documents.

1.11. *Contract Price*—The moneys payable by OWNER to CONTRACTOR for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of paragraph 11.9.1 in the case of Unit Price Work).

1.12. *Contract Times*—The numbers of days or the dates stated in the Agreement: (i) to achieve Substantial Completion and (ii) to complete the Work so that it is ready for final payment as evidenced by PROFESSIONAL's written recommendation of final payment in accordance with paragraph 14.13.

1.13. *CONTRACTOR*—The person, firm or corporation with whom OWNER has entered into the Agreement.

1.14. *defective*—An adjective which when modifying the word Work refers to Work that is unsatisfactory, faulty or deficient, in that it does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents, or has been damaged prior to PROFESSIONAL's recommendation of final payment (unless responsibility for the protection thereof has been assumed by OWNER at Substantial Completion in accordance with paragraph 14.8 or 14.10).

1.15. *Drawings*—The drawings which show the scope, extent and character of the Work to be furnished and performed by CONTRACTOR and which have been prepared or approved by PROFESSIONAL and are referred to in the Contract Documents. Shop drawings are not Drawings as so defined.

1.16. *Effective Date of the Agreement*—The date indicated in the Agreement on which it becomes effective, but if no such date is indicated it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

1.17. *Field Order*—A written order issued by PROFESSIONAL which orders minor changes in the Work in accordance with paragraph 9.5 but which does not involve a change in the Contract Price or the Contract Times.

1.18. *General Requirements*—Sections of Division 1 of the Specifications.

1.19. *Hazardous Waste*—The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.

1.20. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, rules, regulations, ordinances, codes and orders of any and all governmental bodies, agencies, authorities and courts having jurisdiction.

1.21. *Liens*—Liens, charges, security interests or encumbrances upon real property or personal property.

1.22. *Milestone*—A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

1.23. *Notice of Award*—The written notice by OWNER to the apparent successful bidder stating that upon compliance by the apparent successful bidder with the conditions precedent enumerated therein, within the time specified, OWNER will sign and deliver the Agreement.

1.24. *Notice to Proceed*—A written notice given by OWNER to CONTRACTOR (with a copy to PROFESSIONAL) fixing the date on which the Contract Times will commence to run and on which

CONTRACTOR shall start to perform CONTRACTOR's obligations under the Contract Documents.

1.25. *OWNER*—The public body or authority, corporation, association, firm or person with whom CONTRACTOR has entered into the Agreement and for whom the Work is to be provided.

1.26. *Partial Utilization*—Use by OWNER of a substantially completed part of the Work for the purpose for which it is intended (or a related purpose) prior to Substantial Completion of all the Work.

1.27. *PCB's*—Polychlorinated biphenyls.

1.28. *Petroleum*—Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Wastes and crude oils.

1.29. *PROFESSIONAL*—The person, firm or corporation named as such in the Agreement, performing as the Architect, Engineer, or Planner.

1.30. *PROFESSIONAL's Consultant*—A person, firm or corporation having a contract with PROFESSIONAL to furnish services as PROFESSIONAL's independent professional associate or consultant with respect to the Project and who is identified as such in the Supplementary Conditions.

1.31. *Project*—The total construction of which the Work to be provided under the Contract Documents may be the whole, or a part as indicated elsewhere in the Contract Documents.

1.32. *Radioactive Material*—Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

1.33. *Resident Project Representative*—The authorized representative of PROFESSIONAL who may be assigned to the site or any part thereof.

1.34. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

1.35. *Shop Drawings*—All drawings, diagrams, illustrations, schedules and other data or information which are specifically prepared or assembled by or for CONTRACTOR and submitted by CONTRACTOR to illustrate some portion of the Work.

1.36. *Specifications*—Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the

Work and certain administrative details applicable thereto.

1.37. *Subcontractor*—An individual, firm or corporation having a direct contract with CONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the site.

1.38. *Substantial Completion*—The Work (or a specified part thereof) has progressed to the point where, in the opinion of PROFESSIONAL as evidenced by PROFESSIONAL's definitive certificate of Substantial Completion, it is sufficiently complete, in accordance with the Contract Documents, so that the Work (or specified part) can be utilized for the purposes for which it is intended; or if no such certificate is issued, when the Work is complete and ready for final payment as evidenced by PROFESSIONAL's written recommendation of final payment in accordance with paragraph 14.13. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

1.39. *Supplementary Conditions*—The part of the Contract Documents which amends or supplements these General Conditions.

1.40. *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 any Subcontractor.

1.41. *Underground Facilities*—All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments, and any encasements containing such facilities which have been installed underground to furnish any of the following services or materials: electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems or water.

1.42. *Unit Price Work*—Work to be paid for on the basis of unit prices.

1.43. *Work*—The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Work includes and is the result of performing or furnishing labor and furnishing and incorporating materials and equipment into the construction, and performing or furnishing services and furnishing documents, all as required by the Contract Documents.

1.44. *Work Change Directive*—A written directive to CONTRACTOR, issued on or after the Effective Date of the Agreement and signed by OWNER and recommended by PROFESSIONAL, ordering an addition, deletion or revision in the Work, or responding to differing or unforeseen physical conditions under which the Work is to be performed as provided in paragraph 4.2 or 4.3 or to emergencies under paragraph 6.23. A Work Change Directive will not change the Contract Price or the Contract Times, but is evidence that the parties expect that the change directed or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times as provided in paragraph 10.2.

1.45. *Written Amendment*—A written amendment of the Contract Documents, signed by OWNER and CONTRACTOR on or after the Effective Date of the Agreement and normally dealing with the nonengineering or nontechnical rather than strictly construction-related aspects of the Contract Documents.

## ARTICLE 2—PRELIMINARY MATTERS

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### *Delivery of Bonds:*

2.1. When CONTRACTOR delivers the executed Agreements to OWNER, CONTRACTOR shall also deliver to OWNER such Bonds as CONTRACTOR may be required to furnish in accordance with paragraph 5.1.

### *Copies of Documents:*

2.2. OWNER shall furnish to CONTRACTOR up to ten copies (unless otherwise specified in the Supplementary Conditions) of the Contract Documents as are reasonably necessary for the execution of the Work. Additional copies will be furnished, upon request, at the cost of reproduction.

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

2.3. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement, or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed.

**Starting the Work:**

2.4. CONTRACTOR shall start to perform the Work on the date when the Contract Times commence to run, but no Work shall be done at the site prior to the date on which the Contract Times commence to run.

**Before Starting Construction:**

2.5. Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. CONTRACTOR shall promptly report in writing to PROFESSIONAL any conflict, error, ambiguity or discrepancy which CONTRACTOR may discover and shall obtain a written interpretation or clarification from PROFESSIONAL before proceeding with any Work affected thereby; however, CONTRACTOR shall not be liable to OWNER or PROFESSIONAL for failure to report any conflict, error, ambiguity or discrepancy in the Contract Documents, unless CONTRACTOR knew or reasonably should have known thereof.

2.6. Within ten days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), CONTRACTOR shall submit to PROFESSIONAL for review:

2.6.1. 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 Documents;

2.6.2. a preliminary schedule of Shop Drawing and Sample submittals which will list each required submittal and the times for submitting, reviewing and processing such submittal;

2.6.3. a preliminary schedule of values for all of the Work which will include quantities and prices of items aggregating the Contract Price and will subdivide the Work into component parts in sufficient detail to serve as the basis for progress payments during construction. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.7. N/A

**Preconstruction Conference:**

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2.8. Within twenty days after the Contract Times start to run, but before any Work at the site is started, a conference attended by CONTRACTOR, PROFESSIONAL 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 2.6, procedures for handling Shop Drawings and other submittals, processing Applications for Payment and maintaining required records.

**Initially Acceptable Schedules:**

2.9. Unless otherwise provided in the Contract Documents, at least ten days before submission of the first Application for Payment a conference attended by CONTRACTOR, PROFESSIONAL and others as appropriate will be held to review for acceptability to PROFESSIONAL as provided below the schedules submitted in accordance with paragraph 2.6. CONTRACTOR shall have an additional ten days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to CONTRACTOR until the schedules are submitted to and acceptable to PROFESSIONAL as provided below. The progress schedule will be acceptable to PROFESSIONAL as providing an orderly progression of the Work to completion within any specified Milestones and the Contract Times, but such acceptance will neither impose on PROFESSIONAL responsibility for the sequencing, scheduling or progress of the work nor interfere with or relieve CONTRACTOR from CONTRACTOR's full responsibility therefor. CONTRACTOR's schedule of Shop Drawing and Sample submissions will be acceptable to PROFESSIONAL as providing a workable arrangement for reviewing and processing the required submittals. CONTRACTOR's schedule of values will be acceptable to PROFESSIONAL as to form and substance.

**ARTICLE 3—CONTRACT DOCUMENTS:  
INTENT, AMENDING, REUSE**

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**Intent:**

3.1. The Contract Documents comprise the entire agreement between OWNER and CONTRACTOR concerning the Work. The Contract Documents are complementary; what is called for by one is as binding as if called for by all. The Contract Documents will be construed in accordance with the law of the place of the Project.

3.2. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof)

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to be constructed in accordance with the Contract Documents. Any Work, materials or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be furnished and performed whether or not specifically called for. When words or phrases which have a well-known technical or construction industry or trade meaning are used to describe Work, materials or equipment, such words or phrases shall be interpreted in accordance with that meaning. Clarifications and interpretations of the Contract Documents shall be issued by PROFESSIONAL as provided in paragraph 9.4.

**3.3. Reference to Standards and Specifications of Technical Societies; Reporting and Resolving Discrepancies:**

3.3.1. Reference to standards, specifications, manuals or codes of any technical society, organization or association, or to the Laws or Regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard, specification, manual, code or Laws or Regulations in effect at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

3.3.2. If, during the performance of the Work, CONTRACTOR discovers any conflict, error, ambiguity or discrepancy within the Contract Documents or between the Contract Documents and any provision of any such Law or Regulation applicable to the performance of the Work or of any such standard, specification, manual or code or of any instruction of any Supplier referred to in paragraph 6.5, CONTRACTOR shall report it to PROFESSIONAL in writing at once, and, CONTRACTOR shall not proceed with the Work affected thereby (except in an emergency as authorized by paragraph 6.23) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in paragraph 3.5 or 3.6; provided, however, that CONTRACTOR shall not be liable to OWNER or PROFESSIONAL for failure to report any such conflict, error, ambiguity or discrepancy unless CONTRACTOR knew or reasonably should have known thereof.

3.3.3. Except as otherwise specifically stated in the Contract Documents or as may be provided by amendment or supplement thereto issued by one of the methods indicated in paragraph 3.5 or 3.6, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity or

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discrepancy between the provisions of the Contract Documents and:

3.3.3.1. the provisions of any such standard, specification, manual, code or instruction (whether or not specifically incorporated by reference in the Contract Documents); or

3.3.3.2. the provisions of any such 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).

No provision of any such standard, specification, manual, code or instruction shall be effective to change the duties and responsibilities of OWNER, CONTRACTOR or PROFESSIONAL, or any of their subcontractors, consultants, agents, or employees from those set forth in the Contract Documents, nor shall it be effective to assign to OWNER, PROFESSIONAL or any of PROFESSIONAL's Consultants, agents or employees any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of paragraph 9.13 or any other provision of the Contract Documents.

3.4. Whenever in the Contract Documents the terms "as ordered," "as directed," "as required," "as allowed," "as approved" or terms of like effect or import are used, or the adjectives "reasonable," "suitable," "acceptable," "proper" or "satisfactory" or adjectives of like effect or import are used to describe a requirement, direction, review or judgment of PROFESSIONAL as to the Work, it is intended that such requirement, direction, review or judgment will be solely to evaluate, in general, the completed Work for compliance with the requirements of and information in the Contract Documents and conformance with the design concept of the completed Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective shall not be effective to assign to PROFESSIONAL any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 9.13 or any other provision of the Contract Documents.

**Amending and Supplementing Contract Documents:**

3.5. The Contract Documents may be amended to provide for additions, deletions and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways:

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- 3.5.1. a formal Written Amendment,
- 3.5.2. a Change Order (pursuant to paragraph 10.4), or
- 3.5.3. a Work Change Directive (pursuant to paragraph 10.1).

3.6 In addition, the requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, in one or more of the following ways:

- 3.6.1. a Field Order (pursuant to paragraph 9.5),
- 3.6.2. PROFESSIONAL's approval of a Shop Drawing or Sample (pursuant to paragraphs 6.26 and 6.27), or
- 3.6.3. PROFESSIONAL's written interpretation or clarification (pursuant to paragraph 9.4).

***Reuse of Documents:***

3.7. CONTRACTOR, and any Subcontractor or Supplier or any other person or organization performing or furnishing any of the Work under a direct or indirect contract with OWNER (i) shall not 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 PROFESSIONAL or PROFESSIONAL's Consultant, and (ii) shall not reuse any of such Drawings, Specifications, other documents or copies on extensions of the Project or any other project without written consent of OWNER and PROFESSIONAL and specific written verification or adaption by PROFESSIONAL.

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

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***Availability of Lands:***

4.1. OWNER shall furnish, as indicated in the Contract Documents, the lands upon which the Work is to be performed, rights-of-way and easements for access thereto, and such other lands which are designated for the use of CONTRACTOR. Upon reasonable written request, OWNER shall furnish CONTRACTOR with a

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correct statement of record legal title and legal description of lands upon which the Work is to be performed and OWNER's interest therein as necessary for giving notice of or filing a mechanic's lien against such lands in accordance with applicable Laws and Regulations. OWNER shall identify any encumbrances or restrictions not of general application but specifically related to use of lands so furnished with which CONTRACTOR will have to comply in performing the Work. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by OWNER, unless otherwise provided in the Contract Documents. CONTRACTOR shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

***Protection of Land Monuments and Property Stakes.*** Land Monuments or lot stakes marking property corners shall not be moved or otherwise disturbed except as directed by PROFESSIONAL. When they occur within the area of concrete base or pavement, they shall be enclosed as specified by the PROFESSIONAL; such work to be paid for by the OWNER. When, in the judgment of the PROFESSIONAL, land monuments or property lot stakes can be saved, all such stakes shall be marked by the CONTRACTOR in a manner agreed to by the PROFESSIONAL and CONTRACTOR, after which the CONTRACTOR shall protect such land monuments or lot stakes from injury. If any land monuments or lot stakes are moved or disturbed by the CONTRACTOR after their locations have been marked in a manner acceptable to the PROFESSIONAL and CONTRACTOR, then the CONTRACTOR agrees that \$500.00 for each and every land monument or lot stake so moved or disturbed may be deducted from any money due to him as a payment to the OWNER for the cost of replacing or resetting said land monument or lot stake.

4.2. ***Subsurface and Physical Conditions:***

It is understood by the CONTRACTOR that if any reports or drawings containing "technical data" were utilized by the PROFESSIONAL regarding subsurface conditions per paragraph 4.2.1.1 of the General Conditions or physical conditions per paragraph 4.2.1.2 of the General Conditions then these reports and drawings would be identified in SC 4.2.1 and no where else in the Contract Documents.

4.2.1. ***Reports and Drawings:*** Reference is made to the Supplementary Conditions for identification of:

4.2.1.1. ***Subsurface Conditions:*** Those reports of explorations and tests of subsurface

conditions at or contiguous to the site that have been utilized by PROFESSIONAL in preparing the Contract Documents; and

4.2.1.2. *Physical Conditions:* Those drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the site (except Underground Facilities) that have been utilized by PROFESSIONAL in preparing the Contract Documents.

4.2.2. *Limited Reliance by CONTRACTOR Authorized; Technical Data:* CONTRACTOR may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," CONTRACTOR may not rely upon or make any claim against OWNER, PROFESSIONAL or any of PROFESSIONAL's Consultants with respect to:

4.2.2.1. 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

4.2.2.2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings, or

4.2.2.3. any CONTRACTOR interpretation of or conclusion drawn from any "technical data" or any such data, interpretations, opinions or information.

4.2.3. *Notice of Differing Subsurface or Physical Conditions:* If CONTRACTOR believes that any subsurface or physical condition at or contiguous to the site that is uncovered or revealed either:

4.2.3.1 is of such a nature as to establish that any "technical data" on which CONTRACTOR is entitled to rely as provided in paragraphs 4.2.1 and 4.2.2 is materially inaccurate, or

4.2.3.2. is of such a nature as to require a change in the Contract Documents, or

4.2.3.3. differs materially from that shown or indicated in the Contract Documents, or

4.2.3.4. 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 conditions affected thereby or performing any Work in connection therewith (except in an emergency as permitted by paragraph 6.23), notify OWNER and PROFESSIONAL in writing about such condition. CONTRACTOR shall not further disturb such conditions or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

4.2.4. *PROFESSIONAL's Review:* PROFESSIONAL will promptly review the pertinent conditions, determine the necessity of OWNER's obtaining additional exploration or tests with respect thereto and advise OWNER in writing (with a copy to CONTRACTOR) of PROFESSIONAL's findings and conclusions.

4.2.5. *Possible Contract Documents Change:* If PROFESSIONAL concludes that a change in the Contract Documents is required as a result of a condition that meets one or more of the categories in paragraph 4.2.3., a Work Change Directive or a Change Order will be issued as provided in Article 10 to reflect and document the consequences of such change.

4.2.6. *Possible Price and Times Adjustments:* An equitable adjustment in the Contract Price or in the Contract Times, or both, will be allowed to the extent that the existence of such uncovered or revealed condition causes an increase or decrease in CONTRACTOR's cost of, or time required for performance of, the Work; subject, however, to the following:

4.2.6.1. Such Condition must meet any one or more of the categories described in paragraphs 4.2.3.1 through 4.2.3.4, inclusive;

4.2.6.2. A change in the Contract Documents pursuant to paragraph 4.2.5 will not be an automatic authorization of nor a condition precedent to entitlement to any such adjustment;

4.2.6.3. 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 paragraphs 9.10 and 11.9; and

4.2.6.4. CONTRACTOR shall not be entitled to any adjustment in the Contract Price or Times if;

4.2.6.4.1. CONTRACTOR knew of the existence of such conditions at the time CONTRACTOR made a final commitment to OWNER in respect of Contract Price and Contract Times by the submission of a bid or becoming bound under a negotiated contract; or

4.2.6.4.2. The existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test or study of the site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for CONTRACTOR prior to CONTRACTOR's making such final commitment; or

4.2.6.4.3. CONTRACTOR failed to give the written notice within the time and as required by paragraph 4.2.3.

If OWNER and CONTRACTOR are unable to agree on entitlement to or as to the amount or length of any such equitable adjustment in the Contract Price or Contract Times, a claim may be made therefor as provided in Articles 11 and 12. However, OWNER, PROFESSIONAL and PROFESSIONAL's Consultants shall not be liable to CONTRACTOR for any claims, costs, losses or damages sustained by CONTRACTOR or damages sustained by CONTRACTOR on or in connection with any other project or anticipated project.

#### **4.3. Physical Conditions—Underground Facilities:**

4.3.1. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the site is based on information and data furnished to OWNER or PROFESSIONAL by the owners of such Underground Facilities or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

4.3.1.1. OWNER and PROFESSIONAL shall not be responsible for the accuracy or completeness of any such information or data; and

4.3.1.2. The cost of all the following will be included in the Contract Price and CONTRACTOR shall have full responsibility for: (i) reviewing and checking all such information and data, (ii) locating all Underground Facilities shown or indicated in the Contract Documents, (iii) coordination of the Work with the owners of such Underground Facilities during construction, and (iv) the safety and protection of all such Underground Facilities as provided in paragraph 6.20 and repairing any damage thereto resulting from the Work.

4.3.2. *Not Shown or Indicated:* If an Underground Facility is uncovered or revealed at or contiguous to the site which was not shown or indicated in the Contract Documents, CONTRACTOR shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by paragraph 6.23), identify the owner of such Underground Facility and give written notice to that owner and to OWNER and PROFESSIONAL, PROFESSIONAL will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence of the Underground Facility. If PROFESSIONAL concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued as provided in Article 10 to reflect and document such consequences. During such time, CONTRACTOR shall be responsible for the safety and protection of such Underground Facility as provided in paragraph 6.20. CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, to the extent that they are attributable to the existence of any Underground Facility that was not shown or indicated in the Contract Documents and that CONTRACTOR did not know of and could not reasonably have been expected to be aware of or to have anticipated.

If OWNER and CONTRACTOR are unable to agree on entitlement to or the amount or length of any such adjustment in Contract Price or Contract Times, CONTRACTOR may make a claim therefor as provided in Articles 11 and 12. However, OWNER, PROFESSIONAL and PROFESSIONAL's Consultants shall not be liable to CONTRACTOR for any claims, costs, losses or damages incurred or sustained by

CONTRACTOR on or in connection with any other projects OR anticipated projects.



**Reference Points:**

4.4. OWNER may provide engineering surveys to establish reference points for construction which in PROFESSIONAL's judgment are necessary to enable CONTRACTOR to proceed with the Work. CONTRACTOR is referred to Section 6 of the Proposal (Bid Form) for information regarding the type and level or extent of engineering surveys including reference marks and layout that the OWNER may provide. CONTRACTOR shall protect and preserve the established reference points and shall make no changes or relocations without the prior written approval of OWNER. CONTRACTOR shall report to PROFESSIONAL whenever any reference point 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 by professionally qualified personnel. CONTRACTOR is responsible for the protection, replacement and relocation of all reference points and layout work (staking) provided by the OWNER or the PROFESSIONAL. If the OWNER or PROFESSIONAL has to return to the site a second time or more to reset reference points or layout work (staking) destroyed or rendered inaccurate as a result of the CONTRACTOR's negligent or careless activities then the cost of the OWNER or PROFESSIONAL to reset the reference points or layout work (staking) shall be deducted from the final progress payment to the CONTRACTOR by the OWNER, if applicable.

**4.5. Asbestos, PCB's, Petroleum, Hazardous Waste or Radioactive Material:**

4.5.1. OWNER shall be responsible for any Asbestos, PCB's, Petroleum, Hazardous Waste or Radioactive Material uncovered or revealed at the site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work and which may present a substantial danger to persons or property exposed thereto in connection with the Work at the site. OWNER shall not be responsible for any such materials brought to the site by CONTRACTOR, Subcontractor, Suppliers or anyone else for whom CONTRACTOR is responsible.

4.5.2. CONTRACTOR shall immediately: (i) stop all Work in connection with such hazardous condition and in any area affected thereby (except in an emergency as required by paragraph 6.23), and (ii) notify OWNER and PROFESSIONAL (and thereafter confirm such notice in writing). OWNER shall promptly consult with PROFESSIONAL concerning the necessity

for OWNER to retain a qualified expert to evaluate such hazardous condition or take corrective action, if any. CONTRACTOR shall not be required to resume Work in connection with such hazardous condition or in any such affected area until after OWNER has obtained any required permits related thereto and delivered to CONTRACTOR special written notice: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (ii) specifying any special conditions under which such Work may be resumed safely. If OWNER and CONTRACTOR cannot agree as to entitlement to or the amount or extent of an adjustment, if any, in Contract Price or Contract Times as a result of such Work stoppage or such special conditions under which Work is agreed by CONTRACTOR to be resumed, either party may make a claim therefor as provided in Articles 11 and 12.

4.5.3. If after receipt of such special written notice CONTRACTOR does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then OWNER may order such portion of the Work that is in connection with such hazardous condition or in such affected area to be deleted from the Work. If OWNER and CONTRACTOR cannot agree as to entitlement to or the amount or extent of an adjustment, if any, in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a claim therefor as provided in Articles 11 and 12. OWNER may have such deleted portion of the Work performed by OWNER's own forces or others in accordance with Article 7.

4.5.4. To the fullest extent permitted by Laws and Regulations, OWNER shall indemnify and hold harmless CONTRACTOR, Subcontractors, PROFESSIONAL, PROFESSIONAL's Consultants and the officers, directors, employees, agents, other consultants and subcontractors of each and any of them from and against all claims, costs, losses and damages arising out of or resulting from such hazardous condition, provided that: (i) any such claim, cost, loss or damage is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, and (ii) nothing in this subparagraph 4.5.4 shall obligate OWNER to indemnify any person or entity from and against the consequences of that person's or entity's own negligence.

4.5.5. The provisions of paragraphs 4.2 and 4.3 are not intended to apply to Asbestos, PCB's, Petroleum, Hazardous Waste or Radioactive Material uncovered or revealed at the site.

4.5.6. The above procedures outlined in paragraph 4.5 shall be used if the site on which any Asbestos, PCB's, Petroleum, Hazardous Waste or Radioactive Material is uncovered or revealed is owned and controlled by the OWNER. On sites not owned and controlled by the OWNER, the PROFESSIONAL, OWNER & CONTRACTOR agree that upon uncovering or revealing Asbestos, PCB's, Petroleum, Hazardous Waste or Radioactive Material it will be the OWNER's responsibility to notify the site's property owner of the discovery.

4.6 **Responsibility for Moving of Structures:** Any buildings, poles, conduits, manholes, catchbasins, valve boxes, trees, water mains and services, storm and sanitary sewers, gas mains and services or other structures which in the opinion of the PROFESSIONAL will have to be moved or changed by the CONTRACTOR, in order to permit the proper construction of the work or will be moved or changed by the respective OWNERS, if that is their practice, at the insistence of the OWNER, unless otherwise specifically stated in the contract documents, but any such structures which, in the opinion of the PROFESSIONAL, can be left without being disturbed, shall be left and the CONTRACTOR shall take all necessary precautions for their protection and he will be held fully responsible for their protection. All costs resulting from the moving of such structures shall be borne by the CONTRACTOR and shall be included in the unit prices or lump sums bid for the work.

## ARTICLE 5—BONDS AND INSURANCE

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

5.1. CONTRACTOR shall furnish Performance and Payment Bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all CONTRACTOR's obligations under the Contract Documents. These Bonds shall remain in effect at least until one year after the date when final payment becomes due, except as provided otherwise by Laws or Regulations or by the Contract Documents. CONTRACTOR shall also furnish such other Bonds as are required by the Supplementary Conditions. All Bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by Spicer Group, Inc.

the Audit Staff, Bureau of Government Financial Operations, U.S. Treasury Department. All Bonds signed by an agent must be accompanied by a certified copy of such agent's authority to act.

All insurance required by the Contract Documents to be purchased and maintained by CONTRACTOR shall be obtained from surety or insurance companies that are authorized to transact business in Michigan and are classified at not lower than each of the following:

5.1.1. Best's Key Rating Guide, current edition:  
(1) Rating Classification: A-  
(2) Financial Size Category: Class V.

5.2. If the surety on any Bond furnished by CONTRACTOR is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of paragraph 5.1, CONTRACTOR shall within ten days thereafter substitute another Bond and surety, both of which must be acceptable to OWNER.

### **5.3. Licensed Sureties and Insurers; Certificates of Insurance:**

5.3.1. All Bonds and insurance required by the Contract Documents to be purchased and maintained by OWNER or CONTRACTOR shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue Bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.3.2. CONTRACTOR shall deliver to OWNER, with copies to each additional insured identified in the Insurance Coverages, certificates of insurance (and other evidence of insurance requested by OWNER or any other additional insured) which CONTRACTOR is required to purchase and maintain in accordance with paragraph 5.4. OWNER shall deliver to CONTRACTOR, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by CONTRACTOR or any other additional insured) which OWNER is required to purchase and maintain in accordance with paragraph 5.6 hereof.

### **CONTRACTOR's Liability Insurance:**

5.4. CONTRACTOR shall purchase and maintain such liability and other insurance as is appropriate for the Work being performed and furnished and as will provide protection from claims set forth below which may arise out of or result from CONTRACTOR's performance and furnishing of the Work and CONTRACTOR's other obligations under the Contract Documents, whether it is to be performed or furnished by CONTRACTOR, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform or furnish any of the Work, or by anyone for whose acts any of them may be liable:

5.4.1. claims under workers' compensation, disability benefits and other similar employee benefit acts; such as the U.S. Longshore and Harborworkers', Maritime Employment, or Railroad Compensation Act(s), if applicable;

5.4.2. claims for damages because of bodily injury, occupational sickness or disease, or death of CONTRACTOR's employees;

5.4.3. claims for damages because of bodily injury, sickness or disease, or death of any person other than CONTRACTOR's employees;

5.4.4. claims for damages insured by customary personal injury liability coverage which are sustained: (i) by any person as a result of an offense directly or indirectly related to the employment of such person by CONTRACTOR, or (ii) by any other person for any other reason;

5.4.5. 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; and

5.4.6. 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 policies of insurance so required by this paragraph 5.4 to be purchased and maintained shall:

5.4.7. with respect to insurance required by paragraphs 5.4.3 through 5.4.6 inclusive, include as additional insureds (subject to any customary exclusion in respect of professional liability) OWNER, PROFESSIONAL, PROFESSIONAL's Consultants and any other persons or entities identified in the Insurance Coverages, all of whom shall be listed as additional insureds, and include coverage for the respective officers and employees of all such additional insureds;

5.4.8. include the specific coverages and be written for not less than the limits of liability provided in the Insurance Coverages or required by Laws or Regulations, whichever is greater;

5.4.9. include completed operations insurance;

5.4.10. include contractual liability insurance covering CONTRACTOR's indemnity obligations under paragraphs 6.12, 6.16 and 6.31 through 6.33;

5.4.11. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least thirty days prior written notice has been given to OWNER and CONTRACTOR and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the CONTRACTOR pursuant to paragraph 5.3.2 will so provide);

5.4.12. remain in effect at least until final payment and at all times thereafter when CONTRACTOR may be correcting, removing or replacing *defective* Work in accordance with paragraph 13.12; and

5.4.13. with respect to completed operations insurance, and any insurance coverage written on a claims-made basis, remain in effect for at least two years after final payment (and CONTRACTOR shall furnish OWNER and each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued evidence satisfactory to OWNER and any such additional insured of continuation of such insurance at final payment and one year thereafter).

***OWNER's Liability Insurance:***

5.5. In addition to the insurance required to be provided by CONTRACTOR under paragraph 5.4, 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.

***Property Insurance:***

5.6. CONTRACTOR shall purchase and maintain property insurance upon the Work for any or all insurable portions of the Work at the site in the amount

of the full replacement cost thereof (subject to such deductible amounts as may be provided in these Supplementary Conditions or required by Laws and Regulations). This insurance shall:

5.6.1. include the interests of OWNER, CONTRACTOR, SubCONTRACTORS, PROFESSIONAL, and PROFESSIONAL's Consultants and also any other persons or entities specifically identified in the Supplementary Conditions, each of whom is deemed to have an insurable interest as an insured or additional insured;

5.6.2 be written on a Builder's Risk "all-risk" or rider or floater or another policy or special causes of loss policy form that shall at least include insurance for any or all insurable portions of the Work for physical loss and damage to the Work, temporary buildings, falsework and Work in transit and shall insure against at least the following perils: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage, and such other perils as may be specifically required by the Supplementary Conditions.

5.6.3 include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of PROFESSIONAL's and architects);

5.6.4 by an installation floater covering materials and equipment in transit for incorporation in the Work or stored and secured at the site or at another location that was agreed to in writing by OWNER prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment as "materials stored and secured on site" recommended by PROFESSIONAL; and

5.6.5 be maintained in effect until final payment is made unless otherwise agreed to in writing by OWNER, CONTRACTOR and PROFESSIONAL with thirty days written notice to each other additional insured to whom a certificate of insurance has been issued.

The policies of insurance required to be purchased and maintained by CONTRACTOR in accordance with this paragraph 5.6 shall comply with the requirements of GC-5.8

5.7. Not in this contract.

5.8. All the policies of insurance (and the certificates or other evidence thereof) required to be

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purchased and maintained by OWNER will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least thirty days' prior written notice has been given to OWNER and CONTRACTOR and to each other additional insured to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with paragraph 5.11.

5.9. OWNER shall not be responsible for purchasing and maintaining any property insurance to protect the interest of CONTRACTOR, Subcontractors or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount, will be borne by CONTRACTOR, Subcontractor or others suffering any such loss and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

5.10. If CONTRACTOR requests in writing that other special insurance be included in the property insurance policies provided under paragraphs 5.6, OWNER shall, if possible, include such insurance, and the cost thereof will be charged to CONTRACTOR by appropriate Change Order or written amendment. Prior to commencement of the Work at the site, OWNER shall in writing advise CONTRACTOR whether or not such other insurance has been procured by OWNER.

#### **5.11. Waiver of Rights:**

5.11.1. OWNER and CONTRACTOR intend that all policies purchased in accordance with paragraph 5.6 will protect OWNER, CONTRACTOR, Subcontractors, PROFESSIONAL, PROFESSIONAL's Consultants and all other persons or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds in such policies and will provide primary coverage for all losses and damages caused by the perils covered thereby. All such policies 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 of the insureds or additional insureds thereunder. OWNER and CONTRACTOR waive all rights against each other and their respective officers, directors, employees and agents for all losses and damages caused by, arising out of or resulting from any of the perils covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors, PROFESSIONAL, PROFESSIONAL's Consultants and all other persons or entities identified in the Supplementary Conditions to be listed as insureds or

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additional insureds 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 as trustee or otherwise payable under any policy so issued.

5.11.2. In addition, OWNER waives all rights against CONTRACTOR, Subcontractors, PROFESSIONAL, PROFESSIONAL's Consultants and the officers, directors, employees and agents of any of them for:

5.11.2.1. 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 peril, whether or not insured by OWNER; and

5.11.2.2. loss or damage to the completed Project or part thereof caused by, arising out of or resulting from fire or other insured peril covered by any property insurance maintained on the completed Project or part thereof by OWNER during partial utilization pursuant to paragraph 14.10, after substantial completion pursuant to paragraph 14.8 or after final payment pursuant to paragraph 14.13.

Any insurance policy maintained by OWNER covering any loss, damage or consequential loss referred to in this paragraph 5.11.2 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 any of CONTRACTOR, Subcontractors, PROFESSIONAL, PROFESSIONAL's Consultants and the officers, directors, employees and agents of any of them.

***Receipt and Application of Insurance Proceeds:***

5.12. Any insured loss under the policies of insurance required by paragraphs 5.6 will be adjusted with OWNER and made payable to OWNER as fiduciary for the insured, as their interests may appear, subject to the requirements of any applicable mortgage clause and of paragraph 5.13. OWNER shall deposit in a separate account any money so received, and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof and the Work and the cost thereof covered by an appropriate Change Order or Written Amendment.

5.13. OWNER as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within fifteen days after the occurrence of loss to OWNER's exercise of this power. If such objection be made, OWNER as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, OWNER as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, OWNER as fiduciary shall give bond for the proper performance of such duties.

***Acceptance of Bonds and Insurance; Option to Replace:***

5.14. If either party (OWNER or CONTRACTOR) has any objection to the coverage afforded by or other provisions of the Bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within ten days after receipt of the certificates (or other evidence requested) required by paragraph 2.7. OWNER and CONTRACTOR shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the Bonds and insurance required of such party by the Contract Documents, 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. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent Bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

***Partial Utilization—Property Insurance:***

5.15. If OWNER finds it necessary to occupy or use a portion or portions of the Work prior to Substantial completion of all the Work, such use or occupancy may be accomplished in accordance with paragraph 14.10; provided that no such use or occupancy shall commence before the insurers providing the property insurance have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6—CONTRACTOR'S  
RESPONSIBILITIES

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***Supervision and Superintendence:***

6.1. 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, but CONTRACTOR shall not be responsible for the negligence of others in the design or specification of a specific means, method, technique, sequence or procedure of construction which is shown or indicated in and expressly required by the Contract Documents. CONTRACTOR shall be responsible to see that the completed Work complies accurately with the Contract Documents.

6.2. CONTRACTOR shall keep on the Work at all times during its progress a competent resident superintendent, who shall not be replaced without written notice to OWNER and PROFESSIONAL except under extraordinary circumstances. The superintendent will be CONTRACTOR's representative at the site and shall have authority to act on behalf of CONTRACTOR. All communications to the superintendent shall be as binding as if given to CONTRACTOR.

***Labor, Materials and Equipment***

6.3. CONTRACTOR shall provide competent, suitably qualified personnel to survey, lay out and construct the Work as required by the Contract Documents. CONTRACTOR shall at all times maintain good discipline and order at the site. 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 indicated in the Contract Documents, all Work at the site shall be performed during regular working hours and CONTRACTOR will not permit overtime work or the performance of the Work on Saturday, Sunday or any legal holiday without

OWNER's written consent given after prior written notice to PROFESSIONAL.

6.4. Unless otherwise specified in the General Requirements, CONTRACTOR shall furnish and assume full responsibility for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities and all other facilities and incidentals necessary for the furnishing, performance, testing, start-up and completion of the Work.

6.5. All materials and equipment shall be of good quality and new, except as otherwise provided in the Contract Documents. All warranties and guarantees specifically called for by the Specifications shall be expressly run to the benefit of OWNER. If required by PROFESSIONAL, CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment. All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with instructions of the applicable supplier, except as otherwise provided in the Contract Documents.

***Progress Schedule:***

6.6. CONTRACTOR shall adhere to the progress schedule established in accordance with paragraph 2.9 as it may be adjusted from time to time as provided below:

6.6.1. CONTRACTOR shall submit to PROFESSIONAL for acceptance (to the extent indicated in paragraph 2.9) proposed adjustments in the progress schedule that will not change the Contract Times (or Milestones). Such adjustments will conform generally to the progress schedule then in effect and additionally will comply with any provisions of the General Requirements applicable thereto.

6.6.2. Proposed adjustments in the progress schedule that will change the Contract Times (or Milestones) shall be submitted in accordance with the requirements of paragraph 12.1. Such adjustments may only be made by a Change Order or Written Amendment in accordance with Article 12.

**6.7. Substitutes and "Or-Equal" Items:**

6.7.1. 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 specification or description is intended to establish the type, function and

quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be accepted by PROFESSIONAL under the following circumstances:

6.7.1.1. "Or-Equal": If in PROFESSIONAL's sole discretion an item of material or equipment proposed by CONTRACTOR is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by PROFESSIONAL as an "or-equal" item, in which case review and approval of the proposed item may, in PROFESSIONAL's sole discretion, be accomplished without compliance with some or all of the requirements for acceptance of proposed substitute items.

6.7.1.2. *Substitute Items*: If in PROFESSIONAL's sole discretion an item of material or equipment proposed by CONTRACTOR does not qualify as an "or-equal" item under subparagraph 6.7.1.1, it will be considered a proposed substitute item. CONTRACTOR shall submit sufficient information as provided below to allow PROFESSIONAL to determine that the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. The procedure for review by the PROFESSIONAL will include the following as supplemented in the General Requirements and as PROFESSIONAL may decide is appropriate under the circumstances. Request for review of proposed substitute items of material or equipment will not be accepted by PROFESSIONAL from anyone other than CONTRACTOR. If CONTRACTOR wishes to furnish or use a substitute item of material or equipment, CONTRACTOR shall first make written application to PROFESSIONAL for acceptance thereof, certifying that the proposed substitute will perform adequately the functions and achieve the results called for by the general design, be similar in substance to that specified and be suited to the same use as that specified. The application will state the extent, if any, to which the evaluation and acceptance of the proposed substitute will prejudice CONTRACTOR's achievement of Substantial Completion on time, whether or not acceptance of the substitute for use 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 work on the Project) to adapt the design to the proposed substitute and whether or not incorporation or use of the substitute in connection with the Work is subject to payment of any license fee or royalty. All variations of the proposed substitute from that specified will be identified in the application and available maintenance, repair and replacement service will be indicated. The application will also contain an itemized estimate of all cost or credits that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other contractors affected by the resulting change, all of which will be considered by PROFESSIONAL in evaluating the proposed substitute. PROFESSIONAL may require CONTRACTOR to furnish additional data about the proposed substitute.

6.7.1.3. *CONTRACTOR's Expense*: All data to be provided by CONTRACTOR in support of any proposed "or-equal" or substitute item will be at CONTRACTOR's expense.

6.7.2. *Substitute Construction Methods or Procedures*: If a specific means, method, technique, sequence or procedure of construction is shown or indicated in and expressly required by the Contract Documents, CONTRACTOR may furnish or utilize a substitute means, method, technique, sequence or procedure of construction acceptable to PROFESSIONAL. CONTRACTOR shall submit sufficient information to allow PROFESSIONAL, in PROFESSIONAL's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The procedure for review by PROFESSIONAL will be similar to that provided in subparagraph 6.7.1.2.

6.7.3. *Professional's Evaluation*: PROFESSIONAL will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to paragraphs 6.7.1.2 and 6.7.2, PROFESSIONAL will be the sole judge of acceptability. No "or-equal" or substitute will be ordered, installed or utilized without PROFESSIONAL's prior written acceptance which will be evidenced by either a Change Order or an approved Shop Drawing. OWNER may require CONTRACTOR to furnish at CONTRACTOR's expense a special performance guarantee or other surety with respect to any "or-equal" or substitute. PROFESSIONAL will record time required by PROFESSIONAL and PROFESSIONAL's Consultants in evaluating substitutes proposed or submitted by

CONTRACTOR pursuant to paragraphs 6.7.1.2. and 6.7.2 and in making changes in the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) occasioned thereby. Whether or not PROFESSIONAL accepts a substitute item so proposed or submitted by CONTRACTOR, CONTRACTOR shall reimburse OWNER for the charges of PROFESSIONAL and PROFESSIONAL's Consultants for evaluating each such proposed substitute item.

***Concerning Subcontractors, Suppliers and Others:***

6.8. CONTRACTOR shall not employ and Subcontractor, Supplier or other person or organization, whether initially or as a substitute, against whom OWNER or PROFESSIONAL may have reasonable objection. CONTRACTOR shall not be required to employ any Subcontractor, Supplier or other person or organization to furnish or perform any of the Work against whom CONTRACTOR has reasonable objection.

6.8.1. CONTRACTOR shall be fully responsible to OWNER and PROFESSIONAL for all acts and omissions of the Subcontractors, Suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR just as CONTRACTOR is responsible for CONTRACTOR's own acts and omissions. Nothing in the Contract Documents shall create for the benefit of any such Subcontractor, Supplier or other person or organization any contractual relationship between OWNER or PROFESSIONAL and any such Subcontractor, Supplier or other person or organization, nor shall it create any obligation on the part of OWNER or PROFESSIONAL to pay or to see to the payment of any moneys due any such Subcontractor, Supplier or other person or organization except as may otherwise be required by Laws and Regulations.

6.8.2. CONTRACTOR shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR. CONTRACTOR shall require all Subcontractors, Suppliers and such other persons and organizations performing or furnishing any of the Work to communicate with the PROFESSIONAL through CONTRACTOR.

6.9. 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.

6.10. All Work performed for CONTRACTOR by a Subcontractor or Supplier will be pursuant to an appropriate agreement between CONTRACTOR and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of OWNER and PROFESSIONAL. Whenever any such agreement is with a Subcontractor or Supplier who is listed as an additional insured on the property insurance provided in paragraph 5.6, the agreement between the CONTRACTOR and Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against OWNER, CONTRACTOR, PROFESSIONAL, PROFESSIONAL's Consultants and all other additional insureds for all losses and damages caused by, arising out of or resulting from any of the perils covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, CONTRACTOR will obtain the same.

6.11 Not in this Contract

***Patent Fees and Royalties:***

6.12. 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 PROFESSIONAL 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. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, PROFESSIONAL, PROFESSIONAL's Consultants and the officers, directors, employees, agents and other consultants of each and any of them from and against all claims, costs, losses and damages arising out of or resulting from any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product or device not specified in the Contract Document.

***Permits:***



6.13. Unless otherwise provided in the Supplementary Conditions, 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 opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. CONTRACTOR shall pay all charges of utility owners for connections to the Work, and OWNER shall pay all charges of such utility owners for capital costs related thereto such as plant investment fees.

**6.14 Laws and Regulations:**

6.14.1. CONTRACTOR shall give all notices and comply with all Laws and Regulations applicable to furnishing and performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither OWNER nor PROFESSIONAL shall be responsible for monitoring CONTRACTOR's compliance with any Laws or Regulations.

6.14.2. If CONTRACTOR performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, CONTRACTOR shall bear all claims, costs, losses and damages caused by, arising out of or resulting therefrom; however, it shall not be CONTRACTOR's primary responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve CONTRACTOR of CONTRACTOR's obligations under paragraph 3.3.2.

**Taxes:**

6.15. 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.

**Use of Premises:**

6.16. CONTRACTOR shall confine construction equipment, the storage of materials and equipment and the operations of workers to the site and land and areas identified in and permitted by the Contract Documents and other land and areas permitted by Laws and Regulations, rights-of-way, permits and easements, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment. The CONTRACTOR shall assume full responsibility for the safe-guarding and protection of all buildings, poles, conduits, manholes, catchbasins, valve boxes, trees, water mains and services, storm and sanitary sewers, gas

mains and services, or other structures which may occur near his work or which in any way may be affected by any of his work under this contract except as otherwise specifically stated in the contract documents.

CONTRACTOR shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof or of any adjacent land or areas, resulting from the performance of the Work. Should any claim be made by any such owner or occupant because of the performance of the Work, CONTRACTOR shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.

CONTRACTOR shall, to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless OWNER, PROFESSIONAL, PROFESSIONAL's Consultant and anyone directly or indirectly employed by any of them from and against all claims, costs, losses and damages arising out of or resulting from any claim or action, legal or equitable, brought by any such owner or occupant against OWNER, PROFESSIONAL or any other party indemnified hereunder to the extent caused by or based upon CONTRACTOR's performance of the Work.

6.17. During the progress of the Work, CONTRACTOR shall keep the premises free from accumulations of waste materials, rubbish and other debris resulting from the Work. At the completion of the Work CONTRACTOR shall remove all waste materials, rubbish and debris from and about the premises as well as all tools, appliances, construction equipment and machinery and surplus materials. CONTRACTOR shall leave the site clean and ready for occupancy by OWNER at Substantial Completion of the Work. CONTRACTOR shall restore to original condition all property not designated for alteration by the Contract Documents.

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

**Record Documents:**

6.19. CONTRACTOR shall maintain in a safe place at the site one record copy of all Drawings, Specifications, Addenda, Written Amendments, Change Orders, Work Change Directives, Field Orders and written interpretations and clarifications (issued pursuant to paragraph 9.4) in good order and annotated to show all changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be

available to PROFESSIONAL for reference. Upon completion of the Work, these record documents, Samples and Shop Drawings will be delivered to PROFESSIONAL for OWNER.

***Safety and Protection:***

6.20. CONTRACTOR shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. CONTRACTOR shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

6.20.1. all persons on the Work site or who may be affected by the Work;

6.20.2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the site; and

6.20.3. other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities and Underground Facilities not designated for removal, relocation or replacement in the course of construction.

CONTRACTOR shall comply with all applicable Laws and Regulations of any public body having jurisdiction for safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. When working in a roadway or public right-of-way, the CONTRACTOR shall, at all times, so conduct his work as to ensure the least possible obstruction to traffic. The safety and convenience of the general public and the residents along the roadway and the protection of persons and property shall be provided by the CONTRACTOR at all times in accordance with the authority which has jurisdiction over the roadway. To that end, the CONTRACTOR shall erect and shall maintain during the continuance of the work, such barricades, lights, signs and other protective devices which comply with the laws of the State of Michigan and the Michigan Manual for Uniform Traffic Control Devices. The CONTRACTOR shall also furnish such watchmen as will effectually prevent any accident in consequence of his work and he shall be liable for all accidents and damages occasioned in any way by his acts of neglect, or by the acts of neglect of his subCONTRACTORS, agents or workers. CONTRACTOR shall notify owners of adjacent property and of Underground Facilities and utility owners when prosecution of the Work may affect them and shall cooperate with them in the protection, removal, relocation and replacement of their property. All

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damage, injury or loss to any property referred to in paragraph 6.20.2 or 6.20.3 caused, directly or indirectly, in whole or in part, by CONTRACTOR, any Subcontractor, Supplier or any other person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, shall be remedied by CONTRACTOR (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of OWNER or PROFESSIONAL or PROFESSIONAL's Consultant 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 person or organization directly or indirectly employed by any of them). CONTRACTOR's duties and responsibilities for safety and for protection of the work shall continue until such time as all the Work is completed and PROFESSIONAL has issued a notice to OWNER and CONTRACTOR in accordance with paragraph 14.13 that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

***Safety Representative:***

6.21. 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.

***Hazard Communication Programs:***

6.22. 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.

***Emergencies:***

6.23. In emergencies affecting the safety or protection of persons or the Work or property at the site or adjacent thereto, CONTRACTOR, without special instruction or authorization from OWNER or PROFESSIONAL, is obligated to act to prevent threatened damage, injury or loss. CONTRACTOR shall give PROFESSIONAL prompt written notice if CONTRACTOR believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby. If PROFESSIONAL determines that a change in the Contract Documents is required because of the action taken by CONTRACTOR

in response to such an emergency, a Work Change Directive or Change Order will be issued to document the consequences of such action.

#### 6.24. Shop Drawings and Samples:

6.24.1. CONTRACTOR shall submit Shop Drawings to PROFESSIONAL for review and approval in accordance with the accepted schedule of Shop Drawings and Sample submittals (see paragraph 2.9). All submittals will be identified as PROFESSIONAL may require and in the number of copies specified in the General Requirements. The data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials and similar data to show PROFESSIONAL the materials and equipment CONTRACTOR proposes to provide and to enable PROFESSIONAL to review the information for the limited purposes required by paragraph 6.26.

6.24.2 CONTRACTOR shall also submit Samples to PROFESSIONAL for review and approval in accordance with said accepted schedule of Shop Drawings and Sample submittals. Each Sample will be identified clearly as to material, Supplier, pertinent data such as catalog numbers and the use for which intended and otherwise as PROFESSIONAL may require to enable PROFESSIONAL to review the submittal for the limited purposes required by paragraph 6.26. The numbers of each Sample to be submitted will be as specified in the Specifications.

#### 6.25. Submittal Procedures:

6.25.1. Before submitting each Shop Drawing or Sample, CONTRACTOR shall have determined and verified:

6.25.1.1. all field measurements, quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers and similar information with respect thereto,

6.25.1.2. all materials with respect to intended use, fabrication, shipping, handling, storage, assembly and installation pertaining to the performance of the Work, and

6.25.1.3. all information relative to CONTRACTOR's sole responsibilities in respect of means, methods, techniques, sequences and procedures of construction and safety precautions and programs incident thereto.

CONTRACTOR shall also have reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents.

6.25.2. Each submittal will bear a stamp or specific written indication that CONTRACTOR has satisfied CONTRACTOR's obligations under the Contract Documents with respect to CONTRACTOR's review and approval of that submittal.

6.25.3. At the time of each submission, CONTRACTOR shall give PROFESSIONAL specific written notice of such variations, if any, that the Shop Drawing or Sample submitted may have from the requirements of the Contract Documents, such notice to be in a written communication separate from the submittal; and, in addition, shall cause a specific notation to be made on each Shop Drawing and Sample submitted to PROFESSIONAL for review and approval of each such variation.

6.26. PROFESSIONAL will review and approve Shop Drawings and Samples in accordance with the schedule of Shop Drawings and Sample submittals accepted by PROFESSIONAL as required by paragraph 2.9. PROFESSIONAL'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. PROFESSIONAL's review and approval will not extend to means, methods, techniques, sequences or procedures of construction (except where a particular means, method, technique, sequence or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions. CONTRACTOR shall make corrections required by PROFESSIONAL, and shall return the required number of corrected copies of Shop Drawings and submit as required new samples for review and approval.

6.27 PROFESSIONAL's review and approval of Shop Drawings or Samples shall not relieve CONTRACTOR from responsibility for any variation from the requirements of the Contract Documents unless CONTRACTOR has in writing called PROFESSIONAL's attention to each such variation at the time of submission as required by paragraph 6.25.3 and PROFESSIONAL has given written approval of

each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample approval; nor will any approval by PROFESSIONAL relieve CONTRACTOR from responsibility for complying with the requirements of paragraph 6.25.1.

6.28. Where a Shop Drawing or Sample is required by the Contract Documents or the schedule of Shop Drawings and Sample submissions accepted by PROFESSIONAL as required by paragraph 2.9, any related Work performed prior to PROFESSIONAL'S review and approval of the pertinent submittal will be at the sole expense and responsibility of CONTRACTOR.  
**Continuing the Work:**

6.29. CONTRACTOR shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with OWNER. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by paragraph 15.5 or as OWNER and CONTRACTOR may otherwise agree in writing.

**6.30. CONTRACTOR's General Warranty and Guarantee:**

6.30.1. CONTRACTOR warrants and guarantees to OWNER, PROFESSIONAL and PROFESSIONAL's Consultants that all work will be in accordance with Contract Documents and will not be *defective*. CONTRACTOR's warranty and guarantee hereunder excludes defects or damage caused by:

6.30.1.1. abuse, modification or improper maintenance or operation by persons other than CONTRACTOR, Subcontractors or Suppliers; or

6.30.1.2. normal wear and tear under normal usage.

6.30.2. 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:

6.30.2.1. observations by PROFESSIONAL;

6.30.2.2. recommendation of any progress or final payment by PROFESSIONAL;

6.30.2.3. the issuance of a certificate of Substantial Completion or any payment by OWNER to CONTRACTOR under the Contract Documents;

6.30.2.4. use or occupancy of the Work or any part thereof by OWNER;

6.30.2.5. any acceptance by OWNER or any failure to do so;

6.30.2.6. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by PROFESSIONAL pursuant to paragraph 14.13;

6.30.2.7. any inspection, test or approval by others; or

6.30.2.8. any correction of *defective* Work by OWNER.

**Indemnification:**

6.31. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, PROFESSIONAL, PROFESSIONAL's consultants and the officers, directors, employees, agents and other consultants 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) caused by, arising out of or resulting from the performance of the Work, provided that any such claim, cost, loss or damage: (i) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, and (ii) is caused in whole or in part by any negligent act or omission of CONTRACTOR, any Subcontractor, any Supplier, any person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, regardless of whether or not caused in part by any negligence or omission of a person or entity indemnified hereunder or whether liability is imposed upon such indemnified party by Laws and Regulations regardless of the negligence of any such person or entity.

6.32. In any and all claims against OWNER or PROFESSIONAL or any of their respective consultants, agents, officers, directors or employees by any employee (or the survivor or personal representative of such employee) of CONTRACTOR, any Subcontractor, any Supplier, any person or organization directly or

indirectly employed by any of them to perform or furnish any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under paragraph 6.31 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 person or organization under workers' compensation acts, disability benefit acts or other employee benefit acts.

6.33. The indemnification obligations of CONTRACTOR under paragraph 6.31 shall not extend to the liability of PROFESSIONAL and PROFESSIONAL's Consultants, officers, directors, employees or agents caused by the professional negligence, errors or omissions of any of them.

***Survival of Obligations:***

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

**ARTICLE 7—OTHER WORK**

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***Related Work at Site:***

7.1. OWNER may perform other work related to the Project at the site by OWNER's own forces, or let other direct contracts therefor which shall contain General Conditions similar to these, or have other work performed by utility owners. If the fact that such other work is to be performed was not noted in the Contract Documents, then: (i) written notice thereof will be given to CONTRACTOR prior to starting any such other work, and (ii) CONTRACTOR may make a claim therefor as provided in Articles 11 and 12 if CONTRACTOR believes that such performance will involve additional expense to CONTRACTOR or requires additional time and the parties are unable to agree as to the amount or extent thereof.

7.2. CONTRACTOR shall afford each other contractor who is a party to such a direct contract and each utility owner (and OWNER, if OWNER is performing the additional work with OWNER's employees) proper and safe access to the site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such

other work and shall properly connect and coordinate the Work with theirs. Unless otherwise provided in the Contract Documents. CONTRACTOR shall do all cutting, fitting and patching of the Work that may be required to make its several parts come together properly and integrate with such other work. CONTRACTOR shall not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of PROFESSIONAL and the others whose work will be affected. The duties and responsibilities of CONTRACTOR under this paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of CONTRACTOR in said direct contracts between OWNER and such utility owners and other contractors.

7.3. If the proper execution or results of any part of CONTRACTOR's Work depends upon work performed by others under this Article 7, CONTRACTOR shall inspect such other work and promptly report to PROFESSIONAL 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 so to report will constitute an acceptance of such other work as fit and proper for integration with CONTRACTOR's Work except for latent or nonapparent defects and deficiencies in such other work.

***Coordination:***

7.4. If OWNER contracts with others for the performance of other work on the Project at the site, the following will be set forth in Supplementary Conditions:

7.4.1. the person, firm or corporation who will have authority and responsibility for coordination of the activities among the various prime contractors will be identified;

7.4.2. the specific matters to be covered by such authority and responsibility will be itemized; and

7.4.3. the extent of such authority and responsibilities will be provided.

Unless otherwise provided in the Supplementary Conditions, OWNER shall have sole authority and responsibility in respect of such coordination.

**ARTICLE 8—OWNER'S RESPONSIBILITIES**

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8.1. Except as otherwise provided in these General Conditions, OWNER shall issue all communications to CONTRACTOR through PROFESSIONAL.

8.2. In case of termination of the employment of PROFESSIONAL, OWNER shall appoint an engineer against whom CONTRACTOR makes no reasonable objection, whose status under the Contract Documents shall be that of the former PROFESSIONAL.

8.3. OWNER shall furnish the data required of OWNER under the Contract Documents promptly and shall make payments to CONTRACTOR promptly when they are due as provided in paragraphs 14.4 and 14.13.

8.4. OWNER's duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in paragraphs 4.1 and 4.4. Paragraph 4.2 refers to OWNER's identifying and making available to CONTRACTOR copies of reports of explorations and tests of subsurface conditions at the site and drawings of physical conditions in existing structures at or contiguous to the site that have been utilized by PROFESSIONAL in preparing the Contract Documents.

8.5. OWNER's responsibilities in respect of purchasing and maintaining liability and property insurance are set forth in paragraphs 5.5 through 5.10.

8.6. OWNER is obligated to execute Change Orders as indicated in paragraph 10.4.

8.7. OWNER's responsibility in respect of certain inspections, tests and approvals is set forth in paragraph 13.4.

8.8. In connection with OWNER's right to stop Work or suspend Work, see paragraphs 13.10 and 15.1. Paragraph 15.2 deals with OWNER's rights to terminate services of CONTRACTOR under certain circumstances.

8.9. 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 furnishing or performance of the Work. OWNER will not be responsible for CONTRACTOR's failure to perform or furnish the Work in accordance with the Contract Documents.

8.10. OWNER's responsibility in respect of undisclosed Asbestos, PCB's, Petroleum, Hazardous

Waste or Radioactive Materials uncovered or revealed at the site is set forth in paragraph 4.5.

8.11. If and to the extent OWNER has agreed to furnish CONTRACTOR reasonable evidence that financial arrangements have been made to satisfy OWNER's obligations under the Contract Documents, OWNER's responsibility in respect thereof will be as set forth in the Supplementary Conditions.

ARTICLE 9—PROFESSIONAL'S STATUS  
DURING CONSTRUCTION

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***OWNER'S Representative:***

9.1. PROFESSIONAL will be OWNER's representative during the construction period. The duties and responsibilities and the limitations of authority of PROFESSIONAL as OWNER's representative during construction are set forth in the Contract Documents and shall not be extended without written consent of OWNER and PROFESSIONAL.

***Visits to Site:***

9.2. PROFESSIONAL will make visits to the site at intervals appropriate to the various stages of construction as PROFESSIONAL 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, PROFESSIONAL will endeavor for the benefit of OWNER to determine, in general, if the Work is proceeding in accordance with the Contract Documents. PROFESSIONAL will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. PROFESSIONAL'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 on-site observations, PROFESSIONAL will keep OWNER informed of the progress of the Work and will endeavor to guard OWNER against *defective* Work. PROFESSIONAL's visits and on-site observations are subject to all the limitations on PROFESSIONAL'S authority and responsibility set forth in paragraph 9.13, and particularly, but without limitation, during or as a result of PROFESSIONAL's on-site visits or observations of CONTRACTOR's Work. PROFESSIONAL will not supervise, direct, control or have authority over or be responsible for CONTRACTOR's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the furnishing or performance of the Work.

***Project Representative:***

9.3. If OWNER and PROFESSIONAL agree, PROFESSIONAL will furnish a Resident Project Representative to assist PROFESSIONAL in providing more continuous observation of the Work. The

responsibilities and authority and limitations thereon of any such Resident Project Representative and assistants will be as provided in paragraph 9.13 and in the Supplementary Conditions. If OWNER designates another representative or agent to represent OWNER at the site who is not PROFESSIONAL's Consultant, agent or employee, the responsibilities and authority and limitations thereon of such other person will be as provided in the Supplementary Conditions.

***Clarifications and Interpretations:***

9.4. PROFESSIONAL will issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract Documents (in the form of Drawings or otherwise) as PROFESSIONAL may determine necessary, which shall be consistent with the intent of and reasonably inferable from Contract Documents. Such written clarifications and interpretations will be binding on OWNER and CONTRACTOR. If OWNER or CONTRACTOR believe that a written clarification or interpretation justifies an adjustment in the Contract Price or the Contract Times and the parties are unable to agree to the amount or extent thereof, if any, OWNER or CONTRACTOR may make a written claim therefor as provided in Article 11 or Article 12.

***Authorized Variations in Work:***

9.5. PROFESSIONAL may authorize minor variations in the Work from the requirements of the Contract Documents which 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. These may be accomplished by a Field Order and will be binding on OWNER and also on CONTRACTOR who shall perform the Work involved promptly. If OWNER or CONTRACTOR believes that a Field Order justifies an adjustment in the Contract Price or the Contract Times and the parties are unable to agree as to the amount or extent thereof, OWNER or CONTRACTOR may make a written claim therefor as provided in Article 11 or 12.

***Rejecting Defective Work:***

9.6. PROFESSIONAL will have authority to disapprove or reject Work which PROFESSIONAL believes to be *defective*, or that PROFESSIONAL believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. PROFESSIONAL will also have authority to require special inspection or testing of

the Work as provided in paragraph 13.9, whether or not the Work is fabricated, installed or completed.

9.6.1. OWNER will have the authority to reduce the contract's final payment by an amount equal to but not greater than increased identified associated costs incurred by the OWNER due to rejection and correction of defective work above and beyond reasonable budgeted efforts.

***Shop Drawings, Change Orders and Payments:***

9.7. In connection with PROFESSIONAL's authority as to Shop Drawings and Samples, see paragraphs 6.24 through 6.28 inclusive.

9.8. In connection with PROFESSIONAL's authority as to Change Orders, see Articles 10, 11, and 12.

9.9. In connection with PROFESSIONAL's authority as to Applications for Payment, see Article 14.

***Determinations for Unit Prices:***

9.10. PROFESSIONAL will determine the actual quantities and classifications of Unit Price Work performed by CONTRACTOR. PROFESSIONAL will review with CONTRACTOR the PROFESSIONAL's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). PROFESSIONAL's written decision thereon will be final and binding upon OWNER and CONTRACTOR, unless, within ten days after the date of any such decision, either OWNER or CONTRACTOR delivers to the other and to PROFESSIONAL written notice of intention to appeal from PROFESSIONAL's decision and; (i) an appeal from PROFESSIONAL'S decision is taken within the time limits and in accordance with the procedures set forth in Article 16, Dispute Resolution or (ii) if no such Alternate Dispute Resolution Agreement has been entered into, a formal proceeding is instituted by the appealing party in a forum of competent jurisdiction to exercise such rights or remedies as the appealing party may have with respect to PROFESSIONAL's decision, unless otherwise agreed in writing by OWNER and CONTRACTOR. Such appeal will not be subject to the procedures of paragraph 9.11.

***Decisions on Disputes:***

9.11. PROFESSIONAL will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder.

Claims, disputes and other matters relating to the acceptability of the Work or the interpretation of the requirements of the Contract Documents pertaining to the performance and furnishing of the Work and Claims under Articles 11 and 12 in respect of changes in the Contract Price or Contract Times will be referred initially to PROFESSIONAL in writing with a request for a formal decision in accordance with this paragraph. Written notice of each such claim, dispute or other matter will be delivered by the claimant to PROFESSIONAL and the other party to the Agreement promptly (but in no event later than thirty days) after the start of the occurrence or event giving rise thereto, and written supporting data will be submitted to PROFESSIONAL and the other party within sixty days after the start of such occurrence or event unless PROFESSIONAL allows an additional period of time for the submission of additional or more accurate data in support of such claim, dispute or other matter. The opposing party shall submit any response to PROFESSIONAL and the claimant within thirty days after receipt of the claimant's last submittal (unless PROFESSIONAL allows additional time). PROFESSIONAL will render a formal decision in writing within thirty days after receipt of the opposing party's submittal, if any, in accordance with this paragraph. PROFESSIONAL's written decision on such claim, dispute or other matter will be final and binding upon OWNER and CONTRACTOR unless (i) an appeal from PROFESSIONAL's decision is taken within the time limits and in accordance with the procedures set forth in Article 16, Dispute Resolution, or (ii) if no such Alternate Dispute Resolution Agreement has been entered into, a written notice of intention to appeal from PROFESSIONAL's written decision is delivered by OWNER or CONTRACTOR to the other and to PROFESSIONAL within thirty days after the date of such decision and a formal proceeding is instituted by the appealing party in a forum of competent jurisdiction to exercise such rights or remedies as the appealing party may have with respect to such claim, dispute or other matter in accordance with applicable Laws, and Regulations within sixty days of the date of such decision, unless otherwise agreed in writing by OWNER and CONTRACTOR.

9.12. When functioning as interpreter and judge under paragraphs 9.10 and 9.11, PROFESSIONAL will not show partiality to OWNER or CONTRACTOR and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity. The rendering of a decision by PROFESSIONAL pursuant to paragraphs 9.10 or 9.11 with respect to any such claim, dispute or other matter (except any which have been waived by the making or acceptance of final payment as



provided in paragraph 14.16) will be a condition precedent to any exercise by OWNER or CONTRACTOR of such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations in respect of any such claim, dispute or other matter pursuant to Article 16.

**9.13. Limitations on PROFESSIONAL's Authority and Responsibilities:**

9.13.1. Neither PROFESSIONAL's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by PROFESSIONAL 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 PROFESSIONAL shall create, impose or give rise to any duty owed by PROFESSIONAL to CONTRACTOR, any Subcontractor, any Supplier, any other person or organization, or to any surety for or employee or agent of any of them.

9.13.2. PROFESSIONAL will not supervise, direct, control or have authority over or be responsible for CONTRACTOR's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the furnishing or performance of the Work. PROFESSIONAL will not be responsible for CONTRACTOR's failure to perform or furnish the Work in accordance with the Contract Documents.

9.13.3. PROFESSIONAL will not be responsible for the acts or omissions of CONTRACTOR or of any Subcontractor, any Supplier, or of any other person or organization performing or furnishing any of the Work.

9.13.4. PROFESSIONAL's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds and certificates of inspection, tests and approvals and other documentation required to be delivered by paragraph 14.12 will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspection, tests and approvals that the results certified indicate compliance with, the Contract Documents.

9.13.5. The limitations upon authority and responsibility set forth in this paragraph 9.13 shall also apply to PROFESSIONAL's Consultants, Resident Project Representative and assistants.

9.13.6. Insofar as jobsite safety is concerned, the PROFESSIONAL shall be responsible solely for his or her own and his or her employees' activities on the jobsite, but this shall not be construed to relieve the CONTRACTOR from its responsibility for maintaining a safe jobsite. Neither the professional activities of the PROFESSIONAL, nor the presence of the PROFESSIONAL or his or her employees, subconsultant and SubCONTRACTORS, shall be construed to imply the PROFESSIONAL has any responsibility for methods of work performance, superintendence, sequencing of construction, or safety in, on or about the jobsite. The OWNER and CONTRACTOR agree that the CONTRACTOR is solely responsible for jobsite safety.

**ARTICLE 10—CHANGES IN THE WORK**

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10.1. Without invalidating the Agreement and without notice to any surety, OWNER may, at anytime or from time to time, order additions, deletions or revisions in the Work. Such additions, deletions or revisions will be authorized by a Written Amendment, a Change Order, or a Work Change Directive. Upon receipt of any such document, CONTRACTOR shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

10.2. If OWNER and CONTRACTOR are unable to agree as to the extent, if any, of an adjustment in the Contract Price or an adjustment of the Contract Times that should be allowed as a result of a Work Change Directive, a claim may be made therefor as provided in Article 11 or Article 12.

10.3. 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 and supplemented as provided in paragraphs 3.5 and 3.6 except in the case of an emergency as provided in paragraph 6.23 or in the case of uncovering Work as provided in paragraph 13.9.

10.4. OWNER and CONTRACTOR shall execute appropriate Change Orders recommended by PROFESSIONAL (or Written Amendments) covering:

10.4.1 changes in the Work which are (i) ordered by OWNER pursuant to paragraph 10.1, (ii) required because of acceptance of *defective* Work under paragraph 13.13 or correcting *defective* Work under paragraph 13.14, or (iii) agreed to by the parties;

10.4.2. changes in the Contract Price or Contract Times which are agreed to by the parties; and

10.4.3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by PROFESSIONAL pursuant to paragraph 9.11;

provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, CONTRACTOR shall carry on the Work and adhere to the progress schedule as provided in paragraph 6.29.

10.5. If notice 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) is required by the provisions of any Bond to be given to a surety, the giving of any such notice will be CONTRACTOR's responsibility, and the amount of each applicable Bond will be adjusted accordingly.

#### ARTICLE 11—CHANGE OF CONTRACT PRICE

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11.1. The Contract Price constitutes the total compensation (subject to authorized adjustments) payable to CONTRACTOR for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by CONTRACTOR shall be at CONTRACTOR's expense without change in the Contract Price.

11.2. The Contract Price may only be changed by a Change Order or by a Written Amendment. Any claim for an adjustment in the Contract Price shall be based on written notice delivered by the party making the claim to the other party and to PROFESSIONAL promptly (but in no event later than thirty days) after the start of the occurrence or event giving rise to the claim and stating the general nature of the claim. Notice of the amount of the claim with supporting data shall be delivered within sixty days after the start of such occurrence or event (unless PROFESSIONAL allows additional time for claimant to submit additional or more accurate data in support of the claim) and shall be accompanied by claimant's written statement that the adjustment claimed covers all known amounts to which the claimant is entitled as a result of said occurrence or event. All claims for adjustment in the Contract Price shall be

determined by PROFESSIONAL in accordance with paragraph 9.11 if OWNER and CONTRACTOR cannot otherwise agree on the amount involved. No claim for an adjustment in the Contract Price will be valid if not submitted in accordance with this paragraph 11.2.

11.3. The value of any Work covered by a Change Order or of any claim for an adjustment in the Contract Price will be determined as follows:

11.3.1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of paragraphs 11.9.1 through 11.9.2, inclusive);

11.3.2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with paragraph 11.6.2);

11.3.3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under paragraph 11.3.2, on the basis of the Cost of the Work (determined as provided in paragraphs 11.4 and 11.5) plus a CONTRACTOR's fee for overhead and profit (determined as provided in paragraph 11.6).

#### *Cost of the Work:*

11.4. The term Cost of the Work means the sum of all costs necessarily incurred and paid by CONTRACTOR in the proper performance of the Work. Except as otherwise may be agreed to in writing by OWNER, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items and shall not include any of the costs itemized in paragraph 11.5:

11.4.1. 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 at the site. 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, vacation and holiday pay applicable thereto. The expenses of

performing Work after regular working hours, on Saturday, Sunday or legal holidays, shall be included in the above to the extent authorized by OWNER.

11.4.2. 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 accrue to OWNER, and CONTRACTOR shall make provisions so that they may be obtained.

11.4.3. Payments made by CONTRACTOR to the Subcontractors for Work performed or furnished 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 PROFESSIONAL, which bids, if any, will be accepted. 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 paragraphs 11.4, 11.5, 11.6 and 11.7. All subcontracts shall be subject to the other provisions of the Contract Documents insofar as applicable.

11.4.4. 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.

11.4.5. Supplemental costs including the following:

11.4.5.1. The proportion of necessary transportation, travel and subsistence expenses of CONTRACTOR's employees incurred in discharge of duties connected with the Work.

11.4.5.2. 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.

11.4.5.3. 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 PROFESSIONAL, and the costs of transportation, loading, unloading, installation, dismantling and removal thereof—all 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.

11.4.5.4. Sales, consumer, use or similar taxes related to the Work, and for which CONTRACTOR is liable, imposed by Laws and Regulations.

11.4.5.5. 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.

11.4.5.6. 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 and furnishing of the Work (except losses and damages within the deductible amounts of property insurance established by OWNER in accordance with paragraph 5.9), provided they 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. If, however, any such loss or damage requires reconstruction and CONTRACTOR is placed in charge thereof, CONTRACTOR shall be paid for services a fee proportionate to that stated in paragraph 11.6.2.

11.4.5.7. The cost of utilities, fuel and sanitary facilities at the site.

11.4.5.8. Minor expenses such as telegrams, long distance telephone calls, telephone service at the site, expressage

and similar petty cash items in connection with the Work.

11.4.5.9. Cost of premiums for additional Bonds and insurance required because of changes in the Work.

11.5. The term Cost of the Work shall not include any of the following:

11.5.1. Payroll costs and other compensation of CONTRACTOR's officers, executives, principals (of partnership and sole proprietorships), general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks and other personnel employed by CONTRACTOR whether at the site or in CONTRACTOR's principal or a branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in paragraph 11.4.1 or specifically covered by paragraph 11.4.4—all of which are to be considered administrative costs covered by the CONTRACTOR's fee.

11.5.2. Expenses of CONTRACTOR's principal and branch offices other than CONTRACTOR's office at the site.

11.5.3. Any part of CONTRACTOR's capital expenses, including interest on CONTRACTOR's capital employed for the Work and charges against CONTRACTOR for delinquent payments .

11.5.4. Cost of premiums for all Bonds and for all insurance whether or not CONTRACTOR is required by the Contract Documents to purchase and maintain the same (except for the cost of premiums covered by subparagraph 11.4.5.9 above).

11.5.5. Costs due to the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of *defective* Work, disposal of materials or equipment wrongly supplied and making good any damage to property.

Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraph 11.4.

11.6. The CONTRACTOR's fee allowed to CONTRACTOR for overhead and profit shall be determined as follows:

11.6.1. a mutually acceptable fixed fee; or

11.6.2. 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:

11.6.2.1. for costs incurred under paragraphs 11.4.1 and 11.4.2, the CONTRACTOR's fee shall be fifteen percent;

11.6.2.2. for costs incurred under paragraph 11.4.3, the CONTRACTOR's fee shall be five percent;

11.6.2.3. 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 11.4.1, 11.4.2, 11.4.3 and 11.6.2 is that only the Subcontractor who actually performs or furnishes the Work, at whatever tier, will be paid a fee of ten percent of the costs incurred by such Subcontractor under paragraphs 11.4.1 and 11.4.2 and that only the CONTRACTOR will be paid a fee of five percent of the amount paid to the Subcontractor;

11.6.2.4. no fee shall be payable on the basis of costs itemized under paragraphs 11.4.4, 11.4.5 and 11.5;

11.6.2.5. 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

11.6.2.6. 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 11.6.2.1 through 11.6.2.5, inclusive.

11.7. Whenever the cost of any Work is to be determined pursuant to paragraphs 11.4 and 11.5, CONTRACTOR will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in form acceptable to PROFESSIONAL an itemized cost breakdown together with supporting data.

**Cash Allowances:**

11.8. 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 furnished and performed for such sums as may be acceptable to OWNER and PROFESSIONAL. CONTRACTOR agrees that:

11.8.1. the 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

11.8.2. CONTRACTOR's costs for unloading and handling on the site, labor, installation costs, overhead, profit and other expenses contemplated for the 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.

Prior to final payment, an appropriate Change Order will be issued as recommended by PROFESSIONAL to reflect actual amounts due CONTRACTOR on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

#### 11.9. *Unit Price Work:*

11.9.1. 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 established unit price for each separately identified item of Unit price Work times the estimated quantity of each item as indicated in the Agreement. 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. Determinations of the actual quantities and classifications of Unit Price Work performed by CONTRACTOR will be made by PROFESSIONAL in accordance with paragraph 9.10.

11.9.2. 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.

## ARTICLE 12—CHANGE OF CONTRACT TIMES

12.1. The Contract Times (or Milestones) may only be changed by a Change Order or a Written Amendment. Any claim for an adjustment of the Contract Times (or Milestones) shall be based on written

notice delivered by the party making the claim to the other party and to PROFESSIONAL promptly (but in no event later than thirty days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the extent of the claim with supporting data shall be delivered within sixty days after such occurrence (unless PROFESSIONAL allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by the claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant has reason to believe it is entitled as a result of the occurrence of said event. All claims for adjustment in the Contract Times (or Milestones) shall be determined by PROFESSIONAL in accordance with paragraph 9.11 if OWNER and CONTRACTOR cannot otherwise agree. No claim for an adjustment in the Contract Times (or Milestones) will be valid if not submitted in accordance with the requirements of the paragraph 12.1.

12.2. All time limits stated in the Contract Documents are of the essence of the Agreement.

12.3. Where CONTRACTOR is prevented from completing any part of the Work within the Contract Times (or Milestones) due to delay beyond the control of CONTRACTOR, the Contract Times (or Milestones) will be extended in an amount equal to the time lost due to such delay if a claim is made therefor as provided in paragraph 12.1. Delays beyond the control of CONTRACTOR shall include, but not be limited to, acts or neglect by OWNER, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions or acts of God.

Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of CONTRACTOR.

12.4. Where CONTRACTOR is prevented from completing any part of the Work within the Contract Times (or Milestones) due to delay beyond the control of both OWNER and CONTRACTOR, an extension of the Contract Times (or Milestones) in an amount equal to the time lost due to such delay shall be CONTRACTOR's sole and exclusive remedy for such delay. In no event shall OWNER be liable to CONTRACTOR, any Subcontractor, any Supplier, any other person or organization, or to any surety for or employee or agent of any of them, for damages arising out of or resulting from (i) delays caused by or within the control of CONTRACTOR, or (ii) delays beyond the control of both parties including but not limited to fires, floods, epidemics, abnormal weather conditions, acts of God or acts or neglect by utility owners or other

contractors performing other work as contemplated by Article 7.

ARTICLE 13—TESTS AND INSPECTIONS;  
CORRECTION, REMOVAL OR  
ACCEPTANCE OF DEFECTIVE  
WORK

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13.1. *Notice of Defects:* Prompt notice of all *defective* Work of which OWNER or PROFESSIONAL have actual knowledge will be given to CONTRACTOR. All *defective* Work may be rejected, corrected or accepted as provided in this Article 13.

***Access to Work:***

13.2. OWNER, PROFESSIONAL, PROFESSIONAL'S Consultants, other representatives and personnel of OWNER, independent testing laboratories and governmental agencies with jurisdictional interests will have access to the Work at reasonable times for their observation, inspecting and testing. CONTRACTOR shall provide them proper and safe conditions for such access and advise them of CONTRACTOR's site safety procedures and programs so that they may comply therewith as applicable.

***Tests and Inspections:***

13.3. CONTRACTOR shall give PROFESSIONAL timely notice of readiness of the Work for all required inspections, tests or approvals, and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

13.4. OWNER shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:

13.4.1. for inspections, tests or approvals covered by paragraph 13.5 below;

13.4.2. that costs incurred in connection with tests or inspections conducted pursuant to paragraph 13.9 below shall be paid as provided in said paragraph 13.9; and

13.4.3. as otherwise specifically provided in the Contract Documents.

13.5. 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 PROFESSIONAL the required certificates of inspection, or approval. CONTRACTOR shall also be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests or approvals required for OWNER's and PROFESSIONAL's acceptance of materials or equipment to be incorporated in the Work, or of materials, mix designs, or equipment submitted for approval prior to CONTRACTOR's purchase thereof for incorporation in the Work.

13.6. If any Work (or the work of others) that is to be inspected, tested or approved is covered by CONTRACTOR without written concurrence of PROFESSIONAL, it must, if requested by PROFESSIONAL, be uncovered for observation.

13.7. Uncovering Work as provided in paragraph 13.6 shall be at CONTRACTOR's expense unless CONTRACTOR has given PROFESSIONAL timely notice of CONTRACTOR's intention to cover the same and PROFESSIONAL has not acted with reasonable promptness in response to such notice.

***Uncovering Work:***

13.8. If any Work is covered contrary to the written request of PROFESSIONAL, it must, if requested by PROFESSIONAL, be uncovered for PROFESSIONAL's observation and replaced at CONTRACTOR's expense.

13.9. If PROFESSIONAL considers it necessary or advisable that covered Work be observed by PROFESSIONAL or inspected or tested by others, CONTRACTOR, at PROFESSIONAL's request, shall uncover, expose or otherwise make available for observation, inspection or testing as PROFESSIONAL may require, that portion of the Work in question, furnishing all necessary labor, material and equipment. If it is found that such Work is *defective*, CONTRACTOR shall pay all claims, costs, losses and damages caused by, arising out of or resulting from 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 OWNER shall be entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, may make a claim therefor as provided in Article 11. If, however, such Work is not found to be *defective*, CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Times (or Milestones), or both, directly attributable to

such uncovering, exposure, observation, inspection, testing, replacement and reconstruction; and, if the parties are unable to agree as to the amount or extent thereof, CONTRACTOR may make a claim therefor as provided in Articles 11 and 12.

***OWNER May Stop the Work:***

13.10. If the Work is *defective*, or CONTRACTOR fails to supply sufficient skilled workers or suitable materials or equipment, or fails to furnish or perform the Work in such a way that the completed Work will conform to the Contract Documents, OWNER may order CONTRACTOR to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of OWNER to stop the Work shall not give rise to any duty on the part of OWNER to exercise this right for the benefit of CONTRACTOR or any surety or other party.

***Correction or Removal of Defective Work:***

13.11. If required by PROFESSIONAL, CONTRACTOR shall promptly, as directed, either correct all *defective* Work, whether or not fabricated, installed or completed, or, if the Work has been rejected by PROFESSIONAL, remove it from the site and replace it with Work that is not defective. CONTRACTOR shall pay all claims, costs, losses and damages caused by or resulting from such correction or removal (including but not limited to all costs of repair or replacement of work of others).

***13.12. Correction Period:***

13.12.1. If within one year after the date of Substantial Completion or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any Work is found to be *defective*, CONTRACTOR shall promptly, without cost to OWNER and in accordance with OWNER's written instructions: (i) correct such defective Work, or, if it has been rejected by OWNER, remove it from the site and replace it with Work that is not *defective*, and (ii) satisfactorily correct or remove and replace any damage to other Work or the work of others resulting therefrom. If CONTRACTOR does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, OWNER may have the *defective* Work corrected or the rejected Work removed and replaced, and all claims, costs, losses and damages caused by or resulting from such removal and replacement (including but not limited

to all costs of repair or replacement of work of others) will be paid by CONTRACTOR.

13.12.2. 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 or by Written Amendment.

13.12.3. Where *defective* Work (and damage to other Work resulting therefrom) has been corrected, removed or replaced under this paragraph 13.12, 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.

***Acceptance of Defective Work:***

13.13. If, instead of requiring correction or removal and replacement of *defective* Work, OWNER (and, prior to PROFESSIONAL's recommendation of final payment, also PROFESSIONAL) prefers to accept it, OWNER may do so. 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 PROFESSIONAL as to reasonableness). If any such acceptance occurs prior to PROFESSIONAL's recommendation of final payment, a Change Order will be issued incorporation the necessary revisions in the Contract Documents with respect to the Work; and OWNER shall be entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, OWNER may make a claim therefor as provided in Article 11. If the acceptance occurs after such recommendation, an appropriate amount will be paid by CONTRACTOR to OWNER.

***OWNER May Correct Defective Work:***

13.14. If CONTRACTOR fails within a reasonable time after written notice from the PROFESSIONAL to correct *defective* Work or to remove and replace rejected Work as required by PROFESSIONAL in accordance with paragraph 13.11, 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, OWNER may, after seven days' written notice to CONTRACTOR, correct and remedy any such deficiency. In exercising the rights and remedies under this paragraph OWNER shall proceed expeditiously. In connection with such corrective and remedial action, OWNER may exclude CONTRACTOR from all or part

of the site, take possession of all or part of the Work, and suspend CONTRACTOR's services related thereto, take possession of CONTRACTOR's tools, appliances, construction equipment and machinery at the site and incorporate in the Work all materials and equipment stored at the site or for which OWNER has paid CONTRACTOR but which are stored elsewhere. CONTRACTOR shall allow OWNER, OWNER's representatives, agents and employees, OWNER's other contractors and PROFESSIONAL and PROFESSIONAL's Consultants access to the site to enable OWNER to exercise the rights and remedies under this paragraph. All claims, costs, losses and damages incurred or sustained by OWNER in exercising such rights and remedies will be charged against CONTRACTOR and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and OWNER shall be entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, OWNER may make a claim therefor as provided in Article 11. 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. CONTRACTOR shall not be allowed an extension of the Contract Times (or Milestone) because of any delay in the performance of the Work attributable to the exercise by OWNER of OWNER'S rights and remedies hereunder.

ARTICLE 14—PAYMENTS TO CONTRACTOR  
AND COMPLETION

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***Schedule of Values:***

14.1. The schedule of values established as provided in paragraph 2.9 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to PROFESSIONAL. Progress payments on account of Unit Price Work will be based on the number of units completed.

***Application for Progress Payment***

14.2. At least twenty days before the date established for each progress payment (but not more often than once a month), CONTRACTOR shall consult with PROFESSIONAL and 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 from the supplier, 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 and other arrangements to protect OWNER's interest therein, all of which will be satisfactory to OWNER. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

***CONTRACTOR's Warranty of Title***

14.3. CONTRACTOR warrants and guarantees that title to all Work, materials and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to OWNER no later than the time of payment free and clear of all Liens.

***Review of Applications for Progress Payment:***

14.4. PROFESSIONAL will, within ten days after receipt of each application for payment, either indicate in writing a recommendation of payment and present the application to OWNER, or return the application to CONTRACTOR indicating in writing PROFESSIONAL's reasons for refusing to recommend payment. In the latter case, CONTRACTOR may make the necessary corrections and resubmit the Application. Ten days after presentation of the Application for Payment to OWNER with PROFESSIONAL's recommendation, the amount recommended will (subject to the provisions of the last sentence of paragraph 14.7) become due and when due will be paid by OWNER to CONTRACTOR.

14.5. PROFESSIONAL's recommendation of any payment requested in an Application for Payment will constitute a representation by PROFESSIONAL to OWNER, based on PROFESSIONAL's on-site observations of the executed Work as an experienced and qualified design professional and on PROFESSIONAL's review of the Application for Payment and the accompanying data and schedules, that to the best of PROFESSIONAL's knowledge, information and belief:

14.5.1. the Work has progressed to the point indicated,

14.5.2. 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, to the results of any subsequent tests called for in the Contract Documents, to a final determination of quantities and classifications for Unit Price Work under paragraph 9.10, and to any other qualifications stated in the recommendation), and

14.5.3. the conditions precedent to CONTRACTOR's being entitled to such payment appear to have been fulfilled in so far as it is PROFESSIONAL's responsibility to observe the Work.

However, by recommending any such payment PROFESSIONAL will not thereby be deemed to have represented that: (i) exhaustive or continuous on-site inspections have been made to check the quality or the quantity of the Work beyond the responsibilities specifically assigned to PROFESSIONAL in the Contract Documents or (ii) that 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.

14.6. PROFESSIONAL's recommendation of any payment, including final payment, shall not mean that PROFESSIONAL is responsible for CONTRACTOR's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with laws and Regulations applicable to the furnishing or performance of Work, or for any failure of CONTRACTOR to perform or furnish Work in accordance with the Contract Documents.

14.7. PROFESSIONAL may refuse to recommend the whole or any part of any payment if, in PROFESSIONAL's opinion, it would be incorrect to make the representations to OWNER referred to in paragraph 14.5. PROFESSIONAL may also refuse to recommend any such payment, or, because of subsequently discovered evidence or the results of subsequent inspections or test, nullify any such payment previously recommended to such extent as may be necessary in PROFESSIONAL's opinion to protect OWNER from loss because:

14.7.1. the Work is defective, or completed Work has been damaged requiring correction or replacement,

14.7.2. the Contract Price has been reduced by Written Amendment or Change Order,

14.7.3. OWNER has been required to correct *defective* Work or complete Work in accordance with paragraph 13.14, or

Spicer Group, Inc.

14.7.4. PROFESSIONAL has actual knowledge of the occurrence of any of the events enumerated in paragraphs 15.2.1 through 15.2.4 inclusive.

OWNER may refuse to make payment of the full amount recommended by PROFESSIONAL because:

14.7.5. claims have been made against OWNER on account of CONTRACTOR's performance or furnishing of the Work,

14.7.6. 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,

14.7.7. there are other items entitling OWNER to a set-off against the amount recommended, or

14.7.8. OWNER has actual knowledge of the occurrence of any of the events enumerated in paragraphs 14.7.1 through 14.7.3 or paragraphs 15.2.1 through 15.2.4 inclusive; but OWNER must give CONTRACTOR immediate written notice (with a copy to PROFESSIONAL) stating the reasons for such action and promptly pay CONTRACTOR the amount so withheld, or any adjustment thereto agreed to by OWNER and CONTRACTOR, when CONTRACTOR corrects to OWNER's satisfaction the reasons for such action.

***Substantial Completion:***

14.8. When CONTRACTOR considers the entire Work ready for its intended use, CONTRACTOR shall notify OWNER and PROFESSIONAL in writing that the entire Work is substantially complete (except for items specifically listed by CONTRACTOR as incomplete) and request that PROFESSIONAL issue a certificate of Substantial Completion. Within a reasonable time thereafter, OWNER, CONTRACTOR and PROFESSIONAL shall make an inspection of the Work to determine the status of completion. If PROFESSIONAL does not consider the Work substantially complete, PROFESSIONAL will notify CONTRACTOR in writing giving the reasons therefor. If PROFESSIONAL considers the Work substantially complete, PROFESSIONAL will prepare and deliver to OWNER a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a

tentative list of items to be completed or corrected before final payment. OWNER shall have seven days after receipt of the tentative certificate during which to make written objection to PROFESSIONAL as to any provisions of the certificate or attached list. If, after considering such objections, PROFESSIONAL concludes that the Work is not substantially complete, PROFESSIONAL will within fourteen days after submission of the tentative certificate to OWNER notify CONTRACTOR in writing, stating the reasons therefor. If, after consideration of OWNER's objections, PROFESSIONAL considers the Work Substantially complete, PROFESSIONAL will within said fourteen days execute and deliver to OWNER and CONTRACTOR a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as PROFESSIONAL believes justified after consideration of any objections from OWNER. At the time of delivery of the tentative certificate of Substantial Completion PROFESSIONAL will deliver to OWNER and CONTRACTOR a written recommendation as to division of responsibilities pending final payment between OWNER and CONTRACTOR with respect to security, operation, safety, maintenance, heat, utilities, insurance and warranties and guarantees. Unless OWNER and CONTRACTOR agree otherwise in writing and so inform PROFESSIONAL in writing prior to PROFESSIONAL's issuing the definitive certificate of Substantial Completion, PROFESSIONAL's aforesaid recommendation will be binding on OWNER and CONTRACTOR until final payment.

14.9. OWNER shall have the right to exclude CONTRACTOR from the Work after the date of Substantial Completion, but OWNER shall allow CONTRACTOR reasonable access to complete or correct items on the tentative list.

***Partial Utilization:***

14.10. Use by OWNER at OWNER'S option of any substantially completed part of the Work which: (i) has specifically been identified in the Contract Documents, or (ii) OWNER, PROFESSIONAL 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, may be accomplished prior to Substantial Completion of all the Work subject to the following:

14.10.1. OWNER at any time may request CONTRACTOR in writing to permit OWNER to use any such part of the Work which OWNER believes to be

ready for its intended use and substantially complete. If CONTRACTOR agrees that such part of the Work is substantially complete, CONTRACTOR will certify to OWNER and PROFESSIONAL that such part of the Work is substantially complete and request PROFESSIONAL to issue a certificate of Substantial Completion for that part of the Work. CONTRACTOR at any time may notify OWNER and PROFESSIONAL in writing that CONTRACTOR considers any such part of the Work ready for its intended use and substantially complete and request PROFESSIONAL to issue a certificate of Substantial Completion for that part of the Work. Within a reasonable time after either such request, OWNER, CONTRACTOR and PROFESSIONAL shall make an inspection of that part of the Work to determine its status of completion. If PROFESSIONAL does not consider that part of the Work to be substantially complete, PROFESSIONAL will notify OWNER and CONTRACTOR in writing giving the reasons therefor. If PROFESSIONAL considers that part of the Work to be substantially complete, the provisions of paragraphs 14.8 and 14.9 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.

14.10.2. No occupancy or separate operation of part of the Work will be accomplished prior to compliance with the requirements of paragraph 5.15 in respect of property insurance.

***Final Inspection:***

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

***Final Application for Payment:***

14.12. After CONTRACTOR has completed all such corrections to the satisfaction of PROFESSIONAL and delivered in accordance with the Contract Documents all maintenance and operating instructions, schedules, guarantees, Bonds, certificates or other evidence of insurance required by paragraph 5.4, certificates of inspection, marked-up record documents (as provided in paragraph 6.19) and other documents, CONTRACTOR may make application for final payment following the procedure for progress payments. The final Application for Payment shall be accompanied (except as previously

delivered) by: (i) all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by subparagraph 5.4.13, (ii) consent of the surety, if any, to final payment, and (iii) complete and legally effective releases or waivers (satisfactory to OWNER) of all Liens arising out of or filed in connection with the Work. In lieu of such releases or waivers of Liens and as approved by OWNER, CONTRACTOR may furnish receipts or releases in full and an affidavit of CONTRACTOR that: (i) the releases and receipts include all labor, services, material and equipment for which a Lien could be filed, and (ii) all payrolls, material and equipment bills and other indebtedness connected with the Work for which OWNER or OWNER's property might in any way be responsible have been paid or otherwise satisfied. 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.

***Final Payment and Acceptance:***

14.13. If, on the basis of PROFESSIONAL's observation of the Work during construction and final inspection, and PROFESSIONAL's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, PROFESSIONAL is satisfied that the Work has been completed and CONTRACTOR's other obligations under the Contract Documents have been fulfilled, PROFESSIONAL will, within ten days after receipt of the final Application for Payment, indicate in writing PROFESSIONAL's recommendation of payment and present the Application to OWNER for payment. At the same time PROFESSIONAL will also give written notice to OWNER and CONTRACTOR that the Work is acceptable subject to the provisions of paragraph 14.15. Otherwise, PROFESSIONAL will return the Application to CONTRACTOR, indicating in writing the reasons for refusing to recommend final payment, in which case CONTRACTOR shall make the necessary corrections and resubmit the Application. Thirty days after the presentation to OWNER of the Application and accompanying documentation, in appropriate form and substance and with PROFESSIONAL's recommendation and notice of acceptability, the amount recommended by PROFESSIONAL will become due and will be paid by OWNER to CONTRACTOR.

14.14. If, through no fault of CONTRACTOR, final completion of the Work is significantly delayed and if PROFESSIONAL so confirms, OWNER shall, upon receipt of CONTRACTOR's final Application for Payment and recommendation of PROFESSIONAL, and without terminating the Agreement, make payment of the balance due for that portion of the Work fully

completed and accepted. If the remaining balance to be held by OWNER for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if Bonds have been furnished as required in paragraph 5.1, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by CONTRACTOR to PROFESSIONAL with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

***Waiver of Claims:***

14.15. The making and acceptance of final payment will constitute:

14.15.1. a waiver of all claims by OWNER against CONTRACTOR, except claims arising from unsettled Liens, from *defective* Work appearing after final inspection pursuant to paragraph 14.11, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from CONTRACTOR's continuing obligations under the Contract Documents; and

14.15.2. a waiver of all claims by CONTRACTOR against OWNER other than those previously made in writing and still unsettled.

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

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***OWNER May Suspend Work***

15.1. At any time and without cause, OWNER may suspend the Work or any portion thereof for a period of not more than ninety days by notice in writing to CONTRACTOR and PROFESSIONAL which will fix the date on which Work will be resumed. CONTRACTOR shall resume the Work on the date so fixed. CONTRACTOR shall be allowed an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if CONTRACTOR makes an approved claim therefor as provided in Articles 11 and 12.

***OWNER May Terminate:***

15.2. Upon the occurrence of any one or more of the following events:

15.2.1. if CONTRACTOR persistently fails to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the progress schedule established under paragraph 2.9 as adjusted from time to time pursuant to paragraph 6.6);

15.2.2. if CONTRACTOR disregards Laws or Regulations of any public body having jurisdiction;

15.2.3. if CONTRACTOR disregards the authority of PROFESSIONAL; or

15.2.4. if CONTRACTOR otherwise violates in any substantial way any provisions of the Contract Documents;

OWNER may, after giving CONTRACTOR (and the surety, if any,) seven days' written notice and to the extent permitted by Laws and Regulations, terminate the services of CONTRACTOR, exclude CONTRACTOR from the site and take possession of the Work and of all CONTRACTOR's tools, appliances, construction equipment and machinery at the site and use the same to the full extent they could be used by CONTRACTOR (without liability to CONTRACTOR for trespass or conversion), incorporate in the Work all materials and equipment stored at the site or for which OWNER has paid CONTRACTOR but which are stored elsewhere, and finish the Work as OWNER may deem expedient. In such case CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds all claims, costs, losses and damages sustained by OWNER arising out of or resulting from completing the Work, such excess will be paid to CONTRACTOR. If such claims, costs, losses and damages exceed such unpaid balance, CONTRACTOR shall pay the difference to OWNER. Such claims, costs, losses and damages incurred by OWNER will be reviewed by PROFESSIONAL as to their reasonableness and when so approved by PROFESSIONAL incorporated in a Change Order, provided that when exercising any rights or remedies under this paragraph OWNER shall not be required to obtain the lowest price for the Work performed.

15.3. 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. Any retention or payment of moneys due CONTRACTOR by OWNER will not release CONTRACTOR from liability.

15.4. Upon seven days' written notice to CONTRACTOR and PROFESSIONAL, OWNER may, without cause and without prejudice to any other right or remedy of OWNER, elect to terminate the Agreement. In such case, CONTRACTOR shall be paid (without duplication of any items):

15.4.1. for 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;

15.4.2. for 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;

15.4.3. for all claims, costs, losses and damages incurred in settlement of terminated contracts with Subcontractors, Suppliers and others; and

15.4.4. for reasonable expenses directly attributable to termination.

CONTRACTOR shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

***CONTRACTOR May Stop Work or Terminate:***

15.5. If, through no act or fault of CONTRACTOR, the Work is suspended for a period of more than ninety days by OWNER or under an order of court or other public authority, or PROFESSIONAL fails to act on any Application for Payment within thirty days after it is submitted or OWNER fails for thirty days to pay CONTRACTOR any sum finally determined to be due, then CONTRACTOR may, upon seven days' written notice to OWNER and PROFESSIONAL, and provided OWNER or PROFESSIONAL do not remedy such suspension or failure within that time, terminate the Agreement and recover from OWNER payment on the same terms as provided in paragraph 15.4. In lieu of terminating the Agreement and without prejudice to any other right or remedy, if PROFESSIONAL has failed to act on an Application for Payment within thirty days after it is submitted, or OWNER has failed for thirty days to pay CONTRACTOR any sum finally determined to be due, CONTRACTOR may upon seven day's written notice to OWNER and PROFESSIONAL stop the Work until payment of all such amounts due CONTRACTOR, including interest thereon. The provisions of this paragraph 15.5 are not intended to

preclude CONTRACTOR from making claim under Articles 11 and 12 for an increase in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to CONTRACTOR's stopping Work as permitted by this paragraph.

## ARTICLE 16—DISPUTE RESOLUTION

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If and to the extent that OWNER and CONTRACTOR have agreed on the method and procedure for resolving disputes between them that may arise under this Agreement, such dispute resolution method and procedure shall be as follows. If no such agreement on the method and procedure for resolving such disputes has been reached, and subject to the provisions of paragraphs 9.10, 9.11, and 9.12, OWNER and CONTRACTOR may exercise such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations in respect of any dispute.

### **ALTERNATE DISPUTE RESOLUTION (ADR) AGREEMENT**

OWNER and CONTRACTOR hereby agree that Article 16 of the General Conditions to the Agreement between OWNER and CONTRACTOR is amended to include the following agreement of the parties:

16.1 OWNER and CONTRACTOR agree that they shall first submit any and all unsettled claims, counterclaims, disputes and other matters in question between them arising out of or relating to the Contract Documents or the breach thereof ("disputes"), to mediation by the American Arbitration Association under the Construction Industry Mediation Rules of the American Arbitration Association prior to either of them initiating against the other types of demands.

16.1.1 **Agreement of Parties** - Whenever, by stipulation or in their contract, the parties have provided for mediation for existing or future disputes under the auspices of the American Arbitration Association (AAA) or under these Rules, they shall be deemed to have made these Rules, as amended and in effect as of the date of the submission of the dispute, a part of their agreement.

16.1.2 **Initiation of Mediation** - Any party or parties to a dispute may initiate mediation by filing with the AAA a written request for mediation pursuant to these Rules, together with the appropriate administrative fee contained in the Administrative Fee Schedule.

16.1.3 **Request for Mediation** - A request for mediation shall contain a brief statement of the nature of the dispute and the names, addresses, and phone numbers of all parties to the dispute, and those who will represent them, if any, to the mediation. The initiating party shall simultaneously file two (2) copies of the request with the AAA and one copy with every other party to the dispute.

16.1.4 **Appointment of Mediator** - Upon receipt of a request for mediation, the AAA will appoint a qualified mediator or standing neutral facilitator to serve. Normally, a single mediator will be appointed unless the parties agree otherwise or the AAA determines otherwise. If the agreement of the parties name a mediator or specifies a method of appointing a mediator, that designation or method shall be followed.

16.1.5 **Qualifications of a Mediator** - Any mediator appointed shall be a member of the AAA's Construction Mediation Panel, with expertise in the area of the dispute and knowledgeable in the mediation process. As an alternative, a standing neutral facilitator for ADR as certified by the Michigan Society of Professional Engineers may be used.

No person shall serve as a mediator in any dispute in which that person has any financial or personal interest in the result of the mediation, except by the written consent of all parties. Prior to accepting an appointment, the prospective mediator shall disclose any circumstances likely to create a presumption of bias or prevent a prompt meeting with the parties. Upon receipt of such information, the AAA shall either replace the mediator or immediately communicate the information to the parties for their comments. In the event the parties disagree as to whether the mediator shall serve, the AAA will appoint another mediator. The AAA is authorized to appoint another mediator if the appointed mediator is unable to serve promptly.

16.1.6 **Vacancies** - If any mediator shall become unwilling or unable to serve, the AAA will appoint another mediator, unless the parties agree otherwise.

16.1.7 **Representation** - Any party may be represented by persons of their choice. The names and addresses of such persons shall be communicated in writing to all parties and to the AAA.

16.1.8 **Time and Place of Mediation** - The mediator shall fix the time of each mediation session. The mediation shall be held at the appropriate regional office of the AAA, or at any other convenient location

agreeable to the mediator and the parties, as the mediator shall determine.

**16.1.9 Identification of Matters in Dispute -**

At least ten (10) days prior to the first scheduled mediation session, each party shall provide the mediator with a brief memorandum setting forth its position with regard to the issues that need to be resolved. At the

discretion of the mediator, such memoranda may be mutually exchanged by the parties.

At the first session, the parties will be expected to produce all information reasonably required for the mediator to understand the issue presented. The mediator may require either party to supplement such information.

**16.1.10 Authority of Mediator -** The mediator does not have authority to impose a settlement upon the parties but will attempt to help the parties reach a satisfactory resolution of their dispute. The mediator is authorized to conduct joint and separate meetings with the parties and to make oral and written recommendations for settlement. Whenever necessary, the mediator may also obtain expert advice concerning technical aspects of the dispute, provide the parties agree and assume the expenses of obtaining such advice. Arrangements for obtaining such advice shall be made by the mediator or the parties, as the mediator shall determine.

The mediator is authorized to end the mediation whenever, in the judgment of the mediator, further efforts at mediation would not contribute to a resolution of the dispute between parties.

**16.1.11 Privacy -** Mediation sessions are private. The parties and their representatives may attend mediation sessions. Other persons may attend only with the permission of the parties and with the consent of the mediator.

**16.1.12 Confidentiality -** Confidential information disclosed to a mediator by the parties or by witnesses in the course of the mediation shall not be divulged by the mediator. All records, reports, or other documents received by a mediator while serving in such records or to testify in regard to the mediation in any adversary proceeding or judicial forum.

The parties shall maintain the confidentiality of the mediation and shall not rely on, or introduce as evidence in any arbitration, judicial or other proceedings: (a) views expressed or suggestions made by the other party with respect to a possible settlement of the dispute; (b)

admissions made by the other party in the course of the mediation proceedings; (c) proposals made or views expressed by the mediator; (d) the fact that the other party had or had not indicated willingness to accept a proposal for resettlement made by the mediator.

**16.1.13 No Stenographic Record -** There shall be no stenographic record of the mediation process.

**16.1.14 Termination of Mediation -** The mediation shall be terminated: (a) by the execution of a settlement agreement by the parties; or (b) by a written declaration of the mediator to the effect that further efforts at mediation are no longer worthwhile; or (c) by a written declaration of a party or parties to the effect that the mediation proceedings are terminated.

**16.1.15 Exclusion of Liability -** Neither the AAA nor the mediator is a necessary party in judicial proceedings relating to the mediation.

Neither the AAA nor any mediator shall be liable to any party for any act or omission in connection with any mediation conducted under these Rules.

**16.1.16 Interpretation and Application of Rules -** The mediator shall interpret and apply these Rules insofar as they relate to the mediator's duties and responsibilities. All other Rules shall be interpreted and applied by the AAA.

**16.1.17 Expenses -** The expenses of witnesses for either side shall be paid by the party producing such witnesses. All other expenses of the mediation, including required traveling and other expenses of the mediator and representatives of the AAA, and the expenses of any witness, or the cost of any proofs or expert advice produced at the direct request of the mediator, shall be borne equally by the parties unless they agree otherwise.

16.2 Except as provided in paragraph 16.3 below, no mediation arising out of or relating to the Contract Documents shall include by consolidation, joinder or in any other manner any other person or entity (including PROFESSIONAL, PROFESSIONAL's Consultant and the officers, directors, agents, employees or consultants of any of them) who is not a part to this contract unless:

16.2.1 the inclusion of such other person or entity is necessary if complete relief is to be afforded among those who are already parties to the mediation and

16.2.2 such other person or entity is substantially involved in a question of law or fact which

is common to those who are already parties to the mediation and which will arise in such proceedings.

16.3 Notwithstanding paragraph 16.2 if a claim, dispute or other matter in question between OWNER and CONTRACTOR involves the Work of a Subcontractor, either OWNER or CONTRACTOR may join such Subcontractor as a party to the mediation between OWNER and CONTRACTOR hereunder. CONTRACTOR shall include in all subcontracts required by paragraph 6.11 a specific provision whereby the Subcontractor consents to being joined in a mediation between OWNER and CONTRACTOR involving the Work of such subcontract, and consenting to joinder shall not create any claim, right or cause of action in favor of Subcontractor and against OWNER, PROFESSIONAL or PROFESSIONAL's Consultants that does not otherwise exist.

#### ARTICLE 17—MISCELLANEOUS

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##### ***Giving Notice:***

17.1. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

##### ***Computation of Time:***

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

17.2.1. A calendar day of twenty-four hours measured from midnight to the next midnight will constitute a day.

##### ***Notice of Claim:***

17.3. Should OWNER or CONTRACTOR suffer injury or damage to person or property because of any error, omission or act of the other party or of any of the other party's employees or agents or others for whose acts the other party is legally liable, claim will be made in writing to the other party within a reasonable time of the

first observance of such injury or damage. The provisions of this paragraph 17.3 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitations or repose.

##### ***Cumulative Remedies:***

17.4. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto, and, in particular but without limitation, the warranties, guarantees and obligations imposed upon CONTRACTOR by paragraphs 6.12, 6.16, 6.30, 6.31, 6.32, 13.1, 13.12, 13.14, 14.3 and 15.2 and all of the rights and remedies available to OWNER and PROFESSIONAL thereunder, 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 Documents, and 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.

##### ***Professional Fees and Court Costs Included:***

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

SECTION 01010

SUMMARY OF WORK

1 PART 1 GENERAL

1.1. SECTION INCLUDES

- A. Scope of Work
- B. Contractor use of site and premises.
- C. Owner occupancy.
- D. Land Owner occupancy.

1.2. SCOPE OF WORK

- A. The Contractor shall furnish all the labor, material and construction equipment and perform all the work for the construction of the **Finn Road Park Improvements** as indicated on the drawings, and described in the Specifications. The Contractor shall be responsible for the entire work until completed and accepted by the Owner.
  - 1. Construction Staking Allowance – The Contractor will provide, through the Professional (Spicer Group, Inc.), reference points for construction and the Professional will be responsible for laying out (staking) the work. Refer to Section 01039 Coordination and Meetings for additional information.
    - a. Allowance for Construction Staking shall be in the lump sum price of **\$3,000.00.**
  - 2. Material Testing Allowance – The Contractor will provide, through the Professional (Spicer Group, Inc.), testing of materials. Refer to Section 01039 Coordination and Meetings for additional information.
    - a. Allowance for Material Testing shall be in the lump sum price of **\$2,000.00.**

1.3. CONTRACTOR USE OF SITE AND PREMISES

- A. Limit use of site and premises to allow:
  - 1. Owner occupancy.
  - 2. Use of site and premises by public.
- B. Construction Operations: Limited to right-of-way limits and the immediate area of work as directed by the Engineer.

END OF SECTION



## SECTION 01019

### CONTRACT CONSIDERATIONS

#### 1 PART 1 GENERAL

##### 1.1. SECTION INCLUDES

- A. Application for Payment.
- B. Change procedures.

##### 1.2. RELATED SECTIONS

- A. Agreement: Based on the unit prices bid per pay item as stated in the Proposal.
- B. Document General Conditions.
- C. Section 01300 – Submittals
- D. Section 01600 – Material and Equipment.

##### 1.3. APPLICATIONS FOR PAYMENT

- A. Contractor will prepare progress payments in accordance with the schedule of values shown in the Agreement.
- B. Format will follow the schedule of values bid in the proposal.
- C. Submit invoices for stored materials.
- D. Contractor shall submit waivers for each progress payment in accordance with the General Conditions.
- E. Submit waivers for proof of payment to all subcontractors and suppliers utilized on the project prior to every progress payment after the first payment.
- F. Payment will be subject to retainage as set forth in Public Act No. 524.

##### 1.4. CHANGE PROCEDURES

- A. The Engineer will advise of minor changes in the Work not involving an adjustment to Contract Sum/Price or Contract Time as authorized by issuing supplemental instructions on a Field Order.
- B. The Engineer may issue a Bulletin which includes a detailed description of a proposed change with supplementary or revised Drawings and specifications, a change in Contract Time for executing the change with a stipulation of any overtime work required and the period of time during which the requested price will be considered valid. Contractor will prepare and submit an estimate within 10 days.

- C. The Contractor may propose a change by submitting request for change to the Owner, describing the proposed change and its full effect on the Work. Include a statement describing the reason for the change, and the effect on the Contract Sum/Price and Contract Time with full documentation and a statement describing the effect on Work by separate or other Contractors. Document any requested substitutions in accordance with Section 01600. Material and equipment.
- D. Stipulated Sum/Price Change Order: Based on Bulletin and Contractor's price quotation.
- E. Unit Price Change Order: For pre-determined unit prices and quantities, the Change Order will be executed on a fixed unit price basis. For unit costs or quantities of units of work which are not pre-determined, execute Work under a Work Directive Change. Changes in Contract Sum/Price or Contract Time will be computed as specified for Time and Material Change Order.
- F. Work Directive Change: Engineer may issue a Work Directive Change signed by the Owner, instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order. Document will describe changes in the Work, and designate method of determining any change in Contract Sum/Price or Contract Time. Promptly execute the change.
- G. Time and Material Change Order: Submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract. Engineer will determine the change allowable in Contract Sum/Price and Contract Time as provided in the Contract Documents.
- H. Maintain detailed records of work done on Time and Material basis. Provide full information required for evaluation of proposed changes, and to substantiate costs for changes in the Work.
- I. Change Order Forms: Spicer Group Change Order.
- J. Execution of Change Orders: Engineer will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.

1.5. ALTERNATES

- A. Coordinate related work and modify surrounding work as required.
- B. Contractor shall be responsible for costs incurred by Owner for reviewing non-scheduled alternates.

END OF SECTION

SECTION 01028  
CHANGE ORDER PROCEDURES

1 PART 1 GENERAL

1.1. SECTION INCLUDES

- A. Submittals.
- B. Documentation of change in Contract Price and Contract Time.
- C. Change procedures.
- D. Construction Change Authorization or Work Directive Change.
- E. Stipulated Price change order.
- F. Unit price change order.
- G. Time and material change order.
- H. Execution of change orders.
- I. Correlation of Contractor submittals.

1.2. RELATED SECTIONS

- A. Agreement Forms: Monetary values of established Unit Prices and percentage allowances for Contractor's overhead and profit.
- B. General Conditions: Governing requirements for changes in the Work, in Contract Price, and Contract Time.
- C. Section 01019 - Contract Considerations.
- D. Section 01300 - Submittals.
- E. Section 01600 - Material and Equipment: Product options and substitutions.
- F. Section 01700 - Contract Closeout: Project Record Documents.

1.3. SUBMITTALS

- A. Submit name of the individual authorized to receive change documents, and be responsible for informing others in Contractor's employ or Subcontractors of changes to the Work.
- B. Change Order Forms: See General Conditions.

#### 1.4. DOCUMENTATION OF CHANGE IN CONTRACT PRICE AND CONTRACT TIME

- A. Maintain detailed records of work done on a time and material basis. Provide full information required for evaluation of proposed changes, and to substantiate costs of changes in the Work.
- B. Document each quotation for a change in cost or time with sufficient data to allow evaluation of the quotation.
- C. On request, provide additional data to support computations:
  - 1. Quantities of products, labor, and equipment.
  - 2. Taxes, insurance and bonds.
  - 3. Overhead and profit.
  - 4. Justification for any change in Contract Time.
  - 5. Credit for deletions from Contract, similarly documented.
- D. Support each claim for additional costs, and for work done on a time and material basis, with additional information:
  - 1. Origin and date of claim.
  - 2. Dates and times work was performed, and by whom.
  - 3. Time records and wage rates paid.
  - 4. Invoices and receipts for products, equipment, and subcontracts, similarly documented.

#### 1.5. CHANGE PROCEDURES

- A. The Engineer will advise of minor changes in the Work not involving an adjustment to Contract Price or Contract Time as authorized by General Conditions Articles 10, 11 and 12 by issuing supplemental instructions on Field Order.
- B. The Engineer may issue a Proposal Request which includes a detailed description of a proposed change with supplementary or revised Drawings and specifications, a change in Contract Time for executing the change with a stipulation of any overtime work required and the period of time during which the requested price will be considered valid. Contractor will prepare and submit an estimate within 15 days.
- C. The Contractor may propose a change by submitting a request for change to the Engineer, describing the proposed change and its full effect on the Work, with a statement describing the reason for the change, and the effect on the Contract Price and Contract Time with full documentation and a statement describing the effect on Work by separate or other contractors. Document any requested substitutions in accordance with Section 01600.

#### 1.6. CONSTRUCTION CHANGE AUTHORIZATION OR WORK DIRECTIVE CHANGE

- A. Engineer may issue a document, signed by the Owner, instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
- B. The document will describe changes in the Work, and will designate method of determining any change in Contract Price or Contract Time.
- C. Promptly execute the change in Work.

1.7. STIPULATED PRICE CHANGE ORDER

- A. Based on Proposal Request and Contractor's fixed price quotation or Contractor's request for a Change Order as approved by Engineer.

1.8. UNIT PRICE CHANGE ORDER

- A. For pre-determined unit prices and quantities, the Change Order will be executed on a fixed unit price basis.
- B. For unit costs or quantities of units of work which are not pre-determined, execute Work under a Construction Change Authorization or Work Directive Change.
- C. Changes in Contract Price or Contract Time will be computed as specified for Time and Material Change Order.

1.9. TIME AND MATERIAL CHANGE ORDER

- A. Submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract.
- B. Engineer will determine the change allowable in Contract Price and Contract Time as provided in the Contract Documents.
- C. Maintain detailed records of work done on Time and Material basis.
- D. Provide full information required for evaluation of proposed changes, and to substantiate costs for changes in the Work.

1.10. EXECUTION OF CHANGE ORDERS

- A. Execution of Change Orders: Engineer will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.

1.11. CORRELATION OF CONTRACTOR SUBMITTALS

- A. Promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Price.
- B. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust time for other items of work affected by the change, and resubmit.
- C. Promptly enter changes in Project Record Documents.

END OF SECTION

SECTION 01039

COORDINATION AND MEETINGS

1. PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Coordination.
- B. Allowances: Materials Testing and Construction Staking
- C. Alteration project procedures.
- D. Cutting and patching.
- E. Preconstruction conference.

1.2 COORDINATION

- A. Coordinate scheduling, submittals, and Work of the various Sections of specifications to assure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- B. Notify Engineer of changes in construction schedule 48 hours prior to change.
- C. Submit updated construction schedules with each progress payment submittal.

1.3 ALLOWANCES

A. MATERIALS TESTING

- 1. The Contractor will provide, through the Professional (Spicer Group), testing of materials. The following general classification of Work require testing and/or certificates of inspection:
  - a. Backfilling for Compaction and Density
  - b. Concrete Paving for Core Analysis
  - c. Crushed Stone Paving for Compaction and Density
- 2. Additional materials may be requested for testing by the Professional at any time.

B. CONSTRUCTION STAKING

- 1. The Contractor will provide, through the Professional (Spicer Group), reference points for construction and the Professional will be responsible for laying out (staking) the work. Staking by the Professional will be limited to the following:
  - a. Centerline of pathway and boardwalk.
  - b. ADA parking extension.
  - c. Observation tower location.
  - d. Any additional staking requested beyond these limits will be at the Contractor's expense.

2. Contractor to locate and protect survey control, reference points and construction staked. Restaking will be at the Contractor's expense.
3. Coordinate schedule for staking three (3) days before staking is needed.

#### 1.4 ALTERATION PROJECT PROCEDURES

- A. Materials: As specified in product Sections.
- B. Remove cut and patch work in a manner to minimize damage and to provide a means of restoring products to specified condition.
- C. Where new work abuts or aligns with existing, perform a smooth and even transition. Patched work to match existing adjacent work in texture and appearance.
- D. When finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Engineer.
- E. Where a change of plane of 1/4 inch or more occurs, submit recommendation for providing a smooth transition for Engineer review and request instructions from Engineer.
- F. Patch or replace portions of existing surfaces which are damaged, lifted, discolored, or showing other imperfections.
- G. Finish surfaces as specified in individual product Sections.

#### 1.5 CUTTING AND PATCHING

- A. Coordinate with Engineer 48 hours prior to cutting and patching.
- B. Employ skilled and experienced installer to perform cutting and patching.
- C. All bituminous surfaces shall be saw cut by the Contractor.
- D. Submit written request in advance of cutting or altering elements which affects:
  1. Structural integrity of element.
  2. Integrity of weather-exposed or moisture-resistant elements.
  3. Efficiency, maintenance, or safety of element.
  4. Visual qualities of sight-exposed elements.
  5. Work of Owner or separate contractor.
- E. Execute cutting, fitting, and patching including excavation and fill, to complete Work, and to:
  1. Fit the several parts together, to integrate with other Work.
  2. Uncover Work to install or correct ill-timed Work.
  3. Remove and replace defective and non-conforming Work.
  4. Remove samples of installed Work for testing.
- F. Execute work by methods which will avoid damage to other Work, and provide proper surfaces to receive patching and finishing.
- G. Cut rigid materials using masonry saw or core drill.

- H. Restore Work with new products in accordance with requirements of Contract Documents.
- I. Fit Work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- J. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for an assembly, refinish entire unit.
- K. Identify any hazardous substance or condition exposed during the Work to the Engineer for decision or remedy.

1.6 PRECONSTRUCTION CONFERENCE

- A. Engineer will schedule a conference after Notice of Award.
- B. Attendance Required: Engineer, Owner and Contractor.

END OF SECTION



## SECTION 01300

### SUBMITTALS

#### 1 PART 1 GENERAL

##### 1.1. SECTION INCLUDES

- A. Submittal procedures.
- B. Construction progress schedules.
- C. Proposed products list.
- D. Shop drawings.
- E. Product data.
- F. Manufacturers' instructions.
- G. Manufacturers' certificates.

##### 1.2. RELATED SECTIONS

- A. Section 01019 - Contract Considerations.
- B. Section 01400 - Quality Control: Manufacturers' field services and reports.
- C. Section 01700 - Contract Closeout.

##### 1.3. SUBMITTAL PROCEDURES

- A. Transmit each submittal with Engineer accepted form.
- B. Sequentially number the transmittal forms. Resubmittals to have original number with an alphabetic suffix.
- C. Identify Project, Contractor, Subcontractor or supplier; pertinent Drawing sheet and detail number(s), and specification Section number, as appropriate.
- D. Apply Contractor's stamp, signed or initialed certifying that review, verification of Products required, field dimensions, adjacent construction Work, and coordination of information, is in accordance with the requirements of the Work and Contract Documents.
- E. Schedule submittals to expedite the Project, and deliver to Engineer. Coordinate submission of related items.
- F. Identify variations from Contract Documents and Product or system limitations, which may be detrimental to successful performance of the completed Work.

- G. Provide space for Contractor and Engineer review stamps.
- H. Revise and resubmit submittals as required, identify all changes made since previous submittal.
- I. Distribute copies of reviewed submittals to concerned parties. Instruct parties to promptly report any inability to comply with provisions.

#### 1.4. CONSTRUCTION PROGRESS SCHEDULES

- A. Submit initial progress schedule in duplicate within 15 days after date established in Notice to Proceed for Engineer and Owner review.
- B. Revise and resubmit as required.
- C. Submit revised schedules with each Application for Payment, identifying changes since previous version.
- D. Submit a horizontal bar chart with separate line for each major section of Work or operation, identifying first workday of each week.
- E. Show complete sequence of construction by activity, identifying Work of separate stages and other logically grouped activities. Indicate the early and late start, early and late finish, float dates, and duration.
- F. Indicate estimated percentage of completion for each item of Work at each submission.
- G. Indicate submittal dates required for shop drawings, product data, samples, and product delivery dates, including those furnished by Owner and under Allowances.

#### 1.5. PROPOSED PRODUCTS LIST

- A. Within 5 days after Owner-Contractor agreement, submit complete list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
- B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

#### 1.6. PRODUCT DATA

- A. Submit the number of copies, which the Contractor requires, plus two copies, which will be retained by the Engineer. The Engineer will review no more than eight copies.
- B. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information unique to this Project.
- C. After review, distribute in accordance with Article on Procedures above and provide copies for Record Documents described in Section 01700 - Contract Closeout.

1.7. MANUFACTURER'S INSTRUCTIONS

- A. When specified in individual specification Sections, submit manufacturers' printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, in quantities specified for Product Data.
- B. Identify conflicts between manufacturers' instructions and Contract Documents.

1.8. MANUFACTURER'S CERTIFICATES

- A. When specified in individual specification Sections, submit manufacturers' certificate to Engineer for review, in quantities specified for Product Data.
- B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or Product, but must be acceptable to Engineer.

END OF SECTION

SECTION 01400  
QUALITY CONTROL

1 PART 1 GENERAL

1.1. SECTION INCLUDES

- A. Quality assurance and control of installation.
- B. References.
- C. Field Samples.
- D. Inspection and testing laboratory services.

1.2. RELATED SECTIONS

- A. Section 01300 - Submittals: Submission of Manufacturers' Instructions and Certificates.
- B. Section 01600 – Materials and Equipment: Requirements for material and product quality.

1.3. QUALITY ASSURANCE/CONTROL OF INSTALLATION

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

1.4. REFERENCES

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

1.5. FIELD SAMPLES

- A. Acceptable samples represent a quality level for the Work.

1.6. INSPECTION AND TESTING LABORATORY SERVICES

- A. Contractor will employ, and pay for services of the Engineer to perform inspection and testing.
- B. The Engineer will perform inspections, tests, and other services specified in individual specification Sections and as required by the Owner.
- C. Reports will be submitted by the Engineer to the Contractor, in duplicate, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.
- D. Cooperate with the Engineer and the Owner; furnish samples of materials, design mix, equipment, tools, storage and assistance as requested.
  - 1. Notify Engineer 2 working days prior to expected time for operations requiring services.
  - 2. Make arrangements with Engineer and pay for additional samples and tests required for Contractor's use.
- E. Retesting required because of non-conformance to specified requirements shall be performed by the same Engineer on instructions by the Owner. Payment for retesting will be charged to the Contractor.

END OF SECTION

## SECTION 01500

### CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

#### 1 PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Temporary Controls: Barriers, protection of the Work, and water control, soil erosion and sedimentation control.
- B. Progress cleaning.
- C. Removal of utilities, facilities, and control.
- D. Temporary driveways.

##### 1.2 RELATED SECTIONS

- A. Section 01700 - Contract Closeout: Final cleaning.
- B. Section 02274 - Soil Erosion And Sedimentation Control

##### 1.3 UNIT PRICE - MEASUREMENT AND PAYMENT

- A. Construction Facilities and Temporary Controls:
  - 1. Basis of Measurement: Included in the other pay items of the project.
  - 2. Basis of Payment: Includes all associated labor, material and equipment required for Construction Facilities and Temporary Controls required for this project for a complete installation.

##### 1.4 BARRIERS

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

##### 1.5 WATER CONTROL

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

1.6 SOIL EROSION AND SEDIMENTATION CONTROL

- A. Conform to Part 91 of Public Act 451 of 1994, relative to Soil Erosion and Sedimentation Control for the life of the project.
- B. Minimize amount of bare soil exposed at one time.
- C. Provide temporary measures such as berms, dikes, and drains to prevent sediment from entering adjacent waterways.
- D. Do not deposit trash, debris, or sediment in tile or open drains.
- E. Immediately repair trenches located within the traveled surface of roadways.
- F. Landscape construction areas as soon as practical after work is complete according to Sections 02923 - Landscape Grading, 02936 - Seeding.

1.7 PROTECTION OF INSTALLED WORK

- A. Protect installed Work and provide special protection where specified in individual specification Sections.
- B. Provide temporary and removable protection for installed Products. Control activity in immediate work area to minimize damage.
- C. Prohibit traffic from landscaped areas.

1.8 PROTECTION OF EXISTING

- A. CALL "MISS-DIG" (811) A MINIMUM OF THREE WORKING DAYS PRIOR TO CONSTRUCTION.
- B. Protect landscaped areas. Damaged areas shall be replaced in kind.
- C. Protect utilities encountered during the work. Replace or repair damaged utilities.
- D. Protect drives, roadways, and sidewalks. Repair as required in following sections.
- E. Protect trees, shrubs, and bushes:
  - 1. All trees outside of road right of way must be protected, sheet piled, tunneled and/or bored.
  - 2. Where trees, shrubs, and bushes are too large to be replaced in kind, the proposed utility shall be installed in a boring or tunneling operation unless written consent is given by the property owner for removal. Owner and Engineer shall each be given one copy of consent letters.
  - 3. Where requested by the Property Owner, timber from removed trees shall be cut into 6-foot lengths and stockpiled along the work or as specified in the consent letter.
  - 4. Proper disposal of removed trees or sections of removed trees not wanted by the property owner shall become the responsibility of the Contractor.
  - 5. Trees, shrubs, and bushes that are removed and replaced shall be transplanted by an established nursery.

- F. Utilities must remain in service. If it becomes necessary to interrupt a utility service, the utility authority must be notified immediately and steps taken to restore temporary or permanent service as soon as possible.
- G. Maintain outlets for drains. Provide temporary pumping if necessary.
- H. Expose utility mains and services by hand in the trench.

1.9 PARKING

- A. Arrange for surface parking areas to accommodate construction personnel.
- B. When site space is not adequate, provide additional off site parking.

1.10 PROGRESS CLEANING

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

1.11 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Remove temporary above grade or buried utilities, equipment, facilities, materials, prior to Substantial Completion Final Application for Payment inspection.
- B. Clean and repair damage caused by installation or use of temporary work.
- C. Restore existing facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.
- D. A sufficient sum of money to remove and replace or repair any utilities damaged or relocated during the construction of the project shall be included in total contract amount.

1.12 TEMPORARY DRIVEWAY

- A. Maintain driveways in suitable repair. Repair settlements promptly. Legitimate complaints not repaired within 24 hours will be repaired by the owner and the cost deducted from the contract.
- B. Temporary driveways shall be constructed to provide safe, stable, and smooth access.
- C. Driveways shall be finished and accepted by Owner before 100% completion of Work is accepted.

END OF SECTION



## SECTION 01600

### MATERIAL AND EQUIPMENT

#### 1 PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Products.
- B. Transportation and handling.
- C. Storage and protection.
- D. Product options.
- E. Substitutions.

##### 1.2 RELATED SECTIONS

- A. Document - Instructions to Bidders: Product options and substitution procedures.
- B. Section 01400 - Quality Control: Product quality monitoring.

##### 1.3 PRODUCTS

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

##### 1.4 TRANSPORTATION AND HANDLING

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

##### 1.5 STORAGE AND PROTECTION

- A. Store and protect products in accordance with manufacturer's instructions, with seals and labels intact and legible. Store sensitive products in weather-tight, climate controlled enclosures.
- B. For exterior storage of fabricated products, place on sloped supports, above ground.

- C. Provide off-site storage and protection when site does not permit on-site storage or protection.
- D. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to avoid condensation.
- E. Store loose granular materials on solid flat surfaces in a well-drained area. Avoid mixing with foreign matter.
- F. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- G. Arrange storage of products to permit access for inspection. Periodically inspect to assure products are undamaged and are maintained under specified conditions.

#### 1.6 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Any product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers: Products of manufacturers named and meeting specifications, no options or substitutions allowed.
- C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

#### 1.7 SUBSTITUTIONS

- A. Engineer will consider requests for Substitutions only within 5 days after date of Owner-Contractor Agreement.
- B. Substitutions may be considered when a product becomes unavailable through no fault of the Contractor.
- C. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.
- D. A request constitutes a representation that the Contractor:
  1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.
  2. Will provide the same warranty for the Substitution as for the specified product.
  3. Will coordinate installation and make changes to other Work which may be required for the Work to be complete with no additional cost to Owner.
  4. Waives claims for additional costs or time extension which may subsequently become apparent.
  5. Will reimburse Owner for review or redesign services associated with re-approval by authorities.
- E. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.

- F. Substitution Submittal Procedure:
1. Submit three copies of request for Substitution for consideration. Limit each request to one proposed Substitution.
  2. Submit shop drawings, product data, and certified test results attesting to the proposed product equivalence.
  3. The Engineer will notify Contractor, in writing, of decision to accept or reject request.

END OF SECTION

SECTION 01700  
CONTRACT CLOSEOUT

1 PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Closeout procedures.
- B. Final cleaning.
- C. Project record documents.
- D. Operation and maintenance data.
- E. Warranties.
- F. Progress Payments.
- G. Correction period.

1.2 RELATED SECTIONS

- A. Section 01500 - Construction Facilities and Temporary Controls: Progress cleaning.

1.3 CLOSEOUT PROCEDURES

- A. Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Engineer's inspection.
- B. Provide submittals to Engineer that are required by governing or other authorities.
- C. Provide Consent of Surety and all Final Waivers.

1.4 FINAL CLEANING

- A. Execute final cleaning prior to final inspection.
- B. Clean site; sweep paved areas, rake clean landscaped surfaces.
- C. Remove waste and surplus materials, rubbish, and construction facilities from the site.
- D. Landscape areas as required in documents.
- E. Restore roads, driveways, parking areas, lawns, drainage, and other items disturbed during construction to original condition or as required by the documents.

## 1.5 PROJECT RECORD DOCUMENTS

- A. Maintain on site, one set of the following record documents; record actual revisions to the Work:
  - 1. Contract Drawings.
  - 2. Specifications.
  - 3. Addenda.
  - 4. Change Orders and other Modifications to the Contract.
  - 5. Reviewed shop drawings, product data, and samples.
- B. Store Record Documents separate from documents used for construction.
- C. Record information concurrent with construction progress.
- D. Specifications: Legibly mark and record at each Product section description of actual Products installed, including the following:
  - 1. Manufacturer's name and product model and number.
  - 2. Product substitutions or alternates utilized.
  - 3. Changes made by Addenda and Modifications.
- E. Record Documents and Shop Drawings: Legibly mark each item to record actual construction including:
  - 1. Field changes of dimension and detail.
  - 2. Details not on original Contract Drawings.
- F. Submit documents to Engineer.

## 1.6 OPERATION AND MAINTENANCE DATA

- A. Submit final volumes revised, within ten days after final inspection.

## 1.7 WARRANTIES

- A. Execute and assemble documents from Subcontractors, suppliers, and manufacturers.
- B. Provide Table of Contents and assemble in three D size three ring binder with durable plastic cloth cover.
- C. Submit prior to final payment.
- D. For items of Work delayed beyond date of Substantial Completion, provide updated submittal within ten days after acceptance, listing date of acceptance as start of warranty period.

## 1.8 PROGRESS PAYMENTS

- A. The Owner may request from the Contractor waivers for proof of payment to all subcontractors and suppliers utilized on this project prior to issuing payments.
- B. The Owner may request from the Contractor a Sworn Statement listing all subcontractors and suppliers, their involvement with the project, their subcontracted amount, amount paid to date, and balance due prior to issuing payment.
- C. Failure to provide this information may result in not receiving payments or payments not being issued in a timely manner.

1.9 CORRECTION PERIOD

- A. For a period of one year from the date of final payment, promptly correct work or replace materials that are found to be defective.

END OF SECTION

SECTION 02110

SITE CLEARING

1. PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Remove surface debris.
- B. Remove paving, concrete, and other trash debris.
- C. Clear site of plantings.
- D. Remove trees and shrubs.
- E. Remove root system of trees and shrubs within 6'-0" either side of proposed path and boardwalk centerline. If root system will impact the installation of the path/boardwalk and falls outside of this limit, remove root system as necessary. Clear tree limbs to a minimum height of 10'-0" above path/boardwalk.
- F. Topsoil excavation.

1.2 RELATED SECTIONS

- A. Section 02211 – Rough Grading.
- B. Section 02222 – Excavation.
- C. Section 02923 – Landscape Grading.

1.3 UNIT PRICE - MEASUREMENT AND PAYMENT

- A. Site Clearing:
  - 1. Basis of Measurement: At the lump sum price bid for site clearing as stated in the proposal.
  - 2. Basis of Payment: Included all labor, equipment, and material for clearing site, loading and removing waste materials from site. Includes removing trees, stumps, vegetation, brush, and miscellaneous debris.

1.4 REGULATORY REQUIREMENTS

- A. Conform to applicable code for disposal of debris.
- B. Coordinate clearing Work with utility companies.

2. PART 2 EXECUTION

2.1 PREPARATION

- A. Verify that existing plant life within the clearing limits that is designated to remain, is tagged or identified.

2.2 PROTECTION

- A. Locate, identify, and protect utilities that remain, from damage.
- B. Protect survey stakes.
- C. Protect trees, plant growth, and features designated to remain, as final landscaping.
- D. Protect bench marks and existing structures from damage or displacement.

2.3 CLEARING

- A. Clear areas required for access to site and execution of Work.
- B. Clear undergrowth and deadwood, without disturbing subsoil.
- C. Clear to limits delineated by Engineer as shown on plans.

2.4 REMOVAL

- A. Remove debris, rock, and extracted plant life from site.
- B. Trees, shrubs, and bushes to be removed shall be done by falling the tree in sections, beginning from the top down and removing the stump and debris from the site.
- C. The property owner, at his option, may elect to claim the usable timber.
- D. If so, the Contractor shall be responsible for cutting the tree into manageable lengths and stockpiling same along the line of the work.
- E. If the property owner does not want the timber, it shall become the property of the Contractor.
- F. The cost of removing trees, brush, and bushes and the cutting of timber and removing debris from the site shall be included in the unit price for cleanup of the project.

2.5 TOPSOIL EXCAVATION

- A. Excavate topsoil from areas to be further excavated, re-landscaped marked areas.
- B. Stockpile in area designated on site as approved by the Engineer. Protect from erosion.

END OF SECTION



SECTION 02211  
ROUGH GRADING

1. PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Removal of topsoil and subsoil.
- B. Cutting, grading, filling and rough contouring the site.

1.2 RELATED SECTIONS

- A. Section 01400 - Quality Control Testing Laboratory Services.
- B. Section 02110 - Site Clearing.
- C. Section 02923 - Landscape Grading: Finish grading with topsoil to contours.

1.3 REFERENCES

- A. MDOT Standards.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.

1.5 PROJECT RECORD DOCUMENTS

- A. Submit under provisions of Section 01700 Contract Closeout.
- B. Accurately record actual locations of utilities remaining, by horizontal dimensions, elevations or inverts, and slope gradients.

1.6 UNIT PRICE - MEASUREMENT AND PAYMENT

- A. Rough Grading:
  - 1. Basis of Measurement: At the unit price bid per lineal foot of path rough grading.
  - 2. Basis of Payment: Includes all excavation, fill, labor, materials, removal of railroad ties and grading required for rough grading to provide the required contours and/or return the disturbed areas back to existing conditions.

2. PART 2 PRODUCTS

2.1 MATERIALS

- A. Topsoil: Excavated material, graded, free of roots, rocks larger than 1 inch (25 mm), subsoil, debris, and large weeds.
- B. Subsoil: Excavated material, graded, free of lumps larger than 6 inches (150 mm), rocks larger than 3 inches (75 mm), and debris.

- C. Granular Fill: Type B specified in Section 2223 - Backfilling MDOT Class II for dry excavation. Type A specified in Section 2223 - MDOT 6A compacted crushed limestone for wet excavation.
- D. Coarse Aggregate: Type A MDOT 6A compacted crushed limestone for wet excavation specified in Section 2223 - Backfilling.

### 3. PART 3 EXECUTION

#### 3.1 EXAMINATION

- A. Verify site conditions under provisions of Section 01039 - Coordination and Meetings.
- B. Verify that fill materials to be used are acceptable.

#### 3.2 PREPARATION

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

#### 3.3 TOPSOIL EXCAVATION

- A. Excavate topsoil from areas to be further excavated, re-landscaped, or re-graded marked areas.
- B. Stockpile in area designated on site or as approved by the Engineer. Remove excess topsoil not being reused, from site.
- C. Do not excavate wet topsoil.
- D. Stockpile topsoil for reuse on site to depth not exceeding 8 feet (2.5 m).

#### 3.4 SUBSOIL EXCAVATION

- A. Excavate subsoil from areas to be further excavated, re-landscaped, or re-graded.
- B. Stockpile in area designated on site or as approved by the Engineer.
- C. Do not excavate wet subsoil.
- D. When excavation through roots is necessary, perform work by hand and cut roots with sharp axe.

### 3.5 FILLING

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

### 3.6 SPOIL LEVELING

- A. Contractor shall be responsible for loading and hauling of all excess excavated material generated from this project to locations determined by Owner.
- B. Place no excavated materials on roads without written permission of the authorities having jurisdiction of said road.
- C. Remove excavation in areas adjacent to yards where there is no suitable place to deposit spoils and dispose of as indicated on the drawings or off site as directed by the Engineer.
- D. Place no spoils in a watercourse or drain.

### 3.7 TOLERANCES

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

### 3.8 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed under provisions of Section 01400 - Quality Control.
- B. Tests and analysis of fill material will be performed in accordance with MDOT Standards and with Section 01400.
- C. Compaction testing will be performed in accordance with MDOT Standards and with Section 01400.
- D. If tests indicate Work does not meet specified requirements, remove Work, replace and retest at no cost to Owner.
- E. Frequency of Tests: As directed by the Engineer.

END OF SECTION

## SECTION 02222

### EXCAVATION

#### 1. PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Excavation.
- B. Restoration.
- C. Hauling and disposal of material.
- D. Other Structures.

##### 1.2 RELATED SECTIONS

- A. Section 02211 - Rough Grading.
- B. Section 02223 - Backfilling.
- C. Section 02110 - Site Clearing.
- D. Document Section 01019 - Contract Considerations:
- E. Section 01400 - Quality Control.
- F. Section 01500 - Construction Facilities and Temporary Controls: Dewatering excavations and water control.

##### 1.3 UNIT PRICE - MEASUREMENT AND PAYMENT

- A. Excavation:
  - 1. Basis of Measurement: Included in the other pay items of this project.
  - 2. Basis of Payment: Includes all material, labor, and equipment necessary for the excavation required for a complete project.

#### 2. PART 2 PRODUCTS

##### 2.1 PREPARATION

- A. Notify Engineer in accordance with Section 01039 - Coordination and Meetings.
- B. Identify required lines, levels, contours, and datum.
- C. Identify known underground, above ground, and aerial utilities, stake, and flag locations.
- D. Notify utility company when specified to remove and relocate utilities.
- E. Protect above and below grade utilities which are to remain.
- F. Protect plant life, lawns, rock outcropping and other features remaining as a portion of final landscaping.

- G. Protect benchmarks, existing structures, fences, sidewalks, paving, and curbs from excavation equipment and vehicular traffic.
- H. Protect grade and slope stakes.

## 2.2 EXCAVATION

- A. Clear site in accordance with Section 02110 - Site Clearing.
- B. Excavate to the dimensions and cross sections specified on drawings.
- C. Machine slope banks to required slopes.
- D. Notify Engineer of unexpected subsurface conditions and discontinue affected Work in area until notified to resume work.
- E. Correct unauthorized excavation at no extra cost to Owner.
- F. Seed excavated areas daily in accordance with Section 02936 - Seeding.
- G. Haul all excavated materials to an approved landfill.
- H. Match existing side slopes in reaches identified channel cleanout.

## 2.3 FIELD QUALITY CONTROL

- A. Field inspection will be performed under provisions of Section 01400.
- B. Provide for visual inspection of bearing surfaces.
- C. Periodic field inspection will be performed.

## 2.4 PROTECTION

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

## 2.5 DUST CONTROL

- A. The Contractor shall implement measures to minimize dust, especially near residents, upon the engineer's request. Cost included with open channel excavation.
- B. The plan shall include but not be limited to the implementation of a combination of any or all of the following techniques as determined to be applicable to this project:
  - 1. Wet Suppression - How will water be applied? How often?
  - 2. Vehicle Speed Reduction - What will be the posted speed limit?
  - 3. Surface Cleaning - How will this be done?
  - 4. Traffic Control - Identify the main travel and haul roads.
  - 5. Windbreaks - What types if any will be used?
  - 6. Good Operating Practices - Name some good operating practices.

2.6 OTHER EXCAVATION

- A. Underpin adjacent structures, which may be damaged by excavation work, including utilities and pipe chases.
- B. Excavate subsoil required to shape detention basin to size and to 6 inches below finish grade elevations as shown on the plans.
- C. Grade top perimeter of excavation to prevent surface water from draining into excavation.
- D. Provide, operate and maintain pumping equipment to keep excavation free of water.
- E. Remove lumped subsoil, boulders, and rock.
- F. Notify Owner's representative of unexpected subsurface conditions and discontinue affected Work in area until notified to resume work.
- G. In areas that are suspect and may require subgrade undercutting, notify Owner's representative immediately. Do not proceed until it is agreed subgrade undercutting is required and quantities can be documented.
- H. Machine slope banks according to OSHA guidelines.
- I. Correct unauthorized excavation at no extra cost to Owner.
- J. Correct areas over-excavated by error in accordance with Section 02223 - Backfilling.
- K. Excess excavation material is understood to mean the excess excavated and remaining after the required backfilling hereinbefore specified is completed. Such excess excavated material shall be loaded by the Contractor and trucked to approved disposal sites.

2.7 HAULING AND DISPOSAL OF MATERIAL AND DEBRIS

- A. Contractor is responsible for identifying and disposing of spoils in acceptable locations in accordance with MDEQ requirements.

END OF SECTION

## SECTION 02223

### BACKFILLING

#### 1. PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Fill materials.
- B. Backfilling.
- C. Consolidation and compaction.

##### 1.2 RELATED SECTIONS

- A. Section 01400 - Quality Control.

##### 1.3 REFERENCES

- A. ANSI/ASTM C136 or ASTM 108 & 109 - Method for Sieve Analysis of Fine and Coarse Aggregates.
- B. M.D.O.T. Density Testing and Inspection Manual, 2003 Edition, Revised December 2014.
- C. M.D.O.T. 2012 Specifications for Construction.

##### 1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.

##### 1.5 UNIT PRICE - MEASUREMENT AND PAYMENT

- A. Path Subbase 4" Granular Material, C.I.P.:
  - 1. Basis of Measurement: At the unit price bid per cubic yard compacted in place as stated in the proposal.
  - 2. Basis of Payment: Includes material, labor, and equipment required to accomplish this work.
- B. Backfilling:
  - 1. Basis of Measurement: Included with other pay items of this project.
  - 2. Basis of Payment: Includes material, labor, and equipment necessary to backfill all material used for this project to the required density and contours.

#### 2. PART 2 PRODUCTS

##### 2.1 FILL MATERIALS

- A. Type A - Coarse Stone Fill: MDOT 6A - for wet excavation, excavation within open drain, refill for poor soil or over excavation in pipe trench, compacted to 95 percent of maximum density. A ballast type crushed limestone free of shale, clay, friable material, sand debris graded in accordance with ANSI/ASTM C136.
- B. Type B - Granular Fill: MDOT Class II - for dry excavation and backfill around structure

compacted to 95 percent of maximum density in accordance with M.D.O.T. standards.

- C. Type C - Structural Fill: MDOT Class I - for lower area of excess excavation over 24", compacted to 97 percent of maximum density in accordance with M.D.O.T. standards.
- D. Type D - Native Subsoil: Reused, free of gravel larger than 3 inch size, and debris, backfill above bedding of pipe to subgrade in greenbelt area. Compacted to 90 percent of maximum density in accordance with M.D.O.T. standards. As approved by the Engineer.
- E. Type E - Dense Aggregate: MDOT 22A crushed limestone for driveway and temporary patches on traveled surfaces compacted to 95 percent of maximum density in accordance with M.D.O.T. standards.

### 3. PART 3 EXECUTION

#### 3.1 EXAMINATION

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

#### 3.2 PREPARATION

- A. Generally, compact subgrade to density requirements for subsequent backfill materials.
- B. Cut out soft areas of subgrade not capable of insitu compaction. Backfill with Type A fill (wet excavation) or Type B fill (dry excavation), and compact to density equal to or greater than requirements for subsequent backfill material.
- C. Prior to placement of aggregate base course material at gravel paved areas, compact subsoil to 95 percent of its maximum dry density in accordance with M.D.O.T. standard requirements.

#### 3.3 BACKFILLING

- A. Backfill areas to contours and elevations with unfrozen materials.
- B. Systematically backfill to allow maximum time for natural settlement. Do not backfill over porous, wet, frozen or spongy subgrade surfaces.
- C. Granular Fill: Place and machine compact materials with plate compactor in continuous layers not exceeding 6 inches compacted depth.
- D. Native Fill: Place and machine compact material with plate compactor in continuous layers not exceeding 12 inches compacted depth.
- E. Machine compact under springline of pipe with plate compactor or equivalent.
- F. Employ a placement method that does not disturb or damage foundation perimeter drainage conduit in trenches.
- G. Maintain optimum moisture content of backfill materials to attain required compaction density.
- H. Backfill against supported foundation walls. Do not backfill against unsupported foundation walls.



- I. Backfill simultaneously on each side of unsupported foundation walls until supports are in place.
- J. Make grade changes gradual. Blend slope into level areas.
- K. Remove surplus backfill materials from site.
- L. Leave fill material stockpile areas completely free of excess fill materials.
- M. Backfill wet excavation areas with Type A fill.
- N. Backfill over excavation in open drain with Type F fill.

3.4 TOLERANCES

- A. Top Surface of Backfilling Under Paved Areas: Plus or minus 1/2 inch from required elevations.

3.5 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed under provisions of Section 01400.
- B. Compaction testing will be performed in accordance with MDOT standard requirements.
- C. If tests indicate Work does not meet specified requirements, remove Work, replace and retest at no cost to Owner.
- D. Frequency of Tests: At the discretion of Engineer.
- E. Proof roll compacted fill surfaces under slabs-on-grade.

3.6 PROTECTION OF FINISHED WORK

- A. Protect finished work under provisions of Section 01560.
- B. Recompact fills subjected to vehicular traffic.

END OF SECTION

SECTION 02231

AGGREGATE BASE COURSE

1. PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Aggregate base course for crushed stone path.
- B. Aggregate for gravel parking lot.

1.2 RELATED SECTIONS

- A. Section 02211 - Rough Grading: Preparation of site for base course.
- B. Section 02223 - Backfilling: Compacted fill under base course.
- C. Section 02923 - Landscape Grading: Soil fill at areas adjacent to base course.

1.3 UNIT PRICE - MEASUREMENT AND PAYMENT

- A. Crushed Stone Path 4" Crushed Limestone, 22A, C.I.P.:
  - 1. Basis of Measurement: At the unit price bid per square yard compacted in place as stated in the proposal.
  - 2. Basis of Payment: Includes all associated labor, material and equipment required to accomplish this work.
- B. ADA Parking 8" Crushed Limestone, 22A, C.I.P.:
  - 1. Basis of Measurement: Included in the lump sum bid price for Parking Lot as stated in the proposal.
  - 2. Basis of Payment: Includes all associated labor, material and equipment required to accomplish this work.

1.4 REFERENCES

- A. ANSI/ASTM C117 - Test Method for Materials Finer than 75 mm (No. 200) Sieve in Mineral Aggregates by Washing.
- B. ANSI/ASTM C136 - Method for Sieve Analysis of Fine and Coarse Aggregates.
- C. Test method for density of soil in place with loss by wash less than 15% - One Point Michigan Cone Test.
- D. Test method for density of soil in place with loss by wash greater than 15% - One Point T-99 Test.
- E. MDOT Standard Specifications for Construction.
- F. ASTM D2992 - Test Methods of Density of Soil and Soil - Aggregate in Place by the Nuclear Method (Shallow Depth).

1.5 SUBMITTALS

- A. Submit under provisions of Section 01300.

2. PART 2 PRODUCTS

2.1 MATERIALS

- A. Aggregate for base course: Type E, MDOT 22A compacted crushed limestone.

2.2 ACCESSORIES

- A. Not used.

3. PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify subbase has been inspected, gradients and elevations are correct, and are dry.
- B. Remove topsoil prior to placing aggregate base course.

3.2 AGGREGATE PLACEMENT

- A. Spread aggregate to a total compacted thickness as shown on detail sheet.
- B. Place aggregate up to 1-12" layer and roller compact.
- C. Level and contour surfaces to elevations and gradients indicated.
- D. Compact placed aggregate materials to achieve compaction to 95 percent of its maximum dry density in accordance with MDOT Standard requirements.
- E. Add water to assist compaction. If excess water is apparent, remove aggregate and aerate to reduce moisture content.
- F. Use mechanical vibrating tamping in areas inaccessible to compaction equipment.

3.3 TOLERANCES

- A. Flatness: Maximum variation of 1/4 inch measured with 10 foot straight edge.
- B. Scheduled Compacted Thickness: Within 1/4 inch.
- C. Variation from True Elevation: Within 1/2 inch.

3.4 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed under provisions of Section 01400.
- B. Gradation of Aggregate: In accordance with ASTM C136.

- C.      Compaction testing will be performed as specified.
- D.      If tests indicate Work does not meet specified requirements, remove Work, replace and retest at no cost to Owner.
- E.      Frequency of Tests: At the discretion of Engineer.

END OF SECTION

SECTION 02235

CRUSHED STONE PATH

1 PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Crushed stone limestone mix for path topping.
- B. Aggregate base course.

1.2 RELATED SECTIONS

- A. Section 02211 - Rough Grading: Preparation of site for base course.
- B. Section 02231 – Aggregate Base Course.
- C. Section 02923 - Landscape Grading: Soil fill at areas adjacent to base course.

1.3 REFERENCES

- A. ANSI/ASTM C117 - Test Method for Materials Finer than 75 mm (No. 200) Sieve in Mineral Aggregates by Washing.
- B. ANSI/ASTM C136 - Method for Sieve Analysis of Fine and Coarse Aggregates.
- C. Test method for density of soil in place with loss by wash less than 15% - One Point Michigan Cone Test.
- D. Test method for density of soil in place with loss by wash grater than 15% - One Point T-99 Test.
- E. MDOT Standard Specifications for Construction.
- F. ASTM D2992 - Test Methods of Density of Soil and Soil - Aggregate in Place by the Nuclear Method (Shallow Depth).

1.4 UNIT PRICE - MEASUREMENT AND PAYMENT

- A. Crushed Stone Path 2” Topping, C.I.P.:
  - 1. Basis of Measurement: At the unit price bid per square yard compacted in place as stated in the proposal.
  - 2. Basis of Payment: Includes all associated labor, material and equipment required to accomplish this work.

2 PART 2 PRODUCTS

2.1 MATERIALS

- A. Crushed stone topping: Shall be a 50/50 mix of MDOT 29A crushed limestone aggregate and Limestone Dust.

Limestone Dust shall meet the following specification:

100%	3/8"
100%	#4
85-95%	#8
60-70%	#16
45-55%	#30
40-50%	#40
35-45%	#50
35-45%	#60
25-35%	#100
15-25%	Loss By Wash (LBW)

- B. Aggregate for base course: Type E, MDOT 22A compacted crushed limestone.

### 3 PART 3 EXECUTION

#### 3.1 EXAMINATION

- A. Verify subbase and base have been inspected, gradients and elevations are correct, and are dry.

#### 3.2 AGGREGATE PLACEMENT

- A. Spread aggregate to a total compacted thickness as shown on detail sheet.
- B. Place aggregate in 1-12" layer and roller compact.
- C. Level and contour surfaces to elevations and gradients indicated.
- D. Compact placed aggregate materials to achieve compaction to 95 percent of its maximum dry density in accordance with MDOT Standard requirements.
- E. Add water to assist compaction. If excess water is apparent, remove aggregate and aerate to reduce moisture content.
- F. Use mechanical vibrating tamping in areas inaccessible to compaction equipment.

#### 3.3 TOLERANCES

- A. Flatness: Maximum variation of 1/4 inch measured with 10 foot straight edge.
- B. Scheduled Compacted Thickness: Within 1/4 inch.
- C. Variation from True Elevation: Within 1/2 inch.

#### 3.4 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed by the Owner.
- B. Gradation of Aggregate: In accordance with ASTM C136.
- C. Compaction testing will be performed as specified.

- D. If tests indicate Work does not meet specified requirements, remove Work, replace and retest.
- E. Frequency of Tests: At the discretion of Owner.

END OF SECTION

SECTION 02274

SOIL EROSION PREVENTION AND SEDIMENTATION CONTROL

1. PART 1 GENERAL

1.1 SECTION INCLUDES

- A. System Description.
- B. Quality Assurance.
- C. Regulatory Requirements.
- D. Method of Payment.

1.2 SYSTEM DESCRIPTION

- A. Methods of control are identified on Drawings by numbers corresponding to the Michigan Unified Keying System for soil erosion and sedimentation control.
- B. The notation "T" or "P" following the number (as shown on the Drawings) indicates whether the control measure is temporary or permanent.
- C. Additional control measures shall be employed as required by site conditions and applicable enforcing agency having project jurisdiction.

1.3 UNIT PRICE - BASIS OF MEASUREMENT

- A. Soil Erosion and Sedimentation Control:
  - 1. Basis of Measurement: At the lump sum bid price as stated in the proposal.
  - 2. Basis of Payment: Includes all labor, material, and equipment required for soil erosion prevention and sedimentation control required for this project. Additional control measures shall be employed as required by site conditions and applicable enforcing agency having project jurisdiction at no additional cost.

1.4 QUALITY ASSURANCE

- A. Perform and maintain work in accordance with the Soil Erosion and Sedimentation Control, Part 91 of Act 451 of 1994, and corresponding rules of the Department of Environmental Quality.

1.5 REGULATORY REQUIREMENTS

- A. Contractor shall obtain all permits and pay all fees for plan review and inspection as required by applicable enforcing agency having jurisdiction.
- B. Submit installation time schedule for temporary and permanent soil erosion and sedimentation control measures to applicable enforcing agency having jurisdiction, as well as to Engineer. Make submittals prior to start of construction.

1.6 METHOD OF PAYMENT



- A. All fees required by applicable enforcing agency shall be paid as stated in Proposal.
2. PART 2 PRODUCTS

2.1 MATERIALS

- A. Permanent Measures: In accordance with applicable Section for specified materials.
- B. Temporary Measures: In accordance with standards and specifications for soil erosion and sediment control with approved plans and requirements of applicable enforcing agency.

3. PART 3 EXECUTION

3.1 EXAMINATION AND PREPARATION

- A. Identify required lines, levels, contours and datum.
- B. Field locate known utility locations. Notify Engineer of conflicts and attain removal or relocation instructions prior to continuing installation activities.
- C. Maintain and protect existing utilities to remain.

3.2 PROTECTION OF ADJACENT WORK

- A. Protect adjacent structures and property which may be damaged by execution of work.
- B. Protect existing trees, shrubs, landscaping and lawn areas designated to remain.

3.3 INSTALLATION AND MAINTENANCE

- A. Construct soil erosion and sedimentation control measures in accordance with approved plans and requirements of applicable enforcing agency.
- B. Schedule planned control measures with construction operations to limit the area of any disturbed land to the shortest possible period of exposure.
- C. Conduct all earth changes so as to effectively reduce accelerated soil erosion and resulting sedimentation.
- D. Remove all sediment from runoff water before it leaves the site.
- E. Inspect, maintain and repair temporary control measures until permanent control measures are implemented.
- F. Maintain permanent control measures until final acceptance by Owner.
- G. Install silt fences around all catchbasin inlets, to be removed after final inspection of the project.

END OF SECTION

SECTION 02350

HELICAL PIERS FOR STRUCTURAL SUPPORT

1. PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Helical screw piers for support of boardwalk system.

1.2 RELATED SECTIONS

- A. Division 2 - Sitework
- B. Division 6 – Wood and Plastics

1.3 REFERENCES

- A. SBCI-9504B – Standard Building Code
- B. BOCA-RR94-27 - BOCA National Code
- C. ICBO-ER-5110 – International Building Code
- D. ASTM A29 Steel Bars, Carbon and Alloy, Hot-Wrought and Cold Finished.
- E. ASTM A36 Structural Steel.
- F. ASTM A53 Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless.
- G. ASTM A153 Zinc Coating (Hot Dip) on Iron and Steel Hardware.
- H. ASTM A252 Welded and Seamless Steel Pipe Piles.
- I. ASTM A193 Alloy-Steel and Stainless Steel Bolting Materials for High Temperature Service.
- J. ASTM A320 Alloy-Steel Bolting Materials for Low Temperature Service.
- K. ASTM A325 Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength.
- L. ASTM A500 Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.
- M. ASTM A513 Standard Specification for Electric Resistance Welded Carbon and Alloy Steel Mechanical Tubing.
- N. ASTM A536 Standard Specifications for Ductile Iron Castings
- O. ASTM A572 HSLA Columbium-Vanadium Steels of Structural Quality.
- P. ASTM A618 Hot-Formed Welded and Seamless High-Strength Low-Alloy Structural Tubing.

- Q. ASTM A656 Hot-Rolled Structural Steel, High-Strength Low-Alloy Plate with Improved Formability.
- R. ASTM A958 Standard Specification for Steel Castings, Carbon, and Alloy, with Tensile Requirements, Chemical Requirements Similar to Wrought Grades.
- S. ASTM A1018 Steel, Sheet and Strip, Heavy Thickness Coils, Hot Rolled, Carbon, Structural, High-Strength Low-Alloy, Columbium or Vanadium, and High-Strength Low-Alloy with Improved Formability.

#### 1.4 UNIT PRICE - MEASUREMENT AND PAYMENT

- A. Helical Pier:
  - 1. Basis of Measurement: Included with other pay items of this project.
  - 2. Basis of Payment: Includes all associated labor, material and equipment required to accomplish this work.

#### 1.5 PREPARATION AND FIELD MEASUREMENTS

- A. Verify location of existing utilities and structures that may cause interference.

#### 1.6 ALLOWABLE TOLERANCES

- A. Centerline of Helical Piles shall not be more than 3 inches from indicated plan location.
- B. Helical Pile plumbness shall be within 2° of design alignment.
- C. Top elevation of Helical Pile shall be within +1 inch to -2 inches of the design vertical elevation.

#### 1.7 QUALITY CONTROL

- A. All work as described herein shall be performed in accordance with all applicable safety codes in effect at the time of installation.

#### 1.8 COORDINATION

- A. Coordinate work with other Sections.

#### 1.9 GROUND CONDITIONS

- A. Adequate soil boring information is not available. Installation of a Helical Pile at various locations on the project site will be necessary to generate a presumptive soil profile using the well-known installed torque vs. capacity attribute of helical piles to determine an appropriate helical pier to meet the required capacity.

## 2. PART 2 PRODUCTS

### 2.1 MANUFACTURER

- A. Helical Pier Distributions LLC, Wixom, MI 48393.
- B. Or Owner approved equal.

## 2.2 HELICAL PIER

- A. Helical piers as specified shall conform to the applicable building code.
- B. The helical lead sections and extension sections shall be solid steel, round cornered square shaft, or round steel pipe shaft, or composite steel and grout shaft configured with one or more helical bearing plates welded to the shaft.
- C. All piers must be corrosion protected by hot dip galvanization.
- D. Installation units shall consist of a rotary type torque motor with forward and reverse capabilities.
- E. A torque indicator shall be used during Helical Pile installation. The torque indicator can be an integral part of the installation equipment or externally mounted in-line with the installation tooling and shall be properly calibrated.
- F. Installation units shall be capable of developing the minimum torque as required.
- G. Appropriate helical pier selection will consider design load plus safety factor, soil parameters and the installation torque vs. capacity equation as per the manufacturer's recommendations.
- H. Design of helical screw piers and anchors shall be performed by an entity as required in accordance with existing local code requirements or established local practices. This design work may be performed by a licensed professional engineer, a certified dealer, or designer depending on local requirements or practices.
- I. Piers shall have U-shape bracket sleeves to mount lateral support beams for joist and deck structure. All component materials shall be protected by hot dip galvanization.

## 3. PART 3 EXECUTION

### 3.1 HELICAL PIER INSTALLATION

- A. Installation units shall be capable of positioning the helical pier at the proper installation angle. This angle may vary between vertical and 5 degrees depending upon application and type of load transfer device specified or required.
- B. Installation torque shall be monitored throughout the installation process.
- C. Helical piers shall be installed to the minimum torque value required to provide 3 kip ultimate load capacities.

### 3.2 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed by the Owner.
- B. Accurately record location, type, torque and depth of piers.

### 3.3 PROTECTION

- A. Protect installation after placement prior to completion of construction and backfilling.

END OF SECTION

SECTION 02482

DREDGING

1 PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Dredging.
- B. Dredging disposal.

1.2 RELATED SECTIONS

- A. Section 01400 - Quality Control.
- B. Section 01560 - Temporary Controls.

1.3 FIELD MEASUREMENTS

- A. Verify that survey benchmark (local datum) and intended elevations for the work are as intended.

1.4 SUBMITTALS

- A. Shop drawings for dredge material containment and dewatering area.
- B. Methodology including time frame for drying, and dispersing of dredged spoils.

1.5 UNIT PRICE – MEASUREMENT AND PAYMENT

- A. Dredging:
  - 1. Basis of Measurement: At the unit price bid per cubic yard for dredging, as stated in the proposal.
  - 2. Basis of Payment: Includes material, labor, and equipment to hydraulically or mechanically dredge, excavate, piping, and pump to dredge (excavate) the portions of the channel to the required contours as indicated in the drawings and specifications.
- B. Mobilization/Demobilization:
  - 1. Basis of Measurement: Include in the unit price for dredging, as stated in the proposal.
  - 2. Basis of Payment: Includes material, labor, and equipment to mobilize and demobilize equipment and items required to construct the project. This includes any and all fees required by transportation departments and any regulating agencies.

2 PART 2 PRODUCTS

- 2.1 Not applicable.

3 PART 3 EXECUTION

3.1 PREPARATION

- A. Identify required lines, levels, contours, and datum.
- B. Provide for minimal disruption to the existing channel bottom.
- C. Silt/Turbidity curtain shall be installed, anchored and maintained until the turbidity confined within the curtain has reduced to the same turbidity appearance as the channel water outside the curtain.

3.2 DREDGING

- A. The Contractor shall perform all dredging work to remove material by hydraulic or mechanical means to the required depths within the limits shown on the drawings and as specified. Other than hopper overflow while hydraulically dredging, discharge into the channel water from any pipes or pumping apparatus on the Contractor's dredge and floating plant or mechanical equipment is prohibited at all times.
- B. Should original material, ledgerrock, boulders, cobbles, rock fragments, wrecks, scrap materials, snags, stumps, piles, debris or other material be encountered which cannot be removed by hydraulic or mechanical means without blasting or special apparatus, the Contractor shall remove therefrom all overlying material within the required dredging prism which in the judgment of the Engineer can be removed by hydraulic or mechanical means.
- C. Notify Engineer of unexpected subsurface conditions and discontinue affected work in area until notified to resume work.
- D. Correct unauthorized dredging at no extra cost to Owner.
- E. Deposit dredged material in placement area for dewatering prior to dispersal. Contractor to submit shop drawings for placement area, dispersal methods for review prior to construction. **The placement area for this project shall be in the existing parking area.**
- F. The Contractor shall place silt curtains or similar type turbidity control devices to contain the dredge area prior to commencement of dredging and remove them within 15 days of completion of dredging or when turbidity levels within the project area fall to, or below, the turbidity level of the ambient water outside of the dredge area.

3.3 CONVEYANCE AND TRANSFER OF DREDGED MATERIALS

- A. All nautical vessels, pipelines, and land-based transport and conveyance systems shall be operated, loaded, and unloaded in such a manner as to prevent overflow, spills, leaks, waste, or other loss of dredged materials between point of pick-up and points of deposition within the disposal areas. Hauling vessels shall have sufficient sidewall height and integrity to prevent drainage over or through the sides and bottom during hauling.
- B. Restriction: The method employed by the Contractor in conveying dredged materials to the placement area shall be as shown on shop drawings supplied by Contractor and approved by the Engineer at all times. Temporary dumping or placement of materials

- outside of the placement area for subsequent rehandling into the placement area is prohibited unless otherwise approved by the Engineer.
- C. Pipeline Conveyance: Dredged materials conveyed into the Engineer or Contractor furnished placement areas via hydraulic pipeline are subject to the conditions specified herein.
  - D. Restricted Areas: Pipelines shall not be placed in areas restricted by others. Where dredge pipelines pass in front of or alongside of restricted areas, the pipeline shall be submerged and securely anchored to the lake or lake water bottom with a minimum clear depth of ten (10) feet above the top of this pipeline.
  - E. Pipelines: Pipelines shall be of such design and fabrication as to preclude any leaks or breaks. To determine the presence of any leaks or breaks, pipelines will be subject to pressure tests at twice the working pressure of the pipeline for a minimum of two (2) hours duration at the following times:
    - 1. Initial start of dredging.
    - 2. Startup following any disconnection of a pipeline for relocation purposes.
    - 3. Startup following and disconnection of a pipeline for removal of plugs and blockages.
    - 4. After a pipeline has been subject to severe stresses induced by wind and waves.
    - 5. At intervals not less than once a week.
  - F. Pump Pressure: The Contractor shall closely monitor pressure gages at hydraulic dredges and any pumps. Should a sudden drop in pressure occur indicating a leak or a break in a pipeline, the Contractor shall immediately cease pumping operations and promptly correct the leak or break. Prior to resumption of pumping, pressure testing of the pipeline will be required as specified hereinbefore.
  - G. Pipe Cleaning: Prior to disconnecting any pipeline for relocation purposes, the Contractor shall flush the pipeline until clear water is observed at the point of discharge within the placement area for a period of ten (10) minutes. Before pumping is resumed, the Contractor shall pressure test the pipeline as specified hereinbefore.
  - H. Pipeline Blockage: Should any pipeline require disconnection for removal of plugs or blockages, materials removed from the pipeline shall be disposed of in the furnished disposal area. The Contractor's method for disposal of materials removed from a plugged or blocked pipeline shall be subject to the approval of the Engineer.
  - I. Pumping Operations: The Engineer may require the Contractor to cease pumping operations when actual wave height's at any pipeline are at or exceed four (4) feet or it is evident that rough seas might induce severe stresses on the pipeline.
  - J. Pipeline Inspection: the Contractor shall visually inspect pipeline(s) twice each eight (8) hour working period. If a twenty-four (24) hour work schedule is used, proper lighting shall be provided for inspection.

#### 3.4 TEMPORARY PLACEMENT OF DREDGED MATERIALS

- A. General: The dredged materials shall be deposited hydraulically or mechanically, and contained for dewatering prior to dispersing as showed in Engineer approved shop drawings. The temporary placement area shall be located above the ordinary high water mark. Except as otherwise authorized by the Engineer in writing, no placement shall be performed unless a representative of the Engineer for Quality Control is present at the time. The method employed by the Contractor in depositing dredged materials in the placement areas for dewatering prior to dispersing shall be as approved by the Engineer



at all times. **The placement area for this project shall be in the existing parking area.**

- B. **Misplaced Material:** Any material that is deposited elsewhere than in the places designated in this contract or approved by the Engineer will not be paid for. The Contractor shall be required to remove such misplaced material at its expense and deposit it in the place designated in this contract or approved by the Engineer.
- C. **Spoil Removal After Dewatering:** The contractor shall remove dewatered spoils from the containment site and disperse within two week after spoils are sufficiently dewatered, as determined by the engineer.

### 3.5 DISPERSAL OF DREDGED MATERIALS ON SITE

- A. After dredged spoils have dried, Contractor shall disperse spoils on site at an approved location as directed by the Owner.

### 3.6 FIELD QUALITY CONTROL

- A. Field inspection will be performed under provisions of Section 01400 - Quality Control.
- B. Dredged sections will be surveyed, by Contractor, to verify the newly established grade and shall be verified prior to Contractor moving his equipment from the site. If survey shots show that the required depth has not been met the contractor must continue to dredge the section until the required depth is established. There will be no additional payment for any dredging beyond the required depth specified in the plans and if the Contractor leaves the site prior to verification.
- C. Contractor is responsible for daily monitoring of the discharge effluent during periods of effluent outflow.

END OF SECTION

SECTION 02870

SITE FURNISHINGS

1. PART 1 GENERAL

1.1 SCOPE

- A. This section covers furnishing and installing all items of site furnishings or amenities, including Park Benches, Trash Receptacles, Bollards, and Interpretive Signs as shown on drawings, as herein specified and/or as required for a complete job.

1.2 SUBMITTALS

- A. Furnish complete product information for all items of site furnishings required for the project to Architect for approval.

1.3 UNIT PRICE – MEASUREMENT AND PAYMENT

- A. Site Furnishings:
1. Basis of Measurement: At the unit price bid for each site furnishing.
  2. Basis of Payment: Includes all labor, material, equipment, mountings and concrete footings as required for a complete installation.

2. PART 2 PRODUCTS

2.1 MATERIAL

- A. Park Bench, Accessible (1 ea.): Pilot Rock (RJ Thomas Mfg. Co., Inc.) model B111-C-G-6PC24 or approved equal, embedded post mount, cedar colored recycled plastic with galvanized frame. Field locate with Owner and Engineer.
- B. Trash Receptacle (1 ea.): Pilot Rock (RJ Thomas Mfg. Co., Inc.), model TRH/G-32PC24 with model CN-PD/C-27 round plastic dome or approved equal. Use model M2/G embedded pedestal mount (elevated concrete embedded installation). Include model CN/B-1827 heavy-duty, rigid plastic liner. Cedar colored recycled plastic slats and dome lid. Include concrete footing for mounting. Field locate with Owner and Engineer.
- C. Bollard (2 ea.): Use Trafficguard Round Post (HRP) collapsible, height 48". Include concrete footing. Manufacturer shall supply four (4) anchors for mounting to concrete footing. Color shall be high visibility safety yellow, factory finish. See drawings for details.
- D. Interpretive Sign (2 ea.): Use Pannier Corporation or approved equal. Pannier Corporation, 345 Oak Road, Gibsonia, PA 15044. Sign to be constructed using Modulate fiberglass-reinforced plastic (FRP) material. Sign Frames shall be "Low Profile" and shall be 28" x 40" on 2" x 6" posts positioned at an angle of 30 degrees. The top rail of the frame shall be removable for easy panel cleaning and maintenance. Frame rails and posts shall be constructed from high strength 6061-T6 aluminum. Color by Owner. Sign graphics to be supplied by Owner. Sign locations are shown on the Site Plan drawing. Include concrete footings for mounting.

3. PART 3 EXECUTION

3.1 INSTALLATION

- A. The contractor shall be responsible for any assembly requirements and installation of site furnishings. Assemble and install per manufacturer's instructions.
- B. Install all Site Furnishings per manufacturer's recommendations or as drawings show. Field locate with Owner/Engineer prior to installation.

END OF SECTION

SECTION 02923  
LANDSCAPE GRADING

1 PART 1 GENERAL

1.1 WORK INCLUDED

- A. Finish grade subsoil and proof roll.
- B. Place, level, and compact topsoil.

1.2 RELATED WORK

- A. Section 02211 - Rough Grading.
- B. Section 02936 - Seeding: Finish ground cover.

1.3 PROTECTION

- A. Protect landscaping and other features remaining as final work.
- B. Protect existing structures, fences, roads, sidewalks, paving, mailboxes, and curbs.

2 PART 2 PRODUCTS

2.1 MATERIALS

- A. Topsoil: Min. 3" compacted depth.
- B. Topsoil: Imported, friable loam; free of subsoil, roots, grass, excessive amount of weeds, stone, and foreign matter; acidity range (pH) of 5.5 to 7.5; containing a minimum of 4 percent and a maximum of 25 percent organic matter.
- C. Submit lab results or samples for testing as requested by the Owner if imported topsoil is used.

3 PART 3 EXECUTION

3.1 INSPECTION

- A. Verify site conditions and note irregularities affecting work of this Section.
- B. Beginning work of this Section means acceptance of existing conditions.

3.2 SUBSOIL PREPARATION

- A. Eliminate uneven areas and low spots. Remove debris, roots, branches, stones, in excess of 1/2 inch in size. Remove subsoil contaminated with petroleum products.
- B. Scarify subgrade to depth of 4 inches where topsoil is scheduled. Scarify in areas where equipment used for hauling and spreading topsoil has compacted subsoil.

3.3 PLACING TOPSOIL

- A. Place topsoil to a minimum 3-inch compacted depth in areas where seeding, sodding and planting is scheduled.
- B. Use topsoil in relatively dry state. Place during dry weather.
- C. Fine grade topsoil eliminating rough or low areas. Maintain levels, profiles, and contours of subgrade.
- D. Remove stone, roots, grass, weeds, debris, and foreign material while spreading.
- E. Manually spread topsoil around trees and plants to prevent damage.
- F. Lightly compact. Roll placed topsoil.
- G. Remove surplus subsoil and topsoil from site.
- H. Leave stockpile area and site clean and raked, ready to receive landscaping.
- I. Place required trees, shrubs, fences, and mail boxes in their proper locations.

3.4 TOLERANCES

- A. Top of Topsoil: Plus or minus 1/2 inch.

END OF SECTION

## SECTION 02936

### SEEDING

#### 1 PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Preparation of subsoil.
- B. Placing topsoil.
- C. Hydroseeding, mulching and fertilizer.
- D. Maintenance.
- E. Landscape Seeding.

##### 1.2 RELATED SECTIONS

- A. Section 02110 - Site Clearing.
- B. Section 02211 - Rough Grading.
- C. Section 02923 - Landscape Grading: Preparation of subsoil and placement of topsoil in preparation for the work of this section.

##### 1.3 REFERENCES

- A. FS 0-F-241 - Fertilizers, Mixed, Commercial.

##### 1.4 DEFINITIONS

- A. Weeds: Include Dandelion, Jimsonweed, Quackgrass, Horsetail, Morning Glory, Rush Grass, Mustard, Lambsquarter, Chickweed, Cress, Crabgrass, Canadian Thistle, Nutgrass, Poison Oak, Blackberry, Tansy Ragwort, Bermuda Grass, Johnson Grass, Poison Ivy, Nut Sedge, Nimble Will, Bindweed, Bent Grass, Wild Garlic, Perennial Sorrel, and Brome Grass.

##### 1.5 QUALITY ASSURANCE

- A. Provide seed mixture in containers showing percentage of seed mix, year of production, net weight, date of packaging, and location of packaging.
- B. Provide signed affidavit stating the amount and type of seed, fertilizer, and mulch applied per acre.

##### 1.6 REGULATORY REQUIREMENTS

- A. Comply with regulatory agencies for fertilizer and herbicide composition.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver grass seed mixture in sealed containers. Seed in damaged packaging is not acceptable.
- B. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.

1.8 COORDINATION

- A. Coordinate work with other trades.

1.9 MAINTENANCE SERVICE

- A. Maintain seeded areas immediately after placement until grass is well established and exhibits a vigorous growing condition and is accepted by Owner. Guarantee replacement of dead material for one year following acceptance.

2 PART 2 PRODUCTS

2.1 SEED MIXTURE

- A. Seed Mixture:
  - 1. Creeping Red Fescue: 60%.
  - 2. Perennial Ryegrass: 40%.

2.2 SOIL MATERIALS

- A. Topsoil: Imported, friable loam; free of subsoil, roots, grass, excessive amount of weeds, stone, and foreign matter; acidity range (pH) of 5.5 to 7.5; containing a minimum of 4 percent and a maximum of 25 percent organic matter.

2.3 ACCESSORIES

- A. Mulching Material: Conwed Verdoyl #2000.
- B. Fertilizer: FS O-F-241, Commercial Grade A with 12-12-12 analysis.
- C. Water: Clean, fresh and free of substances or matter which could inhibit vigorous growth of grass.

3 PART 3 EXECUTION

3.1 EXAMINATION

- A. Landscape Seeding - Verify that prepared soil base is ready to receive the work of this section. See Section 02923 - Landscape Grading.

3.2 PREPARATION OF SUBSOIL

- A. Prepare sub-soil to eliminate uneven areas and low spots. Maintain lines, levels, profiles and contours. Make changes in grade gradual. Blend slopes into level areas.

- B. Remove foreign materials, weeds and undesirable plants and their roots. Remove contaminated sub-soil.
- C. Scarify subsoil to a depth of 3 inches where topsoil is to be placed. Repeat cultivation in areas where equipment, used for hauling and spreading topsoil, has compacted sub-soil.

### 3.3 PLACING TOPSOIL

- A. In accordance with Section 02923 - Landscaping Grading.

### 3.4 FERTILIZING

- A. Apply fertilizer at a minimum rate of 500 lbs. per acre.
- B. Apply after smooth raking of topsoil and prior to roller compaction.
- C. Do not apply fertilizer at same time or with same machine as will be used to apply seed.
- D. Mix thoroughly into upper 2 inches of topsoil.
- E. Lightly water to aid the dissipation of fertilizer.

### 3.5 SEEDING

- A. Apply seed at a rate of 4-5 lbs per 1,000 sq. ft. evenly in two intersecting directions. Rake in lightly.
- B. Do not seed areas in excess of what which can be mulched on same day.
- C. Planting Season: May 1 to October 10.
- D. Do not sow immediately following rain, when ground is too dry, or during windy periods.
- E. Roll seeded area with roller not exceeding 112 lbs.
- F. Immediately following seeding and compacting apply mulch to a thickness of 1/8 inches. Maintain clear of shrubs and trees.
- G. Apply water with a fine spray immediately after each area has been mulched. Saturate to 4 inches of soil.
- H. Daily seeding shall be done as areas are ready for seed.
- I. Immediately following seeding, apply mulch material.

### 3.6 HYDROSEEDING

- A. Apply seed and mulch slurry with a hydraulic seeder at a rate of 200 lbs. of seed per acre of seed and 1,000 lbs. per acre of mulch, evenly in two intersecting directions. Maintain clear of shrubs and trees.
- B. Apply water with a fine spray immediately after each area has been mulched. Saturate to 3 inches of soil.



C. Planting season: May 1 to October 10.  
3.7 QUALITY CONTROL

A. Notify Owner 3 working days prior to hydroseeding and fertilizing for approval to proceed.

3.8 MAINTENANCE

A. Immediately reseed areas which show bare spots.

B. Repair any eroded areas and reseed immediately.

C. Installer shall guarantee a uniform grass growth over the entire project and shall reseed bare and thin areas until this is accomplished at no additional cost to the project.

END OF SECTION

SECTION 03001  
CONCRETE FORMWORK

1 PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Formwork for cast-in place concrete, shoring, bracing and anchorage.
- B. Openings for other work.
- C. Form accessories.
- D. Form stripping.

1.2 RELATED SECTIONS

- A. Section 03200 - Concrete Reinforcement.
- B. Section 03300 - Cast-in-Place Concrete.

1.3 REFERENCES

- A. ACI 347 - Recommended Practice for Concrete Formwork.
- B. PS-1 - Construction and Industrial Plywood.

1.4 DESIGN REQUIREMENTS

- A. Design, engineer and construct formwork, shoring and bracing to conform to design and code requirements; resultant concrete to conform to required shape, line and dimension.

1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with ACI 347, 301, 318.
- B. Maintain one copy of each document on site.

1.6 QUALIFICATIONS

- A. Design formwork under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in the State of Michigan.

1.7 REGULATORY REQUIREMENTS

- A. Conform to ACI 347, ACI 301 and ACI 306R code for design, fabrication, erection and removal of formwork.

1.8 COORDINATION

- A. Coordinate this Section with other Sections of work which require attachment of components to formwork.

- B. If formwork is placed after reinforcement resulting in insufficient concrete cover over reinforcement, request instructions from Engineer before proceeding.
- C. Notify Owner 24-hours in advance of placing concrete that reinforcing steel and framework is installed according to contract documents and that it is ready to be inspected. The Owner will not allow placement of concrete prior to inspection.

## 2 PART 2 PRODUCTS

- A. Plywood: 5-Ply Douglas Fir; sound undamaged sheets with clean, true edges.
- B. Lumber: No.2 common minimum grade; with grade stamp clearly visible.

### 2.2 FORMWORK ACCESSORIES

- A. Form Ties: Steel construction of adequate strength and of suitable design. Wire ties will not be permitted. Use one inch deep break off ties for all structures.
- B. Form Release Agent: Colorless mineral oil which will not stain concrete, absorb moisture, or impair natural bonding or color characteristics of coating intended for use on concrete.
- C. Corners: Chamfered, wood strip type; 1 x 1 inch size.
- D. Nails, Spikes, Lag Bolts, Through Bolts, Anchorages: Sized as required, of sufficient strength and character to maintain formwork in place while placing concrete.

## 3 PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Verify lines, levels and centers before proceeding with formwork. Ensure that dimensions agree with Drawings.

### 3.2 EARTH FORMS

- A. Earth forms in general are not permitted.

### 3.3 ERECTION - FORMWORK

- A. Erect formwork, shoring and bracing to achieve design requirements, in accordance with requirements of ACI 301.
- B. Provide bracing to ensure stability of formwork. Shore or strengthen formwork subject to overstressing by construction loads.
- C. Arrange and assemble formwork to permit dismantling and stripping. Do not damage concrete during stripping. Permit removal of remaining principal shores.
- D. Align joints and make watertight. Keep form joints to a minimum.

### 3.4 APPLICATION - FORM RELEASE AGENT

- A. Apply form release agent on formwork in accordance with manufacturer's recommendations.
- B. Apply prior to placement of reinforcing steel, anchoring devices, and embedded items.
- C. Do not apply form release agent where concrete surfaces will receive special finishes or applied coverings which are effected by agent. Soak inside surfaces of untreated forms with clean water. Keep surfaces coated prior to placement of concrete.

### 3.5 INSERTS, EMBEDDED PARTS, AND OPENINGS

- A. Locate and set in place items which will be cast directly into concrete. Furnish all hardware in the completion of the work. All items of miscellaneous metals shall be positioned within the forms and cast into concrete.
- B. Install accessories in accordance with manufacturer's instructions, straight, level, and plumb. Ensure items are not disturbed during concrete placement.

### 3.6 FORM CLEANING

- A. Clean and remove foreign matter within forms.
- B. Clean formed cavities of debris prior to placing concrete.
- C. Flush with water or use compressed air to remove remaining foreign matter. Ensure that water and debris drain to exterior through clean-out ports.
- D. During cold weather, remove ice and snow from within forms. Do not use de-icing salts or water to clean out forms, unless formwork and concrete construction proceed within heat enclosures. Use compressed air or other means to remove foreign matter.

### 3.7 FORMWORK TOLERANCES

- A. Construct formwork to maintain tolerances required by ACI 301.

### 3.8 FORM REMOVAL

- A. Do not remove forms or bracing until concrete has gained sufficient strength to carry its own weight.
- B. Tie clamps or sleeve nuts shall be loosened 24 hours after completion of concrete placement and form ties to be removed may be withdrawn at that time, with exception of a sufficient number to hold forms in place.
- C. Loosen forms carefully. Do not wedge pry bars, hammers, or tools against finish concrete surfaces scheduled for exposure to view.
- D. Store removed forms in manner that surfaces to be in contact with fresh concrete will not be damaged. Discard damaged forms.

3.9 FIELD QUALITY CONTROL

- A. Inspect erected formwork, shoring, and bracing to ensure that work is in accordance with formwork design, and that supports, fastenings, wedges, ties, and items are secure.
- B. Do not reuse damaged wood formwork. Do not patch formwork.
- C. Prior to the erection of forms, review the formwork operation with the Owner and affected sub-contractors so all required inserts, openings, and embedded parts are included in the formwork.

END OF SECTION

SECTION 03200

CONCRETE REINFORCEMENT

1 PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Reinforcing steel bars, wire fabric and accessories for cast-in-place concrete.

1.2 RELATED SECTIONS

- A. Section 03100 - Concrete Formwork.
- B. Section 03300 - Cast-in-Place Concrete.
- C. Section 03370 - Concrete Curing.

1.3 REFERENCES

- A. ACI 318 - Building Code Requirements For Reinforced Concrete.
- B. ACI SP-66 - American Concrete Institute - Detailing Manual.
- C. ANSI/ASTM A82 - Cold Drawn Steel Wire for Concrete Reinforcement.
- D. ANSI/ASTM A184 - Fabricated Deformed Steel Bar Mats for Concrete Reinforcement.
- E. ANSI/ASTM A185 - Welded Steel Wire Fabric for Concrete Reinforcement.
- F. ANSI/ASTM A496 - Deformed Steel Wire Fabric for Concrete Reinforcement.
- G. ANSI/ASTM A497 - Welded Deformed Steel Wire Fabric for Concrete Reinforcement.
- H. ANSI/AWS D1.4 - Structural Welding Code for Reinforcing Steel.
- I. ANSI/AWS D12.1 - Reinforcing Steel Welding Code.
- J. ASTM A615 - Deformed and Plain Billet Steel Bars for Concrete Reinforcement.
- K. ASTM A616 - Rail Steel Deformed and Plain Bars for Concrete Reinforcement.
- L. ASTM A617 - Axle Steel Deformed and Plain Bars for Concrete Reinforcement with Supplementary Requirements S1.
- M. ASTM A704 - Welded Steel Plain Bar or Rod Mats for Concrete Reinforcement.
- N. ASTM A706 - Low-Alloy Steel Deformed Bars for Concrete Reinforcement.
- O. ASTM A775 - Epoxy-Coated Reinforcing Steel Bars.
- P. ASTM D3963 - Epoxy-Coated Reinforcing Steel.

- Q. AWS D12.1 - Welding Reinforcement Steel, Metal Inserts and Connections in Reinforced Concrete Construction.
- R. CRSI - Concrete Reinforcing Steel Institute Manual of Practice.
- S. CRSI 63 - Recommended Practice For Placing Reinforcing Bars.
- T. CRSI 65 - Recommended Practice For Placing Bar Supports, Specifications and Nomenclature.

#### 1.4 SUBMITTALS

- A. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

#### 1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with ACI 301, ACI SP-66, and ACI 318.
- B. Maintain one copy of each document on site.

#### 1.6 COORDINATION

- A. Coordinate with placement of formwork, formed openings and other Work.

## 2 PART 2 PRODUCTS

### 2.1 REINFORCEMENT

- A. Reinforcing Steel: ASTM A615, 60 ksi yield grade; deformed billet steel bars, plain finish.
- B. Welded Steel Wire Fabric: ASTM A185 Plain Type, ASTM A497 Welded Deformed Type coiled rolls; plain finish.

### 2.2 ACCESSORY MATERIALS

- A. Tie Wire: Minimum 16 gage annealed type.
- B. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for strength and support of reinforcement during concrete placement conditions including load bearing pad on bottom to prevent vapor barrier puncture.
- C. Special Chairs, Bolsters, Bar Supports, Spacers Adjacent to Weather Exposed Concrete Surfaces: Plastic coated steel type; size and shape as required minimum plastic thickness of 3/32".

### 2.3 FABRICATION

- A. Fabricate concrete reinforcing in accordance with ACI SP-66, ACI 318, and ANSI/ASTM A184.
- B. Weld reinforcement in accordance with ANSI/AWS D1.4.
- C. Galvanized Reinforcement: Clean surfaces, weld and re-protect welded joint in accordance with manufacturer's instructions.

- D. Locate reinforcing splices not indicated on Drawings, at point of minimum stress.

3 PART 3 EXECUTION

3.1 PLACEMENT

- A. Prior to placement, clean reinforcing steel and dowels of loose rust, scale, dirt, grease, and other materials which could reduce or destroy bond.
- B. Place, support and secure reinforcement against displacement. Do not deviate from required position.
- C. Accommodate placement of formed openings.
- D. Maintain minimum concrete cover around reinforcing as follows unless shown otherwise on the drawings.

<u>Item</u>	<u>Coverage</u>
Footings & Concrete	
Formed against Earth	3 inch
Slab on Fill	3 inch

- E. Install lapped bars with a Class B lap length and applicable modifiers for but not limited to, bar spacing and clearances as stated per references above unless shown otherwise on the drawings.

3.2 FIELD QUALITY CONTROL

- A. Field inspection will be performed by Owner.

END OF SECTION



## SECTION 03300

### CAST-IN-PLACE CONCRETE

#### 1. PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Footings.
- B. Slabs on grade.
- C. Concrete pavement pads.

##### 1.2 RELATED SECTIONS

- A. Section 03100 - Concrete Formwork: Formwork and accessories.
- B. Section 03200 - Concrete Reinforcement.
- C. Section 03370 - Concrete Curing.

##### 1.3 REFERENCES

- A. ACI 301 – Specification of Structural Concrete for building.
- B. ACI 302 - Guide for Concrete Floor and Slab Construction.
- C. ACI 304 - Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete.
- D. ACI 305R - Hot Weather Concreting.
- E. ACI 306R - Cold Weather Concreting.
- F. ACI 308 - Standard Practice for Curing Concrete.
- G. ACI 318 Building Code Requirements for Reinforced Concrete.
- H. ACI 347R - Guide to Formwork for Concrete.
- I. ASTM C33 - Concrete Aggregates.
- J. ASTM C94 - Ready-Mixed Concrete.
- K. ASTM C150 - Portland Cement.
- L. ASTM C260 - Air Entraining Admixtures for Concrete.
- M. ASTM C494 - Chemicals Admixtures for Concrete.
- N. ASTM C618 - Fly Ash and Raw or Calcinated Natural Pozzolan for Use as a Mineral Admixture in Portland Cement Concrete.

##### 1.4 QUALITY ASSURANCE

- A. Perform Work in accordance with ACI 301.
- B. Maintain one copy of ACI 301 on site.
- C. Acquire cement and aggregate from same source for all work. Course aggregate shall meet the requirements of MDOT 6AA while fine aggregate shall meet requirements of MDOT 2NS sand.
- D. Conform to ACI 305R when concreting during hot weather.
- E. Conform to ACI 306R when concreting during cold weather.

#### 1.5 COORDINATION

- A. Coordinate work with other trades.
- B. Coordinate the placement of joint devices with erection of concrete formwork and placement of form accessories.

### 2. PART 2 PRODUCTS

#### 2.1 CONCRETE MATERIALS

- A. Cement: ASTM C150, Type II cement with air entraining admixtures conforming to ASTM C260.
- B. Fine Aggregates: ASTM C33 and MDOT 2NS.
- C. Coarse Aggregates: ASTM C33 and MDOT 6AA.
- D. Water: Clean and not detrimental to concrete.

#### 2.2 ADMIXTURES

- A. Air Entrainment: ASTM C260; manufactured by W. R. Grace and Company or Axim Concrete Technologies.
- B. Chemical: ASTM C494, Type A - Water Reducing admixture; manufactured by W. R. Grace and Company or Axim Concrete Technologies.
- C. Fly Ash: ASTM C618.
- D. Chloride based admixtures are prohibited in reinforced concrete without written approval from Owner/Engineer.

#### 2.3 ACCESSORIES

- A. Bonding Agent: Two component modified epoxy resin; Sikadur 32 Hi-Mod manufactured by Sika Corp., Glendale Hts., Illinois or Concessive 1001 LPL 3007 manufactured by Structural Bonding Company, Flint, MI.
- B. Non-Shrink Grout: Premixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing agents; capable of developing minimum compressive

strength of 2,400 psi in 48 hours and 7,000 psi in 28 days; Five Star Grout manufactured by U.S. Grout Company, Flint, MI or Sika-Grout by Sika Corporation.

- C. Epoxy Adhesive: Two component epoxy resin adhesive; Sikadur 35, Hi-Mod LV manufactured by Sika Corporation, Glendale Hts., IL (708) 924-7900.
- D. Adhesive Anchors: Hilti HVA adhesive anchoring system. Hilti adhesive anchors shall be comprised of an HEA capsule with an ASTM A193, Grade B7, HAS stainless steel rod assembly with stainless steel ASTM F594 nuts and ANSI B18.221 (1965), Type A, plain washers under the turned element. Install per manufacturer's specifications.
- E. Slab Hardener: Lapidolith Concrete Hardener and Dustproofers, manufactured by Sonneborn Building Products, Chemrex Inc.

## 2.4 CONCRETE MIX

- A. Mix concrete in accordance with ASTM C94 and MDOT Specifications.
- B. Structural – Class A:
  - 1. Compressive Strength (7 days): 2,450 psi.
  - 2. Compressive Strength (28 days): 3,500 psi.
  - 3. Slump: 4-2 inch.
- C. Slab on fill:
  - 1. Compressive Strength (7 days): 1,950 psi.
  - 2. Compressive Strength (28 days): 3,000 psi.
  - 3. Slump: 5-2 inch.
- D. Use set retarding admixtures during hot weather only when approved by Owner.
- E. Use Type II cement with air entraining admixtures conforming to ASTM C260, air entraining portland cement shall contain a non-liquid addition conforming to the requirements of ASTM C226.

## 3. PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Verify site conditions.
- B. Verify requirements for concrete cover over reinforcement.
- C. Verify that reinforcement and other items to be cast into concrete are accurately placed, positioned securely, and will not cause hardship in placing concrete.

### 3.2 PREPARATION

- A. Remove hardened concrete and foreign materials from the inner surfaces of the mixing and conveying equipment.
- B. Remove debris from the space to be occupied by the concrete. Secure reinforcement in position and obtain approval of the Owner before concrete placement.
- C. Remove water from the space to be occupied by the concrete before concrete is deposited. Divert flow of water into an excavation, in order to avoid washing the freshly deposited concrete.

- D. Before depositing new concrete on or against concrete which has hardened, roughen the hardened concrete in a manner that will not leave loosened particles of aggregate or damaged concrete at the surface. Thoroughly clean concrete of foreign matter and laitance and saturate with water. To ensure an excess of mortar at the juncture of the hardened and the newly deposited concrete, the cleaned and saturated surfaces, including vertical and inclined surfaces, shall first be thoroughly covered with a coating of mortar or neat cement grout against which the new concrete shall be placed before the grout has attained its initial set.
- E. Unless otherwise noted, give surfaces of existing concrete against which new concrete will be placed a heavy brush coat of epoxy bonding agent. Apply in accordance with manufacturer's instructions.

### 3.3 PLACING CONCRETE

- A. Place concrete in accordance with ACI 301.
- B. Notify Owner minimum 24 hours prior to commencement of operations.
- C. Concrete transported in a truck mixer, agitator or other transportation device shall be discharged at the job within 1-1/2 hours after the cement has been added to the water or the aggregates.
- D. When hand mixing is authorized, it shall be done on a watertight platform and in such a manner as to ensure a uniform distribution of the materials throughout the mass. Mixing shall be continued until a homogeneous mixture of the required consistency is obtained.
- E. The retempering of concrete or mortar which has partially hardened, that is, remixing with or without additional cement, aggregate, or water, will not be permitted.
- F. Ensure reinforcement, embedded parts, formed joint fillers and joint devices are not disturbed during concrete placement.
- G. Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken.
- H. Do not interrupt successive placement; do not permit cold joints to occur.
- I. Concrete, during and immediately after depositing shall be thoroughly compacted by means of mechanical vibrators or other suitable tools approved by the Owner.

### 3.4 CONCRETE FINISHING

- A. Formed Surface Finishes shall have a smooth form finish. Use selected forms producing a smooth, hard, uniform texture on the concrete. Patch tie holes and defects; completely remove all fins and burrs.
- B. Provide a light broom finish on exterior concrete slabs.

### 3.5 CURING AND PROTECTION

- A. Cure concrete in accordance with Section 03370 - Concrete Curing.

- B. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.
- C. Maintain concrete with minimal moisture loss at relatively constant temperature for a period necessary for the hydration of cement and hardening of concrete.

### 3.6 FROST PROTECTION

- A. In the event that a heavy frost or near freezing weather is forecasted (below 35 degrees), the concrete must be protected from early-age freezing when in the saturated state. After form removal, protection of all exposed concrete surfaces should continue for an additional 24 and 48 hours for air-entrained and non-air-entrained concrete respectively. The internal concrete temperature must remain at 50 degrees minimum during this protection period.
- B. Concrete should be protected from freezing and not be moist cured in the late afternoons if weather forecasts show possible freezing for that evening.

### 3.7 COLD WEATHER CONCRETING

- A. Placing and curing concrete for air temperatures consistently below 50 degrees falls into the category called cold weather concreting. Cold weather is defined as more than 3 consecutive days which the average daily air temperature is below 40 degrees and, the air temperature is not above 50 degrees for more than 12 hours of a 24 hour period.
- B. Cold weather shall be determined by recent project weather conditions and future weather forecasts in advance of any concrete pour. All data must be verified by the Owner.
- C. Concrete not air-entrained but maintained at 50 degrees in a moist condition shall have forms removed after 7 days except when cured by an accepted accelerated curing process. This process may include high pressure steam, steam at atmospheric pressure, heat and moisture. Accelerated curing may reduce form removal times to 72 hours.
- D. Air-entrained concrete shall have forms in place for a minimum of 72 hours regardless the type of curing.

### 3.8 CONCRETE PROTECTION AFTER FORM REMOVAL DURING COLD WEATHER CONCRETING

- A. Additional protection period shall be 6 days for structural elements that will receive any small early age loads, which may include self weight, and 3 days for all others. At no time shall the internal concrete temperature fall below 50 degrees during the protection period.
- B. At the end of the protection period, the concrete shall be gradually cooled in order that cracking does not occur due to the difference in temperature between the interior of the concrete element and the exterior surface of the concrete element.
- C. The maximum allowable temperature drop during the first 24 hours after ending the protection period is 40 degrees.
- D. Surface thermometers will be used to measure the temperature of the exterior concrete surface. This value will be compared to the concrete temperature prior to ending the protection period in order to assure less than a 40 degree drop in 24 hours has been achieved.

3.9 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed in accordance with ACI 301.
- B. Provide free access to Work and cooperate with appointed firm.
- C. Notify Owner 24 hours in advance of any scheduled placement of concrete.

3.10 PATCHING

- A. Allow the Owner to inspect concrete surfaces immediately upon removal of forms.
- B. Excessive honeycomb or embedded debris in concrete is not acceptable. Notify the Owner upon discovery.
- C. Upon approval from the Owner, patch imperfections in accordance with ACI 301.

3.11 DEFECTIVE CONCRETE

- A. Defective Concrete: Concrete not conforming to required lines, details, dimensions, tolerances or specified requirements.
- B. Repair or replacement of defective concrete will be determined by the Owner.
- C. Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction of the Owner for each individual area.

END OF SECTION

SECTION 03370  
CONCRETE CURING

1. PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Initial and final curing of horizontal concrete surfaces.

1.2 RELATED SECTIONS

- A. Section 03300 – Cast-In-Place Concrete.

1.3 REFERENCES

- A. ACI 301 – Structural Concrete for Buildings.
- B. ACI 302 - Recommended Practice for Concrete Floor and Slab Construction.
- C. ACI 308 - Standard Practice for Curing Concrete.
- D. ASTM C171 - Sheet Materials for Curing Concrete.
- E. ASTM C309 - Liquid Membrane-Forming Compounds for Curing Concrete.

1.4 QUALITY ASSURANCE

- A. Perform Work in accordance with ACI 301 and 308.
- B. Maintain one copy of document on site.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, protect and handle products according to manufacturer's recommendations.
- B. Deliver curing materials in manufacturer's packaging including application instructions.

2. PART 2 PRODUCTS

2.1 MATERIALS

- A. Liquid Membrane Forming Curing Compound ASTM C309 Type 1 Class B, liquid acrylate type, clear, without fugitive dye; curing compounds shall not contain ingredients which might stain through, injure the concrete or prevent a good bond for subsequent coatings or finishes; manufactured by Sonneborn Building Products or equal.
- B. Absorptive Mats ASTM C171, cotton fabric or burlap-polyethylene, minimum 8 oz/sq yd. bonded to prevent separation during handling and placing.
- C. Water: Potable and not detrimental to concrete.

3. PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify substrate conditions are acceptable by the Owner.
- B. Verify that substrate surfaces are ready to be cured.

3.2 EXECUTION - HORIZONTAL SURFACES

- A. Cure slabs in accordance with ACI 308.
- B. Spraying: Spray water over floor slab areas and maintain wet for 7 days.
- C. Membrane Curing Compound: Apply curing compound in accordance with manufacturer's instructions.

3.3 EXECUTION - VERTICAL SURFACES

- A. Cure surfaces in accordance with ACI 308.
- B. Spraying: Spray water over surfaces and maintain wet for 7 days.
- C. Membrane Curing Compound: Apply curing compound in accordance with manufacturer's instructions.

3.4 PROTECTION OF FINISHED WORK

- A. Protect finished Work.

END OF SECTION



SECTION 06100

ROUGH CARPENTRY

1 PART 1 GENERAL

- 1.1 This section covers furnishing and installing all framing, furring, blocking and metal fastenings as required for the work specified.
- A. Job Requirements
1. Lumber must be sound, thoroughly seasoned, well manufactured and free from a warp that cannot be corrected in process of bridging or nailing. Woodwork exposed to view on outside of building or in finished interior spaces shall be dressed.
- B. Materials
1. Framing and Rough Carpentry: Members shall be "SP" (Southern Pine) unless noted otherwise with moisture content not exceeding 19% and grading shall be as follows:
    - a. Structural Framing: No. 1.
  2. Wood Preservatives: All wood within or in contact with masonry and concrete shall be pressure treated using water borne preservatives with 0.25 percent retainage. Treatment shall be in accordance with Standard Specifications of American Wood Preserver's Association for treating structural timbers. Above grade wood shall be treated to 0.40 and below grade wood shall be treated to 0.60 lbs./cu.ft.
  3. Metal Fasteners: Nails, spikes, screws, bolts and similar items shall be of sizes and types to rigidly secure members in place. All connections to be made in such a manner so that the full strength of the structural members being connected may be utilized. Use cadmium plated screws, bolts in treated wood members.
- C. Workmanship
1. Framing and Rough Carpentry: All framing shall be spaced 16" o.c. Provide double studding at each side of openings and provide headers over openings as required.
- D. Provide all nailing strips and blocking embedded in or attached to concrete and masonry, as conditions required.
- E. Provide all blocking shown attached to structural and miscellaneous steel as required for application of related items. Plates attached to underside of steel shall be secured with 1/2" bolts, spaced 48" o.c.
- F. Provide all framing, blocking, furring, etc., as detailed, required and/or directed. To be installed in a substantial manner, well spiked, screwed or bolted together.

END OF SECTION

## SECTION 06112

### FRAMING

#### 1. PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Structural floor deck framing.

##### 1.2 REFERENCES

- A. ALSC - American Lumber Standards Committee: Softwood Lumber Standards.
- B. AWWA (American Wood Preservers Association) C1 - All Timber Products Preservative Treatment by Pressure Process.
- C. NFPA: National Forest Products Association.
- D. SPIB: Southern Pine Inspection Bureau.
- E. WCLIB: West Coast Lumber Inspection Bureau.
- F. WWPA: Western Wood Products Association.

##### 1.3 UNIT PRICE – MEASUREMENT AND PAYMENT

- A. Framing
  - 1. Basis of Measurement: Included in the other pay items of this project.
  - 2. Basis of Payment: Includes material, labor, installation, fasteners, wood treatment, and all other aspects of work and supplies required to complete the project.

##### 1.4 QUALITY ASSURANCE

- A. Perform Work in accordance with the following agencies:
  - 1. Lumber Grading Agency: Certified by ALSC.
- B. In lieu of grade stamping exposed to view lumber and plywood, submit manufacturer's certificate products meet or exceed specified requirements.

#### 2. PART 2 PRODUCTS

##### 2.1 LUMBER MATERIALS

- A. Joist Framing: Stress Group D.

##### 2.2 ACCESSORIES

- A. Fasteners and Anchors:
  - 1. Fasteners: Hot-dipped galvanized steel.

### 3. PART 3 EXECUTION

#### 3.1 FRAMING

- A. Set structural members level and plumb, in correct position.
- B. Make provisions for erection loads, and for sufficient temporary bracing to maintain structure safe, plumb, and in true alignment until completion of erection and installation of permanent bracing.
- C. Place horizontal members flat, crown side up.
- D. Construct load bearing framing and curb members full length without splices.
- E. Spacing of fasteners as directed by Engineer.

#### 3.2 SITE APPLIED WOOD TREATMENT

- A. Apply preservative treatment in accordance with manufacturer's instructions.
- B. Brush apply two coats of preservative treatment on wood in contact with cementitious materials. Treat site-sawn cuts.
- C. Allow preservative to dry prior to erecting members.

#### 3.3 TOLERANCES

- A. Framing Members: 1/4 inch from true position, maximum.
- B. Surface Flatness of Floor: 1/4 inch in 10 feet maximum, and 1/2 inch maximum in 30 feet.

END OF SECTION

SECTION 06125

WOOD DECKING

1. PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Softwood lumber wood decking.
- B. Preservative treatment of wood.

1.2 REFERENCES

- A. ALSC - American Lumber Standards Committee: Softwood Lumber Standards.
- B. AWWA (American Wood Preservers Association) C1 - All Timber Products Preservative Treatment by Pressure Process.
- C. NFPA: National Forest Products Association.
- D. RIS: Redwood Inspection Service.
- E. SPIB: Southern Pine Inspection Bureau.
- F. WCLIB: West Coast Lumber Inspection Bureau.
- G. WWPA: Western Wood Products Association.

1.3 UNIT PRICE – MEASUREMENT AND PAYMENT

- A. Wood Decking
  - 1. Basis of Measurement: Included in the other pay items of this project.
  - 2. Basis of Payment: Includes all associated material, labor, installations, fasteners, wood treatment, and all other aspects of work and supplies required to complete the project.

1.4 QUALITY ASSURANCE

- A. Perform Work in accordance with the following agencies:
  - 1. Lumber Grading Agency: Certified by ALSC.
- B. In lieu of grade stamping exposed to view lumber and plywood, submit manufacturer's certificate.

2. PART 2 PRODUCTS

2.1 MATERIALS

- A. Lumber Decking: Stress Group D.

## 2.2 ACCESSORIES

- A. Fasteners and Anchors:
  - 1. Fasteners: Hot-dipped galvanized steel for high humidity and treated wood locations.
  - 2. Spacing fasteners as directed by Engineer.
  - 3. Deck Screws: 3" hot-dipped galvanized screws for all 2" nominal lumber.

## 2.3 WOOD TREATMENT

- A. Wood Preservative (Pressure Treatment): AWWPA Treatment C1 using water borne preservative with 0.25 percent retainage. Treatment shall be in accordance with Standard Specifications of American Wood Preserver's Association for treating structural timbers. Above grade wood is to be treated to .40 and below grade wood is to be treated to .60 lbs./cu.ft. **Do not use CCA treated lumber where direct human contact can occur.**

## 3. PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Verify that support framing is ready to receive decking.

### 3.2 PREPARATION

- A. Coordinate placement of bearing and support items.

### 3.3 SITE APPLIED WOOD TREATMENT

- A. Apply preservative treatment in accordance with manufacturer's instructions.
- B. Brush apply two coats of preservative treatment on wood in contact with cementitious materials. Treat site-sawn cuts.
- C. Allow preservative to dry prior to erecting members.

### 3.4 TOLERANCES

- A. Surface Flatness of Decking Without Load: 1/8 inch in 10 feet maximum, and 1/4 inch maximum in 30 feet.

END OF SECTION

SECTION 09900

PAINTING AND FINISHES

1. PART 1 GENERAL

1.1 WORK INCLUDED

- A. Surface preparation.
- B. Surface finish schedule.

1.2 RELATED WORK

- A. Section 05120 - Structural Steel: Shop primed items.

1.3 REFERENCES

- A. ANSI/ASTM D16 - Definitions of Terms Relating to Paint, Varnish, Lacquer, and Related Products.
- B. ASTM D2016 - Test Method for Moisture Content of Wood.
- C. ASTM D4263 - Standard Test Method for indicating moisture in concrete by the plastic sheet method.

1.4 DEFINITIONS

- A. Conform to ANSI/ASTM D16 for interpretation of terms used in this Section.

1.5 QUALITY ASSURANCE

- A. Product Manufacturer: Company specializing in manufacturing quality paint and finish products with three years experience.
- B. Applicator: Company specializing in commercial painting and finishing approved by product manufacturer.

1.6 REGULATORY REQUIREMENTS

- A. Conform to applicable code for flame/fuel/smoke rating requirements for finishes.

1.7 SUBMITTALS

- A. Provide product data on all finishing products.
- B. Submit samples and color charts.
- C. Submit manufacturer's application instructions.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site, store and protect products per manufacturer's recommendations.
- B. Deliver products to site in sealed and labeled containers; inspect to verify acceptance.

- C. Container labeling to include manufacturer's name, type of paint, brand name, brand code, coverage, surface preparation, drying time, cleanup, color designation, and instructions for mixing and reducing.
- D. Store paint materials at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in well ventilated area, unless required otherwise by manufacturer's instructions.
- E. Take precautionary measures to prevent fire hazards and spontaneous combustion.

1.9 ENVIRONMENTAL REQUIREMENTS

- A. Do not apply exterior coatings during rain or snow, or when relative humidity is above 50 percent, unless required otherwise by manufacturer's instructions.
- B. Minimum Application Temperatures for Latex Paints: 45 degrees F for interiors; 50 degrees F for exterior; unless required otherwise by manufacturer's instructions.

1.10 EXTRA STOCK

- A. Provide a one gallon container of each color and type to Owner. Quart containers will be acceptable for touchup paint and for small items.
- B. Label each container with color, type, room names, and piping or equipment in addition to the manufacturer's label.

2. PART 2 PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS - PAINT, PRIMERS, BLOCK FILLER, AND FIELD CATALYZED COATINGS

- A. Coronado Paint Company
- B. Glidden Division I.C.I.
- C. Sherwin Williams.
- D. Approved Equal.

2.2 MATERIALS

- A. Coatings: Ready mixed, except field catalyzed coatings. Process pigments to a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating.
- B. Coatings: Good flow and brushing properties; capable of drying or curing free of streaks or sags.
- C. Accessory Materials: Linseed oil, shellac, turpentine, paint thinners and other materials not specifically indicated but required to achieve the finishes specified, of commercial quality.

2.3 FINISHES

- A. Colors to be chosen by the Owner.

### 3. PART 3 EXECUTION

#### 3.1 INSPECTION

- A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.
- B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.
- C. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
  - 1. Masonry, Concrete, and Concrete Unit Masonry: 12 percent.
  - 2. Interior Located Wood: 15 percent, measured in accordance with ASTM D2016.
  - 3. Exterior Located Wood: 15 percent, measured in accordance with ASTM D2016.
  - 4. Concrete Floors: 14 percent, measured in accordance with ASTM D4263.
- D. Beginning of installation means acceptance of existing surfaces.

#### 3.2 PREPARATION

- A. Correct minor defects and clean surfaces which affect work of this Section.
- B. Seal marks which may bleed through surface finishes.
- C. Impervious Surfaces: Remove mildew by scrubbing with solution of tri-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.
- D. Uncoated Steel and Iron Surfaces: Remove grease, scale, dirt, and rust. Where heavy coatings of scale are evident, remove by wire brushing or sandblasting; clean by washing with solvent. Apply a treatment of phosphoric acid solution, ensuring weld joints, bolts, and nuts are similarly cleaned. Spot prime paint after repairs.
- E. Shop Primed Steel Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces.

#### 3.3 PROTECTION

- A. Protect elements surrounding the work of this Section from damage or disfiguration.
- B. Repair damage to other surfaces caused by work of this Section.
- C. Furnish drop cloths, shields, and protective methods to prevent spray or droppings from disfiguring other surfaces.
- D. Remove empty paint containers from site.

#### 3.4 APPLICATION

- A. Apply products in accordance with manufacturer's instructions.
- B. Do not apply finishes to surfaces that are not dry.
- C. Apply each coat to uniform finish.



- D. Sand lightly between coats to achieve required finish.
- E. Allow applied coat to dry before next coat is applied.

### 3.5 CLEANING

- A. As Work proceeds, promptly remove paint where spilled, splashed, or spattered.
- B. During progress of Work maintain premises free of unnecessary accumulation of tools, equipment, surplus materials, and debris.
- C. Collect cotton waste, cloths, and material which may constitute a fire hazard, place in closed metal containers and remove daily from site.

### 3.6 GENERAL FINISH SPECIFICATIONS

- A. Ferrous Metals (FM)
  - 1. FM- Submerged Skid Pier.
    - Surface
    - Preparation: SSPC-SP10 Near-White Blast Cleaning.
    - Primer: Apply one coat of a 54% volume solids polyamide cured, high-build epoxy primer at a dry film thickness of 3.0 mils.
    - Finish Coats: Apply two coats of a 70% volume solids, polyamide cured high-build epoxy at a dry film thickness of 8.0 mils per coat.

END OF SECTION