

VILLAGE OF TINLEY PARK

PROPOSED STORMWATER MANAGEMENT IMPROVEMENTS FOR
BROOKSIDE CREEK RETAIL CENTER
BID PACKAGE

Bid Opening Date:.....May 14, 2025
Bid Opening Time:.....10:00am
Bid Opening Location:.....Tinley Park Village Hall
Bid Deposit:10% of the Amount of Bid
Performance Bond:.....100% of the Amount of Bid

Obtain information from:

Fran Fazio, PE
Manhard Consulting Ltd.
One Overlook Point, Suite 290
Lincolnshire, Illinois 60069
(847) 325-7207 ffazio@manhard.com

Submit Bids to:

Village Clerk's Office
Village of Tinley Park
16250 S. Oak Park Avenue
Tinley Park, IL 60477 (708)
444-5000

Note: This cover sheet is an integral part of the contract documents and is, as are all of the following documents, part of any contract executed between the Village of Tinley Park and any successful Bidder. Do not detach any portion of this document. Invalidation could result.

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CONTRACT DOCUMENTS

PROJECT: PROPOSED STORMWATER MANAGEMENT IMPROVEMENTS FOR
BROOKSIDE CREEK RETAIL CENTER

DEPARTMENT: Public Work Department
VILLAGE OF TINLEY PARK, ILLINOIS

Pat Carr

VILLAGE MANAGER

Kyle Vester, P.E. Village Engineer

CONTRACT ADMINISTRATOR

**VILLAGE OF TINLEY PARK
COOK COUNTY, ILLINOIS
NOTICE TO BIDDERS**

The Village of Tinley Park, Illinois, will receive sealed bids for the following improvements at the Clerk's Office, 16250 South Oak Park Avenue, Tinley Park, IL 60477, until **10:00 AM on May 14, 2025.**

**PROPOSED STORMWATER MANAGEMENT IMPROVEMENTS FOR BROOKSIDE CREEK
RETAIL CENTER - BID PACKAGE**

This work consists of clearing, topsoil stripping and stockpiling, excavation and grading of detention and compensatory storage basins, excavation and haul off-site, installation of storm sewer, storm culverts and stormwater overflow structure, topsoil respread, ground stabilization and seeding, and all incidental and collateral work necessary to complete the improvements as shown and described herein.

Bids will be publicly read aloud at **10:00 AM on May 14, 2025.** No bid shall be withdrawn after the opening of the bids without the consent of the Mayor and Board of Trustees for a period of forty-five days after the scheduled time of closing bids.

All bids shall be in a sealed envelope, addressed to the Village of Tinley Park, attention Clerk's Office. The name and address of the bidder and the name of the project shall also appear on the outside of the envelope.

The Bidding Documents can be viewed and downloaded from QuestCDN via the Village website <https://qcpi.questcdn.com/cdn/posting/?projType=all&provider=6246123&group=6246123> or at www.questcdn.com under Login using **QuestCDN #9652828** for a non-refundable charge of \$22.00. A QuestCDN login will be required. Contact QuestCDN.com at 952-233-1632 or info@questcdn.com for assistance in membership registration and downloading this digital project information. Contractors must purchase bid documents and be shown on the Bidder's Planholder List in order to bid. Bids received from contractors who are not in the Bidder's Planholder List will be rejected.

A **bid bond, certified check/bank draft** on a solvent bank, payable without condition to the Village of Tinley Park in an amount not less than ten percent (10%) of the bid shall be submitted with each proposal, as a guarantee that, if the proposal is accepted, a contract will be entered into and the performance of the contract is properly secured.

The right is reserved to reject any or all bids, to waive technicalities, to postpone the bid opening, or to advertise for new proposals, if in the judgment of the Mayor and Board of Trustees their best interests will be promoted thereby.

This contract calls for the construction of a "public work," within the meaning of the Illinois Prevailing Wage Act, 820 ILCS 130/.01 et seq. ("the Act"). The Act requires contractors and subcontractors to pay laborers, workers and mechanics performing services on public works projects no less than the current "prevailing rate of wages" (hourly cash wages plus amount for fringe benefits) in the county where the work is performed. The Department publishes the prevailing wage rates on its website at <https://www2.illinois.gov/idol/Laws-Rules/CONMED/Pages/Rates.aspx>. The Department revises the prevailing wage rates and the contractor/subcontractor has an obligation to check the Department's web site for revisions

to prevailing wage rates. For information regarding current prevailing wage rates, please refer to the Illinois Department of Labor's website. All contractors and subcontractors rendering services under this contract must comply with all requirements of the Act, including but not limited to, all wage requirements and notice and record keeping duties.

The contractor shall also comply with all applicable Federal, State, and local regulations.

The Village of Tinley Park, Local Vendor Purchasing Policy provides local vendors with preferential treatment when competing for contracts with the Village. A local vendor is defined as a business that has an actual business location within the Village of Tinley Park and is licensed by the Village. As such when considering contracts, the Village of Tinley Park reserves the right to forego the lowest and responsible bid in favor of a local vendor under the following circumstances:

<u>Contract Value</u>	<u>Range (up to a maximum of)</u>
\$0-\$250,000	5%
\$250,000-\$500,000	4%
\$500,000-\$750,000	3%
\$750,000-\$1,000,000	2%
\$1,000,000-\$2,000,000	1%

Bidders must comply with the provisions of Title V Chapter 54 of the Tinley Park Municipal Code ("Responsible Bidder Requirements Code".) All bids must contain the required bid submission documents including evidence of participation in apprenticeship training programs applicable to the work to be performed on the project, which are approved by and registered with the United States Department of Labor's Office of Apprenticeship, or its successor organization and apprentice graduation information as required under the Responsible Bidder Requirements Code.

Bidder qualifications and experience will also be included in the basis for determining the lowest responsible bidder.

A performance bond in a sum equal to one hundred percent (100% of the amount of the bid), with sureties to be approved by the Mayor and Board of Trustees for the faithful performance of the contract must be furnished by the successful bidder. All bids or proposals shall contain an offer to furnish bond upon acceptance of such bid or proposal.

Mayor and Board of Trustees
Village of Tinley Park

VILLAGE OF TINLEY PARK
16250 SOUTH OAK PARK AVENUE
TINLEY PARK, ILLINOIS 60477

CONTRACT DOCUMENTS FOR:

**PROPOSED STORMWATER MANAGEMENT IMPROVEMENTS FOR BROOKSIDE CREEK
RETAIL CENTER - BID PACKAGE**

User Department: Village of Tinley Park Public Works Department

Date and Time of Bid Opening: **May 14, 2025 at 10:00 am**

Bid Security: 10%

Performance Security: 100%

Prequalification Necessary: None

Michael Glotz
Mayor

Pat Carr
Village Manager

Kyle Vester, P.E. Village Engineer
Contract Administrator

INSTRUCTION TO BIDDERS

PROJECT:

PROPOSED STORMWATER MANAGEMENT IMPROVEMENTS FOR BROOKSIDE CREEK RETAIL CENTER - BID PACKAGE

NOTE: BY SUBMITTING A BID, THE BIDDER WARRANTS THAT HE HAS FAMILIARIZED HIMSELF WITH ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS AS WELL AS THE VILLAGE OF TINLEY PARK PURCHASING ORDINANCE.

DEFINITIONS:

The following definitions shall apply wherever they appear in the contract documents.

VILLAGE: VILLAGE OF TINLEY PARK

OWNER: VILLAGE OF TINLEY PARK

ENGINEER: VILLAGE OF TINLEY PARK OR VILLAGE CONSULTANT

BID: THE OFFER OF THE BIDDER

BIDDER: ANY INDIVIDUAL, CORPORATION, OR PARTNERSHIP WHO
SUBMITS A BID

CONTRACT DOCUMENTS – Invitation to Bid Instructions, General Conditions, Special Provisions, Specifications, Drawings, Addendums, Proposals (in so far as it is not inconsistent with other contract documents), Contract Form AND Service Contract.

Other definitions shall be defined in Village of Tinley Park Ordinance 116.58 or in other Contract Documents.

1. BIDS – GENERAL

Bids shall be made in accordance with the instructions. Failure to execute proposals as required may, in the discretion of the Village, be cause for rejection of the bid.

2. FORMS

Bids shall be submitted on the forms provided by the Village of Tinley Park. Each bid must be submitted bound with all other contract documents.

3. BLANKS; CORRECTIONS

All blank spaces on any contract document shall be filled in with typewritten figures or ink. Any erasures or corrections shall be dated and initialed by the bidder.

4. SUBMISSION

Bids shall be submitted in opaque sealed envelopes to the Village of Tinley Park, 16250 South Oak Avenue, Tinley Park, Illinois 60477, prior to the time and date set forth for bid opening in the Notice to Bidders. Each bid shall be addressed to Village Clerk's Office

and shall bear on the face of the envelope the name of the bidder and a statement that it is a sealed bid to be opened for the contract at the date and hour as set forth in the invitation to bid.

5. EXECUTION

Proposals shall be signed by the bidder. If the bidder is a corporation, the proposal shall bear the name of the corporation, signed by an officer authorized to bind the corporation, and sealed with the corporate seal.

6. WITHDRAWAL

Bids may be withdrawn previous to the time of the bid opening by written request. However, no bid shall be withdrawn within the one-hundred twenty (120) day period after the time set for the bid opening. Bidders withdrawing their bids prior to the time and date set for bid opening may still submit another bid if done in accordance with these instructions.

7. WORDS AND FIGURES

Where amounts are given in both words and figures, the words will govern.

8. UNIT PRICE

When unit prices are called for, bids shall include all unit cost items and alternatives shown on the proposal. When an error is made in extending total prices, the unit price will govern.

9. TAXES

All bids shall include all applicable taxes. The State of Illinois Sales Tax and Federal Excise Taxes are not applicable to sales made in the Village.

10. NET PRICE

Bid prices shall be net, including therein transportation and handling charges F.O.B. Village of Tinley Park, and shall further include all charges of whatsoever sort for labor and materials contained in the work or materials designated in the specifications and proposals.

11. BID SECURITY

Each bidder shall provide bid security in the amount of at least **Ten Percent (10%)** of its base bid. Bid security shall be in the form of a certified check, cashier's check or bid bond issued by a surety licensed to do business in the State of Illinois. Bid security shall be made payable to the order of the Village of Tinley Park. Bid security shall be held to ensure good faith on the part of the bidder and to be applied as liquidated damages should the successful bidder fail to execute all required contract documents or attempt to withdraw the bid prior to execution of the contract.

Personal checks and Company checks are not acceptable bid security and may result in the rejection of the bid as non-conforming.

12. BID SECURITY RETURN

All bid security, other than submitted by the successful bidder, will be returned to the respective bidders upon the successful execution of the contract.

13. INTERPRETATIONS

Interpretations of the meaning of any item in the Contract Documents shall be valid only if issued in writing by the Owner or the Owner's representative designated in the Contract Documents.

14. FAMILIARITY WITH CONTRACT DOCUMENTS AND SITE

Bidders shall examine all contract documents including General Conditions and Specifications, inspect and acquaint himself fully with site conditions (surface and subsurface), working conditions and restraints, if applicable, prior to the submission of his bid.

15. ALTERNATE EQUIPMENT OR MATERIALS

- a. Bids shall be evaluated and considered on equipment and/or materials complying substantially with the contract specifications. If any bidder deviates from the contract specifications or provides a substitute for any required equipment and/or material listed in the contract specifications, that bidder shall list such deviations and/or substitutions, including technical data when applicable, in a letter attached to the bid or on a form that may be provided by the Village with the bid documents.
- b. Brand names, which may be mentioned in the contract specifications, are used only as a reference to the type and quality of equipment and/or materials desired. However, any deviation from or substitution in a brand name stated in the contract specifications shall be listed as required under paragraph (a) of this section.
- c. The Village reserves the right to determine whether any deviations and substitutions listed by the bidder are within the intent of the contract specifications and will reasonably meet the service requirements of the using department.
- d. A bidder's failure to list any deviations from or substitutions in the contract specifications as required under paragraph (a) of this section may result in the rejection of the bid.

16. DESCRIPTIVE LITERATURE: EQUIPMENT OR MATERIALS

Each bidder bidding on contracts to furnish equipment or materials shall furnish with his proposal two (2) copies of descriptive literature on the supplies or equipment being bid and manufacturer's specifications shall be in sufficient detail to permit proper evaluation of the bid.

17. RESPONSIBILITY OF BIDDERS

No contract will be awarded to any person, firm, or corporation that is in arrears to the Village of Tinley Park, Illinois upon any debt or contract, or who has failed to execute in whole or in part, in a satisfactory manner, any contract with the Village of Tinley Park, or who is a defaulter as to surety or otherwise upon any obligation to the Village of Tinley Park, Illinois.

18. VILLAGE'S RIGHT TO ACCEPT OR REJECT

The Village of Tinley Park reserves the right to accept any bid which may be deemed to be in the best interest of the Village of Tinley Park. The Village of Tinley Park further reserves the right to reject any or all bids.

19. AWARDING OF CONTRACT

The Contract shall be awarded based on criteria as set forth in the Village of Tinley Park Purchasing Ordinance. The Village of Tinley Park reserves the right to award the contract to the lowest responsible Bidder for the Base Bid or for the Base Bid plus any combination of the Alternate(s), based upon the Village's best financial interest. Providing the lowest bid on the Base Bid or an individual Bid Alternate does not guarantee the Contractor will be awarded the contract, as the Contractor will need to be the lowest bidder on the combination of the Base Bid and Bid Alternates that the Village ultimately selects at its own discretion.

Each Bidder must submit bids for the Base Bid and all Alternates to be eligible for the award of the contract. Failure to do so will result in rejection of the Contractor's bid.

20. MULTIPLE BIDS

Unless otherwise indicated in these bid documents, the Contractor may not submit alternate or multiple bids as part of this bid package. The submission of more than one bid within a single bid package may be cause for rejection of any or all of the bids of that contractor.

21. AFFIDAVITS

The Affidavits included in these Contract Documents must be executed and submitted with the bid.

22. EVIDENCE OF PARTICIPATION IN APPRENTICESHIP PROGRAM

All bids must contain evidence of participation in apprenticeship training programs required under Title V Chapter 54 of the Tinley Park Municipal Code.

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

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by



Issued and Published Jointly by



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

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

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STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 2. *Agreement*—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.
 3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 5. *Bidder*—An individual or entity that submits a Bid to Owner.
 6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.
 7. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.
 8. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.
 9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.
 10. *Claim*—(a) A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein: seeking an adjustment of Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract; or (b) a demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision regarding a Change Proposal; or seeking resolution of a contractual issue that Engineer

has declined to address. A demand for money or services by a third party is not a Claim.

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

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

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

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

1.02 Terminology

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

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

ARTICLE 2 – PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

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

2.02 *Copies of Documents*

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

2.03 *Before Starting Construction*

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

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

2.04 *Preconstruction Conference; Designation of Authorized Representatives*

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

2.05 *Initial Acceptance of Schedules*

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

2.06 *Electronic Transmittals*

- A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may transmit, and shall accept, Project-related correspondence, text, data, documents, drawings, information, and graphics, including but not limited to Shop Drawings and other submittals, in electronic media or digital format, either directly, or through access to a secure Project website.
- B. If the Contract does not establish protocols for electronic or digital transmittals, then Owner, Engineer, and Contractor shall jointly develop such protocols.
- C. When transmitting items in electronic media or digital format, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items resulting from the recipient's use of software application packages, operating systems, or

computer hardware differing from those used in the drafting or transmittal of the items, or from those established in applicable transmittal protocols.

ARTICLE 3 – DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents.
- C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic or digital versions of the Contract Documents (including any printed copies derived from such electronic or digital versions) and the printed record version, the printed record version shall govern.
- D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.
- E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.

3.02 *Reference Standards*

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

3.03 *Reporting and Resolving Discrepancies*

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

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

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

B. *Resolving Discrepancies:*

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

3.04 *Requirements of the Contract Documents*

- A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Contract Documents, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work thereunder.
- B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.
- C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly give written notice to Owner and Contractor that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

3.05 *Reuse of Documents*

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

ARTICLE 4 – COMMENCEMENT AND PROGRESS OF THE WORK

4.01 *Commencement of Contract Times; Notice to Proceed*

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

4.02 *Starting the Work*

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

4.03 *Reference Points*

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

4.04 *Progress Schedule*

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

2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 11.
- B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

4.05 *Delays in Contractor's Progress*

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

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

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

5.01 *Availability of Lands*

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

5.02 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas:*

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

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

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

5.03 *Subsurface and Physical Conditions*

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

5.04 *Differing Subsurface or Physical Conditions*

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

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

- B. *Engineer's Review:* After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine the necessity of Owner's obtaining additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A above; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- C. *Owner's Statement to Contractor Regarding Site Condition:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.
- D. *Possible Price and Times Adjustments:*
1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, or both, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. such condition must fall within any one or more of the categories described in Paragraph 5.04.A;
 - b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03; and,

- c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
 - a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise; or
 - b. the existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or
 - c. Contractor failed to give the written notice as required by Paragraph 5.04.A.
3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.
4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.

5.05 *Underground Facilities*

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

becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer.

- C. *Engineer's Review:* Engineer will promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the Underground Facility in question; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and advise Owner in writing of Engineer's findings, conclusions, and recommendations. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
- D. *Owner's Statement to Contractor Regarding Underground Facility:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question, addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.
- E. *Possible Price and Times Adjustments:*
 - 1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, or both, to the extent that any existing Underground Facility at the Site that was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated the existence or actual location of the Underground Facility in question;
 - b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03;
 - c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times; and
 - d. Contractor gave the notice required in Paragraph 5.05.B.
 - 2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.
 - 3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.

5.06 *Hazardous Environmental Conditions at Site*

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

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

ARTICLE 6 – BONDS AND INSURANCE

6.01 *Performance, Payment, and Other Bonds*

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

6.02 *Insurance—General Provisions*

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

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

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

6.03 *Contractor's Insurance*

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

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

of pollution conditions arising from Contractor's operations and completed operations. This insurance shall be maintained for no less than three years after final completion.

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

6.04 *Owner's Liability Insurance*

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

6.05 *Property Insurance*

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

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

6.06 *Waiver of Rights*

- A. All policies purchased in accordance with Paragraph 6.05, expressly including the builder's risk policy, shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any insureds thereunder, or against Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors. Owner and Contractor waive all rights against each other and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Engineer, its consultants, all Subcontractors, all individuals or entities identified in the Supplementary Conditions as insureds, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.
- B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for:
 - 1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and
 - 2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 6.06.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them.
- D. Contractor shall be responsible for assuring that the agreement under which a Subcontractor performs a portion of the Work contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by builder's risk insurance and any other property insurance applicable to the Work.

6.07 *Receipt and Application of Property Insurance Proceeds*

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

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

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

ARTICLE 7 – CONTRACTOR'S RESPONSIBILITIES

7.01 *Supervision and Superintendence*

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

7.02 *Labor; Working Hours*

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

7.03 *Services, Materials, and Equipment*

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

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

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

7.04 "Or Equals"

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or equal" item is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment, or items from other proposed suppliers under the circumstances described below.
 - 1. If Engineer in its sole discretion determines that an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer shall deem it an "or equal" item. For the purposes of this paragraph, a proposed item of material or equipment will be considered functionally equal to an item so named if:
 - a. in the exercise of reasonable judgment Engineer determines that:
 - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
 - 2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;
 - 3) it has a proven record of performance and availability of responsive service; and
 - 4) it is not objectionable to Owner.
 - b. Contractor certifies that, if approved and incorporated into the Work:
 - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.
- B. *Contractor's Expense:* Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.
- C. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal", which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.

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

7.05 Substitutes

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

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

7.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner.
- B. Contractor shall retain specific Subcontractors, Suppliers, or other individuals or entities for the performance of designated parts of the Work if required by the Contract to do so.
- C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against which Contractor has reasonable objection.
- D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable, during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within five days.

- E. Owner may require the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors, Suppliers, or other individuals or entities for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor, Supplier, or other individual or entity so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity.
- F. If Owner requires the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, or both, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.
- G. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of the right of Owner to the completion of the Work in accordance with the Contract Documents.
- H. On a monthly basis Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.
- I. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions.
- J. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors, Suppliers, and all other individuals or entities performing or furnishing any of the Work.
- K. Contractor shall restrict all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed herein.
- L. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- M. All Work performed for Contractor by a Subcontractor or Supplier shall be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer.
- N. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor on account of Work performed for Contractor by the particular Subcontractor or Supplier.

O. Nothing in the Contract Documents:

1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier, or other individual or entity; nor
2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

7.07 *Patent Fees and Royalties*

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

7.08 *Permits*

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

7.09 *Taxes*

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

7.10 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work or other action. It shall not be Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Owner or Contractor may give notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

7.11 *Record Documents*

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

7.12 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:
 - 1. all persons on the Site or who may be affected by the Work;

2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify Owner; the owners of adjacent property, Underground Facilities, and other utilities; and other contractors and utility owners performing work at or adjacent to the Site, when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.
 - C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.
 - D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
 - E. All damage, injury, or loss to any property referred to in Paragraph 7.12.A.2 or 7.12.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).
 - F. Contractor's duties and responsibilities for safety and protection shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 15.06.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).
 - G. Contractor's duties and responsibilities for safety and protection shall resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

7.13 *Safety Representative*

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

7.14 *Hazard Communication Programs*

- A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or

exchanged between or among employers at the Site in accordance with Laws or Regulations.

7.15 *Emergencies*

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

7.16 *Shop Drawings, Samples, and Other Submittals*

A. *Shop Drawing and Sample Submittal Requirements:*

- 1. Before submitting a Shop Drawing or Sample, Contractor shall have:
 - a. reviewed and coordinated the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
 - c. determined and verified the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.
- 2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that submittal, and that Contractor approves the submittal.
- 3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be set forth in a written communication separate from the Shop Drawings or Sample submittal; and, in addition, in the case of Shop Drawings by a specific notation made on each Shop Drawing submitted to Engineer for review and approval of each such variation.

- B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals. Each submittal will be identified as Engineer may require.

1. *Shop Drawings:*

- a. Contractor shall submit the number of copies required in the Specifications.
- b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to

provide and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.D.

2. *Samples:*

- a. Contractor shall submit the number of Samples required in the Specifications.
- b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 7.16.D.

3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Other Submittals:* Contractor shall submit other submittals to Engineer in accordance with the accepted Schedule of Submittals, and pursuant to the applicable terms of the Specifications.

D. *Engineer's Review:*

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction or to safety precautions or programs incident thereto.
3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
4. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will document any such approved variation from the requirements of the Contract Documents in a Field Order.
5. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 7.16.A and B.
6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, shall not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.
7. Neither Engineer's receipt, review, acceptance or approval of a Shop Drawing, Sample, or other submittal shall result in such item becoming a Contract Document.

8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.D.4.

E. *Resubmittal Procedures:*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.
2. Contractor shall furnish required submittals with sufficient information and accuracy to obtain required approval of an item with no more than three submittals. Engineer will record Engineer's time for reviewing a fourth or subsequent submittal of a Shop Drawings, sample, or other item requiring approval, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges.
3. If Contractor requests a change of a previously approved submittal item, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

7.17 *Contractor's General Warranty and Guarantee*

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on Contractor's warranty and guarantee.
- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
 1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 2. normal wear and tear under normal usage.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
 1. observations by Engineer;
 2. recommendation by Engineer or payment by Owner of any progress or final payment;
 3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
 4. use or occupancy of the Work or any part thereof by Owner;
 5. any review and approval of a Shop Drawing or Sample submittal;
 6. the issuance of a notice of acceptability by Engineer;
 7. any inspection, test, or approval by others; or
 8. any correction of defective Work by Owner.

- D. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract shall govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

7.18 *Indemnification*

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

7.19 *Delegation of Professional Design Services*

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable Laws and Regulations.
- B. If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, and other submittals prepared by such professional. Shop

Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.

- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.
- D. Pursuant to this paragraph, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 7.16.D.1.
- E. Contractor shall not be responsible for the adequacy of the performance or design criteria specified by Owner or Engineer.

ARTICLE 8 – OTHER WORK AT THE SITE

8.01 *Other Work*

- A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.
- B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any utility work at or adjacent to the Site, Owner shall provide such information to Contractor.
- C. Contractor shall afford each other contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected.
- D. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 8, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

8.02 *Coordination*

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

8.03 *Legal Relationships*

- A. If, in the course of performing other work at or adjacent to the Site for Owner, the Owner's employees, any other contractor working for Owner, or any utility owner causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment shall take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract. When applicable, any such equitable adjustment in Contract Price shall be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due to Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this paragraph.
- C. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due to Contractor.

- D. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

ARTICLE 9 – OWNER'S RESPONSIBILITIES

9.01 *Communications to Contractor*

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

9.02 *Replacement of Engineer*

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

9.03 *Furnish Data*

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

9.04 *Pay When Due*

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

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

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

9.06 *Insurance*

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

9.07 *Change Orders*

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

9.08 *Inspections, Tests, and Approvals*

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

9.09 *Limitations on Owner's Responsibilities*

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

9.10 *Undisclosed Hazardous Environmental Condition*

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

9.11 *Evidence of Financial Arrangements*

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

9.12 *Safety Programs*

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

ARTICLE 10 – ENGINEER'S STATUS DURING CONSTRUCTION

10.01 *Owner's Representative*

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

10.02 *Visits to Site*

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

or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

10.03 *Project Representative*

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

10.04 *Rejecting Defective Work*

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

10.05 *Shop Drawings, Change Orders and Payments*

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

10.06 *Determinations for Unit Price Work*

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

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

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

10.08 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 15.06.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.
- E. The limitations upon authority and responsibility set forth in this Paragraph 10.08 shall also apply to the Resident Project Representative, if any.

10.09 *Compliance with Safety Program*

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

ARTICLE 11 – AMENDING THE CONTRACT DOCUMENTS; CHANGES IN THE WORK

11.01 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
 - 1. *Change Orders:*
 - a. If an amendment or supplement to the Contract Documents includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order. A Change Order also may be used to establish amendments and supplements of the Contract Documents that do not affect the Contract Price or Contract Times.
 - b. Owner and Contractor may amend those terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, without the recommendation of the Engineer. Such an amendment shall be set forth in a Change Order.
 - 2. *Work Change Directives:* A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.04 regarding change of Contract Price. Contractor must submit any Change Proposal seeking an

adjustment of the Contract Price or the Contract Times, or both, no later than 30 days after the completion of the Work set out in the Work Change Directive. Owner must submit any Claim seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 60 days after issuance of the Work Change Directive.

3. *Field Orders*: Engineer may authorize minor changes in the Work if the changes do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

11.02 *Owner-Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work. Such changes shall be supported by Engineer's recommendation, to the extent the change involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters. Such changes may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work shall be performed under the applicable conditions of the Contract Documents. Nothing in this paragraph shall obligate Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

11.03 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents, as amended, modified, or supplemented, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.

11.04 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment of Contract Price shall comply with the provisions of Article 12.
- B. An adjustment in the Contract Price will be determined as follows:
 1. where the Work involved is covered by unit prices contained in the Contract Documents, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03); or
 2. where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.04.C.2); or
 3. where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on

the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.04.C).

- C. *Contractor's Fee*: When applicable, the Contractor's fee for overhead and profit shall be determined as follows:
1. a mutually acceptable fixed fee; or
 2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. for costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2, the Contractor's fee shall be 15 percent;
 - b. for costs incurred under Paragraph 13.01.B.3, the Contractor's fee shall be five percent;
 - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.01.C.2.a and 11.01.C.2.b is that the Contractor's fee shall be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.A.1 and 13.01.A.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of five percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted work the maximum total fee to be paid by Owner shall be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the work;
 - d. no fee shall be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;
 - e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
 - f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 11.04.C.2.a through 11.04.C.2.e, inclusive.

11.05 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment in the Contract Times shall comply with the provisions of Article 12.
- B. An adjustment of the Contract Times shall be subject to the limitations set forth in Paragraph 4.05, concerning delays in Contractor's progress.

11.06 *Change Proposals*

- A. Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; appeal an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; contest a set-off against payment due; or seek other relief under

the Contract. The Change Proposal shall specify any proposed change in Contract Times or Contract Price, or both, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents.

1. *Procedures:* Contractor shall submit each Change Proposal to Engineer promptly (but in no event later than 30 days) after the start of the event giving rise thereto, or after such initial decision. The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal. The supporting data shall be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event. Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal.
 2. *Engineer's Action:* Engineer will review each Change Proposal and, within 30 days after receipt of the Contractor's supporting data, either deny the Change Proposal in whole, approve it in whole, or deny it in part and approve it in part. Such actions shall be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.
 3. *Binding Decision:* Engineer's decision will be final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.
- B. *Resolution of Certain Change Proposals:* If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice shall be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.

11.07 *Execution of Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders covering:
1. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;
 2. changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;
 3. changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.02, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters; and
 4. changes in the Contract Price or Contract Times, or other changes, which embody the substance of any final and binding results under Paragraph 11.06, or Article 12.

- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of this Paragraph 11.07, it shall be deemed to be of full force and effect, as if fully executed.

11.08 *Notification to Surety*

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

ARTICLE 12 – CLAIMS

12.01 *Claims*

- A. *Claims Process:* The following disputes between Owner and Contractor shall be submitted to the Claims process set forth in this Article:
 - 1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;
 - 2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents; and
 - 3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters.
- B. *Submittal of Claim:* The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim shall rest with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, or both, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.
- C. *Review and Resolution:* The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim shall be stated in writing and submitted to the other party, with a copy to Engineer.
- D. *Mediation:*
 - 1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate shall stay the Claim submittal and response process.
 - 2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process shall resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim

submittal and decision process shall resume as of the date of the conclusion of the mediation, as determined by the mediator.

3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.
- E. *Partial Approval*: If the party receiving a Claim approves the Claim in part and denies it in part, such action shall be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.
- F. *Denial of Claim*: If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim shall be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.
- G. *Final and Binding Results*: If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim shall be incorporated in a Change Order to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

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

13.01 Cost of the Work

- A. *Purposes for Determination of Cost of the Work*: The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:
 1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or
 2. To determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.
- B. *Costs Included*: Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 13.01.C, and shall include only the following items:
 1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, and vacation and holiday pay applicable

thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.
4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
5. Supplemental costs including the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
 - c. Rentals of all construction equipment and machinery, and the parts thereof, whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
 - d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
 - e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
 - f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 6.05), provided such losses and damages have resulted from causes

other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.

- g. The cost of utilities, fuel, and sanitary facilities at the Site.
- h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.
- i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.

C. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

- 1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.
- 2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
- 3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
- 4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
- 5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.

D. *Contractor's Fee:* When the Work as a whole is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 11.04.C.

E. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

13.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

- B. *Cash Allowances*: Contractor agrees that:
 - 1. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
 - 2. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.
- C. *Contingency Allowance*: Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

13.03 *Unit Price Work*

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of the following paragraph.
- E. Within 30 days of Engineer's written decision under the preceding paragraph, Contractor may submit a Change Proposal, or Owner may file a Claim, seeking an adjustment in the Contract Price if:
 - 1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement;
 - 2. there is no corresponding adjustment with respect to any other item of Work; and
 - 3. Contractor believes that it is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price, and the parties are unable to agree as to the amount of any such increase or decrease.

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

14.01 *Access to Work*

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

14.02 *Tests, Inspections, and Approvals*

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

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

- E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.
- F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering shall be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to

cover the same and Engineer had not acted with reasonable promptness in response to such notice.

14.03 *Defective Work*

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

14.04 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work shall be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

14.05 *Uncovering Work*

- A. Engineer has the authority to require special inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.

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

14.06 *Owner May Stop the Work*

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

14.07 *Owner May Correct Defective Work*

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, then Owner may, after seven days written notice to Contractor, correct or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.
- C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. Such claims, costs, losses and damages will

include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 14.07.

ARTICLE 15 – PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

15.01 Progress Payments

- A. *Basis for Progress Payments:* The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.
- B. *Applications for Payments:*
1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens, and evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.
 2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
 3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.
- C. *Review of Applications:*
1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
 2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:

- a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and
 - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
- a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or
 - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
- a. to supervise, direct, or control the Work, or
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
 - d. to make any examination to ascertain how or for what purposes Contractor has used the money paid on account of the Contract Price, or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.
6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:
- a. the Work is defective, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;
 - c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or

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

D. *Payment Becomes Due:*

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

E. *Reductions in Payment by Owner:*

- 1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:
 - a. claims have been made against Owner on account of Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages on account of Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;
 - b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;
 - c. Contractor has failed to provide and maintain required bonds or insurance;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
 - e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;
 - f. the Work is defective, requiring correction or replacement;
 - g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - h. the Contract Price has been reduced by Change Orders;
 - i. an event that would constitute a default by Contractor and therefore justify a termination for cause has occurred;
 - j. liquidated damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;
 - k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
 - l. there are other items entitling Owner to a set off against the amount recommended.
- 2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount

remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed shall be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.

3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 15.01.C.1 and subject to interest as provided in the Agreement.

15.02 *Contractor's Warranty of Title*

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

15.03 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which shall fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.

- E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.
- F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

15.04 *Partial Use or Occupancy*

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

15.05 *Final Inspection*

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

15.06 *Final Payment*

- A. *Application for Payment:*
 - 1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of

inspection, annotated record documents (as provided in Paragraph 7.11), and other documents, Contractor may make application for final payment.

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

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

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the Application for Payment to Owner for payment. Such recommendation shall account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to the provisions of Paragraph 15.07. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

- C. *Completion of Work:* The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment.
- D. *Payment Becomes Due:* Thirty days after the presentation to Owner of the final Application for Payment and accompanying documentation, the amount recommended by Engineer (less any further sum Owner is entitled to set off against Engineer's recommendation,

including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions above with respect to progress payments) will become due and shall be paid by Owner to Contractor.

15.07 *Waiver of Claims*

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

15.08 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents, or by any specific provision of the Contract Documents), any Work is found to be defective, or if the repair of any damages to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas used by Contractor as permitted by Laws and Regulations, is found to be defective, then Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
 - 1. correct the defective repairs to the Site or such other adjacent areas;
 - 2. correct such defective Work;
 - 3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
 - 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting therefrom.
- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others).
- C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

- E. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

ARTICLE 16 – SUSPENSION OF WORK AND TERMINATION

16.01 *Owner May Suspend Work*

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

16.02 *Owner May Terminate for Cause*

- A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:
 - 1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule);
 - 2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;
 - 3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or
 - 4. Contractor's repeated disregard of the authority of Owner or Engineer.
- B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) ten days written notice that Owner is considering a declaration that Contractor is in default and termination of the contract, Owner may proceed to:
 - 1. declare Contractor to be in default, and give Contractor (and any surety) notice that the Contract is terminated; and
 - 2. enforce the rights available to Owner under any applicable performance bond.
- C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.
- D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within seven days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
- E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses,

and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

- F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.
- G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond shall govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

16.03 *Owner May Terminate For Convenience*

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

16.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for

expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

ARTICLE 17 – FINAL RESOLUTION OF DISPUTES

17.01 *Methods and Procedures*

- A. *Disputes Subject to Final Resolution:* The following disputed matters are subject to final resolution under the provisions of this Article:
 - 1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full; and
 - 2. Disputes between Owner and Contractor concerning the Work or obligations under the Contract Documents, and arising after final payment has been made.
- B. *Final Resolution of Disputes:* For any dispute subject to resolution under this Article, Owner or Contractor may:
 - 1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions; or
 - 2. agree with the other party to submit the dispute to another dispute resolution process; or
 - 3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

ARTICLE 18 – MISCELLANEOUS

18.01 *Giving Notice*

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

18.02 *Computation of Times*

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

18.03 *Cumulative Remedies*

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

18.04 *Limitation of Damages*

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

18.05 *No Waiver*

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

18.06 *Survival of Obligations*

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

18.07 *Controlling Law*

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

18.08 *Headings*

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

Tab 1

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SPECIFICATIONS

The following Special Provisions supplement the “Standard Specifications for Road and Bridge Construction”, adopted January 1, 2022, Standard Specifications for Water and Sewer Construction in Illinois, 8th Edition, the latest edition of the “Manual on Uniform Traffic Control Devices for Streets and Highways”, and the “Manual of Test Procedures of Materials” in effect on the date of invitation of bids, and the most recent Supplemental Specifications and Recurring Special Provisions which apply to and govern the construction of **PROPOSED STORMWATER MANAGEMENT IMPROVEMENTS FOR BROOKSIDE CREEK RETAIL CENTER - BID PACKAGE** and in case of conflict with any part, or parts, of said Specifications, the said Special Provisions shall take precedence and shall govern.

LOCATION OF IMPROVEMENT

The project is generally located at the southwest corner of Harlem Avenue and 191st Street within the Village of Tinley Park, Illinois.

DESCRIPTION OF IMPROVEMENT

This work consists of clearing, topsoil stripping and stockpiling, excavation and grading of detention and compensatory storage basins, excavation and haul off-site, installation of storm sewer, storm culverts and stormwater overflow structure, topsoil respread, ground stabilization and seeding, and all incidental and collateral work necessary to complete the improvements as shown and described herein.

PROJECT SCHEDULE

The project shall be fully completed by **December 31, 2025**, including all landscape restoration and punch list items.

If awarded, the Contractor shall submit an anticipated construction schedule within 10 working days from issuance of the Notice of Award. The Contractor will be required to provide progress schedules to the Engineer and Village for approval.

LICENSES AND PERMITS

The Contractor shall be responsible for obtaining applicable licenses, complying with all permits and completing all work in accordance with their provisions. No person shall construct, install, or repair any items within the Village limits unless such person has first obtained or verified to have been obtained by the Village the followed permits and licenses:

1. Illinois Environmental Protection Agency NPDES ILR10 Permit.
2. Illinois Department of Natural Resources/Office of Water Resources (IDNR/OWR) Permit for Construction in a Floodway
3. US Army Corps of Engineers (COE)
4. Buckeye Partners, LP Encroachment Permit
5. Village Business License

Village of Tinley Park and/or Owner shall be responsible for obtaining the above permits, except that the Contractor and all Subcontractors shall be responsible for obtaining a Village Business License. All work and costs associated with obtaining these items shall be considered included in the cost of the pay item for “MOBILIZATION”. No additional compensation shall be made.

NOTICE

A minimum of forty-eight (48) hour notice will be given to the Village prior to starting work or restarting work after some absence of work for any reason.

Notify: Kyle Vester, P.E. Village Engineer
(708) 444-5540

FAILURE TO COMPLETE THE WORK ON TIME

The Contractor shall be assessed liquidated damages of \$1,000 per calendar day for failure to complete work on time as required by the contract documents.

Further, the Contractor shall be financially responsible for any and all additional expenses incurred by the Engineer due to additional work being required on the part of the Engineer as a result of the Contractor's Failure to Complete Work on Time. The Village will deduct these expenses from any monies due or to become due to the Contractor from the Village.

PREVAILING WAGE REQUIREMENT

This contract calls for the construction of a "public work," within the meaning of the Illinois Prevailing Wage Act, 820 ILCS 130/01 et seq. ("the Act"). The Act requires contractors and subcontractors to pay laborers, workers and mechanics performing services on public works projects no less than the "prevailing rate of wages" (hourly cash wages plus fringe benefits) in the county where the work is performed. For information regarding current prevailing wage rates, please refer to the Illinois Department of Labor's website at: <https://www2.illinois.gov/idol/Laws-Rules/CONMED/Pages/Rates.aspx> All contractors and subcontractors rendering services under this contract must comply with all requirements of the Act, including but not limited to, all wage, notice and record keeping duties.

INSURANCE

(A) During the term of the contract, the Contractor shall provide the following types of insurance in not less than the specified amounts:

1. Comprehensive General Liability - \$1,000,000.00 per occurrence and shall include coverage for products and completed operations liability, independent contractor's liability, and coverage for property damage from perils of explosion, collapse or damage to underground utilities, commonly known as XCU coverage; the general aggregate shall be twice the required occurrence limit. Minimum General Aggregate shall be no less than \$2,000,000.00 or a project/contract specific aggregate of \$1,000,000.00.
2. Auto Liability - Combined Single Limit Amount of \$1,000,000.00 on any Contractor owned, and/or hired, and/or non-owned motor vehicles engaged in operations within the scope of this contract;
3. Workers Compensation - Statutory; Employers Liability \$1,000,000.00 (the policy shall include a 'waiver of subrogation'); and
4. Owners and Contractors Protective Liability \$1,000,000.00. Combined be no less than \$2,000,000.00 on a project aggregate.
5. Umbrella Coverage - \$5,000,000.00.

- (B) The Contractor shall furnish to the Village satisfactory proof of coverage of the above insurance requirements, by a reliable company or companies, before commencing any work. Such proof shall consist of certificates executed by the respective insurance companies and filed with the Village. Said certificates shall contain a clause to the effect that, for the duration of the contract, the insurance policy shall be canceled, expired or changed so as to the amount of coverage only after written notification 30 days in advance to the Village. In addition, said certificates shall list the Village and its officers, agents and employees, Tinley Park Land Development LLC and its officers, agents and employees, Christopher B. Burke Engineering, Ltd. and its officers, agents and employees and Manhard Consulting, Ltd. and its officers, agents and employees as additional insured on all required insurance policies other than worker's compensation.
- (C) The Contractor shall require subcontractors, if any, not protected under the Contractor's policies, to take out and maintain insurance of the same nature in amounts, and under the same terms, as required of the Contractor.
- (D) All insurance required herein of the Contractor and any subcontractors shall be valid and enforceable policies, insured by insurers licensed and permitted to do business by the State of Illinois or surplus line carriers qualified to do business in the State of Illinois. All insurance carriers and surplus line carriers shall be rated A-, VII or better by A.M. Best Company.

All costs for insurance as specified herein will be considered as included in the cost of the contract. The Contractors shall, at its expense and risk of delay, cease operations if the insurance required is terminated or reduced below the required amounts of coverage. Coverage in the minimum amounts set forth herein shall not be construed to relieve the Contractor from its obligation to indemnify in excess of the coverage according to the contract.

SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK

The Bidder acknowledges that, prior to submission of its bid, it has taken steps necessary to ascertain the nature and location of the Work, and that it has investigated, confirmed, verified as correct and satisfied itself as to the general and local conditions which can affect the Work or its costs, including but not limited to:

1. Location and load capacity of existing roadways, utilities, corresponding pavement, shoulders, curb and gutter, combined sewer, storm sewers, and water main, bearing upon transportation, disposal, handling and storage of materials
2. The availability of labor, water, electric power and roads
3. Uncertainties of weather, river stages, tides, or similar physical conditions at the site
4. The conformation and conditions of the ground and existing wetlands
5. The character of equipment and facilities needed prior to and during work performance
6. Subsurface conditions at the site of Work
7. The quantities and qualities of all materials, equipment, and labor set forth in the Bid Proposal, plans and drawings and specifications that are necessary to complete all the Work as required under the Contract Documents
8. The location, condition, compatibility, configuration of all existing utilities and infrastructure.

The Bidder also acknowledges that it has verified as correct, confirmed and satisfied itself as to the character, quality and quantity of surface and subsurface materials, obstacles or conditions to be encountered insofar as this information is reasonably ascertainable from an inspection of the

site, including all exploratory work done, if any, as well as from the drawings, plans and specifications made a part of the bidding documents. Any failure of the Bidder to take the actions described and acknowledged in this paragraph will not relieve the Bidder from responsibility for estimating properly the difficulty and cost of successfully performing the Work, or for proceeding to successfully perform the Work without additional expense to the Village.

Village assumes no responsibility for any conclusions or interpretations made by the Bidder based on information made available by the Village of the project. Nor does the Village assume responsibility for any understanding reached or representation made concerning conditions which can affect the Work by any of its officers or agents before the acceptance of the bid offer and execution of the contract, unless that understanding or representation is expressly stated in this contract.

MATERIAL ORDERS

The Contractor shall order all materials with long lead times within 5 working days from issuance of Notice of Award to minimize any project delays and meet project completion date. Any issues procuring material shall be brought to the attention of the Village and Engineer immediately.

PRE-CONSTRUCTION MEETING

Upon execution of the contract with the successful bidder, the Village will schedule a meeting with the Contractor. The Contractor shall submit his progress schedule, QC Plan, any material submittals, and Traffic Control Plan at or before this meeting. In attendance shall be the Contractor's representative on the job, i.e., Construction Superintendent or Foreman. On or before this meeting the Contractor shall inspect the work site to determine the existing conditions.

1. Purpose - To discuss and resolve any problems regarding the work prior to the Contractor starting work. This includes the schedule of construction operations and interpretation of the Special Provisions and/or plans.
2. Attendance – Village Engineer, representatives of other Village departments, Contractor, Utility Company representatives, if utility work or adjustments is required. Also, any other person as may be deemed necessary.
3. Specification information regarding source of materials, who is responsible for testing or materials, who is QC Manager, what, if any, work will be sublet, responsibility for maintaining traffic or detours and any other problems relating to the work are to be discussed.
4. A roster will be prepared which will list the names, addresses and telephone numbers of all parties concerned. Twenty-four (24) hour a day and emergency contact persons and phone numbers shall be listed.

CONTRACT QUANTITIES

Due to budget constraints, the Village reserves the right to add or delete from the contract, as required. No adjustments in contract unit prices or additional compensation will be made for alteration in the quantities or services from the contract.

The earthwork quantities appearing in the bid schedule are approximate and are provided for the comparison of bids. All quantities shall be determined by the Contractor in preparation of a lump sum bid. Soil report data are not considered all conclusive and it is the Contractor's responsibility

to further investigate conditions as it determines necessary. Contractor shall perform all necessary calculations to provide his quantities in the bid schedule.

The Village reserves the right to remove quantities within the proposed project limits and/or add quantities outside of the proposed project limits shown on the Plans.

VANDALISM

Special attention is called to Article 107.30 of the Standard Specifications. Any defaced work shall be corrected or replaced by the Contractor at his sole expense prior to final payment. The Owner shall cooperate with the Contractor to minimize vandalism, but the Contractor shall be ultimately responsible to correct any damage.

WARRANTY AND GUARANTEE

The Contractor shall warrant and guarantee that all work will be in accordance with the Contract and will not be defective. All workmanship and materials shall be warranted and guaranteed for a period of at least one year from Village acceptance date.

MAINTENANCE OF ROADWAYS

Beginning on the date that the Contractor begins work on this project, he shall assume responsibility for normal maintenance of all existing roadways adjacent to the limits of the project. This normal maintenance shall include all repair work deemed necessary by the Village but shall not include snow removal operations. Traffic control and protection for this work will be provided by the Contractor, at its sole cost and expense, as required by the Village.

The work involved in maintaining the existing pavement will be paid for by the Contractor, at its sole cost and expense, as required by the Village.

STREET CLEANING

Special attention shall be paid to Section 107.15 of the Standard Specifications. If the Contractor fails to clean the pavement, sidewalk or parkways on or adjacent to the project to the satisfaction of the Village at any time during the contract, the Village will notify the Contractor at which time the Contractor will have 24 hours to respond.

If the Contractor fails to respond within 24 hours an amount of \$500.00 per incident will be deducted from any monies due the Contractor in addition to any other remedies provided for herein.

STATUS OF EXISTING UTILITIES

Before starting construction, the Contractor shall contact JULIE for locations of any and all utilities. The toll free telephone number is 1-800-892-0123.

The Contractor is responsible for notification and coordination with JULIE for locations of utilities before and throughout the project.

The utilities shown are representative only and are not inclusive: Contractor shall have all utilities field located prior to ground disturbance.

The above represents the best information available to the Village and is included for the convenience of the bidder. The applicable portions of Articles 105.07 and 107.31 of the Standard Specifications shall apply.

LIMITATIONS ON ENGINEER'S AUTHORITY AND RESPONSIBILITIES

The authority and duties of Resident Engineer in Article 105.10 of the Standard Specifications are hereby deleted. The authority of Engineer is amended as follows.

The Engineer will be the Municipality's representative during the construction period. The Engineer will assist the Contractor with interpretation of the Plans and Specifications, observe in general if the Contractor's Work is in conformity with the Contract Documents, and monitor the Contractor's progress as related to the date of completion. The Engineer will not supervise, direct, control or have authority over or be responsible for the Contractor's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of the Contractor to comply with Laws and Regulations applicable to the furnishing or performance of the Work. The Engineer will not be responsible for the Contractor's failure to perform or furnish the Work in accordance with the Contract Documents.

The Engineer will not be responsible for the acts or omissions of the Contractor or any subcontractor, any supplier, or of any other person or organization performing or furnishing any of the Work. These limitations on authority and responsibility set forth herein shall also apply to the Engineer's Consultants, Resident Project Representative and assistants.

REMOVAL AND DISPOSAL OF EXCAVATED MATERIALS

The Contractor shall have the sole and exclusive responsibility and liability for complying with all federal, state and local laws pertaining to the removal and disposal of excavated materials from the project site, including but not limited to the requirements for the excavation, transportation and off-site disposal of any soils or clean construction or demolition debris (CCDD) at a CCDD fill operation or facility.

The Village will provide a signed Illinois Environmental Protection Agency Uncontaminated Soil Certification Form LPC-663 form for disposal of the soil located in the project limits.

The Contractor is hereby notified all responsibilities, obligations and liability relating to complying with Public Act 96-1416 (which amended the Illinois Environmental Protection Act by changing Sections 3.160, 22.51, 31.1 and 42 and by adding Section 22.51(a) and (b)) and the regulations promulgated there under, shall remain solely with the Contractor. The Contractor's responsibilities may include but not be limited to any required testing, dumping fees and proper documentation for disposal of such materials. All costs or expenses incurred or associated directly or indirectly with the Contractor's compliance with the requirements of this paragraph will not be paid for separately but will be considered included in the total contract cost.

MATERIAL TESTING

All materials shall be inspected and tested by the Contractor. This includes compaction tests, the making and breaking of concrete test cylinders and asphalt plant inspection and onsite compaction testing. Test results shall be furnished directly to the Village by the materials testing firm retained by the Contractor. The materials testing firm shall be experienced and qualified to perform the type of Work required by this Special Provision.

Work to be performed under this Special Provision of the Specification shall be in accordance with the applicable requirements and the adopted Standard Specifications, and shall be conducted by experienced personnel regularly engaged, knowledgeable, and skilled in inspections and testing materials.

Submittals shall include results/reports of the materials inspected and/or tested. Reports on inspections and/or materials tested shall be prepared in an acceptable form and in accordance with the applicable requirements of the Standard Specifications and adopted by these Specifications.

Inspections and/or testing of material shall be performed in accordance with the applicable requirements of the Standard Specifications and as required by these Specifications.

Separate measurement or payment will not be made for the Work specified in this Special Provision. All costs of such Work shall be included in the prices bid for the various items to which they pertain in the Schedule of Prices.

GEOTECHNICAL INVESTIGATION REPORT

The Geotechnical Investigation report prepared by Terracon dated September 28, 2017 is provided in Tab 3 of this Bid Booklet.

WATER FOR CONSTRUCTION PURPOSES

The Contractor may obtain municipal water in bulk, at no charge, as long as there is not a watering ban in effect, from location(s) approved by the Village. Approved location(s) may not be located within the project limits, but will be located no further than 2 miles away from the project limits. Water may be obtained from a hydrant at the Village's Public Works Facility located at 7980 W. 183rd Street if no other hydrants near the project limits are approved for use. The indiscriminate use of fire hydrants is strictly prohibited. Water for construction shall be metered or otherwise accounted for and a daily log maintained. The Contractor shall provide the water truck and driver required to obtain and transport this water. The Village reserves the right to restrict or refuse the use of Village water if deemed necessary.

LOCATING UNDERGROUND UTILITY

Description. This item shall consist of locating underground utilities that potentially conflict with proposed improvements.

Requirements. It shall be the Contractor's responsibility to locate underground utilities that are marked on the plans. This work will not be paid for separately but shall be included in the cost of the item being constructed.

Utilities Not Marked on Plans: If a utility is not shown on the plans (or not shown in accordance with Article 104.03 of the Standard Specifications). Locating potentially conflicting utilities will be measured and paid for in accordance with Article 109.04 of the Standard Specifications.

Construction. The method of excavation to locate utilities will be at the Contractor's discretion, as approved by the Engineer and Utility Company. If the Contractor elects to use hydro excavation for the removal of excavated material, he/she shall be responsible for all water usage and disposing of the excavated material in accordance with Article 202.03 of the Standard Specifications. Regardless of the method of excavation, the Contractor shall be responsible for

replacing excavated soil in the resulting hole with sand, limestone screenings or other material as approved by the Engineer and Utility Company.

Any utilities damaged during excavation operations shall be repaired or replaced at the Contractor's expense; no additional compensation shall be allowed.

CONSTRUCTION LAYOUT

The Contractor shall be required to furnish and place construction layout stakes for this project. The Engineer will provide adequate reference points and benchmarks as shown in the plans. Any additional control points set by the Engineer will be identified in the field to the Contractor.

The Contractor shall provide field forces, equipment and material to set all additional stakes for this project, which are needed to establish offset stakes, reference points, and any other horizontal or vertical controls, including supplementary benchmarks, necessary to secure a correct layout of the work.

The Contractor shall be responsible for having the finished work substantially conform to the lines, grades, elevations and dimensions called for in the plans. Any inspection or checking of the Contractor's layout by the Engineer and the acceptance of all or any part of it shall not relieve the Contractor of his/her responsibility to secure the proper dimension, grades and elevations of the several parts of the work. The Contractor shall exercise care in the preservation of stakes and benchmarks and shall have them reset at his/her expense when any are damaged, lost, displaced or removed or otherwise obliterated.

Responsibility of the Engineer

- a. The Engineer will make random checks of the Contractor's staking to determine if the work is in substantial conformance with the plans. Where the Contractor's work will tie into work that is being or will be done by others, checks will be made to determine if the work is in conformance with the proposed overall grade and horizontal alignment.
- b. Where the Contractor, in setting construction stakes, discovers discrepancies, the Engineer will check to determine their nature and coordinate whatever revisions are necessary in the plans. Any additional restaking required by the Engineer will be the responsibility of the Contractor.
- c. It is not the responsibility of the Engineer, except as provided herein, to check the correctness of the Contractor's stakes; however, any errors that are apparent will be immediately called to the Contractor's attention and s(he) shall be required to make the necessary correction before the stakes are used for construction purposes.

Responsibility of the Contractor

- a. The Contractor shall establish from the given survey points and benchmarks all the control points necessary to construct the individual project elements. S(he) shall provide the Engineer adequate control in close proximity to each individual element to allow adequate checking of construction operations. This includes, but is not limited to, line and grade stakes, line and grade nails in form work, and/or filed or etched marks in substantially completed construction work. It is the Contractor's responsibility to tie in baseline control points in order to preserve them during construction operations.

- b. The Contractor shall be responsible for locating and marking the limits of the project prior to the installation of silt fence.
- c. All work shall be in accordance with normally accepted self-checking surveying practices. Field notes shall be kept in standard survey field notebooks and those books shall become the property of the Engineer at the completion of the project. All notes shall be neat, orderly and in accepted form.
- d. The Contractor shall use diligent care and appropriate accuracy for placement of construction stakes in order to construct to the lines and grades shown in the plans.

Method of Measurement and Basis of Payment. This item will be paid for at the contract lump sum price for CONSTRUCTION LAYOUT.

RECORD DRAWINGS

Description. At the completion of the work, the Contractor shall perform an “as-built” survey of the newly installed improvements.

The survey shall provide, a minimum, the following information:

- 1. As-Built locations and elevations, including rims and inverts, of the proposed storm sewer improvements, using the base sheets of the design drawings as reference.
- 2. As-Built topography including elevations and contours at one foot intervals.
- 3. As-Built volume calculations of detention and compensatory storage basins.

The As-Built data shall be drafted or redlined onto a plan set showing the complete improvements using the design plans as reference. Electronic copies, in both AutoCAD format and PDF format of the as-built drawings shall be provided to the Village.

Basis of Payment. This work shall be paid for at the contract lump sum for RECORD DRAWINGS.

Tab 2

VILLAGE OF TINLEY PARK
STATE OF ILLINOIS

PROPOSAL FORM

NOTE: ALL BLANKS ON EACH AND EVERY SHEET OF THIS PROPOSAL SHALL BE COMPLETED. FAILURE TO COMPLETE ALL BLANKS SHALL BE GROUNDS FOR REJECTION OF BIDS.

TO THE VILLAGE OF TINLEY PARK:

1. PROPOSAL OF _____
(Name and Address of Bidder)

2. The specifications for the proposed work are those prepared by Manhard Consulting, Ltd. and approved by the Village of Tinley Park, Illinois dated April 18, 2025.
3. In submitting this proposal, the undersigned declares that the only persons or parties interested in the proposal as principals are those named herein; and that the proposal is made without collusion with any other person, firm, or corporation.
4. The undersigned further declares that he has carefully examined the proposal, plans, specifications, form of contract and contract bond, and special provisions, and that he has inspected in detail the site of the proposed work, and that he has familiarized himself with all of the local conditions affecting the contract and the detailed requirements of construction, and he understands that in making this proposal he waives all right to plead any misunderstanding regarding the same.
5. The undersigned further understands and agrees that if this proposal is accepted, he is to furnish and provide all necessary machinery, tools, apparatus, and other means of construction, in the respective sections, and to do all of the work, and to furnish all of the materials specified in the contract.
6. The undersigned declares that he understands that the quantities mentioned are approximate only and that they are subject to increase or decrease; that he will take in full payment therefore the amount and the summation of the actual quantities, as finally determined multiplied by the unit price shown in the schedule of prices contained herein.
7. The undersigned further agrees that the unit prices submitted herewith are for the purpose of obtaining a gross sum, and for use in computing the value of extras and deduction; that if there is a discrepancy between the gross sum bid and that resulting from the summation of the quantities multiplied by their respective unit prices, the latter shall apply.
8. The undersigned further agrees that if the owner decides to increase or decrease the quantities, or otherwise alter it by extras or deductions, including the elimination of any of the pay items, he will perform the work as altered, increased or decreased at the provided contract unit price.
9. The undersigned further agrees that the Village of Tinley Park may at any time during the progress of the work covered by this contract, order other materials as do not appear in the proposal of contract as a specific item accompanied by a unit price, and which are not included under the bid price for other items in this contract, shall be performed as extra work, and that he will accept as full compensation therefore the actual cost plus fifteen percent (15%), the actual cost to be determined as provided in the specifications.

VILLAGE OF TINLEY PARK
STATE OF ILLINOIS

10. The undersigned further agrees to execute a contract for this work and present the same to the Village of Tinley Park within fifteen (15) days after the date of the notice of the award of the contract to him.
11. The undersigned further agrees that he and his surety will execute and present within fifteen (15) days after the date of the notice of the award of the contract, a contract bond satisfactory to and in the form prescribed by the Village of Tinley Park in the penal sum of one hundred percent (100%) of the full amount of the contract within the terms of the contract.
11. The undersigned further agrees to begin work not later than fifteen (15) days after the execution of the acceptance of the contract and contract bond, unless otherwise provided and to prosecute the work in such manner and with sufficient materials, equipment, and labor as will insure its completion within the time limit specified herein, it being understood and agreed that the completion within the time limit is an essential part of the contract. The undersigned agrees to complete the work within the working day limits stated in the special provisions, and agreed to schedule by both parties, unless additional time shall be granted by the Village of Tinley Park in accordance with provisions of the specifications.

In case of failure to complete the work in or before the time named herein or within such extra time as may have been allowed by extensions, the undersigned agrees that the Village of Tinley Park shall withhold, from each sums as may be due him under the terms of this contract, the costs, set forth in the specifications of the contract, which costs shall be considered and treated not as a penalty but as damages due to the Village of Tinley Park from the undersigned by reason on inconvenience to the public, added cost of engineering and supervision and other items which have caused an expenditure of public funds resulting from the failure of the under signed to complete the work within the time specified in the contract.

13. Accompanying this proposal is a bid bond, bank draft, bank cashier's check, or a certified check, complying with the requirement of the specifications, made payable to the Village of Tinley Park.

THE AMOUNT OF THE CHECK OR DRAFT IS (\$_____

If this proposal is accepted and the undersigned shall fail to execute a contract and the contract bond as required within, it is hereby agreed that the amount of the check or bank draft shall become the property of the Village of Tinley Park and shall be considered as payment of damages due to the delay and other causes suffered by the Village of Tinley Park because of the failure to execute said contract and contract bond; otherwise said check or draft, shall be returned to the undersigned.

14. The undersigned submits herewith his schedule of prices covering the work to be performed under this contract; he understands that he must show in the schedule of unit prices for which he proposes each item of work, that the extensions must be made by him and that if not so done his proposal may be rejected as irregular.
15. All bidders must furnish current financial statement with the bid.
16. All bidders must furnish a list of equipment available for and to be used on this project with their bid.

VILLAGE OF TINLEY PARK
STATE OF ILLINOIS

17. The undersigned submits herewith his schedule of prices covering the work to be performed under this contract.
18. This set of contract documents shall remain intact and shall be submitted in its entirety with the proposal.
19. The undersigned understands that to be considered a responsible bidder they must comply with the provisions of Title V Chapter 54 of the Tinley Park Municipal Code.

Signature: _____

Date: _____

VILLAGE OF TINLEY PARK
PROPOSED STORMWATER MANAGEMENT IMPROVEMENTS FOR BROOKSIDE CREEK RETAIL CENTER - BID PACKAGE
SCHEDULE OF PRICES

ITEM	DESCRIPTION	ENGINEER'S QUANTITY	QUANTITY	UNIT	UNIT PRICE	EXTENSION
1	CLEARNG AND GRUBBING		1	LUMP SUM		
2	TREE REMOVAL, ACRES		2	ACRE		
3	TEMPORARY CONSTRUCTION ENTRANCE		1	EA		
4	PERIMETER EROSION BARRIER		3,650	LF		
5	INLET & PIPE PROTECTION		11	EA		
6	TOPSOIL RESPREAD (6")	19,900		CY		
7	EROSION CONTROL BLANKET (NAG DS-75)		43,800	SY		
8	EMERGENT WETLAND SEED MIX		46,100	SY		
9	STORMWATER SEED MIX		54,500	SY		
10	ECONOMY PRAIRIE SEED MIX		18,600	SY		
11	EXCESS TOPSOIL - EXPORT OFFSITE	13,600		CY		
12	MOBILIZATION		1	LUMP SUM		
13	CONSTRUCTION LAYOUT		1	LUMP SUM		
14	RECORD DRAWINGS		1	LUMP SUM		
DETENTION BASIN 1						
15	TOPSOIL STRIPPING AND STOCKPILING	4,601		CY		
16	EXCAVATION AND EMBANKMENT	15,919		CY		
DETENTION BASIN 2						
17	TOPSOIL STRIPPING AND STOCKPILING	3,558		CY		
18	EXCAVATION AND EMBANKMENT	18,422		CY		
DETENTION BASIN 3/EAST COMPENSATORY STORAGE BASIN						
19	TOPSOIL STRIPPING AND STOCKPILING	1,223		CY		
20	EXCAVATION AND EMBANKMENT	17,448		CY		
SOUTH COMPENSATORY STORAGE BASIN						
21	TOPSOIL STRIPPING AND STOCKPILING	9,172		CY		
22	EXCAVATION AND EMBANKMENT	49,346		CY		
WEST COMPENSATORY STORAGE BASIN						
23	TOPSOIL STRIPPING AND STOCKPILING	14,947		CY		
24	EXCAVATION AND EMBANKMENT	220,063		CY		
SCHEDULE II - STORM SEWER IMPROVEMENTS						
1	STORM SEWER, 12" RCP		319	LF		
2	PRECAST CONCRETE FLARED END SECTION W/GRATE, 12"		2	EA		
3	PRECAST CONCRETE BOX CULVERT, 2' x 6'		1,250	LF		
4	PRECAST CONCRETE BOX CULVERT END SECTION		9	EACH		
5	BACKFLOW PREVENTER		2	EA		
6	CONCRETE OVERFLOW GRATE STRUCTURE, 5' x 40'		1	EACH		
7	STONE RIP RAP		380	SY		
BIDDER'S TOTAL PROPOSAL FOR COMPLETING THE BID PACKAGE IMPROVEMENTS:						

(IF AN INDIVIDUAL)

SIGNATURE OF BIDDER_____ (SEAL)

BUSINESS ADDRESS_____

.....

(IF A CO-PARTNERSHIP)

FIRM NAME_____ (SEAL)

SIGNED BY _____ (SEAL)

BUSINESS ADDRESS_____

Insert Names and _____

Addresses of All _____

Members of the firm _____

.....

(IF A CORPORATION)

CORPORATE NAME_____

SIGNED BY _____

BUSINESS ADDRESS_____

(CORPORATE SEAL)

PRESIDENT_____

Insert SECRETARY_____

Names of
Officers TREASURER_____

ATTEST: _____

Secretary

BIDDER'S MATERIAL PROCUREMENT
CERTIFICATION FORM

_____ (Name of Bidder), having submitted a bid on a contract for the PROPOSED STORMWATER MANAGEMENT IMPROVEMENTS FOR BROOKSIDE CREEK RETAIL CENTER - BID PACKAGE to the VILLAGE, hereby certifies that said BIDDER has contacted all necessary subcontractors, material suppliers, vendors, etc. and has confirmed that materials are available upon request to complete said project by the completion date listed in the bid documents: April 18, 2025. Below, the BIDDER shall disclose to the VILLAGE all material procurement delays known at the time of bid:

Subcontractor/Material Supplier/Vendor	Material	Projected Lead Time
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

By: _____
Authorized Agent of BIDDER

Subscribed and sworn to before me this _____ day of _____, 2025.

Notary Public

The VILLAGE reserves the right to reject any or all bids, and to waive technicalities in bidding. The VILLAGE reserves the right to reject the bid of any BIDDER who fails to complete this form. The VILLAGE reserves the right to terminate the contract at any time if the awarded BIDDER cannot complete the project by the completion date listed in the bid documents.

CONTRACT SPECIFICATION-SUPPLEMENT TO BID FORM

Pursuant to Section 15 of the Instructions to Bidders, please list any and all deviations and substitutions made in the Contract Specifications here:

All deviations or substitutions must meet or exceed the specifications.

<u>Specification Section No. Deduct</u>	<u>General Material or Equipment Description</u>	<u>Manufacturer Substitute Product</u>	<u>Adjustment Price Add /</u>
_____	_____	_____	_____ /
_____	_____	_____	_____ /
_____	_____	_____	_____ /
_____	_____	_____	_____ /
_____	_____	_____	_____ /
_____	_____	_____	_____ /
_____	_____	_____	_____ /
_____	_____	_____	_____ /
_____	_____	_____	_____ /
_____	_____	_____	_____ /
_____	_____	_____	_____ /
_____	_____	_____	_____ /
_____	_____	_____	_____ /

SUBMITTED BY:

Printed Name of Company

BY: _____
Signature of person authorized to sign bid

TITLE _____

ADDRESS _____

PHONE (____) _____

DATE _____

CERTIFICATIONS BY CONTRACTOR

Affidavit of Compliance:

Contractor and all Subcontractors shall complete this Affidavit of Compliance ("Affidavit") and submit supporting documentation as required pursuant to *Responsible Bidder Requirements on Public Work Projects*. Contractor must submit this Affidavit and all related evidence with its bid. Contractor shall be responsible for providing this Affidavit to all Subcontractors who will perform Work on the project. All Subcontractors' Affidavits and supporting documentation must be submitted no later than the date and time of the contract award. Failure to comply with all submission requirements may result in a determination that the Contractor is not a responsible bidder.

For the remainder of this Affidavit, "Contractor" refers to the general contractor and all Subcontractors. Each item must be answered. If the question is not applicable, answer "NA." If the answer is none, answer "none."

The certifications set forth in this Affidavit and all documents attached hereto shall become a part of any contract awarded to the Contractor. Furthermore, Contractor shall comply with these certifications during the term and/or performance of the contract.

The undersigned _____, as _____ and on behalf
(Name) (Title)
of _____ having been duly sworn under oath certifies that:
(Contractor)

Business Organization:

The form of business organization of the Contractor is (check one):

____ Sole Proprietor or Partnership ____ LLC
____ Corporation ____ Independent Contractor (Individual)

If Contractor/Subcontractor is a corporation, indicate the state and the date of incorporation:

Authorized to do business in the State of Illinois: Yes [] No []

Describe supporting documentation attached: _____

Federal Employer I.D. #: _____

Social Security # (if an individual or sole proprietor): _____

Registered with Illinois Department of Revenue: Yes [] No []

Describe supporting documentation attached (if "No," explain): _____

Registered with Illinois Department of Employment Security: Yes [] No []

Describe supporting documentation attached (if "No," explain): _____

Tax Liens or Tax Delinquencies:

Disclosure of any federal, state or local tax liens or tax delinquencies against the contractor or any officers of the contractor in the last five (5) years: Yes ☐ No ☐

“No” means “not applicable”. If “yes”, describe lien/delinquencies and resolution:

Equal Opportunity Employer Compliance:

Contractor is in compliance with provisions of Section 2000e of Chapter 21, Title 42 of the United States Code and Federal Executive Order No. 11246 as amended by Executive Order No. 11375 (known as the Equal Opportunity Employer provisions): Yes ☐ No ☐

Employee Classification:

Contractor’s employees who will perform Work on the project are properly classified as an employee or independent contractor under all applicable state and federal laws and local ordinances (Form B): N/A ☐ Yes ☐ No ☐

Professional or Trade Licenses:

Contractor will possess all applicable professional and trade licenses required for performing the Contract Work:
Yes ☐ No ☐

License	Number	Date Issued	Current Expiration	Holder of License

If any of the above license(s) have been revoked or suspended, state the date and reason for suspension/revocation:

Documentation Attached (Contractor must initial next to each item):

_____ Form A: Name and address of Subcontractors from whom Contractor has accepted a bid or intends to hire to perform Work on any part of the project.

NOTE: All Subcontractors shall complete and submit an Affidavit of Compliance no later than the date the Subcontractor commences Work on the project.

_____ Form B: List of individuals who will perform Work on the project on behalf of the Contractor, verifying that each individual is properly classified as an employee or independent contractor. Contractor also verifies that all Contractor's employees are covered under a current workers' compensation policy, properly classified under the workers' compensation policy, and covered by a health and welfare and retirement plan.

_____ Form C: Additional Information (if required)

_____ Certificate of Good Standing
(or other evidence of compliance with laws pre-requisite to doing business in the state)

_____ Illinois Department of Revenue registration

_____ Illinois Department of Employment Security registration

_____ Standards of Apprenticeship/Apprentice Agreements

_____ Substance Abuse Prevention program (or applicable provision from CBA in effect)

_____ Written Safety Policy Statement signed by company representative

_____ OSHA cards evidencing 10-hour or greater safety program completed, if requested

_____ Workers' Compensation Coverage

_____ Professional or Trade Licenses

Eligibility to Contract:

The undersigned hereby certifies that the Contractor is not barred from bidding on or entering into this contractor as a result of a violation of either the bid-rigging or bid-rotating provisions of Article 33E of the Criminal Code of 1961, as amended.

Name of Contractor (please print)

Submitted by (signature)

Title

Certificate of Compliance with Illinois Human Rights Act:

The undersigned hereby certifies that the Contractor is in compliance with Title 7 of the 1964 Civil Rights Act as amended and the Illinois Human Rights Act as amended.

Name of Contractor (please print)

Submitted by (signature)

Title

Certificate of Compliance with Illinois Drug-Free Workplace Act:

The undersigned, having 25 or more employees, does hereby certify pursuant to section 3 of the Illinois Drug Free Workplace Act (30 ILCS 580/3) that it shall provide a drug-free Workplace for all employees engaged in the performance of the Work under the contract by complying with the requirements of the Illinois Drug-Free Workplace Act and, further certifies, that it is not ineligible for award of this contract by reason of debarment for a violation of the Illinois Drug-Free Workplace Act.

Name of Contractor (please print)

Submitted by (signature)

Title

Certificate Regarding Sexual Harassment Policy:

The undersigned does hereby certify pursuant to section 2-105 of the Illinois Human Rights Act (775 ILCS 5/2-105) that it has a written sexual harassment policy that includes, at a minimum, the following information: (i) the illegality of sexual harassment; (ii) the definition of sexual harassment under State law; (iii) a description of sexual harassment, utilizing examples; (iv) an internal complaint process including penalties; (v) the legal recourse, investigative and complaint process available through the Department of Human Rights and Human Rights Commission; (vi) direction on how to contact the Department of Human Rights and Human Rights Commission; and (vii) protection against retaliation.

Name of Contractor (please print)

Submitted by (signature)

Title

Certificate of Compliance with Substance Abuse Prevention on Public Works Projects Act:

The undersigned hereby certifies that:

- A. There is in place a written program which meets or exceeds the program requirements of the Substance Abuse Prevention on Public Works Projects Act (P.A. 95-0635), and has provided a written copy thereof to the Village of Tinley Park.
- B. There is in place a collective bargaining agreement which deals with the subject matter of the Substance Abuse Prevention on Public Works Projects Act (P.A. 95-0635).

(Cross out either A or B depending upon which certification is correct)

Name of Contractor (please print)

Submitted by (signature)

Title

Certificate of Compliance with Prevailing Wage Requirements:

The undersigned hereby certifies that:

This contract calls for the construction of a “public Work,” within the meaning of the Illinois Prevailing Wage Act, 820 ILCS 130/.01 et seq. (“the Act”). The Act requires contractors and Subcontractors to pay laborers, workers and mechanics performing services on public works projects no less than the current “prevailing rate of wages” (hourly cash wages plus amount for fringe benefits) in the county where the Work is performed. The Department publishes the prevailing wage rates on its website at <http://www.state.il.us/agency/idol/rates/rates.HTM>. The Department revises the prevailing wage rates and the Contractor/Subcontractor has an obligation to check the Department’s web site for revisions to prevailing wage rates. For information regarding current prevailing wage rates, please refer to the Illinois Department of Labor’s website. All contractors and Subcontractors rendering services under this contract must comply with all requirements of the Act, including but not limited to, all wage requirements and notice and record keeping duties.

Name of Contractor (please print)

Submitted by (signature)

Title

Certificate of Compliance with the Village of Tinley Park Responsible Bidder Ordinance:

The undersigned or the entity making the proposal or bid has reviewed and is in compliance with the Village of Tinley Park Responsible Bidder Ordinance No. 2022-O-032.

Name of Contractor (please print)

Submitted by (signature)

Title

(NOTE: These affidavits must be completed by an authorized representative of the bidder)

AFFIDAVITS

Business Status of Bidder

BIDDER/APPLICANT:

Name

Principal place of business

Address

City, State, Zip Code

The Bidder is a:

_____ Corporate
_____ Partnership
_____ Limited Liability Company
_____ Sole Proprietorship
_____ Other (please explain: _____)

Corporation

The state of incorporation is: _____

The registered agent of the corporation in Illinois is:

Name _____

Address _____

City, State, Zip _____

The Officers of the corporation are:

President

Secretary

Vice President

Treasurer

The Corporation is authorized to do business in the State of Illinois.

Limited Liability Company

The state of registration is: _____

The registered agent of the Limited Liability Company in Illinois is:

Name _____

Address _____

City, State, Zip _____

The registered office of the Limited Liability Company in Illinois is:

Address _____

City, State, Zip _____

The managers and members of the Limited Liability Company are:

_____ Name	_____ Name
---------------	---------------

_____ Address	_____ Address
------------------	------------------

_____ City, State	_____ City, State
----------------------	----------------------

The LLC is authorized to do business in the State of Illinois

Sole Proprietorship

The address of the sole proprietor is:

Address

City, State

The sole proprietor transacts business in Illinois under the following assumed names:

_____	_____

STATE OF ILLINOIS)
)
COUNTY OF COOK)

SS.

*NOTE: THIS AFFIDAVIT MUST BE
*COMPLETED BY THE CHIEF OFFICER
*OF THE BIDDER

AFFIDAVIT
REGARDING BIDDER AVAILABILITY

The undersigned, _____, being first duly sworn on Oath and being duly authorized to make this Affidavit, hereby declares that the following is a true and correct statement relating to All uncompleted contracts of the undersigned for Federal, State, County, City and private work, including All subcontract work; and all pending low bids not yet awarded or rejected; and equipment available.

PART I. WORK UNDER CONTRACT

List below all work you have under contract as either a prime contractor or a subcontractor, including all pending low bids not yet awarded or rejected.

	1	2	3	4	5	Awards Pending	
County and Section No.							
Contract With							
Estimated Completion Date							
Total Contract Price							Total
Uncompleted Dollar Value							

PART II. UNCOMPLETED WORK TO BE DONE WITH YOUR OWN FORCES.

List below the uncompleted dollar value of work for each contract to be completed with your own forces. All work subcontract to others will be listed on the reverse of this form. In a joint venture list only that portion of the work to be done by your company.

Description							TOTALS

(SIGNATURE)

(PRINT NAME)

(TITLE)

Subscribed and Sworn to before me the
_____ day of _____, AD, 2025

NOTARY PUBLIC

STOP*

CHECK THE FOLLOWING LIST TO MAKE SURE THAT YOUR BID CONTAINS ALL OF THE REQUIRED DOCUMENTS.

- _____ 1. BID SECURITY
- _____ 2. BID PROPOSAL, DULY SIGNED & NOT NOTARIZED
- _____ 3. SCHEDULE OF PRICES
- _____ 4. BIDDER'S MATERIAL PROCUREMENT CERTIFICATION FORM
- _____ 5. CONTRACTOR CERTIFICATIONS, SIGNED
- _____ 6. ALL AFFIDAVITS, SIGNED & NOTARIZED

FAILURE TO INCLUDE ANY ONE OR ALL OF THE ABOVE MAY CONSTITUTE SUITABLE GROUNDS FOR REJECTION OF YOUR BID.

***(FOR CONSTRUCTION CONTRACTS ONLY)**

Village of Tinley Park

SERVICE CONTRACT

Proposed Stormwater Management Improvements for Brookside Creek Retail Center - Bid Package

This Contract is by and between the **Village of Tinley Park**, an Illinois Home-Rule Municipal Corporation (the "Village"), and _____ (the "Contractor"), for the Project or Work described in Exhibit A, attached hereto and made a part hereof.

1. In consideration of the compensation stated in Paragraph 2, the Contractor shall provide all the services described in the Scope of Services attached hereto as "Exhibit A" and incorporated herein by reference. The express terms of this Contract shall take precedence and control over any term or provision of the Scope of Services (Exhibit A) that in any way conflicts with, differs from, or attempts to alter the terms of this Contract.
2. Except in the event of a duly authorized change order approved by the Village as provided in this Contract, and in consideration of the Contractor's final completion of all Work in conformity with this Contract, the Village shall pay the Contractor an amount not to exceed _____ (\$_____). Within thirty (30) calendar days of completion of the Work, the Contractor shall submit his application for payment to the Village, and the Village shall pay Contractor for the Work performed no later than thirty (30) calendar days from the date of the Village's receipt and the Village's approval of the Work and the application for payment. No payment shall be made by the Village until the Contractor has submitted to the Village (i) a Contractor's Affidavit listing all Subcontractors and material suppliers utilized on the project and (ii) Final Waivers of Lien from the Contractor, all Subcontractors and all material suppliers.
3. No changes shall be made, nor will invoices for changes, alterations, modifications, deviations, or extra Work or services be recognized or paid except upon the prior written order from authorized personnel of the Village. The Contractor shall not execute change orders on behalf of the Village or otherwise alter the financial Scope of the Project.
4. Written change orders may be approved by the Village Manager or his designee provided that the change order does not increase the amount set forth in Paragraph 2 of this Contract to more than \$10,000.00. Changes in excess of this amount must be approved by the Village Board prior to commencement of the services or Work. If a requested change causes an increase or decrease in the cost of or time required for the performance of the Contract, Contractor will agree to an equitable adjustment in the contract price or performance schedule, or both. Neither party is obligated to comply with requested changes unless and until both parties execute a written change order.
5. Time is of the essence on this Contract. The Contractor shall complete all Work under this Contract on or before the dates specified in the Contract, unless otherwise agreed upon by the Village Engineer.
6. No "Notice to Proceed" may be given nor any Work commenced until this Contract is fully executed and all exhibits and other attachments are completely filled out and attached hereto.
7. It is understood and agreed by the parties that the Contractor is an independent Contractor retained for the above-mentioned purpose. The Village shall not control the manner nor the means of the Contractor's performance, but shall be entitled to a Work product as described herein. The term "Subcontractor" shall mean and include only those hired by and having a direct Contract with Contractor for performance of Work on the Project. The Village shall have no responsibility to any Subcontractor employed by a Contractor for performance of Work on the Project, and all Subcontractors and material suppliers shall look exclusively to the Contractor for any payments due. The Village will not be responsible for reporting or paying employment taxes or other similar levies that may be required by the United States Internal Revenue Service or other State or Federal Agencies. Every Subcontractor shall be bound by the terms and provisions of this Contract as far as applicable to their Work. The Contractor shall be fully responsible to the Village for the acts and omissions of its Subcontractors, and shall ensure that any Subcontractors perform in accordance with the requirements of this Contract. Nothing contained herein shall create any contractual or employment relations between any Subcontractor and the Village. The Contractor is solely responsible for the safety procedures, programs and methods of its employees and agents and shall hold the Village harmless for any and all damages resulting from violations thereof. The Contractor shall comply with all applicable federal, State and local safety laws and regulations.

8. It is further agreed that the Contractor shall indemnify, hold harmless, and defend the Village, its officers, agents, and employees from and against any and all claims, losses, damages, causes of action, suits, and liability of every kind, including all expenses of litigation, court costs, and attorneys' fees, for injury to or death of any person or for damage to any property arising out of or in connection with the Contractor's negligence under this Contract.
9. The Contractor assumes full responsibility for the Work to be performed hereunder and hereby releases, relinquishes, and discharges the Village, its officers, agents, and employees from all claims, demands, and causes of action of every kind and character, including the cost of defense thereof, for any injury to or death of any person and any loss of or damage to any property that is caused by, alleged to be caused by, arising out of, or in connection with the Contractor's negligence in its Work to be performed hereunder. The Contractor shall maintain insurance coverage in an amount and from a carrier suitable to the Village, and the Village shall be named as an additional insured where required. Certificates of Insurance are attached hereto as "Exhibit B".
10. The Village is exempt from payment of State and Local sales and use of taxes on labor and materials incorporated into the Project. If necessary, it is the Contractor's responsibility to obtain a sales tax permit, resale certificate, and exemption certificate that shall enable the Contractor to buy any materials to be incorporated into the project and then resale the aforementioned materials to the Village without paying the tax on the materials at the time of purchase. In no event will the Village be liable for or pay any sales or use taxes incurred by the Contractor in performing the services under this Contract.
11. The Contractor shall comply with all applicable Federal, State, and Local statutes, regulations, ordinances, and other laws, including but not limited to the Immigration Reform and Control Act (IRCA). The Contractor may not knowingly obtain the labor or services of an unauthorized alien. The Contractor, not the Village, must verify eligibility for employment as required by IRCA.
12. At any time, the Village may terminate this Contract for convenience, upon written notice to the Contractor. The Contractor shall cease Work immediately upon receipt of such notice. The Contractor shall be compensated for services performed and accepted by the Village up to the date of termination.
13. No waiver or deferral by either party of any term or condition of this Contract shall be deemed or construed to be a waiver or deferral of any other term or condition or subsequent waiver or deferral of the same term or condition.
14. This Contract may only be amended by written instrument approved and executed by the parties.
15. This Contract and the rights and obligations contained herein may not be assigned by the Contractor without the prior written approval of Village.
16. The parties hereby state that they have read and understand the terms of this Contract and hereby agree to the conditions contained herein.
17. This Contract has been made under and shall be governed by the laws of the State of Illinois. The parties agree that performance and all matters related thereto shall be in Cook and/or Will County, Illinois.
18. Contractor, its employees, associates or Subcontractors shall perform all the Work hereunder. Contractor agrees that all of its associates, employees, or Subcontractors who Work on this Project shall be fully qualified and competent to do the Work described hereunder. Contractor shall undertake the Work and complete it in a timely manner.
19. If any provision of this Contract shall be held to be invalid or unenforceable for any reason, the remaining provisions shall continue to be valid and enforceable. If a court of competent jurisdiction finds that any provision of this Contract is invalid or unenforceable, but that by limiting such provision it may become valid and enforceable, then such provision shall be deemed to be written, construed, and enforced as so limited.
20. This Contract represents the entire and integrated agreement between the Village and Contractor and supersedes all prior negotiations, representations, or agreements, either written or oral.
21. This Contract will be effective when signed by the last party whose signing makes the Contract fully executed.

22. The Contractor agrees to comply with the Illinois Prevailing Wage Act, if the Work to be performed under this Contract is covered by said Act.
23. The Contractor agrees to comply with the Illinois Substance Abuse Prevention on Public Works Projects Act.

[Signature Page to Follow]

CONTRACTOR

BY: _____
Name Date

Printed Name

Title

VILLAGE OF TINLEY PARK

BY: _____
Michael W. Glotz, Village President
(required if Contract is \$20,000 or more) Date

ATTEST

BY: _____
Village Clerk
(required if Contract is \$20,000 or more) Date

VILLAGE OF TINLEY PARK

BY: _____
Village Manager Date

EXHIBIT A:

SCOPE OF SERVICES

The proposed Work consists of clearing, topsoil stripping and stockpiling, excavation and grading of detention and compensatory storage basins, excavation and haul off-site, installation of storm sewer, storm culverts and stormwater control structure, topsoil respread, ground stabilization and seeding, and all incidental and collateral work necessary to complete the improvements as specified in the Contract Documents prepared by Manhard Consulting, Ltd.

EXHIBIT B:

INSURANCE REQUIREMENTS

(See Risk Manager for Insurance Requirements)

(To be provided by Contractor prior to Award of Contract)

FORM A:

Subcontractors, if any, who will Perform Work on this Project.

Name	Address	Work to be Performed

FORM B:

Individuals who will perform Work on the project.

List all individuals who will perform Work on this project with the following information:

Individual is an employee (E) or Independent Contractor (I);

Individual's trade classification (indicate apprenticeship status where appropriate);

Employee (E) is covered under Contractor's current workers' compensation (WC) policy;

Employee's (E) county of residence.

[illegible]

FORM C:

Additional Information Required:

If this is to be the first Contract with the Village, Contractor shall complete items I and/or II below:

Item I: List of at least last three (3) awarded projects on similar public construction projects.

Public Body/ Project Name/Year	Reference Name/ Phone #	Original Price/ Final price	Subcontractors

Item II:

List any determinations by a court or governmental agency for violations of federal, state or local laws, including but not limited to violations of contracting or antitrust laws, tax or licensing laws, environmental laws, the Occupational Safety and Health Act (OSHA), the National Labor Relations Act (NLRA), or federal Davis-Bacon and related Acts.

Date	Law	Determination	Penalty

Tab 3

Geotechnical Engineering Report

Proposed Woodman's Store Development
7200-7600 West 191st Street
Tinley Park, Illinois

September 28, 2017
Terracon Project No.: MR175287

Prepared for:
Building Systems General Corporation
Madison, Wisconsin

Prepared by:
Terracon Consultants, Inc.
Naperville, Illinois

terracon.com

Terracon

Environmental



Facilities



Geotechnical



Materials



September 28, 2017

Building Systems General Corporation
5972 Executive Drive, Suite 100
Madison, Wisconsin 53719

Attn: Mr. James Arneson

Re: Geotechnical Engineering Report
Proposed Woodman's Store Development
7200 – 7600 West 191st Street
Tinley Park, Illinois
Terracon Project No.: MR175287

Dear Mr. Arneson:

Terracon Consultants, Inc. (Terracon) has completed the geotechnical engineering services for the referenced project. This study was performed in general accordance with our Proposal No. PMR175287R1, dated August 4, 2017. This report presents the findings of the subsurface exploration and provides geotechnical recommendations regarding earthwork, the design and construction of shallow foundations and floor slabs, storm water detention ponds, and estimated minimum pavement sections for the proposed project.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report, or if we may be of further service, please contact us.

Sincerely,
Terracon Consultants, Inc.

A handwritten signature in black ink, reading "Nathan Liggett".

Nathan Liggett, E.I.
Project Manager

A handwritten signature in black ink, reading "Paul A. Tarvin".

Paul A. Tarvin, P.E.
Regional Geotechnical Manager
Illinois No. 062-068341
Renews on 11/30/2017



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EXECUTIVE SUMMARY

Terracon Consultants, Inc. (Terracon) has completed a geotechnical engineering report for the proposed Woodman's Store Development in Tinley Park, Illinois. Twenty (20) soil borings were performed to depths ranging from 20 to 24 feet below the existing ground surface. Based on the information obtained from our subsurface exploration, the following geotechnical considerations were identified:

- The general soil profile across the majority of the site consists of approximately 9 to 16 inches of topsoil and root zone material underlain by native stiff to hard lean clay soils. Occasional sand seams and layers were also observed.
- Borings B-19 and B-20 (located within the proposed detention basin and compensatory storage B) encountered deep deposits of peat, organic clay/silt, and very soft clay to a depth of 22 to 23 feet below existing ground surface. Further soil probes will be required to determine the exact lateral extent of the soft and organic deposit. It will be very difficult to complete any grading in these areas because the soft, compressible soils will become unstable under the weight of any new fill or construction equipment.
- Based on the existing site topography, moderate amounts of fill may need to be placed at some locations across the site to establish the final subgrade elevations. In areas where this fill will be supporting structures or pavements, careful placement and compaction will be essential to the overall performance of the foundations. In areas where fill is placed, any top soil or organic materials must be stripped and removed, and the subgrade proofrolled to confirm a stable subgrade prior to the placement of any new fill material.
- In our opinion, foundation excavations should be supported below frost depth on native very stiff to hard lean clays, or on approved engineered fill placed as described in this report. Foundations supported on these soils can be proportioned for a net allowable soil bearing pressure of 4,000 psf.
- It is our opinion that the existing native soils are suitable for support of the proposed floor slabs and pavements provided any organic or unsuitable material near the surface is removed. To reduce the risk of adverse performance of floor slabs and pavements, and to provide a more uniform subgrade support, the subgrades should be thoroughly observed and tested during construction. Where unsuitable conditions are observed, corrective procedures should be implemented (e.g., improvement by scarification/ compaction, or removal of unsuitable materials and replacement with engineered fill).
- Clay soils were encountered throughout the site at the boring locations. These soils can be sensitive to disturbance from construction activities, particularly if further wetted by surface water or seepage. Therefore, it is anticipated that some areas of the site may become

Geotechnical Engineering Report

Proposed Woodman's Store Development ■ Tinley Park, Illinois

September 28, 2017 ■ Terracon Project No. MR175287



unstable during proofrolling and construction operations, especially during periods of extended wet weather.

- Close monitoring of the construction operations discussed herein will be critical in achieving the design subgrade support. We therefore recommend that Terracon be retained to monitor this portion of the work.

This summary should be used in conjunction with the entire report for design purposes. It should be recognized that details were not included or fully developed in this section, and the report must be read in its entirety for a comprehensive understanding of the items contained herein. The section titled **GENERAL COMMENTS** should be read for an understanding of the report limitations.

GEOTECHNICAL ENGINEERING REPORT PROPOSED WOODMAN'S STORE DEVELOPMENT TINLEY PARK, ILLINOIS

Terracon Project No. MR175287

September 28, 2017

1.0 INTRODUCTION

Terracon Consultants, Inc. (Terracon) has completed a geotechnical engineering report for the proposed Woodman's Store Development in Tinley Park, Illinois. Twenty (20) soil borings were performed to depths ranging from 20 to 24 feet below the existing ground surface. Logs of the borings and the boring location diagrams are included in Appendix A of this report.

The purpose of these services is to provide information and geotechnical engineering recommendations relative to:

- subsurface soil conditions
- groundwater conditions
- earthwork
- subgrade preparation
- foundation design and construction
- floor slab design and construction
- seismic considerations
- estimated minimum pavement sections

2.0 PROJECT INFORMATION

2.1 Project Description

ITEM	DESCRIPTION
Site layout	See Appendix A, Exhibits A-2 and A-3
Structures	The Woodman's Grocery will have a building footprint of approximately 244,330 square feet, and will be of typical slab on grade construction. In addition, there are five outlots located to the north of the proposed Woodman's Grocery, as well as an approximately 2.2-acre parcel that will include a Woodman's gas, lube and car wash facility. The remaining outlots are approximately 1.64 to 2 acres. Parking lots and drives will be located around both the Woodman's Grocery and the gas, lube and car wash buildings. All structures are assumed to be single story and relatively lightly loaded slab on grade buildings.

ITEM	DESCRIPTION
Maximum loads (assumed)	The following maximum loads were assumed: <ul style="list-style-type: none"> ■ Columns: 150 kips ■ Wall Loads: 4 to 6 kips per lineal foot ■ Floor Slab: 150 psf
Pavements	We understand that new parking and drive areas will be constructed surrounding the proposed structures. In addition, service drives to access 191 st Street and the proposed outlots will also be constructed.
Site Grading	A proposed site grading plan has not been provided. Based on the existing topography of the site, Terracon has assumed that moderate cuts/fills may be required to achieve final surface grade.
Below grade walls	No below grade structures are anticipated for the proposed project construction.

2.2 Site Location and Description

ITEM	DESCRIPTION
Location	7200-7600 West 191 st Street, Tinley Park, Illinois.
Existing improvements	The site is currently vacant, undeveloped land used for agricultural purposes. A small waterway (Flossmoor Ditch) currently bisects the property in a north/south direction.
Current ground cover	Topsoil and agricultural crops.
Existing topography	Based on the site topographic plan provided, it appears that the ground surface elevations at the site range from approximately 687 feet to 707 feet across the property.

3.0 SUBSURFACE CONDITIONS

3.1 Typical Profile

Subsurface conditions at each boring location are described on the individual boring logs in Appendix A. The stratification boundaries shown on the boring logs represent the approximate depths where changes in material types occur. In-situ, transitions between material types can be more gradual. Based on the results of the borings, subsurface conditions at each project site can be generalized as follows:

Stratum	Approximate Depth to Bottom of Stratum ¹	Material Description	Consistency/Density
Surface	9 to 16 inches	Topsoil / root zone	N/A
1 ²	17 feet to boring termination depth of 20 feet.	Native lean clay (CL) to silty clay (CL/ML)	Stiff to hard
1A ³	7 to 14 feet	Peat (PT) and organic clay/silt (OH)	Very soft Water content: 54% to 177%
2 ⁴	Boring termination depth of 20 feet	Native sand (SP)	Medium-dense
2A ³	22 feet	Lean to fat Clay (CL/CH)	Very soft to soft Water content: 24% to 70%
3 ³	Termination depth of 24 feet in borings B-19 and B-20	Sandy lean clay to clayey sand (CL/SC)	Medium dense

1. Indicates depth below existing ground surface

2. Granular layer noted between 15 and 18 feet below existing grade in Boring B-7

3. Only encountered in Borings B-19 and B-20

4. Only encountered in Boring B-12

3.2 Water Level Observations

The borings were observed during and after the completion of drilling for the presence and level of water. Water was observed in fourteen (14) of the borings during drilling. The following table summarizes the findings:

Boring No.	Approximate Elevation of Ground Surface (ft) ¹	Elevation of Water During Drilling (ft) ^{1,2}		Boring No.	Approximate Elevation of Ground Surface (ft) ¹	Elevation of Water During Drilling (ft) ^{1,2}
B-1	698	680 (18)		B-11	693	Not observed
B-2	694	677 (17)		B-12	694	675.5 (19.5)
B-3	693	680 (13)		B-13	703	Not observed
B-4	693	675 (18)		B-14	694	Not observed
B-5	692	676 (16)		B-15	693	675 (18)
B-6	691	672 (19)		B-16	694	676 (18)
B-7	694	679 (15)		B-17	693	676 (17)

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Proposed Woodman's Store Development ■ Tinley Park, Illinois

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Boring No.	Approximate Elevation of Ground Surface (ft) ¹	Elevation of Water During Drilling (ft) ^{1,2}		Boring No.	Approximate Elevation of Ground Surface (ft) ¹	Elevation of Water During Drilling (ft) ^{1,2}
B-8	692	673 (19)		B-18	703	Not observed
B-9	695	Not observed		B-19 ³	689	685 (4)
B-10	693	Not observed		B-20 ³	688	684 (4)

1. Estimated from provided site topographic plan provided by the client.
2. Numbers in parentheses are the depth to water below existing ground surface.
3. Borings were located within the low-lying areas of the site near the adjacent Flossmoor Ditch.

Water levels may fluctuate due to seasonal variations in the amount of rainfall, runoff, and other factors not evident at the time the borings were performed. Trapped or “perched” water could occur within granular seams or strata located between lower permeability soil layers, and the shallow water levels observed in several of the borings may represent perched/trapped water rather than long-term subsurface water levels. Water level fluctuations and perched water should be considered when developing design and construction plans and specifications for the project

4.0 RECOMMENDATIONS FOR DESIGN AND CONSTRUCTION

4.1 Geotechnical Considerations

The results of this exploration indicate that the subsurface conditions at the site are generally suitable for the use of shallow footing foundations for support of the proposed structural loads. The floor slabs can be grade supported. However, the following geotechnical related issues at the site will affect the foundation related performance of the proposed structure.

After removal of the surficial topsoil and preparation of the subgrade, we recommend that foundations for the building bear on the very stiff to hard native clays soils, or on engineered fill that extends to approved native soils. Foundations bearing on these soils can be proportioned for an allowable soil bearing pressure of 4,000 psf.

It is our opinion that the existing native soils are suitable for support of the floor slabs and pavements, provided they appear stable under proofrolling. Where unsuitable conditions are observed, corrective procedures should be implemented (e.g., improvement by scarification/compaction, or removal of unsuitable materials and replacement with engineered fill).

Deep deposits of organic material and very soft cohesive soils were encountered in the areas of the proposed Primary Detention Basin and Compensatory Storage A. The areas of these features are currently located in low-lying areas of the site near the adjacent Flossmoor Ditch waterway. The extent of these deep organic deposits is currently not known and additional probing would be needed to determine the exact lateral extent of the deposits. It will be very difficult to complete any grading in these areas because the soft, compressible soils will become unstable under the weight of any new fill or construction equipment.

Clay soils were encountered in the boring locations across the site. These soils can be sensitive to disturbance from construction activities, particularly if further wetted by surface water or seepage. Therefore, it is anticipated that some areas of the site may become unstable during proofrolling and construction operations, especially during period of extended wet weather.

Our recommendations for earthwork and the design and construction of shallow foundations, floor slabs, and pavements for the proposed development are presented in the following sections.

4.2 Earthwork

Earthwork on this project should be observed and evaluated by Terracon. Recommendations for site preparation, excavation, subgrade preparation, and placement of engineered fill for the project are provided in the following sections.

4.2.1 Site Preparation

Existing topsoil and any loose, soft, or otherwise unsuitable materials should be removed from the proposed construction areas. Any organic soils removed during site preparation should not be used as fill beneath the proposed new buildings, outlots, or pavement areas.

Following removal of the surficial topsoil and prior to placing new engineered fill, the exposed inorganic soils should be observed and tested by Terracon. A Terracon representative should observe proofrolling of the exposed soils. Proofrolling can be accomplished using a loaded tandem-axle dump truck with a gross weight of at least 25 tons, or similarly loaded equipment. Areas that display excessive deflection (pumping) or rutting should be improved by scarification and compaction or by removal and replacement with an approved engineered fill as described below. Proofrolling only applies to those areas outside of the proposed detention basins. Grading operations in the detention basin areas are discussed in the Earthwork Construction Considerations section of this report.

4.2.2 Engineered Fill Material Requirements

Engineered fill should meet the following material property requirements:

Fill Type ¹	USCS Classification	Acceptable Location for Placement
Cohesive ²	CL, CL-ML	Adjacent to foundations and below/adjacent to slabs and pavements
Granular	GW, GP, GM, GC, SW, SP, SM, SC	Below/ adjacent to foundations, slabs, and pavements
Unsuitable	CH, MH, OL, OH, PT	Non-structural locations

1. Engineered fill should consist of approved materials that are free of organic matter and debris. Cohesive fill materials should have a liquid limit less than 45 and a plasticity index less than 20; cohesive soils that do not meet these criteria should be considered "unsuitable." Frozen material should not be used, and fill should not be placed on a frozen subgrade. A sample of each material type should be submitted to Terracon for evaluation prior to use on this site.
2. Based on visual and tactile examination of recovered soil samples and the results of the laboratory tests, most of the on-site inorganic clay soils would likely meet the criteria for engineered fill. However, any organic materials, rock fragments larger than 3 inches, and other unsuitable materials should be removed prior to use of the existing fill materials in new fill sections.

A significant amount of fill may need to be placed in certain areas of the site to establish the final subgrade elevations. Where deep fills (i.e. more than 4 to 5 feet) will be placed below new foundations and floor slabs, the fill should consist exclusively of clean relatively well graded granular material with less than 15 percent material passing the No. 200 US standard sieve size. Cohesive fills could be used in less settlement sensitive areas such as parking lots, drives, and in green areas, or for fills less than 5 feet thick. Cohesive fill, even if placed with engineering controls, will still experience long-term consolidation after placement due to the self-weight of the material and any external loads. This settlement could be up to 1 to 2 percent of the total fill height. Alternatively, then, thicker clay fills could be placed as early in the construction schedule as possible and placement of any new structural elements should be delayed as much as two to three months to allow for consolidation of the underlying clay fill. Implementation of a settlement monitoring program would aid in determining when consolidation is nearly complete, and construction could then proceed.

4.2.3 Fill Placement and Compaction Requirements

Item	Description
Fill Lift Thickness	9 inches or less in loose thickness when heavy, self-propelled compaction equipment is used. 4 to 6 inches in loose thickness when hand-guided equipment (i.e., a jumping jack or plate compactor) is used.

Item	Description
Minimum Compaction Requirement ^{1,2} Below Foundations and Slabs-on-grade, Upper 12 inches of Areas to be Paved	95% of the modified Proctor maximum dry density (ASTM D 1557). This level of compaction should extend beyond the edges of footings at least 8 inches for every foot of fill placed below the foundation base elevation.
Minimum Compaction Requirement ^{1,2} Below 12 Inches in Areas to be Paved, Landscaped Areas	90% of the modified Proctor maximum dry density (ASTM D 1557)
Moisture Content of Cohesive Soil ³	-2% to +3% of modified Proctor optimum (ASTM D 1557)
Moisture Content of Granular Material ⁴	Workable moisture levels

1. We recommend that each lift of fill be tested by Terracon for moisture content and compaction prior to the placement of additional fill or concrete. If the results of the in-place density tests indicate the specified moisture or compaction limits have not been met, the area represented by the test should be reworked and retested as required until the specified moisture and compaction requirements are achieved.
2. If the granular material is a coarse sand or gravel, is of a uniform size, or has a low fines content, compaction comparison to relative density (ASTM D 4253/4254) may be more appropriate. In this case, granular materials should be compacted to at least 60% relative density.
3. Some drying on the on-site clay soils used as fill should be anticipated to facilitate compaction.
4. The gradation of a granular material affects its stability and the moisture content required for proper compaction. Moisture levels should be maintained to achieve compaction without bulking during placement or pumping when proofrolled.

4.2.4 Grading and Drainage

During construction, grades should be developed to direct surface water flow away from or around the site. Exposed subgrades should be sloped to provide positive drainage so that saturation of subgrades is avoided. Surface water should not be permitted to accumulate on the site.

Final surrounding grades should be sloped away from the structure to promote rapid surface drainage. Accumulation of water adjacent to the building could contribute to significant moisture increases in the subgrade soils and subsequent settlement. Roof drains should discharge into a storm sewer or at least 10 feet away from the building.

4.2.5 Earthwork Construction Considerations

Terracon should be retained during the construction phase of the project to observe earthwork and to perform necessary tests and observations during stripping of organic soils, subgrade preparation, proofrolling, placement and compaction of engineered fills, backfilling of excavations, and just prior to construction of slabs and pavements.

Water was encountered in fourteen (14) of the borings performed at the site. The remainder of the borings were dry while drilling and after boring completion. The water levels encountered were well below the base of any anticipated excavation level and was primarily in isolated granular seams within the primarily fine grained clay soil matrix. If seepage is encountered in excavations during construction, the contractor is responsible for employing appropriate dewatering methods to control seepage and facilitate construction. In our experience, dewatering of excavations in clayey soils can typically be accomplished using sump pits and pumps. If large saturated granular layers are encountered in excavations, a more extensive dewatering system may be required.

Care should be taken to avoid disturbance of prepared subgrades. Unstable subgrade conditions could develop during general construction operations, particularly if the soils are wetted and/ or subjected to repetitive construction traffic. New fill compacted above optimum moisture content or that accumulates water during construction can also become disturbed under construction equipment. Construction traffic over the completed subgrade should be avoided to the extent practical. If the subgrade becomes saturated, desiccated, or disturbed, the affected materials should either be scarified and compacted or be removed and replaced. Subgrades should be observed and tested by Terracon prior to construction of slabs and pavements.

Based on the inorganic soil types present at a majority of the boring locations, temporary excavation slopes on the order of 1 horizontal to 1 vertical could be considered for the native stiff cohesive soils above the water table. It should be understood that the strength of cohesive soils and OSHA classification can change based on factors such as the length of time the excavation is open, precipitation, water level, etc. As a minimum, excavations should be performed in accordance with OSHA 29 CFR, Part 1926, Subpart P, "Excavations" and its appendices, as well as other applicable codes, and in accordance with any applicable local, state, and federal safety regulations. The contractor should be aware that slope height, slope inclination, and excavation depth should in no instance exceed those specified by these safety regulations. Flatter slopes than those dictated by these regulations may be required depending upon the soil conditions encountered and other external factors. These regulations are strictly enforced and if they are not followed, the owner, the contractor, and/or earthwork and utility subcontractor could be liable and subject to substantial penalties. Under no circumstances should the information provided in this report be interpreted to mean that Terracon is responsible for construction site safety or the contractor's activities. Construction site safety is the sole responsibility of the contractor who shall also be solely responsible for the means, methods, and sequencing of the construction operations.

4.2.6 Settlement Monitoring

If possible, the placement of deeper fill to raise grades should be completed as early in the construction schedule as possible to allow the underlying native soils to consolidate under the additional overburden pressure. Additionally, construction of pavements and any building foundations or slabs over new clay fill should be delayed 3 to 6 weeks following completion of

the fill placement, if possible, to allow for this consolidation. Based on the existing site topography, significant thickness of fill may be needed in some areas which could cause consolidation of these soils.

In order to confirm the magnitude and time rate of settlement estimates provided above, we recommend that a settlement monitoring program be implemented at the time of fill placement. Readings should be made at least twice weekly and provided to the geotechnical engineer for review and interpretation. The results will be used to make a final determination as to when construction of pavements and slabs over new fill can be completed. Terracon can be retained to provide these services if needed.

4.3 Foundations

In our opinion, the proposed buildings can be supported by conventional spread footing foundations bearing on native very stiff to hard clay soils or newly placed engineered fill. Where any unsuitable conditions (such as organic, soft, or loose native soils) are encountered at design footing bearing depth, the remedial methods recommended in Section 4.3.2 should be implemented. This may require extending the footing excavations below typical frost depth at some locations. Design recommendations for shallow foundations to support the proposed building are presented below.

4.3.1 Foundation Design Recommendations

DESCRIPTION	VALUE
Net allowable bearing pressure ¹	4,000 psf
Minimum embedment below finished grade for frost protection ²	3½ feet
Minimum footing width	Square: 30 inches Continuous: 18 inches
Approximate total settlement ³	1 inch
Estimated differential settlement ³	1/2 to 2/3 of the total settlement

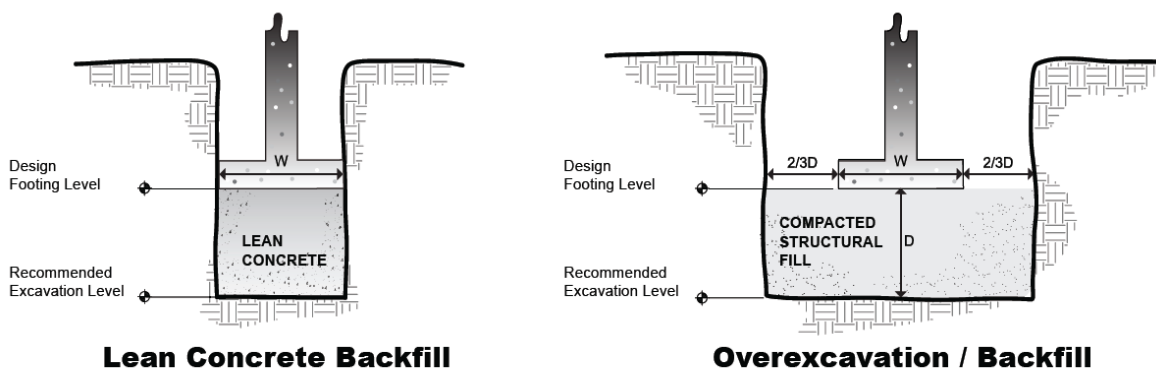
1. The recommended net allowable bearing pressure is the pressure in excess of the minimum surrounding overburden pressure at the footing base elevation. This pressure assumes that any existing fill or lower strength soils, if encountered, will be undercut and replaced with engineered fill.
2. For perimeter footings, footings beneath unheated areas, and footings that will be exposed to freezing conditions during construction.
3. Foundation settlement will depend upon the variations within the subsurface soil profile, the structural loading conditions, the embedment depth of the footings, the thickness of engineered fill, and the quality of the earthwork operations and footing construction.

4.3.2 Foundation Construction Considerations

The base of each foundation excavation should be free of water and loose soil prior to placing concrete. Concrete should be placed as soon after excavating as possible to reduce bearing soil disturbance. If the soils at bearing level become excessively dry, disturbed, saturated, or frozen, the affected soil should be removed prior to placing concrete. Placement of a lean concrete mud-mat over the bearing soils should be considered if the excavations must remain open overnight or for an extended period of time.

Footings should bear directly on tested and approved native soils, on lean concrete that extends to approved native soils, or on new engineered fill that extends to approved native soils. If organic soils, lower strength native soils, or otherwise unsuitable bearing soils are encountered in footing excavations, the excavation could be extended deeper to suitable soils and the footing should bear directly on these soils at the lower level, or on structural soil fill or lean concrete backfill placed in the excavations. If unsuitable native soils are present within the zone of influence determined by Terracon, the footing excavations should be deepened to suitable native bearing materials. If lean concrete backfill (minimum 28-day compressive strength of 1,500 psi) is used, widening of excavation may not be needed.

Where engineered fill will be placed to support the footings, the excavations should be widened at least 8 inches beyond each footing edge for every foot of new fill placed below the design footing base elevation. The overexcavated depth should then be backfilled up to the foundation base elevation with an approved fill material that is placed in lifts and compacted to at least 95% of the modified Proctor maximum dry density. We recommend that backfill materials consist of those materials identified in Section 4.2.2. The recommended extents of the overexcavation and backfill procedure are illustrated in the following figure.



NOTE: Excavations in sketches shown vertical for convenience. Excavations should be sloped as necessary for safety.

4.4 Floor Slab

4.4.1 Design Recommendations

The floor slabs for the proposed structures can be supported on the native clay soils or newly placed engineered fill used to raise site grades, provided the subgrade appears stable under proofrolling prior to placement of any new fill. We recommend that areas to receive more than 5 feet of fill be allowed to pre-consolidate for a period of at least 4 to 6 weeks prior to construction of slabs. This will help to minimize post construction settlement of the slabs. This recommendation is also valid for parking areas that will receive new fill (discussed further in Section 4.5). The final six inches of fill immediately below the slab should consist of a reasonably well graded select granular fill with less than 5 percent fines. The granular fill layer will serve as a capillary break between the fine-grained subgrade and the base of the slab.

ITEM	DESCRIPTION
Floor slab support	Tested and approved engineered fill materials that have been prepared in accordance with section 4.2 and tested/ approved by Terracon
Modulus of subgrade reaction	125 pounds per square inch per inch (psi/in) for point loading conditions
Granular leveling course²	6 inches of free draining granular material

1. Floor slabs should be structurally independent of building footings and walls supported on the footings to reduce the potential for floor slab cracking caused by differential movements between the slab and foundation.
2. The floor slab should be placed on a leveling course comprised of well-graded granular material (e.g. IDOT CA-7 or equivalent) compacted to at least 95% of the modified Proctor maximum dry density (ASTM D 1557).

Joints should be constructed at regular intervals as recommended by the American Concrete Institute (ACI) to help control the location of cracking. It should be understood that differential settlement between the floor slab and foundations could occur.

The use of a vapor retarder should be considered beneath concrete slabs on grade that will be covered with wood, tile, carpet or other moisture sensitive or impervious coverings, or when the slab will support equipment sensitive to moisture. When conditions warrant the use of a vapor retarder, the slab designer should refer to ACI 302 and/or ACI 360 for procedures and cautions regarding the use and placement of a vapor retarder.

4.4.2 Floor Slab Construction Considerations

On most project sites, the site grading is generally accomplished early in the construction phase. However, as construction proceeds, the subgrade may be disturbed due to utility excavations, construction traffic, desiccation, rainfall, etc. As a result, the floor slab subgrade may not be

suitable for placement of the aggregate leveling course and concrete and corrective action will be required.

Terracon should review the condition of the floor slab subgrades immediately prior to placement of the granular leveling course and construction of the slabs. Particular attention should be paid to high traffic areas that were rutted and disturbed earlier and to areas containing backfilled trenches. Areas where unsuitable conditions are located should be repaired by removing and replacing the affected material with properly compacted fill.

4.5 Pavements

4.5.1 Subgrade Preparation

Fill placement may be required to establish final grades beneath the southwest parking areas and drives. As mentioned previously, fine grained soil fills of this thickness, even if properly placed and compacted, will still experience long-term consolidation after placement due to the self-weight of the material and any external loads. This settlement could be up to 1 to 2 percent of the total fill height. We recommend that areas to receive more than 5 feet of fill be allowed to pre-consolidate for a period of at least 4 to 6 weeks prior to construction of pavements. This will help to minimize post construction settlement. Settlement should be monitored as discussed in Section 4.2.6.

Pavement subgrades, likely prepared during the initial phases of construction, should be carefully re-evaluated for signs of disturbance as the time for pavement construction approaches. We recommend the moisture content and density of the top 9 inches of the subgrade be evaluated and the pavement subgrades be proofrolled within two days prior to commencement of actual paving operations. Areas not in compliance with the required ranges of moisture or density should be moisture conditioned and re-compacted. Particular attention should be paid to high traffic areas that were rutted and disturbed earlier and to areas where backfilled trenches are located. Areas where unsuitable conditions are located should be repaired by removing and replacing the materials with properly compacted fills.

After proofrolling and repairing deep subgrade deficiencies, the entire subgrade should be scarified and developed as recommended in Section 4.2 of this report to provide a uniform subgrade for pavement construction. Areas that appear severely desiccated following site stripping may require further undercutting and moisture conditioning. If a significant precipitation event occurs after the evaluation or if the surface becomes disturbed, the subgrade should be reviewed by qualified personnel immediately prior to paving. The subgrade should be in its finished form at the time of the final review.

4.5.2 Design Considerations

We anticipate that the subgrade in pavement areas will likely consist of either the existing native clay soils or newly placed engineered fill used to raise site grades. These soils are considered

suitable for support of pavements, provided they do not contain appreciable amounts of organic matter and are prepared as recommended in this report. The following table provides design parameters for use in the design of both bituminous and Portland cement concrete pavements supported on the existing native soils or engineered soil fill used to raise site grades.

Design Parameter ¹	Value
California Bearing Ratio (CBR)	5
AASHTO Classification	A-6
Modulus of Subgrade Reaction	125 pci
Resilient Modulus	7,500 psi

1. The design parameters may be used if the following criteria are met during pavement construction:

- Subgrade is inspected properly.
- Subgrade has uniform and adequate compaction.
- Wet or soft soil zones are treated or removed.
- Subgrade soil is a homogeneous mixture.
- Adequate drainage is provided.

4.5.3 Estimated Pavement Sections

All pavements should be designed for the types and volumes of traffic, subgrade and drainage conditions, paving material characteristics and climate conditions that are anticipated. We have developed preliminary recommended minimum pavement sections for both bituminous and Portland cement concrete, where the subgrade appears firm under proofrolling at the time of construction. Specific information regarding anticipated vehicle types, axle loads and traffic volumes was not provided. In developing our recommendations, we have considered that traffic will consist primarily of automobile traffic and a limited number of delivery trucks and trash removal trucks. The standard duty pavement section is for automobile traffic only (parking lots). The heavy-duty pavement sections consider a maximum of 20 two-axle, six-tire trucks per week and should be used for truck traffic areas and concentrated car traffic areas (drives). If heavier vehicle types or higher traffic volumes are expected, Terracon should be informed accordingly so that these recommendations could be revised appropriately. Greater pavement and/or base course thicknesses may be required for greater expected traffic loads and volumes, or if poorer subgrade conditions are encountered. The thickness of pavements subjected to heavy truck traffic should be evaluated using expected traffic volumes, vehicle types, and vehicle loads and should be in accordance with local, city or county ordinances.

Pavement Area	Type ¹	Pavement Thickness (in)	Base Course Thickness ² (in)
Standard Duty (Parking Lots)	Portland Cement Concrete (PCC) Pavement	5.0	4.0
	Asphaltic Concrete (AC) Pavement ³	4.0 ⁴	8.0
Heavy Duty (Drives)	PCC Pavement	7.0	4.0
	AC Pavement ^{3, 6}	6.0 ⁵	10.0

1. Portland cement concrete pavements are recommended for areas subject to repeated truck traffic, truck turning areas, and trash container pads. Trash container pads should be large enough to support the container and the tipping axle of the trash collection vehicle.
2. IDOT CA-6 or an approved alternate gradation.
3. IDOT requires that the minimum AC binder lift thickness be 3 times the nominal maximum aggregate size. For a typical IDOT binder mix (IL-19.0 N50), the minimum lift thickness would be 2¼ inches.
4. Minimum 1½ inch AC surface course and 2½ AC binder course.
5. Minimum 2 inch AC surface course and 4 inch AC binder course.
6. If asphalt pavements are used in truck traffic areas, the owner must accept the potential for some rutting/shoving of the pavement surface. Frequent mill-and-overlay rehabilitation or other pavement repairs may be required if asphalt pavements are used in areas subject to turning trucks and/or heavy static loads (e.g., parked trucks/trailers).

The pavement sections provided in the table above were developed in accordance with the American Association of State and Highway Transportation Officials (AASHTO) Guide for Design of Pavement Structures 1993 procedure, along with consideration for engineering judgement, as well as local soil and climate conditions. Asphalt, concrete and aggregate base course materials for pavements should conform to the applicable Illinois DOT "Standard Specifications of Road and Bridge Construction." Concrete pavement should be air-entrained and have a minimum compressive strength of 4,000 psi after 28 days of laboratory curing (ASTM C 31).

Construction traffic on the pavements was not considered in developing the estimated minimum pavement thicknesses. If the pavements will be subject to construction equipment/vehicles, the pavement sections should be revised to consider the additional loading.

Paved areas should be sloped to provide rapid drainage of surface water and to drain water away from the pavement edges. Water should not be allowed to accumulate on or adjacent to the pavement, since this could saturate and soften the subgrade soils and subsequently accelerate pavement deterioration. Periodic maintenance of the pavements will be required. Cracks should be sealed, and areas exhibiting distress should be repaired promptly to help prevent further deterioration. Even with periodic maintenance, some movement and related cracking may still occur and repairs may be required.

4.5.4 Pavement Drainage, Performance, and Maintenance

Pavements and subgrades will be subject to freeze-thaw cycles and seasonal fluctuations in moisture content. The pavement sections provided in Section 4.5.3 assume that the subgrade soils will not experience significant increases in moisture content. Thus, pavements should be sloped to provide rapid drainage of surface water. Water allowed to pond on or adjacent to the pavements could saturate the subgrade and contribute to premature pavement deterioration. In addition, the pavement subgrade should be graded to provide positive drainage within the granular base section.

Preventive maintenance should be planned and provided through an on-going pavement management program. Maintenance activities are intended to slow the rate of pavement deterioration, and to preserve the pavement investment. Maintenance consists of both localized maintenance (e.g., crack and joint sealing and patching) and global maintenance (e.g., surface sealing). Preventive maintenance is usually the first priority when implementing a pavement maintenance program. Additional engineering observation is recommended to determine the type and extent of a cost effective program. Even with periodic maintenance, some movements and related cracking may still occur and repairs may be required.

Pavement performance is affected by its surroundings. In addition to providing preventive maintenance as described above, the civil engineer should consider the following recommendations in the design and layout of pavements:

- Final grade adjacent to parking lots and drives should slope down from pavement edges at a minimum 2%;
- The subgrade and the pavement surface should have a minimum ¼ inch per foot slope to promote proper surface drainage;
- Install joint sealant and seal cracks immediately;
- Seal all landscaped areas in, or adjacent to, pavements to reduce moisture migration to subgrade soils;
- Place compacted, low permeability backfill against the exterior side of curb and gutter, as applicable.

4.6 Seismic Considerations

Code	Site Classification
2012 International Building Code (IBC) ¹	D ² or F ³

1. In general accordance with the *2012 International Building Code*, Table 1613.5.2.
2. The 2012 International Building Code requires a site soil profile determination extending a depth of 100 feet for seismic site classification. Borings for this exploration extended to a maximum depth of approximately 24 feet and this seismic site class assignment considers that similar soils continue below the maximum depth of the subsurface exploration. Additional exploration to greater depths could be considered to confirm the conditions below the current depth of exploration. Alternatively, a geophysical exploration could be performed.
3. Organic clay/silts, peat, and very soft clay were observed in Borings B-19 and B-20 with thicknesses exceeding 20 feet. Areas where these deposits are observed classify as a Site Class F.

4.7 Storm Water Pond Considerations

No details were provided to Terracon regarding the anticipated depth, side slopes, and bottom elevation of the proposed storm water detention ponds planned at this site. Due to the variability in soil conditions encountered at the proposed pond locations, the recommendations for the various pond locations are provided below.

4.7.1 Compensatory Storage Area B:

Boring (B-18) at Compensatory Storage Area B encountered hard lean clay soils to the boring termination depth of 16 feet below grade (Elev. 687 feet +/-). Most of the clay material encountered across the site would likely be suitable for use as a liner, as long as it does not contain significant sand pockets or gravel content. The estimated infiltration rates based on the default tables provided in the WDNR Technical Standard 1002 would be on the order of about 0.07 inches per hour or less for the lean clay and silty clay soils encountered in the borings.

Terracon should observe the exposed subgrade soils following removal of surficial organic soils and prior to construction of the liner. Before placing any new fill, the subgrade soils should be scarified to a depth of approximately 9 inches, moisture conditioned, and compacted as recommended to the density and moisture content ranges recommended in this report. Scarification and compaction of the subgrade soils should help provide a firmer base for placing the engineered liner and should help delineate soft or disturbed areas that may exist at shallow depths. Unsuitable subgrade materials observed during this process should be improved by compaction or be removed and replaced with engineered fill. The liner can then be constructed as recommended in Section 4.7.3.

4.7.2 Primary Detention Basin and Compensatory Storage Area A:

The borings (B-19 and B-20) within the area of the proposed Detention Basin and Compensatory Storage Area A encountered highly organic and very soft material to depths of 22 feet below existing grade (approx. Elev. 665 to 667 feet). Additional soil probing would be needed to determine the lateral extent of the organic deposit. The ground surface area near these borings was at the low point of the site, with groundwater being encountered within 4 feet of the existing ground surface.

It will be very difficult to complete any grading in the proposed detention basin areas. The soils in those areas consist of soft, compressible peat and organic clays. These soils are highly sensitive to disturbance, and will lose strength and become unstable if fill is placed on top of these materials, or construction equipment traverses the subgrade. Therefore, we strongly recommend that site grading be avoided in these areas, to the extent practical. If some grading is necessary, we recommend the contractor use low net contact pressure equipment, such as wide track bull dozers. Fill should be end dumped ahead of the soft areas, and the fill spread using the afore mentioned low net contact pressure equipment. It will probably not be possible to place and compact any new fills in this area. Any new fill that is placed will also induce consolidation of the underlying compressible soils, resulting in settlement of the surface. The new fills may also displace the underlying soft soils, causing localized heaving of the subgrade. It is expected that if a clay liner was to be constructed, the liner material would experience excessive total and differential settlement, resulting in cracking, or even complete failure, of the liner. It is also likely that the side slopes of the basin would not be stable at slopes any greater than perhaps 8H:1V or even 10H:1V. Therefore, it will be necessary to periodically reestablish the grades by placing additional fills, the weight of which will induce additional consolidation and settlement.

As an alternative to attempting to place fill over the soft compressible organic deposits, consideration should be given to either relocation of the basin, or perhaps establishing the existing topography as the base of the pond, leaving the existing sensitive soils in place and undisturbed, and then constructing containment berms around the perimeter of the basin, outside of the limits of the soft compressible organic deposits. In this way the required capacity of the basin could be achieved by raising the surrounding grades, rather than attempting to excavate or place fills on a soft compressible subgrade, and the resulting periodic maintenance required to reestablish the grades. The berms could then be constructed as per the recommendations provided in Section 4.2.

4.7.3 Liner/Perimeter Berm Design Considerations

In our opinion, the pond liners or perimeter berms should consist of a minimum 2-foot thick layer of engineered clay fill or soil-bentonite mixture fill that is placed and compacted as recommended in this report. Clay fill materials or soil-bentonite mixture used for liner construction should be processed to be free of clods greater than about 1 inch in size and placed in horizontal lifts of 9 inches or less in loose thickness. Each lift should be compacted to at least 90% of the standard Proctor dry density. The liner material should be uniformly moisture

conditioned at the time of compaction within 0 to +4% of the optimum moisture content as determined by the standard Proctor test. The pond side slopes should be no steeper than 3H:1V.

Laboratory moisture-density relationship (Proctor) and remolded permeability tests could be performed on samples of the different clay soils from on-site and/or off-site sources to better evaluate their suitability for use as a liner material. We are available to perform these tests upon request

The completed earthen liner should be protected from desiccation and cracking prior to filling the pond. If the liner becomes dry, desiccated, or cracked prior to filling or during the life of the pond, the clay liner should be scarified, moisture conditioned, and recompacted.

Clay Liner – The clay liner should typically have a coefficient of permeability of 1×10^{-6} cm/sec or lesser. On-site or imported clay fill materials used for liner construction should have a liquid limit of 45 or less and a plasticity index of at least 15. The existing inorganic native clay soils are likely suitable for use as a clay liner. We recommend that potential import materials, if needed, be evaluated by conducting laboratory permeability tests prior to bringing the material on-site.

5.0 GENERAL COMMENTS

Terracon should be retained to review the final design plans and specifications so comments can be made regarding interpretation and implementation of our geotechnical recommendations in the design and specifications. Terracon also should be retained to provide observation and testing services during grading, excavation, foundation construction and other earth-related construction phases of the project.

The analysis and recommendations presented in this report are based upon the data obtained from the borings performed at the indicated locations and from other information discussed in this report. This report does not reflect variations that may occur between borings, across the site, or due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until during or after construction. If variations appear, we should be immediately notified so that further evaluation and supplemental recommendations can be provided.

The scope of services for this project does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

This report has been prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted geotechnical

Geotechnical Engineering Report

Proposed Woodman's Store Development ■ Tinley Park, Illinois
September 28, 2017 ■ Terracon Project No. MR175287



engineering practices. No warranties, either express or implied, are intended or made. Site safety, excavation support, and dewatering requirements are the responsibility of others. In the event that changes in the nature, design, or location of the project as outlined in this report are planned, the conclusions and recommendations contained in this report shall not be considered valid unless Terracon reviews the changes and either verifies or modifies the conclusions of this report in writing.

APPENDIX A

FIELD EXPLORATION



DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Project Manager:	NJL	Project No.	MR175287
Drawn by:	NJL	Scale:	N.T.S.
Checked by:	MAK	File Name:	BLD MR175287
Approved by:	TAK	Date:	8/21/2017

Terracon
Consulting Engineers & Scientists

135 Ambassador Drive Naperville, Illinois 60540
PH. (630) 717-4263 FAX. (630) 357-9489

SITE LOCATION DIAGRAM

PROPOSED WOODMAN'S STORE
SW CORNER OF 191ST STREET AND HARLEM AVENUE
TINLEY PARK, ILLINOIS

Exhibit

A-1

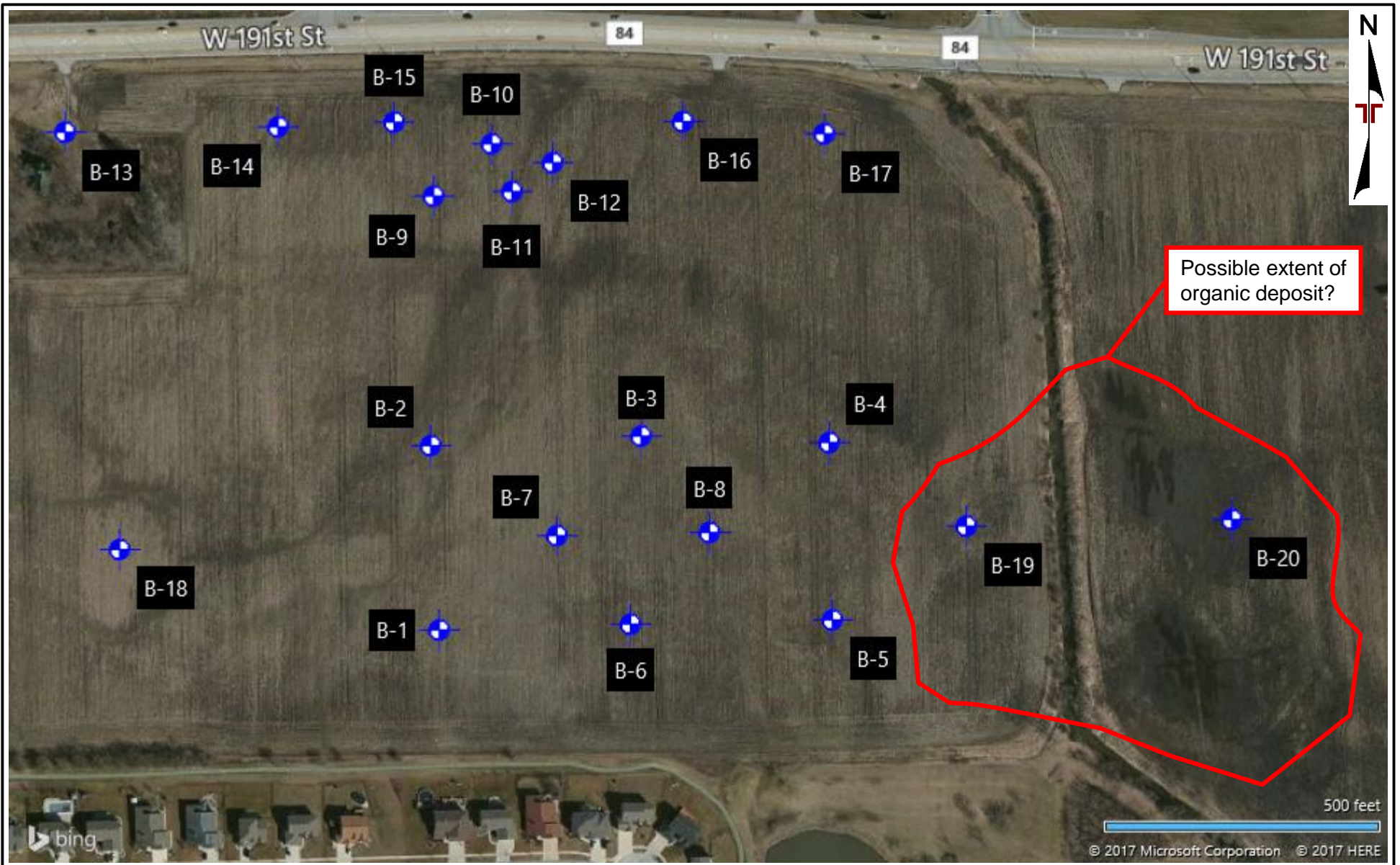


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Project Manager:	NJL	Project No.	MR175287
Drawn by:	NJL	Scale:	N.T.S.
Checked by:	MAK	File Name:	BLD MR175287
Approved by:	TAK	Date:	8/21/2017

Terracon
Consulting Engineers & Scientists

135 Ambassador Drive Naperville, Illinois 60540
PH. (630) 717-4263 FAX. (630) 357-9489

BORING LOCATION DIAGRAM (EXISTING)

PROPOSED WOODMAN'S STORE
SW CORNER OF 191ST STREET AND HARLEM AVENUE
TINLEY PARK, ILLINOIS

Exhibit

A-2

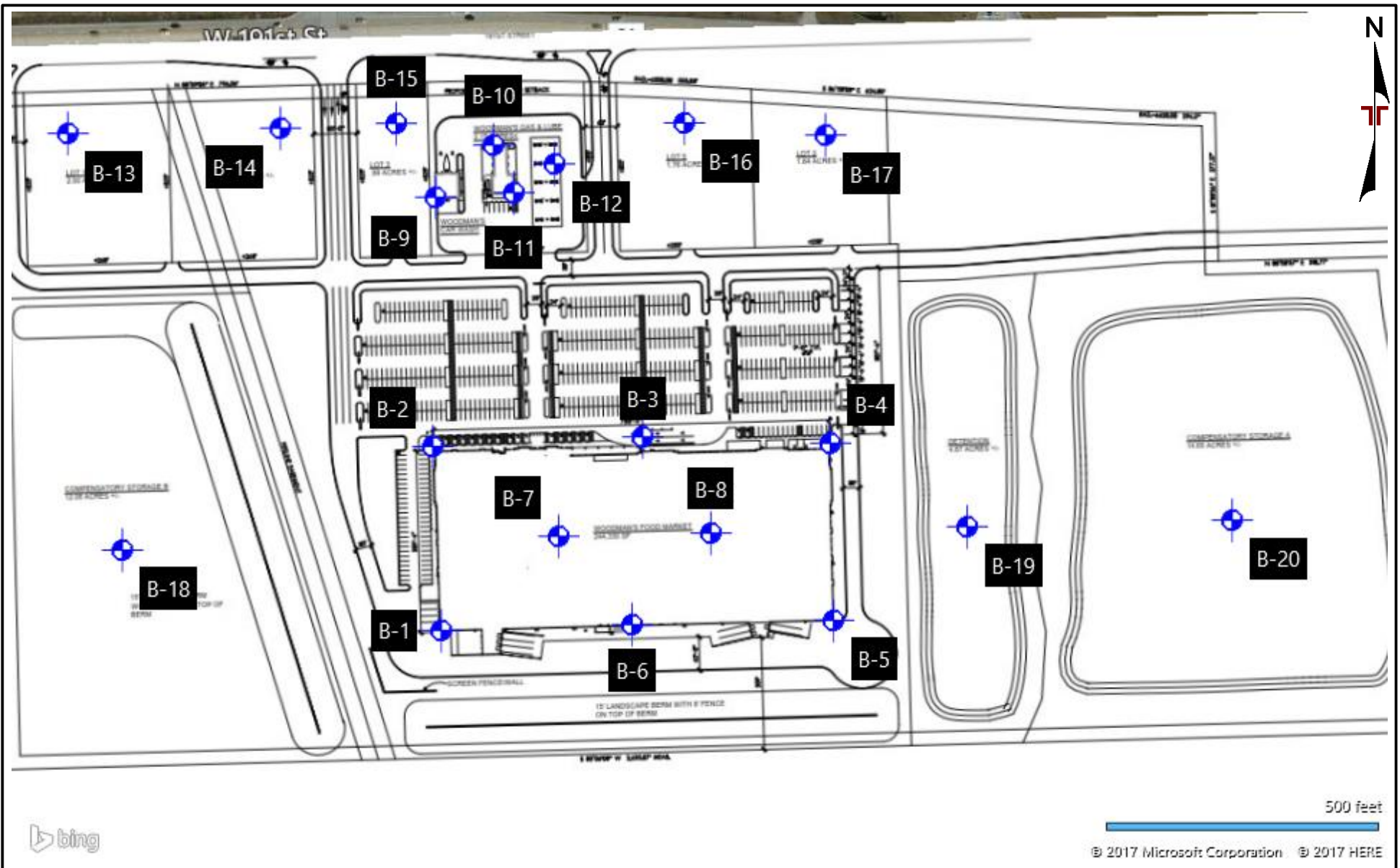


DIAGRAM IS FOR GENERAL LOCATION
ONLY, AND IS NOT INTENDED FOR
CONSTRUCTION PURPOSES

Project Manager:	NJL	Project No.	MR175287
Drawn by:	NJL	Scale:	N.T.S.
Checked by:	MAK	File Name:	BLD MR175287
Approved by:	TAK	Date:	8/21/2017

Terracon
Consulting Engineers & Scientists

135 Ambassador Drive Naperville, Illinois 60540
PH. (630) 717-4263 FAX. (630) 357-9489

BORING LOCATION DIAGRAM (PROPOSED)

PROPOSED WOODMAN'S STORE
SW CORNER OF 191ST STREET AND HARLEM AVENUE
TINLEY PARK, ILLINOIS

Exhibit

A-3

Field Exploration Description

The borings were drilled at the approximate locations indicated on the attached Boring Location Diagrams (Exhibits A-2 and A-3). The drill crew laid out the borings in the field utilizing a hand-held GPS device. Ground surface elevations were estimated from a site topographic plan provided by the client. The locations of the borings should be considered accurate only to the degree implied by the means and methods used to define them.

The borings were drilled with a track-mounted, rotary drill rig using continuous flight, hollow-stem augers to advance the boreholes. Soil samples were obtained using split-barrel sampling procedures, in which a standard 2-inch (outside diameter) split-barrel sampling spoon is driven into the ground with a 140-pound automatic hammer falling a distance of 30 inches. The number of blows required to advance the sampling spoon the last 12 inches of a normal 18-inch penetration is recorded as the Standard Penetration Test (SPT) resistance value. These values, also referred to as SPT N-values, are an indication of soil strength and are provided on the boring logs at the depths of occurrence. The samples were sealed and transported to the laboratory for testing and classification.

The drill crew prepared a field log of each boring. These logs included visual classifications of the materials encountered during drilling and the driller's interpretation of the subsurface conditions between samples. The boring logs included with this report represent the engineer's interpretation of the field logs and include modifications based on laboratory observation and tests of the samples.

BORING LOG NO. B-1

Page 1 of 1

PROJECT: Proposed Woodman's Development

CLIENT: Building Systems General Corp
Madison, Wisconsin

SITE: 7200 - 7600 West 191st Street
Tinley Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 Latitude: 41.54093° Longitude: -87.79895° Approximate Surface Elev: 698 (Ft.) +/-	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	SAMPLE NUMBER	LABORATORY TORVANE/HP (tsf)	WATER CONTENT (%)
	DEPTH ELEVATION (Ft.)								
	1.0 TOPSOIL , 12 inches 697+/-			X	10	3-4-8 N=12	1	4.00 (HP)	22
	LEAN CLAY (CL) , trace silt, sand, and gravel, brown, very stiff to hard			X	12	3-5-8 N=13	2	4.50 (HP)	19
		5		X	12	3-4-5 N=9	3	3.50 (HP)	20
				X	12	3-3-3 N=6	4	3.50 (HP)	21
		10		X	14	2-2-2 N=4	5	3.00 (HP)	21
	12.0 SILTY LEAN CLAY (CL/ML) , trace sand and gravel, gray, very stiff 686+/-			X	8	2-4-8 N=12	6	3.00 (HP)	17
	18.0 LEAN CLAY WITH SAND (CL) , trace gravel, gray, very stiff, sand seams observed 680+/-		▽	X	12	2-4-5 N=9	7	2.75 (HP)	14
	20.0 Boring Terminated at 20 Feet 678+/-	20							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

See Exhibit A-4 for description of field procedures
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.
Elevations estimated from site topo plan

Notes:

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

WATER LEVEL OBSERVATIONS

▽ While drilling
▽ Upon completion

Terracon
135 Ambassador Dr
Naperville, IL

Boring Started: 9/8/2017

Boring Completed: 9/8/2017

Drill Rig: D-120 Track

Driller: GEOCON/RR

Project No.: MR175287

Exhibit: A-5

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL MR175287 WOODMAN'S TINLEY GPJ TERRACON_DATATEMPLATE.GDT 9/28/17

BORING LOG NO. B-2

Page 1 of 1

PROJECT: Proposed Woodman's Development

CLIENT: Building Systems General Corp
Madison, Wisconsin

SITE: 7200 - 7600 West 191st Street
Tinley Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 Latitude: 41.54185° Longitude: -87.79901° Approximate Surface Elev: 694 (Ft.) +/-	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (in.)	FIELD TEST RESULTS	SAMPLE NUMBER	LABORATORY TORVANE/HP (tsf)	WATER CONTENT (%)
	DEPTH ELEVATION (Ft.)								
	1.0 TOPSOIL , 11 inches 693+/-			X	10	5-7-7 N=14	1	4.50 (HP)	17
	LEAN CLAY (CL) , trace sand and gravel, brown, very stiff to hard			X	10	6-8-9 N=17	2	4.50 (HP)	19
				X	12	3-5-6 N=11	3	3.50 (HP)	31
	6.0 SILTY LEAN CLAY (CL/ML) , trace sand and gravel, gray, very stiff 688+/-			X	14	4-4-4 N=8	4	2.50 (HP)	21
				X	14	3-4-4 N=8	5	2.00 (HP)	21
	Sample 6: silty sand seams observed			X	10	3-3-8 N=11	6	2.00 (HP)	22
	17.0 LEAN CLAY WITH SAND (CL) , trace gravel, gray, very stiff 677+/-			X	10	5-7-8 N=15	7	3.50 (HP)	18
	20.0 Boring Terminated at 20 Feet 674+/-								

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

See Exhibit A-4 for description of field procedures
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.
Elevations estimated from site topo plan

Notes:

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

WATER LEVEL OBSERVATIONS

While drilling
Upon completion

Terracon
135 Ambassador Dr
Naperville, IL

Boring Started: 9/8/2017

Boring Completed: 9/8/2017

Drill Rig: D-120 Track

Driller: GEOCON/RR

Project No.: MR175287

Exhibit: A-6

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL MR175287 WOODMAN'S TINLEY GPJ TERRACON DATATEMPLATE.GDT 9/28/17

BORING LOG NO. B-3

Page 1 of 1

PROJECT: Proposed Woodman's Development

CLIENT: Building Systems General Corp
Madison, Wisconsin

SITE: 7200 - 7600 West 191st Street
Tinley Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 Latitude: 41.5419° Longitude: -87.79761° Approximate Surface Elev: 693 (Ft.) +/-	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	SAMPLE NUMBER	LABORATORY TORVANE/HP (tsf)	WATER CONTENT (%)
	DEPTH ELEVATION (Ft.)								
	1.0 TOPSOIL , 10 inches 692+/-			X	8	2-5-9 N=14	1	4.50 (HP)	16
	LEAN CLAY (CL) , trace sand and gravel, brown, hard			X	10	8-7-7 N=14	2	4.50 (HP)	17
				X	12	6-8-10 N=18	3	4.50 (HP)	19
	6.0 LEAN CLAY (CL) , trace sand and gravel, gray, very stiff to hard 687+/-			X	14	4-5-8 N=13	4	4.00 (HP)	17
				X	14	3-4-5 N=9	5	3.50 (HP)	16
	12.0 SILTY LEAN CLAY (CL/ML) , trace sand and gravel, gray, stiff 681+/-								
				X	12	3-4-7 N=11	6	1.50 (HP)	19
	17.0 LEAN CLAY WITH SAND (CL) , trace gravel, gray, very stiff 676+/-								
				X	14	3-7-9 N=16	7	2.50 (HP)	15
	20.0 Boring Terminated at 20 Feet 673+/-								

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

See Exhibit A-4 for description of field procedures
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.
Elevations estimated from site topo plan

Notes:

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

WATER LEVEL OBSERVATIONS

While drilling
Upon completion

Terracon
135 Ambassador Dr
Naperville, IL

Boring Started: 9/7/2017

Boring Completed: 9/7/2017

Drill Rig: D-120 Track

Driller: GEOCON/NJ

Project No.: MR175287

Exhibit: A-7

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL MR175287 WOODMAN'S TINLEY GPJ TERRACON DATATEMPLATE GDT 9/28/17

BORING LOG NO. B-4

Page 1 of 1

PROJECT: Proposed Woodman's Development

CLIENT: Building Systems General Corp
Madison, Wisconsin

SITE: 7200 - 7600 West 191st Street
Tinley Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 Latitude: 41.54187° Longitude: -87.79635° Approximate Surface Elev: 693 (Ft.) +/-	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (in.)	FIELD TEST RESULTS	SAMPLE NUMBER	LABORATORY TORVANE/HP (tsf)	WATER CONTENT (%)
	DEPTH	ELEVATION (Ft.)							
	TOPSOIL , 16 inches			X	14	2-4-4 N=8	1		21
1.5		691.5+/-		X	14	3-6-7 N=13	2	4.50 (HP)	16
	LEAN CLAY (CL) , trace sand and gravel, brown, very stiff to hard			X	14	4-5-4 N=9	3	3.00 (HP)	18
6.0		687+/-		X	16	5-6-11 N=17	4	2.00 (HP)	17
	SILTY LEAN CLAY (CL/ML) , trace sand and gravel, brown to gray, very stiff			X	16	5-6-9 N=15	5	2.00 (HP)	19
17.0		676+/-		X	14	4-4-4 N=8	6	1.50 (HP)	17
	SAND WITH SILT (SP-SM) , gray								
19.0		674+/-		X	12	4-5-8 N=13	7		19
20.0		673+/-							
	Boring Terminated at 20 Feet								

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

See Exhibit A-4 for description of field procedures
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.
Elevations estimated from site topo plan

Notes:

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

WATER LEVEL OBSERVATIONS

While drilling
Upon completion

Terracon
135 Ambassador Dr
Naperville, IL

Boring Started: 9/7/2017

Boring Completed: 9/7/2017

Drill Rig: D-120 Track

Driller: GEOCON/NJ

Project No.: MR175287

Exhibit: A-8

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL MR175287 WOODMAN'S TINLEY GPJ TERRACON DATATEMPLATE GDT 9/28/17

BORING LOG NO. B-5

Page 1 of 1

PROJECT: Proposed Woodman's Development

CLIENT: Building Systems General Corp
Madison, Wisconsin

SITE: 7200 - 7600 West 191st Street
Tinley Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 Latitude: 41.54098° Longitude: -87.79633° Approximate Surface Elev: 692 (Ft.) +/-	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (in.)	FIELD TEST RESULTS	SAMPLE NUMBER	LABORATORY TORVANE/HP (tsf)	WATER CONTENT (%)
	DEPTH ELEVATION (Ft.)								
	TOPSOIL , 14 inches	1.2		X	10	3-5-7 N=12	1	4.50 (HP)	19
	SILTY LEAN CLAY (CL/ML) , trace gravel and organics, dark brown to brown, hard	3.0		X	10	4-5-8 N=13	2	4.50 (HP)	28
	LEAN CLAY (CL) , trace sand and gravel, brown gray, very stiff	5.0		X	12	3-4-5 N=9	3	2.50 (HP)	21
	LEAN CLAY (CL) , trace sand and gravel, gray, very stiff	8.0		X	12	3-3-4 N=7	4	2.25 (HP)	21
	LEAN CLAY WITH SAND (CL) , trace gravel, brown gray, stiff	12.0		X	12	3-4-4 N=8	5	1.75 (HP)	16
	SILTY LEAN CLAY (CL/ML) , trace sand and gravel, gray, stiff to very stiff	15.0		X	14	3-3-4 N=7	6	2.00 (HP)	12
		20.0		X	10	3-7-8 N=15	7	1.00 (HP)	13
	Boring Terminated at 20 Feet								

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

See Exhibit A-4 for description of field procedures
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.
Elevations estimated from site topo plan

Notes:

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

WATER LEVEL OBSERVATIONS

While drilling
Upon completion

Terracon
135 Ambassador Dr
Naperville, IL

Boring Started: 9/8/2017

Drill Rig: D-120 Track

Project No.: MR175287

Boring Completed: 9/8/2017

Driller: GEOCON/RR

Exhibit: A-9

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL MR175287 WOODMAN'S TINLEY GPJ TERRACON_DATATEMPLATE.GDT 9/28/17

BORING LOG NO. B-6

Page 1 of 1

PROJECT: Proposed Woodman's Development

CLIENT: Building Systems General Corp
Madison, Wisconsin

SITE: 7200 - 7600 West 191st Street
Tinley Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2		DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (in.)	FIELD TEST RESULTS	SAMPLE NUMBER	LABORATORY TORVANE/HP (tsf)	WATER CONTENT (%)
	Latitude: 41.54096° Longitude: -87.79768°	Approximate Surface Elev: 691 (Ft.) +/-								
DEPTH	ELEVATION (Ft.)									
	0.8	690+/-	5		X	8	2-5-9 N=14	1	4.50 (HP)	13
	TOPSOIL , 9 inches				X	10	3-4-5 N=9	2	4.50 (HP)	18
	4.0	687+/-	10		X	12	3-4-4 N=8	3	2.00 (HP)	22
	SILTY LEAN CLAY (CL/ML) , trace sand and gravel, gray, very stiff				X	12	2-3-4 N=7	4	2.50 (HP)	12
	18.0	673+/-	15		X	12	2-2-3 N=5	5	2.00 (HP)	15
	LEAN CLAY WITH SAND (CL) , trace silt and gravel, gray, very stiff				X	14	2-3-4 N=7	6	3.50 (HP)	12
	20.0	671+/-	20		X	14	2-4-6 N=10	7	2.00 (HP)	11
	Boring Terminated at 20 Feet									

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

See Exhibit A-4 for description of field procedures
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.
Elevations estimated from site topo plan

Notes:

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

WATER LEVEL OBSERVATIONS

While drilling
 Upon completion

Terracon
135 Ambassador Dr
Naperville, IL

Boring Started: 9/8/2017

Boring Completed: 9/8/2017

Drill Rig: D-120 Track

Driller: GEOCON/RR

Project No.: MR175287

Exhibit: A-10

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL MR175287 WOODMAN'S TINLEY GPJ TERRACON_DATATEMPLATE.GDT 9/28/17

BORING LOG NO. B-7

Page 1 of 1

PROJECT: Proposed Woodman's Development

CLIENT: Building Systems General Corp
Madison, Wisconsin

SITE: 7200 - 7600 West 191st Street
Tinley Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 Latitude: 41.5414° Longitude: -87.79817° Approximate Surface Elev: 694 (Ft.) +/-	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	SAMPLE NUMBER	LABORATORY TORVANE/HP (tsf)	WATER CONTENT (%)
	DEPTH ELEVATION (Ft.)								
	1.0 TOPSOIL , 12 inches 693+/-			X	8	6-6-7 N=13	1	4.50 (HP)	14
	LEAN CLAY (CL) , trace sand and gravel, brown, very stiff to hard			X	12	7-7-9 N=16	2	4.50 (HP)	18
				X	14	4-4-6 N=10	3	2.75 (HP)	22
	6.0 688+/-			X	14	4-4-5 N=9	4	2.50 (HP)	21
	SILTY LEAN CLAY (CL/ML) , trace sand and gravel, brown to gray, very stiff			X	16	3-3-4 N=7	5	2.00 (HP)	24
	15.0 679+/-			X	14	2-4-10 N=14	6	3.50 (HP)	14
	SAND WITH SILT (SP-SM) , gray, Drillers observation, not sampled.								
	18.0 676+/-								
	SILTY LEAN CLAY (CL/ML) , trace sand and gravel, gray, hard			X	14	3-7-7 N=14	7	4.75 (HP)	14
	20.0 674+/-								
	Boring Terminated at 20 Feet								

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

See Exhibit A-4 for description of field procedures
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.
Elevations estimated from site topo plan

Notes:

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

WATER LEVEL OBSERVATIONS

While drilling
Upon completion

Terracon
135 Ambassador Dr
Naperville, IL

Boring Started: 9/8/2017

Boring Completed: 9/8/2017

Drill Rig: D-120 Track

Driller: GEOCON/RR

Project No.: MR175287

Exhibit: A-11

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL MR175287 WOODMAN'S TINLEY GPJ TERRACON DATATEMPLATE GDT 9/28/17

BORING LOG NO. B-8

Page 1 of 1

PROJECT: Proposed Woodman's Development

CLIENT: Building Systems General Corp
Madison, Wisconsin

SITE: 7200 - 7600 West 191st Street
Tinley Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 Latitude: 41.54142° Longitude: -87.79715° Approximate Surface Elev: 692 (Ft.) +/-	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (in.)	FIELD TEST RESULTS	SAMPLE NUMBER	LABORATORY TORVANE/HP (tsf)	WATER CONTENT (%)
	DEPTH ELEVATION (Ft.)								
	TOPSOIL , 14 inches	1.2		X	14	3-4-7 N=11	1		13
	LEAN CLAY (CL) , trace sand and gravel, brown, hard			X	14	3-6-8 N=14	2	4.50 (HP)	18
				X	14	4-5-7 N=12	3	4.50 (HP)	19
	LEAN CLAY (CL) , trace sand and gravel, brown to gray, hard	5.0		X	14	5-7-9 N=16	4	4.50 (HP)	18
				X	16	5-7-8 N=15	5	3.00 (HP)	19
	LEAN CLAY (CL) , trace sand and gravel, gray, stiff to very stiff	8.0		X	14	4-5-5 N=10	6	1.75 (HP)	21
				X	12	4-6-7 N=13	7	dist.	22
	LEAN CLAY WITH SAND (CL) , trace gravel, gray, wet	18.0							
		20.0							
	Boring Terminated at 20 Feet								

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

See Exhibit A-4 for description of field procedures
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.
Elevations estimated from site topo plan

Notes:

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

WATER LEVEL OBSERVATIONS

While drilling
Upon completion

Terracon
135 Ambassador Dr
Naperville, IL

Boring Started: 9/7/2017

Drill Rig: D-120 Track

Project No.: MR175287

Boring Completed: 9/7/2017

Driller: GEOCON/NJ

Exhibit: A-12

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL MR175287 WOODMAN'S TINLEY GPJ TERRACON DATATEMPLATE GDT 9/28/17

BORING LOG NO. B-9

Page 1 of 1

PROJECT: Proposed Woodman's Development

CLIENT: Building Systems General Corp
Madison, Wisconsin

SITE: 7200 - 7600 West 191st Street
Tinley Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 Latitude: 41.5431° Longitude: -87.79899° Approximate Surface Elev: 695 (Ft.) +/- DEPTH ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	SAMPLE NUMBER	LABORATORY TORVANE/HP (tsf)	WATER CONTENT (%)
	TOPSOIL , 14 inches 1.2 694+/-			X	6	4-5-6 N=11	1	4.50 (HP)	18
	LEAN CLAY (CL) , trace sand and gravel, brown, very stiff to hard			X	12	3-5-6 N=11	2	3.50 (HP)	20
				X	10	3-4-5 N=9	3	3.50 (HP)	22
				X	12	6-7-8 N=15	4	4.50 (HP)	20
	LEAN CLAY (CL) , trace sand and gravel, brown to gray, very stiff 8.0 687+/-			X	14	5-5-8 N=13	5	3.00 (HP)	24
				X	14	4-4-5 N=9	6	2.00 (HP)	22
	LEAN CLAY (CL) , trace sand and gravel, gray, very stiff 13.0 682+/-			X	16	3-4-5 N=9	7	2.00 (HP)	21
	20.0 675+/-	20							
	Boring Terminated at 20 Feet								

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

See Exhibit A-4 for description of field procedures
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.
Elevations estimated from site topo plan

Notes:

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

WATER LEVEL OBSERVATIONS

No free water observed

Terracon
135 Ambassador Dr
Naperville, IL

Boring Started: 9/6/2017

Boring Completed: 9/6/2017

Drill Rig: D-120 Track

Driller: GEOCON/NJ

Project No.: MR175287

Exhibit: A-13

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL MR175287 WOODMAN'S TINLEY GPJ TERRACON DATATEMPLATE GDT 9/28/17

BORING LOG NO. B-10

Page 1 of 1

PROJECT: Proposed Woodman's Development


CLIENT: Building Systems General Corp
Madison, Wisconsin

SITE: 7200 - 7600 West 191st Street
Tinley Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 Latitude: 41.54336° Longitude: -87.7986° Approximate Surface Elev: 693 (Ft.) +/-	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	SAMPLE NUMBER	LABORATORY TORVANE/HP (tsf)	WATER CONTENT (%)
	DEPTH ELEVATION (Ft.)								
	0.9 TOPSOIL , 10 inches 692+/-			X	10	5-8-8 N=16	1	4.50 (HP)	16
	2.0 SILTY LEAN CLAY (CL/ML) , trace gravel and organics, brown to dark brown, hard 691+/-			X	12	4-5-6 N=11	2	4.50 (HP)	20
	LEAN CLAY (CL) , trace sand and gravel, brown, very stiff to hard			X	12	4-6-6 N=12	3	3.75 (HP)	21
		5		X	12	5-8-9 N=17	4	3.00 (HP)	20
	8.0 LEAN CLAY (CL) , trace sand and gravel, brown to gray, very stiff 685+/-			X	14	4-6-6 N=12	5	3.00 (HP)	21
		10							
	12.0 SILTY LEAN CLAY (CL/ML) , trace sand and gravel, gray, stiff 681+/-			X	14	4-5-6 N=11	6	1.75 (HP)	22
		15							
				X	14	3-5-6 N=11	7	1.75 (HP)	23
	20.0 Boring Terminated at 20 Feet 673+/-	20							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method: Hollow Stem Auger	See Exhibit A-4 for description of field procedures See Appendix B for description of laboratory procedures and additional data (if any).	Notes:	
Abandonment Method: Boring backfilled with auger cuttings upon completion.	See Appendix C for explanation of symbols and abbreviations. Elevations estimated from site topo plan		
WATER LEVEL OBSERVATIONS No free water observed	 135 Ambassador Dr Naperville, IL	Boring Started: 9/6/2017	Boring Completed: 9/6/2017
		Drill Rig: D-120 Track	Driller: GEOCON/NJ
		Project No.: MR175287	Exhibit: A-14

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL MR175287 WOODMAN'S TINLEY GPJ TERRACON DATATEMPLATE GDT 9/28/17

BORING LOG NO. B-11

Page 1 of 1

PROJECT: Proposed Woodman's Development

CLIENT: Building Systems General Corp
Madison, Wisconsin

SITE: 7200 - 7600 West 191st Street
Tinley Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 Latitude: 41.54312° Longitude: -87.79847° Approximate Surface Elev: 693 (Ft.) +/-	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (in.)	FIELD TEST RESULTS	SAMPLE NUMBER	LABORATORY TORVANE/HP (tsf)	WATER CONTENT (%)
	DEPTH ELEVATION (Ft.)								
	1.0 TOPSOIL , 12 inches 692+/-			X	14	3-4-6 N=10	1	4.50 (HP)	17
	SILTY LEAN CLAY (CL/ML) , trace organics, dark brown to brown, very stiff to hard			X	12	4-5-6 N=11	2	3.50 (HP)	23
	3.0 LEAN CLAY (CL) , trace sand and gravel, brown, very stiff to hard 690+/-			X	12	4-5-5 N=10	3	4.25 (HP)	18
		5		X	16	6-8-8 N=16	4	3.50 (HP)	21
	8.5 LEAN CLAY (CL) , trace sand and gravel, brown to gray, hard 684.5+/-			X	16	5-6-7 N=13	5	4.00 (HP)	21
	12.0 SILTY LEAN CLAY (CL/ML) , trace sand and gravel, gray, stiff to very stiff 681+/-			X	14	3-4-6 N=10	6	1.50 (HP)	23
		15		X	16	3-5-5 N=10	7	2.00 (HP)	23
	20.0 Boring Terminated at 20 Feet 673+/-	20							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

See Exhibit A-4 for description of field procedures
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.
Elevations estimated from site topo plan

Notes:

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

WATER LEVEL OBSERVATIONS

No free water observed

Terracon
135 Ambassador Dr
Naperville, IL

Boring Started: 9/6/2017

Boring Completed: 9/6/2017

Drill Rig: D-120 Track

Driller: GEOCON/NJ

Project No.: MR175287

Exhibit: A-15

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL MR175287 WOODMAN'S TINLEY GPJ TERRACON_DATATEMPLATE.GDT 9/28/17

BORING LOG NO. B-12

Page 1 of 1

PROJECT: Proposed Woodman's Development

CLIENT: Building Systems General Corp
Madison, Wisconsin

SITE: 7200 - 7600 West 191st Street
Tinley Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 Latitude: 41.54327° Longitude: -87.7982°		DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	SAMPLE NUMBER	LABORATORY TORVANE/HP (tsf)	WATER CONTENT (%)
	DEPTH	ELEVATION (Ft.)								
	1.2	693+/-			X	12	4-6-6 N=12	1	Dist.	20
					X	14	6-7-7 N=14	2	4.50 (HP)	21
					X	14	4-4-7 N=11	3	4.50 (HP)	20
	7.0	687+/-			X	12	4-6-8 N=14	4	3.00 (HP)	22
					X	12	4-4-5 N=9	5	2.00 (HP)	23
	13.0	681+/-			X	10	3-3-4 N=7	6	1.75 (HP)	23
	17.0	677+/-			X	8	5-9-10 N=19	7		14
	20.0	674+/-								
	Boring Terminated at 20 Feet									

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

See Exhibit A-4 for description of field procedures
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.
Elevations estimated from site topo plan

Notes:

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

WATER LEVEL OBSERVATIONS

While drilling
Upon completion

Terracon
135 Ambassador Dr
Naperville, IL

Boring Started: 9/6/2017

Boring Completed: 9/6/2017

Drill Rig: D-120 Track

Driller: GEOCON/NJ

Project No.: MR175287

Exhibit: A-16

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL MR175287 WOODMAN'S TINLEY GPJ TERRACON DATATEMPLATE GDT 9/28/17


BORING LOG NO. B-13

Page 1 of 1

PROJECT: Proposed Woodman's Development


CLIENT: Building Systems General Corp
Madison, Wisconsin

SITE: 7200 - 7600 West 191st Street
Tinley Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2		DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (in.)	FIELD TEST RESULTS	SAMPLE NUMBER	LABORATORY TORVANE/HP (tsf)	WATER CONTENT (%)	
	Latitude: 41.54342° Longitude: -87.80145°	Approximate Surface Elev: 703 (Ft.) +/- ELEVATION (Ft.)									
DEPTH											
	0.8	TOPSOIL , 9 inches	702+/-	5	X	10	3-4-4 N=8	1	dist.	17	
	LEAN CLAY (CL) , trace sand and gravel, brown, hard				X	12	5-6-10 N=16	2	4.50 (HP)	19	
					X	10	7-9-11 N=20	3	4.50 (HP)	17	
					X	14	4-5-12 N=17	4	4.50 (HP)	18	
	8.0		695+/-			X	14	4-8-10 N=18	5	4.50 (HP)	19
	LEAN CLAY (CL) , trace sand and gravel, gray, hard				X	16	5-8-8 N=16	6	4.50 (HP)	19	
	16.0		687+/-			X	14	4-5-6 N=11	7	3.75 (HP)	20
	SILTY LEAN CLAY (CL/ML) , trace sand and gravel, gray, very stiff										
	20.0		683+/-	20							
Boring Terminated at 20 Feet											

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method: Hollow Stem Auger	See Exhibit A-4 for description of field procedures See Appendix B for description of laboratory procedures and additional data (if any).	Notes:	
Abandonment Method: Boring backfilled with auger cuttings upon completion.	See Appendix C for explanation of symbols and abbreviations. Elevations estimated from site topo plan		
WATER LEVEL OBSERVATIONS <i>No free water observed</i>	 135 Ambassador Dr Naperville, IL	Boring Started: 9/6/2017	Boring Completed: 9/6/2017
		Drill Rig: D-120 Track	Driller: GEOCON/NJ
		Project No.: MR175287	Exhibit: A-17

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL MR175287 WOODMAN'S TINLEY GPJ TERRACON DATATEMPLATE.GDT 9/28/17

BORING LOG NO. B-14

Page 1 of 1

PROJECT: Proposed Woodman's Development


CLIENT: Building Systems General Corp
Madison, Wisconsin

SITE: 7200 - 7600 West 191st Street
Tinley Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 Latitude: 41.54345° Longitude: -87.80003° Approximate Surface Elev: 694 (Ft.) +/-	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	SAMPLE NUMBER	LABORATORY TORVANE/HP (tsf)	WATER CONTENT (%)
	DEPTH ELEVATION (Ft.)								
	1.0 TOPSOIL , 12 inches 693+/-			X	12	4-4-4 N=8	1	dist.	19
	LEAN CLAY (CL) , trace sand and gravel, brown, hard			X	14	6-8-9 N=17	2	4.50 (HP)	17
		5		X	16	8-10-10 N=20	3	4.50 (HP)	17
				X	14	6-9-10 N=19	4	4.50 (HP)	17
	8.0 LEAN CLAY (CL) , trace sand and gravel, brown gray, hard 686+/-			X	16	6-9-12 N=21	5	4.50 (HP)	21
		10							
				X	16	5-8-9 N=17	6	4.50 (HP)	19
		15							
	17.0 LEAN CLAY (CL) , trace sand and gravel, gray, very stiff 677+/-			X	16	4-7-7 N=14	7	3.50 (HP)	21
		20							
	20.0 Boring Terminated at 20 Feet 674+/-								

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method: Hollow Stem Auger	See Exhibit A-4 for description of field procedures See Appendix B for description of laboratory procedures and additional data (if any).	Notes:	
Abandonment Method: Boring backfilled with auger cuttings upon completion.	See Appendix C for explanation of symbols and abbreviations. Elevations estimated from site topo plan		
WATER LEVEL OBSERVATIONS No free water observed	 135 Ambassador Dr Naperville, IL	Boring Started: 9/6/2017	Boring Completed: 9/6/2017
		Drill Rig: D-120 Track	Driller: GEOCON/NJ
		Project No.: MR175287	Exhibit: A-18

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL MR175287 WOODMAN'S TINLEY GPJ TERRACON DATATEMPLATE GDT 9/28/17

BORING LOG NO. B-15

Page 1 of 1

PROJECT: Proposed Woodman's Development

CLIENT: Building Systems General Corp
Madison, Wisconsin

SITE: 7200 - 7600 West 191st Street
Tinley Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 Latitude: 41.54347° Longitude: -87.79926° Approximate Surface Elev: 693 (Ft.) +/-	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (in.)	FIELD TEST RESULTS	SAMPLE NUMBER	LABORATORY TORVANE/HP (tsf)	WATER CONTENT (%)
	DEPTH ELEVATION (Ft.)								
	1.0 TOPSOIL , 12 inches 692+/-			X	12	4-7-8 N=15	1	dist.	18
	LEAN CLAY (CL) , trace sand and gravel, brown, hard			X	12	5-7-8 N=15	2	4.50 (HP)	17
		5		X	14	4-6-10 N=16	3	4.50 (HP)	17
				X	14	5-9-11 N=20	4	4.50 (HP)	18
	8.0 LEAN CLAY (CL) , trace sand and gravel, brown gray, hard 685+/-			X	12	4-6-7 N=13	5	4.50 (HP)	17
		10							
	13.0 SILTY LEAN CLAY (CL/ML) , trace sand and gravel, gray, very stiff 680+/-			X	10	3-4-5 N=9	6	3.00 (HP)	19
		15							
				X	10	5-9-13 N=22	7	3.00 (HP)	20
	20.0 Boring Terminated at 20 Feet 673+/-	20							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

See Exhibit A-4 for description of field procedures
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.
Elevations estimated from site topo plan

Notes:

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

WATER LEVEL OBSERVATIONS

While drilling
Upon completion

Terracon
135 Ambassador Dr
Naperville, IL

Boring Started: 9/6/2017

Boring Completed: 9/6/2017

Drill Rig: D-120 Track

Driller: GEOCON/NJ

Project No.: MR175287

Exhibit: A-19

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL MR175287 WOODMAN'S TINLEY GPJ TERRACON DATATEMPLATE GDT 9/28/17

BORING LOG NO. B-16

Page 1 of 1

PROJECT: Proposed Woodman's Development

CLIENT: Building Systems General Corp
Madison, Wisconsin

SITE: 7200 - 7600 West 191st Street
Tinley Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 Latitude: 41.54347° Longitude: -87.79733° Approximate Surface Elev: 694 (Ft.) +/-	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	SAMPLE NUMBER	LABORATORY TORVANE/HP (tsf)	WATER CONTENT (%)
	DEPTH ELEVATION (Ft.)								
	TOPSOIL , 16 inches			X	12	3-4-6 N=10	1		19
1.5	692.5+/-			X	14	6-6-7 N=13	2	4.50 (HP)	19
	LEAN CLAY (CL) , trace sand and gravel, brown, hard			X	12	4-5-5 N=10	3	4.50 (HP)	19
6.0	688+/-			X	12	4-7-8 N=15	4	2.50 (HP)	22
	LEAN CLAY (CL) , trace sand and gravel, brown gray, very stiff			X	14	4-5-6 N=11	5	2.25 (HP)	23
13.0	681+/-			X	14	2-3-4 N=7	6	1.25 (HP)	25
	SILTY CLAY (CL-ML) , trace sand and gravel, gray, very stiff, wet			X	10	6-10-14 N=24	7		21
20.0	674+/-								
	Boring Terminated at 20 Feet								

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

See Exhibit A-4 for description of field procedures
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.
Elevations estimated from site topo plan

Notes:

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

WATER LEVEL OBSERVATIONS

While drilling
Upon completion

Terracon
135 Ambassador Dr
Naperville, IL

Boring Started: 9/7/2017

Boring Completed: 9/7/2017

Drill Rig: D-120 Track

Driller: GEOCON/NJ

Project No.: MR175287

Exhibit: A-20

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL MR175287 WOODMAN'S TINLEY GPJ TERRACON DATATEMPLATE GDT 9/28/17

BORING LOG NO. B-17

Page 1 of 1

PROJECT: Proposed Woodman's Development

CLIENT: Building Systems General Corp
Madison, Wisconsin

SITE: 7200 - 7600 West 191st Street
Tinley Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 Latitude: 41.54341° Longitude: -87.79638° Approximate Surface Elev: 693 (Ft.) +/-	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	SAMPLE NUMBER	LABORATORY TORVANE/HP (tsf)	WATER CONTENT (%)
	DEPTH ELEVATION (Ft.)								
	1.0 TOPSOIL , 12 inches 692+/-			X	14	4-5-7 N=12	1	4.50 (HP)	18
	LEAN CLAY (CL) , trace sand and gravel, brown, hard			X	12	4-6-7 N=13	2	3.25 (HP)	22
	5.0 LEAN CLAY (CL) , trace sand and gravel, brown gray, very stiff 688+/-	5		X	12	3-4-4 N=8	3	2.00 (HP)	25
				X	12	3-5-5 N=10	4	3.00 (HP)	22
				X	14	4-5-6 N=11	5	3.00 (HP)	19
	13.0 SILTY LEAN CLAY (CL/ML) , trace sand and gravel, gray, stiff 680+/-	15		X	14	2-2-3 N=5	6	1.50 (HP)	24
	17.0 SILTY SAND (SM) , trace gravel, gray, medium dense, wet 676+/-		▽						
	20.0 Boring Terminated at 20 Feet 673+/-	20		X	8	5-8-11 N=19	7		18

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

See Exhibit A-4 for description of field procedures
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.
Elevations estimated from site topo plan

Notes:

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

WATER LEVEL OBSERVATIONS

▽ While drilling
▽ Upon completion

Terracon
135 Ambassador Dr
Naperville, IL

Boring Started: 9/7/2017

Boring Completed: 9/7/2017

Drill Rig: D-120 Track

Driller: GEOCON/NJ

Project No.: MR175287

Exhibit: A-21

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL MR175287 WOODMAN'S TINLEY GPJ TERRACON DATATEMPLATE GDT 9/28/17


BORING LOG NO. B-18

Page 1 of 1

PROJECT: Proposed Woodman's Development

CLIENT: Building Systems General Corp
Madison, Wisconsin

SITE: 7200 - 7600 West 191st Street
Tinley Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2		DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (in.)	FIELD TEST RESULTS	SAMPLE NUMBER	LABORATORY TORVANE/HP (tsf)	WATER CONTENT (%)
	Latitude: 41.54133° Longitude: -87.80109°	Approximate Surface Elev: 703 (Ft.) +/-								
DEPTH	ELEVATION (Ft.)									
1.0	12.0		702+/-							
TOPSOIL , 12 inches LEAN CLAY (CL) , trace sand and gravel, brown, hard						12	4-7-8-8 N=15	1	4.50 (HP)	22
						10	3-4-4-6 N=8	2	4.50 (HP)	19
						12	5-5-6-7 N=11	3	4.50 (HP)	21
						12	6-8-8-8 N=16	4	4.50 (HP)	20
						14	6-8-9-9 N=17	5	4.50 (HP)	20
						14	5-8-9-11 N=17	6	4.50 (HP)	21
12.0	12.0		691+/-							
LEAN CLAY (CL) , trace sand and gravel, brown gray, hard						14	8-9-10-10 N=19	7	4.50 (HP)	20
16.0	16.0		687+/-			16	6-10-10-9 N=20	8	4.50 (HP)	20
Boring Terminated at 16 Feet										
Stratification lines are approximate. In-situ, the transition may be gradual.										
Hammer Type: Automatic										
Advancement Method: Hollow Stem Auger			See Exhibit A-4 for description of field procedures See Appendix B for description of laboratory procedures and additional data (if any). See Appendix C for explanation of symbols and abbreviations. Elevations estimated from site topo plan				Notes:			
Abandonment Method: Boring backfilled with auger cuttings upon completion.										
WATER LEVEL OBSERVATIONS <i>No free water observed</i>							Boring Started: 9/8/2017		Boring Completed: 9/8/2017	
							Drill Rig: D-120 Track		Driller: GEOCON/RR	
							Project No.: MR175287		Exhibit: A-22	

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL MR175287 WOODMAN'S TINLEY GPJ TERRACON DATATEMPLATE.GDT 9/28/17

BORING LOG NO. B-19

Page 1 of 1

PROJECT: Proposed Woodman's Development

CLIENT: Building Systems General Corp
Madison, Wisconsin

SITE: 7200 - 7600 West 191st Street
Tinley Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 Latitude: 41.54145° Longitude: -87.79543° Approximate Surface Elev: 689 (Ft.) +/- DEPTH ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	SAMPLE NUMBER	ORGANIC (%)	LABORATORY TORVANE/HP (tsf)	WATER CONTENT (%)	ATTERBERG LIMITS
											LL-PL-PI
	ORGANIC CLAY , black, clayey				12	4-4-4-3 N=8	1			24	
	3.0 686+/- PEAT (PT) , dark brown				12	3-4-5-6 N=9	2	8.2	1.25 (HP)	89	
	6.0 683+/- ORGANIC CLAY/ORGANIC SILT (OH) , gray to brown	5			10	2-2-1-1 N=3	3	7.8	Dist.	177	
					16	1-1-1-1 N=2	4	4.9	Dist.	109	96-36-60
					14	1-1-1-1 N=2	5	4.8	0.25 (HP)	129	
					18	0-0-0-0 N=0	6		Dist.	102	92-29-63
	14.0 675+/- LEAN CLAY/FAT CLAY (CL/CH) , gray, very soft				18	0-0-0-0 N=0	7	2.9	Dist.	85	
		15			20	0-0-0-0 N=0	8	1.5	Dist.	48	
					20	0-0-0-0 N=0	9	1.5	Dist.	44	
						0-0-0-0 N=0	10		Dist.	50	46-20-26
	22.0 667+/- SANDY LEAN CLAY/CLAYEY SAND (CL/SC) , brown gray, medium dense, wet					0-0-0-0 N=0	11	0.4	Dist.	24	
	24.0 665+/- Boring Terminated at 24 Feet					4-5-6-6 N=11	12			34	

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

See Exhibit A-4 for description of field procedures
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.
Elevations estimated from site topo plan

Notes:

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

WATER LEVEL OBSERVATIONS

While drilling
Upon completion

Terracon
135 Ambassador Dr
Naperville, IL

Boring Started: 9/8/2017

Drill Rig: D-120 Track

Project No.: MR175287

Boring Completed: 9/8/2017

Driller: GEOCON/RR

Exhibit: A-23

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL MR175287 WOODMAN'S TINLEY GPJ TERRACON DATATEMPLATE.GDT 9/28/17

BORING LOG NO. B-20

Page 1 of 1

PROJECT: Proposed Woodman's Development

CLIENT: Building Systems General Corp
Madison, Wisconsin

SITE: 7200 - 7600 West 191st Street
Tinley Park, Illinois

GRAPHIC LOG	LOCATION See Exhibit A-2 Latitude: 41.54148° Longitude: -87.79366° Approximate Surface Elev: 688 (Ft.) +/- DEPTH ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	SAMPLE NUMBER	ORGANIC (%)	LABORATORY TORVANE/HP (tsf)	WATER CONTENT (%)	ATTERBERG LIMITS
											LL-PL-PI
	ORGANIC CLAY/ORGANIC SILT , black, clayey	0			10	3-3-4-4 N=7	1		2.75 (HP)	54	
		1									
		2				3-2-2-1 N=4	2	6.2	0.5 (HP)	96	
		3									
		4				2-1-1-1 N=2	3	1.7	Dist.	83	67-30-37
	7.0	5									
		6				0-0-0-0 N=0	4		Dist.	57	
		7				0-0-0-0 N=0	5	0.3	Dist.	70	57-22-35
		8				0-0-0-0 N=0	6		Dist.	50	
		9				0-0-0-0 N=0	7	1.2	Dist.	40	
		10				0-0-0-0 N=0	8		Dist.	44	
		11				0-0-0-0 N=0	9		Dist.	44	
	19.0	12				0-0-0-0 N=0	10		Dist.	38	
		13				2-2-1-1 N=3	11		Dist.	30	
		14				5-9-9-10 N=18	12			23	
	24.0	15									
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Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

See Exhibit A-4 for description of field procedures
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.
Elevations estimated from site topo plan

Notes:

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

WATER LEVEL OBSERVATIONS

While drilling
Upon completion

Terracon
135 Ambassador Dr
Naperville, IL

Boring Started: 9/8/2017

Drill Rig: D-120 Track

Project No.: MR175287

Boring Completed: 9/8/2017

Driller: GEOCON/RR

Exhibit: A-24

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL MR175287 WOODMAN'S TINLEY GPJ TERRACON DATATEMPLATE.GDT 9/28/17

APPENDIX B

LABORATORY TESTING

Geotechnical Engineering Report

Proposed Woodman's Store Development ■ Tinley Park, Illinois

September 28, 2017 ■ Terracon Project No. MR175287



Laboratory Testing












The soil samples obtained from the borings were tested in the laboratory to measure their natural water contents. A pocket penetrometer was used to help estimate the approximate unconfined compressive strength of selected native cohesive samples. Atterberg limits and organic content testing was performed on select samples from borings B-19 and B-20. The test results are provided on the boring logs in Appendix A.

The soil samples were classified in the laboratory based on visual observation, texture, plasticity, and the limited laboratory testing described above. The soil descriptions presented on the boring logs for native soils are in accordance with the enclosed General Notes (Exhibit C-1) and Unified Soil Classification System (USCS). The estimated USCS group symbols for native soils are shown on the boring logs, and a brief description of the USCS (Exhibit C-2) is included in this report.

APPENDIX C
SUPPORTING DOCUMENTS

GENERAL NOTES

DESCRIPTION OF SYMBOLS AND ABBREVIATIONS

SAMPLING			WATER LEVEL		Water Initially Encountered	FIELD TESTS	(HP) Hand Penetrometer
					Water Level After a Specified Period of Time		(T) Torvane
					Water Level After a Specified Period of Time		(b/f) Standard Penetration Test (blows per foot)
							(PID) Photo-Ionization Detector
	Auger	Split Spoon					(OVA) Organic Vapor Analyzer

Water levels indicated on the soil boring logs are the levels measured in the borehole at the times indicated. Groundwater level variations will occur over time. In low permeability soils, accurate determination of groundwater levels is not possible with short term water level observations.

DESCRIPTIVE SOIL CLASSIFICATION

Soil classification is based on the Unified Soil Classification System. Coarse Grained Soils have more than 50% of their dry weight retained on a #200 sieve; their principal descriptors are: boulders, cobbles, gravel or sand. Fine Grained Soils have less than 50% of their dry weight retained on a #200 sieve; they are principally described as clays if they are plastic, and silts if they are slightly plastic or non-plastic. Major constituents may be added as modifiers and minor constituents may be added according to the relative proportions based on grain size. In addition to gradation, coarse-grained soils are defined on the basis of their in-place relative density and fine-grained soils on the basis of their consistency.

LOCATION AND ELEVATION NOTES

Unless otherwise noted, Latitude and Longitude are approximately determined using a hand-held GPS device. The accuracy of such devices is variable. Surface elevation data annotated with +/- indicates that no actual topographical survey was conducted to confirm the surface elevation. Instead, the surface elevation was approximately determined from topographic maps of the area.

STRENGTH TERMS	RELATIVE DENSITY OF COARSE-GRAINED SOILS (More than 50% retained on No. 200 sieve.) Density determined by Standard Penetration Resistance Includes gravels, sands and silts.			CONSISTENCY OF FINE-GRAINED SOILS (50% or more passing the No. 200 sieve.) Consistency determined by laboratory shear strength testing, field visual-manual procedures or standard penetration resistance				BEDROCK		
	Descriptive Term (Density)	Standard Penetration or N-Value Blows/Ft.	Ring Sampler Blows/Ft.	Descriptive Term (Consistency)	Unconfined Compressive Strength, Qu, psf	Standard Penetration or N-Value Blows/Ft.	Ring Sampler Blows/Ft.	Ring Sampler Blows/Ft.	Standard Penetration or N-Value Blows/Ft.	Descriptive Term (Consistency)
	Very Loose	0 - 3	0 - 6	Very Soft	less than 500	0 - 1	< 3	< 30	< 20	Weathered
	Loose	4 - 9	7 - 18	Soft	500 to 1,000	2 - 4	3 - 4	30 - 49	20 - 29	Firm
	Medium Dense	10 - 29	19 - 58	Medium-Stiff	1,000 to 2,000	4 - 8	5 - 9	50 - 89	30 - 49	Medium Hard
	Dense	30 - 50	59 - 98	Stiff	2,000 to 4,000	8 - 15	10 - 18	90 - 119	50 - 79	Hard
	Very Dense	> 50	≥ 99	Very Stiff	4,000 to 8,000	15 - 30	19 - 42	> 119	>79	Very Hard
				Hard	> 8,000	> 30	> 42			

RELATIVE PROPORTIONS OF SAND AND GRAVEL

<u>Descriptive Term(s) of other constituents</u>	<u>Percent of Dry Weight</u>
Trace	< 15
With	15 - 29
Modifier	> 30

GRAIN SIZE TERMINOLOGY

<u>Major Component of Sample</u>	<u>Particle Size</u>
Boulders	Over 12 in. (300 mm)
Cobbles	12 in. to 3 in. (300mm to 75mm)
Gravel	3 in. to #4 sieve (75mm to 4.75 mm)
Sand	#4 to #200 sieve (4.75mm to 0.075mm)
Silt or Clay	Passing #200 sieve (0.075mm)

RELATIVE PROPORTIONS OF FINES

<u>Descriptive Term(s) of other constituents</u>	<u>Percent of Dry Weight</u>
Trace	< 5
With	5 - 12
Modifier	> 12

PLASTICITY DESCRIPTION

<u>Term</u>	<u>Plasticity Index</u>
Non-plastic	0
Low	1 - 10
Medium	11 - 30
High	> 30

UNIFIED SOIL CLASSIFICATION SYSTEM

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests ^A					Soil Classification	
					Group Symbol	Group Name ^B
Coarse Grained Soils: More than 50% retained on No. 200 sieve	Gravels: More than 50% of coarse fraction retained on No. 4 sieve	Clean Gravels: Less than 5% fines ^C	Cu ≥ 4 and 1 ≤ Cc ≤ 3 ^E		GW	Well-graded gravel ^F
			Cu < 4 and/or 1 > Cc > 3 ^E		GP	Poorly graded gravel ^F
		Gravels with Fines: More than 12% fines ^C	Fines classify as ML or MH		GM	Silty gravel ^{F,G,H}
			Fines classify as CL or CH		GC	Clayey gravel ^{F,G,H}
	Sands: 50% or more of coarse fraction passes No. 4 sieve	Clean Sands: Less than 5% fines ^D	Cu ≥ 6 and 1 ≤ Cc ≤ 3 ^E		SW	Well-graded sand ^I
			Cu < 6 and/or 1 > Cc > 3 ^E		SP	Poorly graded sand ^I
		Sands with Fines: More than 12% fines ^D	Fines classify as ML or MH		SM	Silty sand ^{G,H,I}
			Fines classify as CL or CH		SC	Clayey sand ^{G,H,I}
Fine-Grained Soils: 50% or more passes the No. 200 sieve	Silts and Clays: Liquid limit less than 50	Inorganic:	PI > 7 and plots on or above “A” line ^J		CL	Lean clay ^{K,L,M}
			PI < 4 or plots below “A” line ^J		ML	Silt ^{K,L,M}
		Organic:	Liquid limit - oven dried	< 0.75	OL	Organic clay ^{K,L,M,N}
			Liquid limit - not dried			Organic silt ^{K,L,M,O}
	Silts and Clays: Liquid limit 50 or more	Inorganic:	PI plots on or above “A” line		CH	Fat clay ^{K,L,M}
			PI plots below “A” line		MH	Elastic Silt ^{K,L,M}
		Organic:	Liquid limit - oven dried	< 0.75	OH	Organic clay ^{K,L,M,P}
			Liquid limit - not dried			Organic silt ^{K,L,M,Q}
Highly organic soils:	Primarily organic matter, dark in color, and organic odor				PT	Peat

^A Based on the material passing the 3-inch (75-mm) sieve

^B If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.

^C Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.

^D Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay

$$^E Cu = D_{60}/D_{10} \quad Cc = \frac{(D_{30})^2}{D_{10} \times D_{60}}$$

^F If soil contains $\geq 15\%$ sand, add "with sand" to group name.

^G If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

^H If fines are organic, add "with organic fines" to group name.

^I If soil contains $\geq 15\%$ gravel, add "with gravel" to group name.

^J If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.

^K If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.

^L If soil contains $\geq 30\%$ plus No. 200 predominantly sand, add "sandy" to group name.

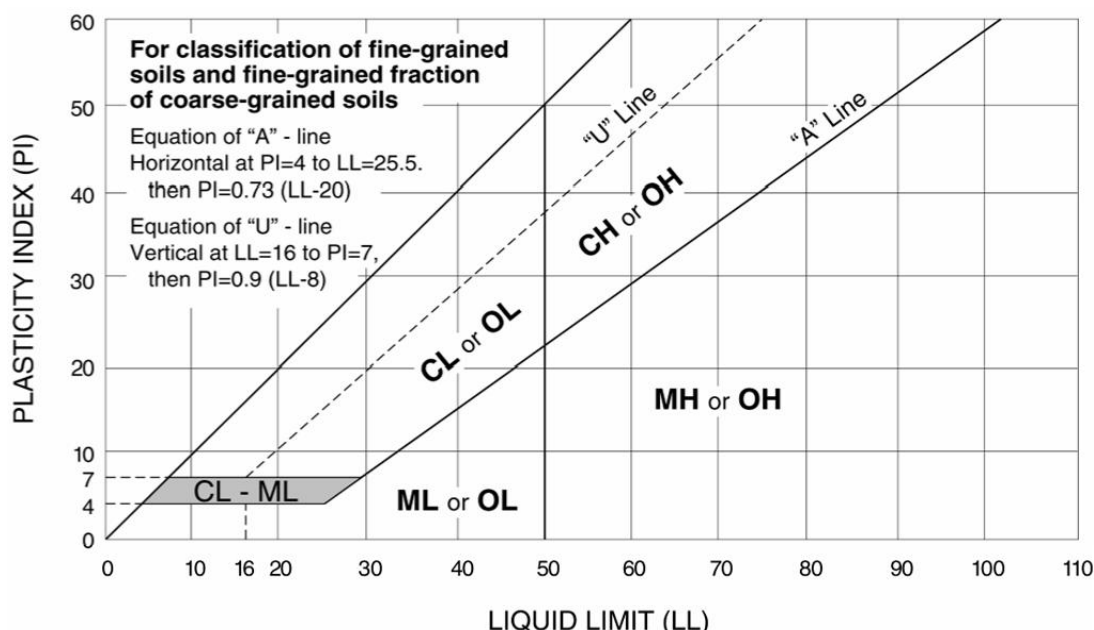
^M If soil contains $\geq 30\%$ plus No. 200, predominantly gravel, add "gravelly" to group name.

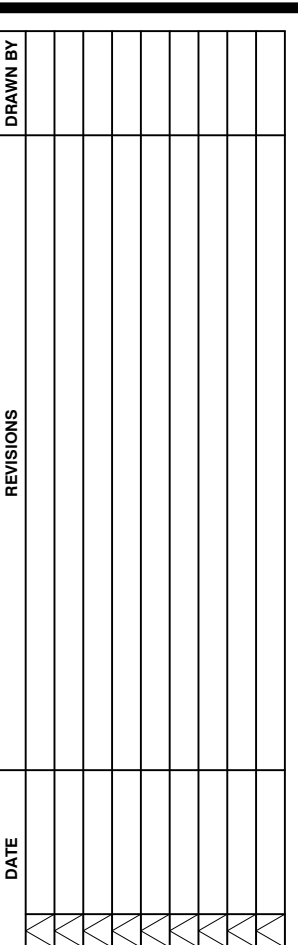
^N PI ≥ 4 and plots on or above "A" line.

^O PI < 4 or plots below "A" line.

^P PI plots on or above "A" line.

^Q PI plots below "A" line.



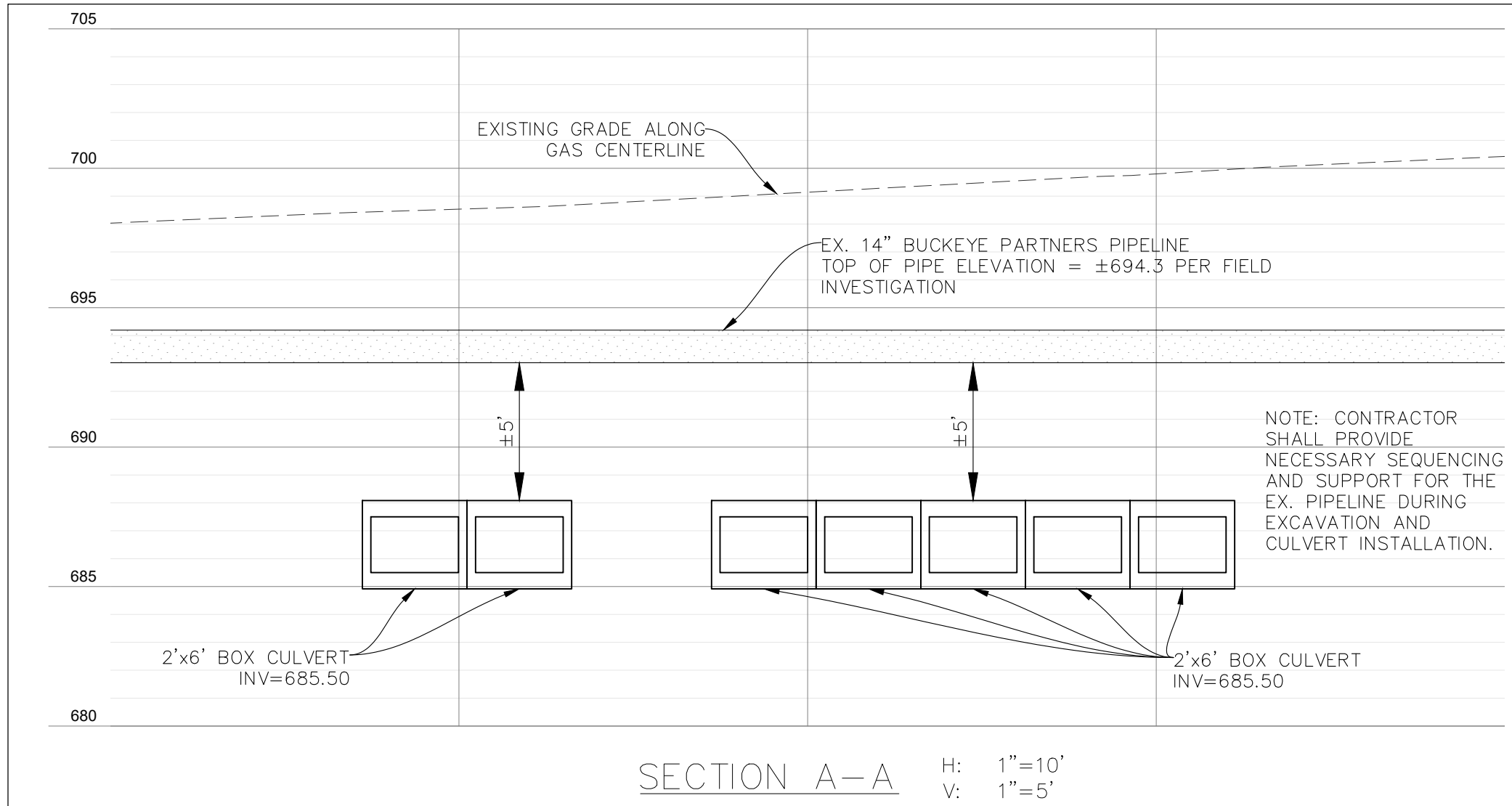
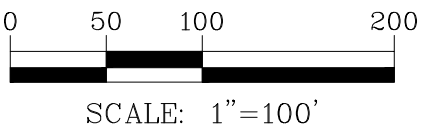
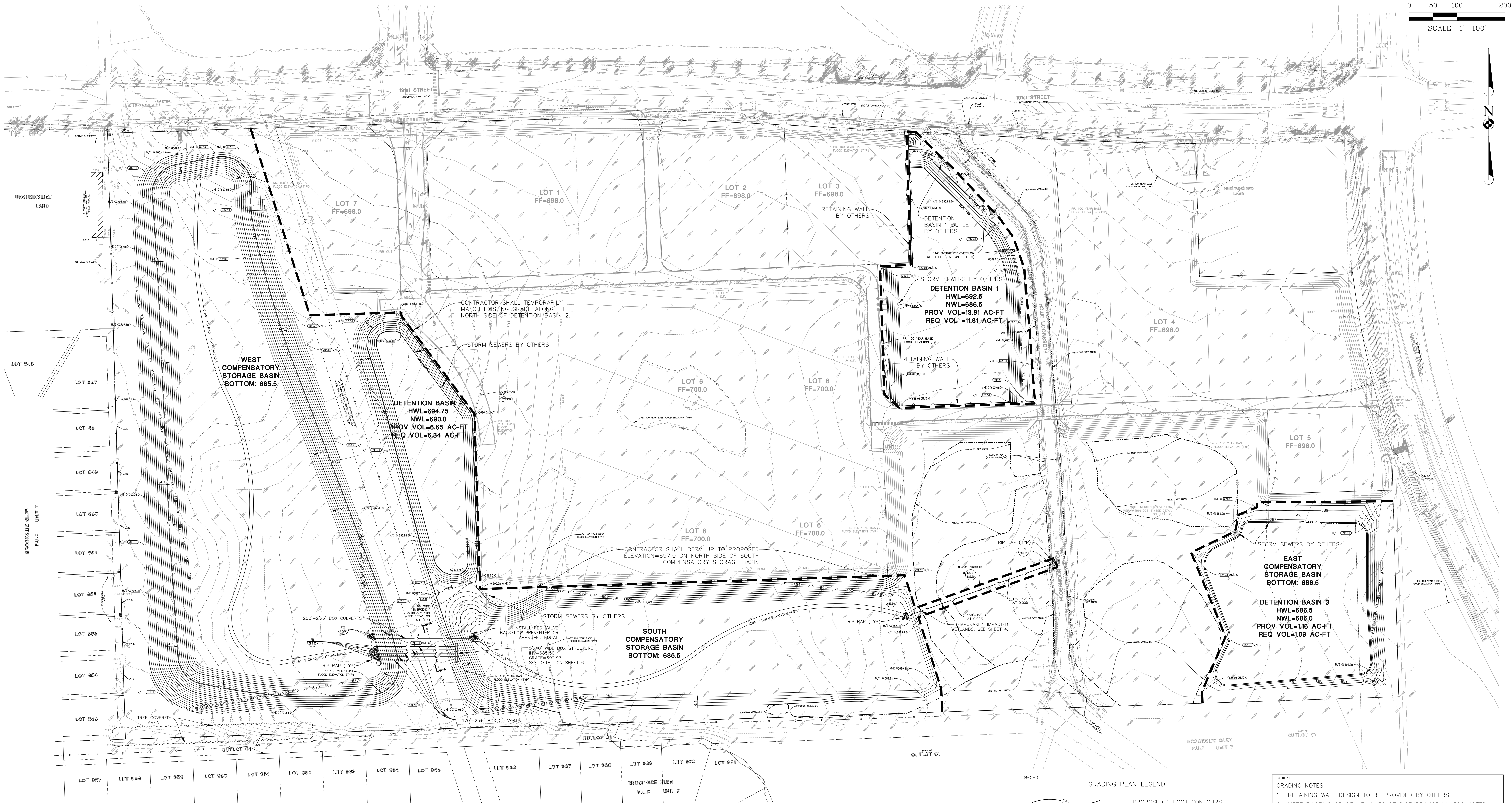


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01-01-16 GRADING PLAN LEGEND	
	PROPOSED 1 FOOT CONTOURS
	PROPOSED SPOT ELEVATION
	PROPOSED TOP OF WALL
	MEET EXISTING
	PROPOSED GROUND GRADE OR GROUND
	AT BASE OF RETAINING WALL
	PROPOSED DITCH OR SWALE
	PROPOSED DIRECTION OF FLOW
	OVERFLOW RELIEF SWALE
	PROPOSED RIDGE LINE
	RETAINING WALL (BY OTHERS)

- UTILITY NOTES:**
- ALL UTILITY DIMENSIONS ARE TO CENTER OF PIPE OR CENTER OF STRUCTURE UNLESS OTHERWISE NOTED.
 - THE CONTRACTOR SHALL CONTACT J.U.L.I.E. (1-800-892-0123) PRIOR TO ANY WORK TO LOCATE UTILITIES AND SHALL CONTACT THE OWNER SHOULD UTILITIES APPEAR TO BE IN CONFLICT WITH THE PROPOSED IMPROVEMENT.
 - ALL EXISTING UTILITIES SHOWN ARE NOT TO BE INTERPRETED AS THE EXACT ELEVATION OR LOCATION, OR AS THE ONLY OBSTACLES THAT MAY OCCUR ON THE SITE. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND PROCEED WITH CAUTION AROUND ANY ANTIPOATED FEATURES.
 - THE UNDERGROUND UTILITY INFORMATION AS SHOWN HERE ON IS BASED, IN PART, UPON INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED NOR CERTIFIED.
 - ALL STORM SEWER LENGTHS SHOWN ARE FROM FES TO FES.
 - BUCKEYE PARTNERS, L.P. REPRESENTATIVE MUST BE PRESENT DURING INSTALLATION OF THE EX. PIPELINE. ALL CONSTRUCTION SHALL BE PER THE PERMIT CONDITIONS.
 - BUCKEYE PARTNERS, L.P. REPRESENTATIVE MUST BE PRESENT DURING INSTALLATION OF THE EX. PIPELINE. ALL CONSTRUCTION SHALL BE PER THE PERMIT CONDITIONS.

- GRADING NOTES:**
- RETAINING WALL DESIGN TO BE PROVIDED BY OTHERS.
 - MEET EXISTING GRADE AT LIMITS OF DISTURBANCE UNLESS NOTED OTHERWISE.
 - CONTRACTOR SHALL REFER TO THE SOIL EROSION AND SEDIMENT CONTROL PLAN AND DETAILS FOR CONSTRUCTION SCHEDULING AND EROSION CONTROL MEASURES TO BE INSTALLED PRIOR TO BEGINNING GRADING OPERATIONS.
 - THE CONTRACTOR SHALL CONTACT J.U.L.I.E. (1-800-892-0123) PRIOR TO ANY WORK TO LOCATE UTILITIES AND SHALL CONTACT THE OWNER SHOULD UTILITIES APPEAR TO BE IN CONFLICT WITH THE PROPOSED IMPROVEMENT.
 - THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
 - IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITION OR BETTER.
 - ALL UNPAVED AREAS DISTURBED BY GRADING OPERATIONS SHALL RECEIVE 6 INCHES OF TOPSOIL. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES 3H:1V OR STEEPER. CONTRACTOR SHALL STABILIZE DISTURBED AREAS IN ACCORDANCE WITH GOVERNING SPECIFICATIONS UNTIL A HEALTHY STAND OF VEGETATION IS OBTAINED.
 - EXISTING TOPOGRAPHY SHOWN REPRESENTS SITE CONDITIONS AS PREPARED BY MANHARD CONSULTING ON FEBRUARY 7, 2024. CONTRACTOR SHALL FIELD CHECK EXISTING ELEVATIONS AND CONDITIONS PRIOR TO CONSTRUCTION AND NOTIFY ARCHITECT AND ENGINEER OF ANY DISCREPANCIES PRIOR TO STARTING CONSTRUCTION. IF THE CONTRACTOR DOES NOT ACCEPT EXISTING TOPOGRAPHY AS SHOWN ON THE PLANS, WITHOUT EXCEPTION, THEN THE CONTRACTOR SHALL SUPPLY, AT THEIR EXPENSE, A TOPOGRAPHIC SURVEY BY A REGISTERED LAND SURVEYOR TO THE OWNER FOR REVIEW.
 - EXCAVATION, GRADING, AND COMPACTION TO BE COMPLETED IN ACCORDANCE WITH RECOMMENDATIONS OF GEOTECHNICAL REPORT.

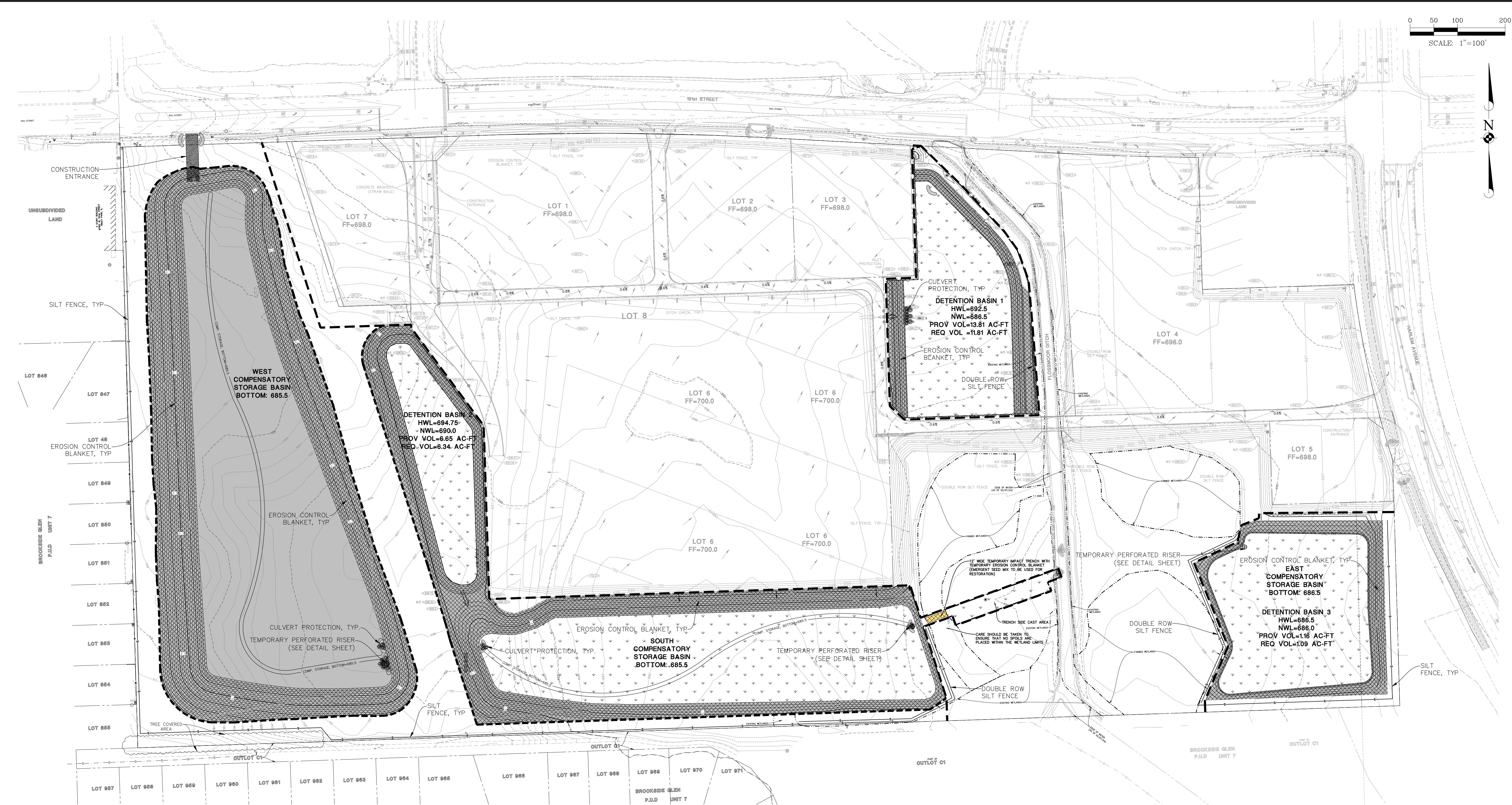
DRAWN BY	
REVISIONS	
DATE	
04-09-25	REVISED PER VILLAGE REVIEW
AMO	



STORMWATER IMPROVEMENTS FOR BROOKSIDE CREEK RETAIL CENTER
VILLAGE OF TINLEY PARK, ILLINOIS
GRADING AND UTILITY PLAN

PROJ. MGR:	TEC
PROJ. ASSOC.:	GTB
DRAWN BY:	MH
DATE:	03-28-25
SCALE:	1"=100'
SHEET	
3	OF 7
WWW.TPILO1	

April 28, 2025 - 15:44 Draw Name: P:\Village\01\Van\Final Drawings\Plan Set\Stormwater Management Improvements\04-SS5C.dwg Updated By: Aogerman



- USACE IN-STREAM NOTES:**
- WORK IN THE WATERWAY SHOULD BE TIMED TO TAKE PLACE DURING LOW OR NO-FLOW CONDITIONS. LOW FLOW CONDITIONS ARE FLOW AT OR BELOW THE NORMAL WATER ELEVATION.
 - THE PORTION OF THE SIDE SLOPE THAT IS ABOVE THE OBSERVED WATER ELEVATION SHALL BE STABILIZED AS SPECIFIED IN THE PLANS PRIOR TO ACCEPTING FLOWS. THE SUBSTRATE AND TOE OF SLOPE THAT HAS BEEN DISTURBED DUE TO CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO PROPOSED OR PRE-CONSTRUCTION CONDITIONS AND FULLY STABILIZED PRIOR TO ACCEPTING FLOWS.

SOIL PROTECTION CHART											
STABILIZATION CHART											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV
PERMANENT SEEDINGS											
DORMANT SEEDINGS											
TEMPORARY SEEDINGS											
TEMPORARY SEEDINGS											
SODDING											
MULCHING											
A - KENTUCKY BLUEGRASS 50 LBS./AC. MIXED WITH PERENNIAL RYEGRASS 30 LBS./AC.											
B - KENTUCKY BLUEGRASS 15 LBS./AC. MIXED WITH PERENNIAL RYEGRASS 45 LBS./AC. 2 TONS STRAW MULCH PER ACRE											
C - SPRING OATS D - WHEAT OR CEREAL RYE E - SOD (NURSERY GROWN KENTUCKY BLUEGRASS) F - STRAW MULCH 2 TONS PER ACRE											
* IRRIGATION NEEDED DURING JUNE, JULY AND SEPTEMBER											
** IRRIGATION NEEDED FOR 2-3 WEEKS AFTER SODDING											

NOTE: THIS CHART IS A GUIDE TO ASSIST THE CONTRACTOR IN UNDERSTANDING OPTIONS FOR SOIL STABILIZATION. THE LANDSCAPE PLAN SHALL TAKE PRECEDENCE OVER THIS CHART. ANY CONFLICT SHALL BE DISCUSSED WITH THE LANDSCAPE ARCHITECT PRIOR TO THE START OF CONSTRUCTION.

"THESE EROSION CONTROL PLANS ARE A PORTION OF THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY (IEPA) TOTAL REQUIREMENTS FOR A COMPLETE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AS REQUIRED BY THE GENERAL NPDES PERMIT NO. ILR10. CLIENT AND/OR CONTRACTOR WILL BE RESPONSIBLE FOR COMPLIANCE WITH ALL REQUIREMENTS OF THE GENERAL NPDES PERMIT AND COMPILATION OF THE COMPLETE SWPPP."

LEGEND	
	TEMPORARY SILT FENCE (PERIMETER EROSION BARRIER)
	EROSION CONTROL BLANKET (NORTH AMERICAN GREEN DS 75) (SEEDING PER DETAILS ON SHEET 5)
	TEMPORARY WETLAND TRENCH IMPACT WITH TEMPORARY EROSION CONTROL BLANKET TO BE RESTORED WITH EMERGENT SEED MIX (SEEDING PER DETAILS ON SHEET 5)
	EMERGENT WETLAND SEED MIX
	STORMWATER SEED MIX
	ECONOMY PRAIRIE SEED MIX (WEST COMP. STORAGE BASIN)
	TEMPORARY CULVERT INLET PROTECTION
	SWALE DRAINAGE FLOW
	LIMITS OF DISTURBANCE/CONSTRUCTION

- CONSTRUCTION SEQUENCE:**
- INSTALL SILT FENCE AT LOCATIONS AS INDICATED ON THE PLANS.
 - CLEAR SITE OF TREES AND BRUSH.
 - CONSTRUCT TEMPORARY DITCHES, SWALES, SEDIMENT TRAPS AND/OR BASINS.
 - STRIP EXISTING TOPSOIL FROM PROPOSED LIMITS OF DISTURBANCE AND STOCKPILE.
 - PROVIDE SILT FENCE AROUND THE BASE OF THE STOCKPILES.
 - CONSTRUCT STORMWATER MANAGEMENT (DETENTION) FACILITIES TO SUB-GRADE AND INSTALL OUTLET PIPES.
 - COMPLETE TOPSOIL PLACEMENT AND PERMANENT SEEDING AND SODDING OF STORMWATER MANAGEMENT FACILITIES.
 - CUT AND FILL SITE TO PLAN.
 - CONSTRUCT UNDERGROUND IMPROVEMENTS, I.E. SANITARY SEWER WATERMAIN AND STORM SEWER**, ETC.
 - CONSTRUCT PAVEMENT IMPROVEMENTS PER PLAN.
 - COMPLETE CONSTRUCTION OF SITE WITH PERMANENT STABILIZATION.
 - REMOVE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES.
 - ** INSTALL INLET PROTECTION AROUND DRAINAGE STRUCTURES AS CONSTRUCTED.

- SOIL EROSION AND SEDIMENTATION CONTROL GENERAL NOTES:**
- ALL VEGETATIVE AND STRUCTURAL EROSION CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE "ILLINOIS URBAN MANUAL".
 - MAINTENANCE AND REPLACEMENT OF EROSION CONTROL ITEMS, WHEN DIRECTED BY THE OWNER, SHALL BE CONSIDERED AS INCIDENTAL TO THE CONTRACT.
 - THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES AT LEAST EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.5 INCHES OR GREATER, OR EQUIVALENT SNOWFALL, WHEN THE SNOW MelTS AND THERE IS POTENTIAL FOR EROSION. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF SAID MEASURES SHALL BE MADE IMMEDIATELY. FOR SITES DISCHARGING DEWATERING WATER, AN INSPECTION MUST BE CONDUCTED DURING THE DISCHARGE, ONCE PER DAY ON WHICH THE DISCHARGE OCCURS AND DOCUMENTED AND KEPT IN THE SWPPP BOOKLET.
 - INSTALL ALL PERIMETER SILT FENCING PRIOR TO ANY CLEARING OR GRADING. ONSITE SEDIMENT CONTROL MEASURES AS SHOWN AND SPECIFIED BY THIS EROSION AND SEDIMENTATION CONTROL PLAN SHALL BE CONSTRUCTED AND FUNCTIONAL PRIOR TO INITIATING CLEARING, GRADING, STRIPPING, EXCAVATION OR FILLING ACTIVITIES ON THE SITE.
 - STORM WATERS FALLING ON THE ENTIRE SITE SHALL BE DIVERTED INTO THE DETENTION BASIN, PRIOR TO BEGINNING MASS EXCAVATION. THE CONTRACTOR SHALL CONSTRUCT DITCHES, SWALES, SEDIMENTATION TRAPS AND SILTATION CONTROL MEASURES AS REQUIRED TO INTERCEPT SURFACE WATERS BEFORE THEY FLOW ONTO ADJACENT PROPERTY AND CONVEY THEM TO THE DETENTION BASIN.
 - STABILIZATION OF DISTURBED AREAS MUST BE INITIATED IMMEDIATELY WHENEVER ANY CLEARING, GRADING, EXCAVATING OR OTHER EARTH DISTURBING ACTIVITIES HAVE PERMANENTLY CEASED ON ANY PORTION OF THE SITE, OR TEMPORARILY CEASED ON ANY PORTION OF THE SITE AND WILL NOT RESUME FOR A PERIOD EXCEEDING 14 CALENDAR DAYS. STABILIZATION OF DISTURBED AREAS MUST BE INITIATED WITHIN 1 WORKING DAY OF PERMANENT OR TEMPORARY CESSATION OF EARTH DISTURBING ACTIVITIES AND SHALL BE COMPLETED AS SOON AS POSSIBLE BUT NOT LATER THAN 14 DAYS FROM THE INITIATION OF STABILIZATION WORK IN AN AREA.
 - TEMPORARY SEED MIXTURE SHALL BE APPLIED AT 64 LBS./ACRE.
 - STABILIZATION OF TOPSOIL STOCKPILES SHALL BE INITIATED IMMEDIATELY UPON COMPLETION UNLESS THEY WILL BE DISTURBED WITHIN FOURTEEN (14) CALENDAR DAYS. STABILIZATION OF STOCKPILES MUST BE INITIATED WITHIN 1 WORKING DAY OF PERMANENT OR TEMPORARY CESSATION OF EARTH DISTURBING ACTIVITIES AND SHALL BE COMPLETED AS SOON AS POSSIBLE BUT NOT LATER THAN 14 DAYS FROM THE INITIATION OF STABILIZATION WORK IN AN AREA. ALL SOIL STORAGE PILES SHALL BE PROTECTED FROM EROSION WITH SILT FENCE ON THE DOWN SLOPE SIDE OF THE PILES.
 - DEWATERING DISCHARGES SHALL BE ROUTED THROUGH A SEDIMENT CONTROL (e.g. SEDIMENT TRAP OR BASIN, PUMPED WATER FILTER BAG) DESIGNED TO MINIMIZE DISCHARGES WITH VISUAL TURBIDITY. THE DISCHARGE SHALL NOT INCLUDE VISIBLE FLOATING SOLIDS OR FOAM. THE DISCHARGE MUST NOT CAUSE THE FORMATION OF A VISIBLE SHEEN ON THE

- WATER SURFACE, OR VISIBLE OILY DEPOSITS ON THE BOTTOM OR SHORELINE OF THE RECEIVING WATER. AN OIL-WATER SEPARATOR OR SUITABLE FILTRATION DEVICE SHALL BE USED TO TREAT OIL, GREASE, OR OTHER SIMILAR PRODUCTS IF DEWATERING WATER IS FOUND TO OR EXPECTED TO CONTAIN THESE MATERIALS. TO THE EXTENT FEASIBLE, USE WELL VEGETATED (e.g. GRASSY OR WOODED), UPLAND AREAS OF THE SITE TO INFILTRATE DEWATERING WATER BEFORE DISCHARGE. USING RECEIVING WATERS AS PART OF THE TREATMENT AREA IS PROHIBITED. TO MINIMIZE DEWATERING RELATED EROSION AND RELATED SEDIMENT DISCHARGES, USE STABLE, EROSION RESISTANT SURFACES (e.g. WELL-VEGETATED GRASSY AREAS, CLEAN FILTER STONE, GEOTEXTILE UNDERLAYMENT) TO DISCHARGE FROM DEWATERING CONTROLS. DO NOT PLACE DEWATERING CONTROLS, SUCH AS PUMPED WATER FILTER BAGS ON STEEP SLOPES (15% OR GREATER IN GRADE. BACKWASH WATER (WATER USED TO BACKWASH/CLEAN ANY FILTERS USED AS PART OF STORMWATER TREATMENT) MUST BE PROPERLY TREATED OR HAULED OFF-SITE FOR DISPOSAL. DEWATERING TREATMENT DEVICES SHALL BE PROPERLY MAINTAINED.
- DUST CONTROL SHALL BE PERFORMED ON A DAILY BASIS USING WATER DISPERSED FROM A TRUCK MOUNTED TANK WITH STANDARD DISCHARGE HEADER TO PROVIDE A UNIFORM RATE OF APPLICATION.
- TEMPORARY GRAVEL CONSTRUCTION ENTRANCES SHALL BE MAINTAINED, ADJUSTED OR RELOCATED AS NECESSARY TO PREVENT SEDIMENT FROM BEING TRACKED ONTO PUBLIC ROADWAYS. ANY SEDIMENT APPROACHING A PUBLIC ROAD SHALL BE REMOVED BY SHOVELING OR STREET CLEANING BEFORE THE END OF EACH WORKING DAY.
- OVERLAND FLOW SHALL BE DIRECTED TO THE DETENTION BASIN PRIOR TO LEAVING THE SITE.
- THE EROSION CONTROL MEASURES INDICATED ON THE PLANS ARE THE MINIMUM REQUIREMENTS. ADDITIONAL MEASURES MAY BE REQUIRED, AS DIRECTED BY THE CLIENT OR OTHER JURISDICTIONAL GOVERNMENTAL ENTITIES.
- ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH ALL JURISDICTIONAL GOVERNMENTAL AGENCY REQUIREMENTS WITHIN 30 DAYS OF FINAL STABILIZATION.
- TRENCHING MUST BE PERFORMED USING WOODEN CONSTRUCTION MATS TO MINIMIZE SOIL COMPACTION AND DISTURBANCE TO THE EXISTING WETLAND.
- PER USACE NWP 58: MATERIAL RESULTING FROM TRENCH EXCAVATION MAY BE TEMPORARILY SIDECAST INTO WATERS OF THE UNITED STATES FOR NO MORE THAN THREE MONTHS, PROVIDED THE MATERIAL IS NOT PLACED IN SUCH A MANNER THAT IT IS DISPERSED BY CURRENTS OR OTHER FORCES. THE DISTRICT ENGINEER MAY EXTEND THE PERIOD OF TEMPORARY SIDE CASTING FOR NO MORE THAN A TOTAL OF 180 DAYS, WHERE APPROPRIATE. IN WETLAND, THE TOP 6 TO 12 INCHES OF THE TRENCH SHOULD NORMALLY BE BACKFILLED WITH TOPSOIL FROM THE TRENCH. THE TRENCH CANNOT BE CONSTRUCTED OR BACKFILLED IN SUCH A MANNER AS TO DRAIN WATERS OF THE UNITED STATES (E.G., BACKFILLING WITH EXTENSIVE GRAVEL LAYERS, CREATING A FRENCH DRAIN EFFECT). ANY EXPOSED SLOPES AND STREAM BANKS MUST BE STABILIZED IMMEDIATELY UPON COMPLETION OF THE UTILITY LINE CROSSING OF EACH WATERBODY.
- EMERGENT SEED MIX TO BE USED IN RESTORATION AREAS OF THE TEMPORARILY DISTURBED WETLANDS. SEE LANDSCAPE PLANS FOR SEED MIX INFORMATION.

STORMWATER IMPROVEMENTS FOR BROOKSIDE CREEK RETAIL CENTER

VILLAGE OF TINLEY PARK, ILLINOIS

SOIL EROSION AND SEDIMENT CONTROL PLAN

PROJ. MGR.: TEC

PROJ. ASSOC.: GTB

DRAWN BY: MH

DATE: 03-28-25

SCALE: 1"=100'

SHEET

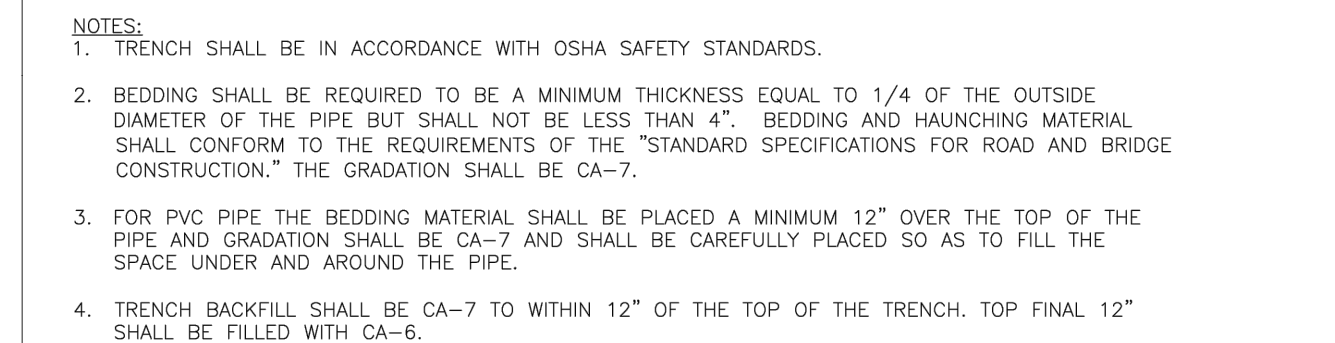
4 OF 7

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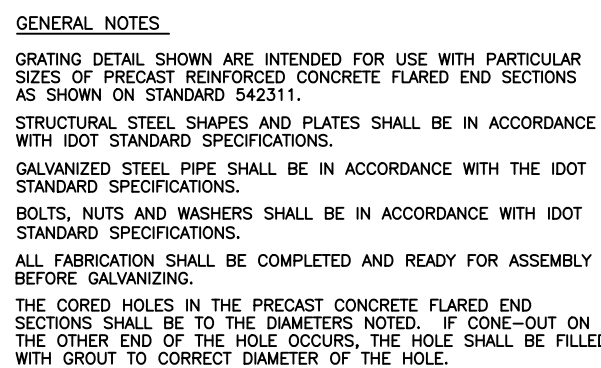
MANHARD CONSULTING

04-18-25 REVISED PER USACE REVIEW

04-09-25 REVISED PER VILLAGE REVIEW

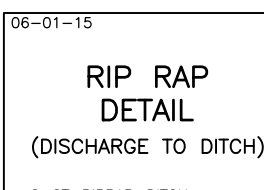


VILLAGE OF TINLEY PARK
STANDARD DETAIL



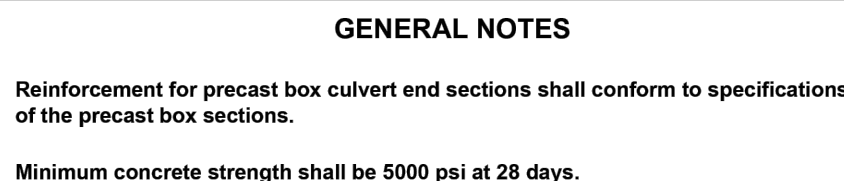
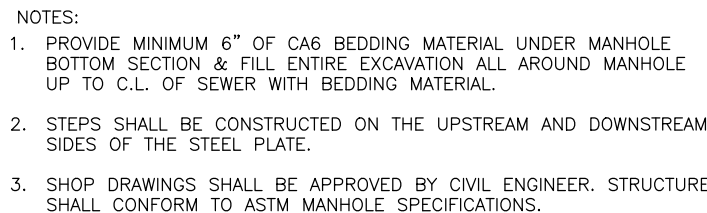
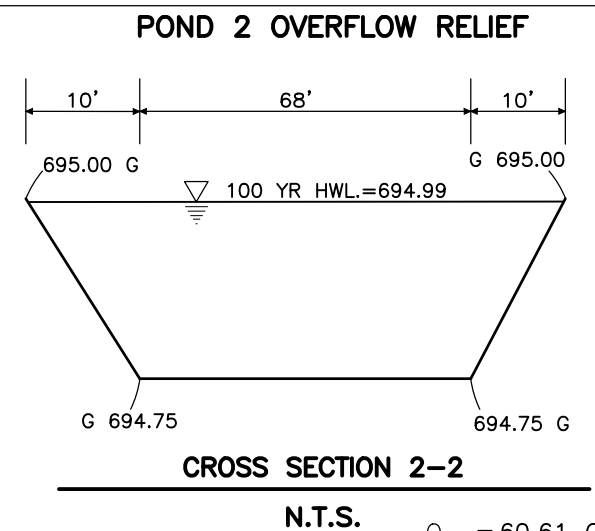
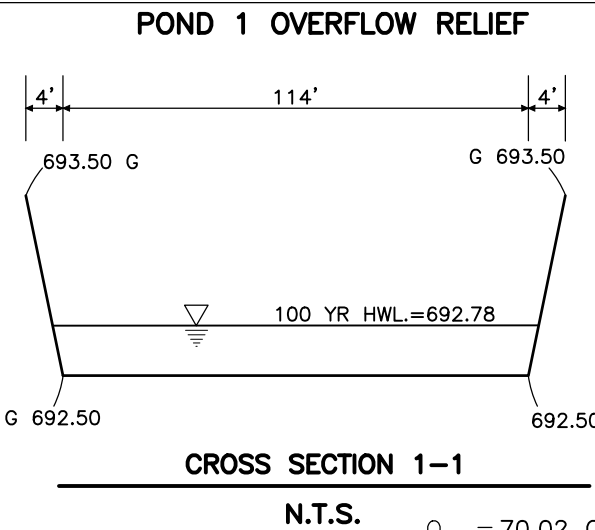
08-15-24

GRATING FOR
24",30",36"
CONCRETE FLAR
END SECTION



NOTE:

1. FOR PIPE LARGER THAN 72" A SPECIAL DESIGN OF RIP-RAP OR APRON IS REQUIRED.
2. REFER TO I.D.O.T. SPECIFICATIONS AND STANDARDS FOR BEDDING GRADATION.



DIMENSIONS

SPAN X BRG	R (INCHES)	S (INCHES)	Y (INCHES)	A (FT/IN)	B (INCHES)	C (FT/IN)	E (FT/IN)	F (FT/IN)	G (FT/IN)	H (FT/IN)	SLOPE (X,Y)
3 X 3	7	6	8	3.8	3.1	4	Var.	4.0	0	2.0	2.1
3 X 3	7	6	8	3.8	3.1	4	Var.	4.0	0	3.0	3.2
3 X 3	7	6	8	3.8	4.15	4	Var.	4.0	1.4	1.4	2.1
3 X 3	8	6	8	4.6	4.15	8	Var.	4.0	1.0	2.0	2.1
3 X 3	8	6	8	4.6	4.15	8	Var.	4.0	1.0	2.0	2.1
5 X 2	8	7	6	6.0	3.3	8	Var.	4.0	0.8	1.4	2.1
5 X 3	8	7	6	6.0	4.3	8	Var.	4.0	1.0	2.0	2.1
5 X 3	8	7	6	6.0	4.3	8	Var.	4.0	1.0	2.0	2.1
5 X 3	8	7	6	6.0	6.3	8	Var.	4.0	3.0	2.0	2.1
6 X 2	8	7	7	7.2	3.3	8	Var.	4.0	0.8	1.4	3.1
6 X 2	8	7	7	7.2	4.3	8	Var.	4.0	1.0	2.0	2.1
6 X 3	8	7	7	7.2	5.3	8	Var.	4.0	2.0	2.0	2.1
6 X 3	8	7	7	7.2	5.3	8	Var.	4.0	2.0	2.0	2.1
6 X 4	8	7	7	7.2	7.3	8	Var.	4.0	4.0	2.0	2.1
7 X 3	8	8	8	8.4	4.4	8	Var.	4.0	1.0	2.0	2.1
7 X 3	8	8	8	8.4	4.4	8	Var.	4.0	1.0	2.0	2.1
7 X 3	8	8	8	8.4	6.4	8	Var.	4.0	3.0	2.0	2.1
7 X 3	8	8	8	8.4	7.4	8	Var.	4.0	4.0	2.0	2.1
7 X 4	8	8	8	8.4	8.4	8	Var.	4.0	5.0	2.0	2.1
8 X 2	8	8	8	9.4	3.4	8	Var.	4.0	0.8	1.4	3.1
8 X 3	8	8	8	9.4	4.4	8	Var.	4.0	1.0	2.0	2.1
8 X 3	8	8	8	9.4	4.4	8	Var.	4.0	1.0	2.0	2.1
8 X 3	8	8	8	9.4	6.4	8	Var.	4.0	3.0	2.0	2.1
8 X 3	8	8	8	9.4	6.4	8	Var.	4.0	3.0	2.0	2.1
8 X 3	8	8	8	9.4	8.4	8	Var.	4.0	5.0	2.0	2.1
8 X 7	8	8	8	9.4	9.4	8	Var.	4.0	6.0	2.0	2.1
9 X 2	9	9	9	10.6	3.6	12	Var.	4.0	0.8	1.4	3.1
9 X 4	9	9	9	10.6	5.6	12	Var.	4.0	2.0	2.0	2.1
9 X 5	9	9	9	10.6	6.6	12	Var.	4.0	3.0	2.0	2.1
9 X 6	9	9	9	10.6	8.6	12	Var.	4.0	5.0	2.0	2.1
9 X 7	9	9	9	10.6	8.6	12	Var.	4.0	5.0	2.0	2.1
9 X 7	9	9	9	10.6	10.6	12	Var.	4.0	7.0	2.0	2.1
9 X 9	9	9	9	10.6	10.6	12	Var.	4.0	7.0	2.0	2.1
10 X 3	8	8	8	11.4	4.5	8	Var.	4.0	1.0	2.0	2.1
10 X 3	8	8	8	11.4	4.5	8	Var.	4.0	1.0	2.0	2.1
10 X 3	8	8	8	11.4	6.5	8	Var.	4.0	3.0	2.0	2.1
10 X 3	8	8	8	11.4	6.5	8	Var.	4.0	3.0	2.0	2.1
10 X 6	10	10	10	11.8	7.8	12	Var.	4.0	4.0	2.0	2.1
10 X 6	10	10	10	11.8	9.8	12	Var.	4.0	6.0	2.0	2.1
10 X 6	10	10	10	11.8	9.8	12	Var.	4.0	6.0	2.0	2.1
10 X 6	10	10	10	11.8	10.8	12	Var.	4.0	7.0	2.0	2.1
10 X 6	10	10	10	11.8	10.8	12	Var.	4.0	7.0	2.0	2.1
11 X 4	11	11	11	12.10	5.10	12	Var.	4.0	2.0	2.0	2.1
11 X 4	11	11	11	12.10	5.10	12	Var.	4.0	2.0	2.0	2.1
11 X 6	11	11	11	12.10	7.10	12	Var.	4.0	4.0	2.0	2.1
11 X 6	11	11	11	12.10	9.10	12	Var.	4.0	6.0	2.0	2.1
11 X 10	11	11	11	12.10	11.10	12	Var.	4.0	8.0	2.0	2.1
11 X 10	11	11	11	12.10	11.10	12	Var.	4.0	8.0	2.0	2.1
12 X 4	9	8	8	13.4	5.5	8	Var.	4.0	2.0	2.0	2.1
12 X 5	12	12	12	14.0	7.0	12	Var.	4.0	3.0	2.0	2.1
12 X 5	12	12	12	14.0	7.0	12	Var.	4.0	3.0	2.0	2.1
12 X 6	12	12	12	14.0	10.0	12	Var.	4.0	6.0	2.0	2.1
12 X 6	12	12	12	14.0	10.0	12	Var.	4.0	6.0	2.0	2.1
12 X 10	12	12	12	14.0	14.0	12	Var.	4.0	10.0	2.0	2.1
12 X 12	12	12	12	14.0	14.0	12	Var.	4.0	10.0	2.0	2.1

WELCH BROS. BELVIDERE, INC.
PRODUCERS OF CONCRETE PRODUCTS
 1000 TOWN HALL RD., BELVIDERE, IL 61008
 BELVIDERE) 815-547-3000 (ELGIN) 847-741-6134
 FAX# 815-544-9481 FAX# 847-741-6195

SHOULD A CONFLICT ARISE BETWEEN MANHARD
DETAILS AND THE VILLAGE DETAILS, THE
VILLAGE DETAILS SHALL TAKE PRECEDENCE.

MANHARD CONSULTING
STANDARD SPECIFICATIONS

GENERAL CONDITIONS

CONTRACTOR acknowledges and agrees that the use and reliance of these Plans and Specifications is sufficient consideration for CONTRACTOR'S covenants stated herein.

DEFINITION OF TERMS

- a. "CLIENT" shall mean Village of Tinley Park, which is the person or entity with whom Manhard Consulting has contracted with to prepare Civil Engineering PLANS and SPECIFICATIONS.
- b. "ENGINEER" shall mean Manhard Consulting, a Civil Engineering consultant on the subject project.
- c. "PLANS and SPECIFICATIONS" shall mean the Civil Engineering PLANS and SPECIFICATIONS prepared by the ENGINEER, which may be a part of the contract documents for the subject project.
- d. "CONTRACTOR" shall mean any person or entity performing any work described in the PLANS and SPECIFICATIONS.
- e. "JURISDICTIONAL GOVERNMENTAL ENTITY" shall mean any municipal, county, state or federal unit of government from whom an approval, permit and/or review is required for any aspect of the subject project.

INTENT OF THE PLANS AND SPECIFICATIONS

The intent of the PLANS and SPECIFICATIONS is to set forth certain requirements of performance, type of equipment and structures, and standards of materials and construction. They may also identify labor and materials, equipment and transportation necessary for the proper execution of the work but are not intended to be infinitely determined so as to include minor items obviously required as part of the work. The PLANS and SPECIFICATIONS require new material and equipment unless otherwise indicated, and to require complete performance of the work in spite of omissions of specific references to any minor component part. It is not intended, however, that materials or work not covered by or properly inferred from any heading, branch, class or trade of the SPECIFICATIONS shall be supplied unless distinctly so noted. Materials or work described in words, which so applied have a well-known technical or trade meaning, shall be held to refer to such recognized standards.

INTERPRETATION OF PLANS AND SPECIFICATIONS

- a. The CLIENT and/or CONTRACTOR shall promptly report any errors or ambiguities in the PLANS and SPECIFICATIONS to the ENGINEER. Questions as to meaning of PLANS and SPECIFICATIONS shall be interpreted by the ENGINEER, whose decision shall be final and binding on all parties concerned.
- b. The ENGINEER will provide the CLIENT with such information as may be required to show revised or additional details of construction.
- c. Should any discrepancies or conflicts on the PLANS or SPECIFICATIONS be discovered either prior to or after award of the contract, the ENGINEER's attention shall be called to the same before the work is begun thereon and the proper corrections made. Neither the CLIENT nor the CONTRACTOR may take advantage of any error or omissions in the PLANS and SPECIFICATIONS. The ENGINEER will provide information when errors or omissions are discovered.

GOVERNING BODIES

All works herein proposed shall be completed in accordance with all requirements of any JURISDICTIONAL GOVERNMENTAL ENTITY, and all such pertinent laws, directives, ordinances and the like shall be considered to be a part of these SPECIFICATIONS. If a discrepancy is noted between the PLANS and SPECIFICATIONS and the requirements of any JURISDICTIONAL GOVERNMENTAL ENTITY, the CLIENT and/or the CONTRACTOR shall immediately notify the ENGINEER in writing.

LOCATION OF UNDERGROUND FACILITIES AND UTILITIES

When the PLANS and SPECIFICATIONS include information pertaining to the location of existing underground facilities and utilities (including but not limited to water mains, sanitary sewers, storm sewers, electric, telephone, gas and cable TV lines), such information represents only the opinion of the ENGINEER as to the approximate location and elevation of such facilities and utilities. At the locations wherein detailed positions of these facilities and utilities become necessary to the new construction, including all points of connection, the CONTRACTOR shall furnish all labor and tools to verify or definitely establish the horizontal location, elevation, size and material (if appropriate) of the facilities and utilities. The CONTRACTOR shall notify the ENGINEER at least 48 hours prior to construction if any discrepancies in existing utility information or conflicts with existing utilities exist. The ENGINEER assumes no responsibility whatever with respect to the sufficiency or accuracy of the information shown on the PLANS and SPECIFICATIONS relative to the location of underground facilities and utilities, nor the manner in which they are removed or adjusted.

It shall be the CONTRACTOR's responsibility prior to construction, to notify all Utility Companies of the intent to begin construction and to verify the actual location of all such facilities and utilities. The CONTRACTOR shall also obtain from the respective Utility Companies the working schedules for removing or adjusting these facilities.

UNSUITABLE SOILS

The PLANS have been prepared by the ENGINEER based on the assumption that all soils on the project are suitable to support the proposed improvements shown. The CLIENT or CONTRACTOR shall immediately notify the ENGINEER if he discovers or encounters an obstruction that prevents the installation of the improvement according to the line and grades shown on the PLANS.

PROTECTION OF TREES

All trees that are not to be removed shall be protected from damage. Trees shall not be removed unless requested to do so in writing by the CLIENT.

NOTIFICATION OF OWNERS OF FACILITIES AND UTILITIES

The CONTRACTOR shall notify all applicable Jurisdictional Governmental Entities or utility companies, i.e., water, sewer, electric, telephone, gas and cable TV prior to beginning any construction so that said entity or company can establish the location and elevation of underground pipes, conduits or cables adjoining or crossing proposed construction.

TRAFFIC CONTROL

The CONTRACTOR shall provide when required by any JURISDICTIONAL GOVERNMENTAL ENTITY, all signs, equipment, and personnel necessary to provide for safe and efficient traffic flow in all areas where the work will interrupt, interfere or cause to change in any form, the conditions of traffic flow that existed prior to the commencement of any portions of the work. The CLIENT may, at his discretion, require the CONTRACTOR to furnish traffic control under these or other circumstances where in his opinion it is necessary for the protection of life and property. Emergency vehicle access shall be maintained at all times. Unless authorized by the CLIENT or CLIENT's construction representative, all existing access points shall be maintained at all times by the CONTRACTOR. The need for traffic control shall be anticipated by the CLIENT.

WORK AREA

The CONTRACTOR, his agents and employees and their employees and all equipment, machinery and vehicles shall confine their work within the boundaries of the project or work area specified by the Client. The CONTRACTOR shall be solely liable for damage caused by him or his agents and employees and their equipment, machinery and vehicles on adjacent property or areas outside designated work areas.

UTILITY POLES

It shall be the responsibility of the CONTRACTOR to arrange for the relocation or bracing of existing utility poles that may be within the working limits of this contract. It is expressly understood that all work and costs connected with the maintenance of these utility poles, their temporary relocations, etc., shall be the responsibility of the CLIENT or the CONTRACTOR.

RESTORATION

It is the intent of these SPECIFICATIONS that clean-up and final restoration shall be performed immediately upon completion of each phase of the work, both inside and outside the Project, or when so directed by the CLIENT so that these areas will be restored as nearly as possible to their original condition or better, and shall include but not be limited to, restoration of maintained lawns and rights-of-way, roadways, driveways, sidewalks, ditches, bushes, hedges, trees, shrubs, fences, mailboxes, sewers, drain tiles, water mains, etc.

CLEANING UP

The CONTRACTOR shall at all times keep the premises free from accumulations of waste material or rubbish caused by his employees or work, and at the completion of the work he shall remove all his rubbish, tools, scaffolding and surplus materials and shall leave his work "boom clean" or its equivalent, unless more exactly specified.

ROAD CLEANING

The CONTRACTOR shall maintain roadways adjoining the project site free from mud and debris at all times. If mud and/or debris is carried onto the roadways from vehicles entering onto the highway from either the CONTRACTOR's trucks, his employees' vehicles, or his material suppliers, the CONTRACTOR shall immediately remove said mud and/or debris.

SAFETY AND PROTECTION

The CONTRACTOR shall be solely and completely responsible for the conditions of the job site, including safety of all persons and property during performance of the work. This requirement shall apply continuously and not be limited to normal working hours. The CONTRACTOR shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss, and shall erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR'S duties and responsibilities for safety and for protection of the work shall continue until such time as all work is completed and the CLIENT has notified CONTRACTOR that the work is acceptable. The duties of the ENGINEER do not include review of the adequacy of either the CONTRACTOR's or the general public's safety in, on, or near the construction site.

HOLD HARMLESS

To the fullest extent permitted by law, any CONTRACTOR, material supplier or other entity by use of these plans and specifications hereby waives any right of contribution and agrees to indemnify, defend, save and hold harmless the CLIENT and ENGINEER and its agents, employees and consultants from and against all manner of claims, causes, causes of action, damages, losses and expenses, including but not limited to, attorneys' fees arising out of, resulting from or in connection with the performance of any work, pursuant to or with respect to these plans and specifications. However, this indemnity shall not be construed to indemnify ENGINEER, its consultants, agents or employees against its own negligence.

Claims, damages, losses and expenses as these words are used in the Agreement shall mean and include, but not be limited to (1) injury or damage occurring by reason of the failure of or use or misuse of any hoist, riggings, blocking, scaffolding or any and all other kinds of items of equipment, whether or not the same be owned, furnished or loaned by any part or entity, including any contractor; (2) all attorneys' fees and costs incurred in bringing an action to enforce the provisions of this indemnity; (3) costs for time expended by the indemnified party and its employees, at its usual rates plus costs or travel, long distance telephone and reproduction of documents and (4) consequential damages.

In any and all claims against the CLIENT or ENGINEER or any of their agents or employees and consultants by any party, including any employee of the CONTRACTOR or any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the CONTRACTOR or any Subcontractor under workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts or any insurance maintained by CONTRACTOR or any Subcontractor or any other party.

INSURANCE

Any party using or relying on these plans, including any contractor, material supplier, or other entity shall obtain, (prior to commencing any work) general public liability insurance insuring against all damages and claims for any bodily injuries, death or property damage arising out of any work, including the construction work provided for in these plans, and shall name the CLIENT and ENGINEER and its consultants, agents and representatives as additional insureds to the limits of such insurance policies; provided that any party using or relying on these plans having obligations to maintain specific insurance by reason of any agreement with CLIENT or any CONTRACTOR or ENGINEER shall provide evidence and certificates of insurance as required by such contract or agreement. Such insurance must contain a clause stating that the insurance is primary coverage for ENGINEER and ENGINEER's other applicable coverage is considered secondary. Policies shall contain a waiver of subrogation against Manhard and Client. Such insurance shall not limit any liability of any party providing work or services or providing materials.

THIRD PARTY BENEFICIARY

Manhard Consulting, the ENGINEER, is intended to be a third party beneficiary of this willing agreement and requirement.

DETAILED SPECIFICATIONS

*I. DEMOLITION

The CONTRACTOR shall coordinate with respective utility companies prior to the removal and/or relocation of utilities. The CONTRACTOR shall coordinate with the utility company concerning portions of work which may be performed by the Utility Company's forces and any fees which are to be paid to the utility company for their services. The CONTRACTOR is responsible for paying for all fees and charges.

Should removal and/or relocation activities damage facilities indicated to remain, the CONTRACTOR shall provide new materials/structures in accordance with the contract documents. Except for materials designed to be relocated on this plan, all other construction materials shall be new.

Prior to demolition occurring, all erosion control devices are to be installed.

The CONTRACTOR is responsible for demolition, removal and disposal (in a location approved by all JURISDICTIONAL GOVERNING ENTITIES) of all structures, pads, walls, furnaces, foundations, road, parking lots, drives, drainage structures, utilities, etc., such that the improvements shown on these plans can be constructed. All demolition work shall be in accordance with all applicable federal, state and local requirements. All facilities to be removed shall be undercut to suitable material and brought to grade with suitable compacted fill material per the specifications.

The CONTRACTOR is responsible for obtaining all permits required for demolition and disposal.

Electrical, telephone, cable, water, fiber optic cable and/or gas lines needing to be removed shall be coordinated by the CONTRACTOR with the affected utility company. CONTRACTOR must protect the public at all times with fencing, barricades, enclosures, and other appropriate best management practices.

All fire access lanes within the project area shall remain in service, clear of debris, and accessible for use by emergency vehicles.

The CONTRACTOR shall coordinate water main work with the Fire Department and the JURISDICTIONAL GOVERNING ENTITY to plan the proposed improvements and to ensure adequate fire protection is available to the facility and site throughout this specific work and through all phases of construction. CONTRACTOR shall be responsible for any required water main shut offs with the JURISDICTIONAL GOVERNING ENTITY during construction. Any costs associated with water main shut offs will be the responsibility of the CONTRACTOR and no extra compensation will be provided.

CONTRACTOR may limit saw cut and pavement removal to only those areas where it is required as shown on these construction plans, however if any damage is incurred on any of the surrounding pavement, etc, the CONTRACTOR shall be responsible for ITS removal and repair.

Any existing wells encountered shall be exposed and sealed 3' below proposed finish grade by the CONTRACTOR in accordance with Section 920.120 (latest edition) of

the Illinois Water Well Construction Code, Department of Public Health, and all applicable local rules and regulations. CONTRACTOR is responsible for obtaining all permits required by JURISDICTIONAL GOVERNMENTAL ENTITIES for abandoning existing wells.

Any existing septic tanks and grease traps encountered shall have all liquids and solids removed and disposed of by a licensed commercial hauler in accordance with JURISDICTIONAL GOVERNING ENTITY regulations, and the tank and grease traps shall then be filled with suitable materials or removed from the site and disposed of by the CONTRACTOR.

voids left by any item removed under any proposed building, pavement, walk, etc. or within 24" thereof shall be filled and compacted with suitable materials by the CONTRACTOR.

CONTRACTOR shall develop and implement a dust control and shall submit and obtain JURISDICTIONAL GOVERNING ENTITY approval of dust control procedures prior to demolition of any structures. Modification of dust control procedures shall be performed by the CONTRACTOR to the satisfaction of the JURISDICTIONAL GOVERNING ENTITY as requested.

The CONTRACTOR shall coordinate all demolition with the JURISDICTIONAL GOVERNING ENTITY and CLIENT to ensure protection and maintenance of sanitary sewer and water utilities as necessary and to provide stormwater conveyance until new facilities are constructed, tested and placed into operation.

The locations of all existing utilities shown on this plan have been determined from the best information available and are given for the convenience of the CONTRACTOR and are not to be interpreted as the exact location, or as the only obstacles that may occur on the site. The ENGINEER assumes no responsibility for their accuracy. Prior to the start of any demolition activity, the CONTRACTOR shall notify the utility companies for location of existing utilities and shall verify existing conditions and proceed with caution against any anticipated features.

II.EARTHWORK

STANDARDS

This work shall be completed in conformance with the applicable sections of the Standard Specifications for Road and Bridge Construction, Department of Transportation, State of Illinois, latest edition except as modified below.

SOIL BORING DATA

Copies of results of soil boring and reports, if such borings were taken by the CLIENT in the vicinity of the proposed construction site, should be made available by the CLIENT to the CONTRACTOR. These borings are presented for whatever purpose the CONTRACTOR chooses to make of them. The ENGINEER makes no representation or warranty regarding the number, location, spacing or depth of borings taken, nor of the accuracy or reliability of the information given in the results thereof.

Further, the ENGINEER does not assume responsibility for the possibility that during construction, the soil and groundwater condition may be different than indicated. Neither does the ENGINEER assume responsibility for variations of soil and groundwater at location between borings. The CONTRACTOR is required to make its own borings, explorations and observations to determine soil and groundwater conditions.

EARTHWORK CALCULATIONS AND CROSS SECTIONS

The CONTRACTOR understands that any earthwork calculations, quantities or cross sections that have been furnished by the ENGINEER are for information only and are provided without any guarantee by the CLIENT or ENGINEER whatsoever as to their sufficiency or accuracy. CONTRACTOR warrants that he has performed his own subsurface investigations as necessary and his own calculations and cross sections to determine site soil conditions and earthwork volumes. The ENGINEER makes no representation or guarantee regarding earthwork quantities or that the earthwork for this project will balance due to the varying field conditions, changing soil types, allowable construction to tolerances and construction methods that are beyond the control of the ENGINEER.

CLEARING, GRUBBING AND TREE REMOVAL

The site shall be cleared, grubbed, and trees and stumps removed where designated on the PLANS. Trees designated to remain shall be protected from damage.

TOPSOIL STRIPPING

Upon completion of demolition, clearing, grubbing and tree removal, all topsoil shall be stripped from under all buildings and pavements areas, and other areas necessary to complete the work. Topsoil stripped shall be placed in stockpiles in locations as designated by the CLIENT.

TOPSOIL RESPIREAD

Upon completion of roadway and/or parking lot improvements and installation of underground utilities a minimum of six inches (6") of topsoil shall be respread over all unpaired areas which have been disturbed by earthwork construction, except building pads and other designated areas, which shall be kept free from topsoil.

SEEDING

Upon completion of topsoil respread, the CONTRACTOR shall apply seed and fertilizer to all respread areas in accordance with IDOT standards or as designated on landscape drawings and specifications provided by the CLIENT.

SODDING

Upon completion of topsoil respread, the CONTRACTOR shall install sod to all areas designated on the plans or as designated on the landscape drawings and specifications provided by the CLIENT.

EXCAVATION AND EMBANKMENT

Upon completion of topsoil stripping, all excavation and embankments shall be completed as shown on the PLANS. All suitable excavated materials shall be hauled, placed (moisture conditioned if necessary) and compacted in the embankment areas. The CONTRACTOR shall include all dewatering, temporary ditching and culverts necessary to complete the excavation and embankment.

Specifically included in the scope of Excavation and Embankments is grading and shaping of all cut or fill areas including swales and ditches; handling of sewer spoil, etc., and all work required to provide positive drainage at the end of each working day and upon completion of a section.

The CONTRACTOR shall be responsible for the excavation of all swales and ditches and for the excavation or filling of the roads, building pads and parking lots within the work limits to lines & grades shown on the plans. He shall be responsible for obtaining compaction in accordance with the minimum values listed in the table below for all embankments unless more stringent values are listed in the soils report or are approved by the CLIENT, and to use any method approved by the CLIENT necessary to obtain this compaction (i.e., soil fabric or any undercutting that may be required).

Type Material	Percent		Pavement &	
	Standard	Modified Proctor	Floor Slabs	Grass Areas
Sandy Soils			95%	90%
Clayey Soils			95%	90%

The CONTRACTOR shall notify the CLIENT if proper compaction cannot be obtained so that the CLIENT may determine what remedial measures may be needed.

A soils testing firm employed by the CLIENT shall determine which soils are unsuitable. Materials in their natural state being defined as unsuitable that would be suitable material if moisture conditioned, shall be conditioned by the CONTRACTOR and used as suitable embankment material or hauled from the site.

For purposes of definition, unsuitable material shall be as follows unless determined otherwise by the Soils Engineer:

- Any soil whose optimum moisture content exceeds 25%.
- Any cohesive soil with an unconfined compressive strength of 1.5 tons per square foot or less.
- Any soil whose silt content exceeds 60% by weight.
- Any soil whose maximum density is less than 100 pounds per cubic foot.
- Any soil containing organic, deleterious, or hazardous material.

Upon completion of excavation and shaping of the water retention areas intended to maintain a permanent pool of water, all silt seams and granular or sandy soils shall be removed to a minimum depth of three feet below the subgrade and replaced with an impermeable clay liner, including adjacent to and under storm sewer inlets and outlets. It is the intent of these PLANS and SPECIFICATIONS that the CONTRACTOR shall prepare the lake bottoms, side slopes, and compaction thereof such that the lakes will maintain the proposed normal water level and that leakage does not exceed 1/2 inch per week.

Ditches and swales are to be excavated to the lines and grades indicated on the PLANS. All suitable materials excavated from the ditches shall be used in construction of the embankments.

The CONTRACTOR shall notify the CLIENT immediately upon encountering groundwater during excavation. If in the opinion of the CLIENT or the JURISDICTIONAL GOVERNING ENTITY this condition necessitates the installation of perforated drain tile bedded in washed gravel or open storm sewer joints wrapped with fabric, the CONTRACTOR shall install the same.

During excavation and embankment, grades may be adjusted to achieve an overall site earthwork balance. The CONTRACTOR shall cooperate fully with the CLIENT in adjustment of grades, construction methods and placement of material to meet the above goals and shall immediately advise CLIENT if he believes that the earthwork will not balance.

It is the intent of these PLANS that storm waters falling on the site be diverted into sedimentation / lake / detention basins during construction. The CONTRACTOR shall construct and maintain any temporary ditches or swales that are necessary to accomplish this prior to beginning mass excavation.

EROSION CONTROL

Suitable erosion control practices shall be maintained by the CONTRACTOR in accordance with Illinois Urban Manual and all applicable Soil Erosion and Sedimentation Control ordinances and the PLANS.

UNDERCUTTING DURING EARTHWORK

If the subgrade cannot be dried adequately by dicing as outlined above for placement of material to planned grades and if the CLIENT determines that the subgrade does not meet the standards set forth above, the CLIENT may require undercutting.

MISCELLANEOUS CONTRACT ITEMS

The following items may be required at the CLIENT's option, as indicated on the PLANS or as required by the JURISDICTIONAL GOVERNING ENTITY:

(1) GEOTEXTILE FABRIC

Geotextile fabric or approved equal shall be provided in areas as designated by the CLIENT, as indicated on the PLANS or as required by the JURISDICTIONAL GOVERNING ENTITY where proper compaction of embankments over existing soft soils is not possible. Geotextile fabric shall meet the material specifications of and shall be installed in accordance with the above standards.

(2) EROSION CONTROL BLANKET

Erosion control blanket or approved equal shall be provided in areas as designated by the CLIENT, as indicated on the PLANS or as required by the JURISDICTIONAL GOVERNING ENTITY for the stabilization of disturbed areas. Erosion control blanket shall meet the material specifications of and shall be installed in accordance with the above standards, the Illinois Urban Manual and/or the details shown on the PLANS.

III.UNDERGROUND IMPROVEMENTS

A. GENERAL

STANDARDS

All underground improvements shall be constructed and tested in accordance with the Standard Specifications for Water and Sewer Construction in Illinois and Standard Specifications for Road and Bridge Construction, Department of Transportation, State of Illinois, latest edition. In the event of conflicting guidelines, the more restrictive shall govern.

SELECTED GRANULAR BACKFILL

Selected Granular Backfill shall be required for all sewer and water main trenches lying under existing or proposed streets, driveways, parking lots and within 24" thereof, and where noted on PLANS. All material placed in such trenches shall be in accordance with the above standards.

MANHOLES, CATCH BASIN, INLETS & VALVE VAULTS

All Manholes, Catch Basins, Inlets, and Valve Vaults shall be constructed of reinforced precast concrete ring construction with tongue and groove joints in conformance with the latest revision of ASTM designation C-478. All joints between sections and frames (except sanitary manholes, see Section IIIB Manholes, below) shall be sealed with mastic type bituminous jointing compound. CONTRACTOR shall remove all excess mastic on inside of structure and butter joints with mortar. Manholes are to have offset cones except that no cone shall be used on storm manholes 6'-0" deep or less in which case a reinforced concrete flat top section shall be used, and Valve Vaults shall have concentric cones. Only concrete adjustment rings will be permitted where necessary and shall be limited to two adjustment rings totaling not more than 8" in height. All manholes and catch basin steps shall be copolymer polypropylene with continuous 1/2" steel reinforcement as manufactured by MA Industries, or approved equal.

AUGERBORING AND CASING

Casing pipe shall be welded steel pipe, installed where shown on the PLANS. The carrier pipe shall be securely blocked and banded and sanitary and storm sewers shall maintain the specified gradient. Upon installing the carrier pipe the ends shall be sealed with hydraulic cement.

AUGER (OPEN BORE)

The CONTRACTOR shall auger (open bore) where noted on PLANS.

HORIZONTAL AND VERTICAL SEPARATION OF WATER AND SEWER MAINS

Horizontal and vertical separation of water and sewer mains shall be in accordance with Standard Specifications for Water and Sewer Construction in Illinois Section 412.01A and 412.01B and Standard Drawing 18, 19, 20, 21, 22, 23 and 24.

STRUCTURE ADJUSTMENTS

Structures shall be adjusted to the finished grade as shown on PLANS.

*B. SANITARY SEWERS AND APPURTENANCES - INTENTIONALLY OMITTED

*C. WATER MAINS AND APPURTENANCES - INTENTIONALLY OMITTED

D. STORM SEWERS AND APPURTENANCES

*STORM SEWER PIPE

Storm sewer pipe shall conform to the following:

- Reinforced concrete pipe minimum Class IV in conformance with the latest revision of ASTM designation C76 with C443 flexible gasket joints, except that bituminous mastic joints may be used in grass areas.
- Polypropylene (PP) Pipe shall have a smooth interior and annular exterior corrugations and shall meet or exceed ASTM F2881 and AASHTO M330. Pipe shall be joined with a gasketed integral bell & spigot joint meeting the requirements of ASTM F2881. PP Pipe shall be watertight according to the requirements of ASTM D3212. Spigots shall have gaskets meeting the requirements of ASTM F477. (Only permitted with Municipality Approval and/or when specifically indicated on PLANS.)

Precast tees, bends, and manholes may be used if permitted by the JURISDICTIONAL GOVERNMENTAL ENTITY.

Storm sewer shall include bedding and trench backfill.

*MANHOLES, INLETS & CATCH BASINS - INTENTIONALLY OMITTED

FLARED END SECTION

Flared end sections shall be pre-cast reinforced concrete flared end section with an end block cast separate as per the Illinois Department of Transportation Standard 542301 and shall be installed where shown on the PLANS. All flared end sections for storm sewers 12" in diameter and larger shall be installed with a grating per Standard 542311 and/or as detailed on the PLANS. Work shall include end block.

RIP RAP

Stone rip rap consisting of pieces of "A" quality stone 4" to 8" in diameter shall be furnished and installed in accordance with IDOT Specifications and shall be placed where shown on the plans, to a minimum thickness of 12" and a width as indicated on the plans. Broken concrete or concrete blocks will not be acceptable.

FOUNDATION, BEDDING AND HAUNCHING

Foundation, Bedding and Haunching shall be wet coarse aggregate or moist fine aggregate in accordance with the above standards and placed as shown on the detail.

*UNDERDRAINS - INTENTIONALLY OMITTED

MISCELLANEOUS

- All existing field drainage tile or storm sewers encountered or damaged during construction shall either be restored to their original condition, properly rerouted and/or connected to the storm sewer system.
- Footing drains shall be connected to sump pumps or discharged directly into storm sewers. Footing drains or drainage tile shall not be connected to the sanitary sewer.

*CONNECTION FOR STORM SERVICE TO STORM MAIN - INTENTIONALLY OMITTED

*IV. ROADWAY AND PARKING LOT IMPROVEMENTS - INTENTIONALLY OMITTED

DRAWN BY	
REVISED	
DATE	
CO-09-25	
REVISED PER	
VILLAGE REVIEW	
AMO	



STORMWATER IMPROVEMENTS FOR BROOKSIDE CREEK RETAIL CENTER

VILLAGE OF TINLEY PARK, ILLINOIS

CONSTRUCTION SPECIFICATIONS

PROJ. MGR.:	TEC
PROJ. ASSOC.:	GTB
DRAWN BY:	MH
DATE:	03-28-25
SHEET:	N.T.S.
SHEET	
7 OF 7	
WWW.TPI.O1	

SHOULD A CONFLICT ARISE BETWEEN THE MANHARD SPECIFICATIONS AND THE VILLAGE SPECIFICATIONS, THE VILLAGE SPECIFICATIONS TAKE PRECEDENCE.