

WARREN COUNTY WATER DISTRICT
WARREN COUNTY, KENTUCKY

SPECIFICATIONS AND
CONTRACT DOCUMENTS

**Morgantown Road Area Improvements
Contract 2**



Warren County
Water District

April 8, 2019



Project No. 346992

Prepared by
Engineering Staff
Warren County Water District

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ADVERTISEMENT FOR BIDS

Separate sealed BIDS for the construction of Morgantown Road Area Improvements Contract 2 (construction of one new 200,000-gallon elevated water storage tank and appurtenances) will be received by Warren County Water District at the office of the General Manager at 523 U.S. Hwy 31-W Bypass, Bowling Green, Kentucky 42101 until January 21, 2020 at 2:00 PM CST, and then at said office publicly opened and read aloud.

The CONTRACT DOCUMENTS may be examined at the office of Warren County Water District, 523 U.S. Hwy 31-W Bypass, Bowling Green, KY and McGraw Hill Construction Dodge at www.construction.com/projectcenter. Copies of the CONTRACT DOCUMENTS may be obtained at the office of the General Manager located at 523 U.S. Hwy 31-W Bypass, Bowling Green, KY 42101, upon payment of \$100.00 for each set.

Refer all inquiries to:
Jonathan Lawson, P.E.
jonathanl@warrenwater.com
(270) 842-0052 ext. 556

December 23, 2019

John M. Dix, General Manager

INFORMATION FOR BIDDERS

General

BIDS will be received by Warren County Water District (hereinafter called the "OWNER") at the Office of the General Manager at 523 US 31W By Pass, Bowling Green, KY 42101 until TBD, and then at said office publicly opened and read aloud.

The ENGINEER is Jonathan Lawson, P.E. The ENGINEER'S address is Warren County Water District, 523 US 31W Bypass, Bowling Green, KY 42101, Phone 270-842-0052 ext. 556.

Requirements for BID

Each BID must be submitted in a sealed envelope, addressed to John M. Dix, General Manager, Warren County Water District at 523 US 31W By Pass, Bowling Green, KY 42101. Each sealed envelope containing a BID must be plainly marked on the outside as BID for "Morgantown Road Area Improvements – Contract 2" and the envelope should bear on the outside the BIDDER'S name, address, and license number, if applicable, and the name of the project for which the BID is submitted. If forwarded by mail, the sealed envelope containing the BID must be enclosed in another envelope addressed to the OWNER at Warren County Water District, PO Box 10180, Bowling Green, KY 42102-4780.

All BIDS must be made on the required BID form. All blank spaces for BID prices must be filled in, in ink or typewritten, and the BID form must be fully completed and executed when submitted. Only one copy of the BID form is required.

Each BID must be accompanied by a BID BOND payable to the OWNER for five percent of the total amount of the BID. As soon as the BID prices have been compared, the OWNER will return the BONDS of all except the three lowest responsible BIDDERS. When the Agreement is executed the BONDS of the two remaining unsuccessful BIDDERS will be returned. The BID BOND of the successful BIDDER will be retained until the PAYMENT BOND and PERFORMANCE BOND have been executed and approved, after which it will be returned. A certified check may be used in lieu of a BID BOND.

Each BID must be accompanied by the Compliance Statement regarding State and Federal Standards Provisions. The Compliance Statement shall be signed by the BIDDER indicating full compliance with the standard provisions.

Any BIDDER claiming Resident BIDDER status shall submit along with its BID the attached Affidavit for BIDDERS Claiming Resident BIDDER Status. The OWNER reserves the right to request documentation supporting a BIDDER'S claim of Resident BIDDER status. Failure to provide such documentation upon request shall result in disqualification of the BIDDER or Contract termination. A nonresident BIDDER shall submit, along with its BID, its certificate of authority to transact business in the Commonwealth as filed with the Commonwealth of Kentucky, Secretary of State. The location of the principal office identified therein shall be deemed the state of residency for that BIDDER. If the BIDDER

Information for Bidders

is not required by law to obtain said certificate, the state of residency for that BIDDER shall be deemed to be that which is identified in its mailing address as provided in its BID.

Stipulations for BID

BIDDERS must satisfy themselves of the accuracy of the estimated quantities in the BID Schedule by examination of the site and a review of the Drawings and Specifications including ADDENDA. After BIDS have been submitted, the BIDDER shall not assert that there was a misunderstanding concerning the quantities of WORK or of the nature of the WORK to be done.

Each BIDDER is responsible for inspecting the site and for reading and being thoroughly familiar with the CONTRACT DOCUMENTS. The failure or omission of any BIDDER to do any of the foregoing shall in no way relieve any BIDDER from any obligation in respect to its BID.

The OWNER reserves the right to delete any bid item or in the case of unit price items, the OWNER may delete, reduce or increase the quantities involved. BIDDERS shall be aware of this possibility and shall base their BIDS accordingly.

The CONTRACT DOCUMENTS contain the provisions required for the construction of the PROJECT. Information obtained from an officer, agent, or employee of the OWNER or any other person shall not affect the risks or obligations assumed by the CONTRACTOR or relieve the CONTRACTOR from fulfilling any of the conditions of the Contract.

The OWNER shall provide to BIDDERS prior to BIDDING, all information which is pertinent to, and delineates and describes, the land owned and rights of way acquired or to be acquired.

A conditional or qualified BID will not be accepted.

Requirements for Award

A PERFORMANCE BOND and a PAYMENT BOND each in the amount of 100 percent of the CONTRACT PRICE, with a corporate surety approved by the OWNER will be required for the faithful performance of the Contract.

Attorneys-in-fact who sign BID BONDS or PAYMENT BONDS and PERFORMANCE BONDS must file with each BOND a certified and effective dated copy of their power of attorney.

The party to whom the CONTRACT is awarded will be required to execute the AGREEMENT and obtain the PERFORMANCE BOND and PAYMENT BOND within ten (10) calendar days from the date when the NOTICE OF AWARD is delivered to the BIDDER. The NOTICE OF AWARD shall be accompanied by the necessary AGREEMENT and BOND forms. In case of failure of the BIDDER to execute the AGREEMENT, the OWNER may consider the BIDDER in default, in which case the BID BOND accompanying the proposal shall become the property of the OWNER.

The OWNER, within ten (10) days of receipt of acceptable PERFORMANCE BOND, PAYMENT BOND and AGREEMENT signed by the party to whom the AGREEMENT was awarded, shall sign the AGREEMENT and return to such party an executed duplicate of the AGREEMENT. Should the OWNER not execute the AGREEMENT within such period, the BIDDER may, by WRITTEN NOTICE, withdraw the signed AGREEMENT. Such notice of withdrawal shall be effective upon receipt of the notice by the OWNER.

The NOTICE TO PROCEED shall be issued upon execution of the AGREEMENT by the OWNER. Should there be reasons why the NOTICE TO PROCEED cannot be issued within such period, the time may be extended by mutual agreement between the OWNER AND CONTRACTOR. If the NOTICE TO PROCEED is not issued as stated above or within a period mutually agreed upon, the CONTRACTOR may terminate the AGREEMENT without further liability on the part of either party.

The low BIDDER shall supply the names and addresses of major material SUPPLIERS and SUBCONTRACTORS when required to do so by the OWNER. Also see requirements contained in the SUPPLEMENTAL GENERAL CONDITIONS regarding "Subcontractors, Suppliers and Others."

Basis for Award

BIDS that are not arithmetically correct shall be evaluated as follows: Discrepancies in the multiplication of quantities of work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

The OWNER may waive any informalities or minor defects or reject any and all BIDS. Any BID may be withdrawn prior to the above scheduled time for the opening of BIDS or authorized postponement thereof. Any BID received after the time and date specified shall not be considered. No BIDDER may withdraw a BID within 60 days after the actual date of the opening thereof. Should there be reasons why the Contract cannot be awarded within the specified period; the time may be extended by mutual agreement between the OWNER and the BIDDER.

The OWNER may make such investigations as deemed necessary to determine the ability of the BIDDER to perform the WORK, and the BIDDER shall furnish to the OWNER all such information and data for this purpose as the OWNER may request. **Poor performance on any prior Contracts between the BIDDER and OWNER (including work as a Sub-Contractor) shall be considered when determining the ability of the BIDDER to perform the WORK.** The OWNER reserves the right to reject any BID if the evidence submitted by, or investigation of, such BIDDER fails to satisfy the OWNER that such BIDDER is properly qualified to carry out the obligations of the AGREEMENT and to complete the WORK contemplated therein.

Award will be made in accordance with KRS 45A.494.

Award will be made to the lowest responsible BIDDER. Responsible BIDDERS are companies that have the capabilities in all respects to perform fully the Contract

Information for Bidders

requirements, and the integrity and reliability which will assure good faith performance. For the purpose of this project the OWNER will determine responsibility of bidders based on such investigations as deemed necessary to satisfy the OWNER that the BIDDER is properly qualified. A responsible BIDDER shall be a company that has successfully completed projects comprised mainly of the same or similar type construction in size and scope as the subject project. The BIDDER'S past experience shall include projects with a final Contract amount similar to this project.

All applicable laws, ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the PROJECT shall apply to the Contract throughout.

The BIDDER agrees to abide by the requirements under Executive Order No. 11246, as amended, including specifically the provisions of the equal opportunity clause set forth in the SUPPLEMENTAL GENERAL CONDITIONS.

BID

Proposal of _____ (hereinafter called "BIDDER") organized and existing under the laws of the State of _____ doing business as _____ * to Warren County Water District, 523 US 31W By Pass, Bowling Green, Kentucky 42101 (hereinafter called "OWNER").

In compliance with your Advertisement for Bids, BIDDER hereby proposes to perform all WORK for Morgantown Road Area Improvements – Contract 2 in strict accordance with the CONTRACT DOCUMENTS, within the time set forth therein, and at the prices stated below.

By submission of this BID, each BIDDER certifies, and in the case of a joint BID each party thereto certifies as to its own organization, that this BID has been arrived at independently, without consultation, communication or agreement as to any matter relating to this BID with any other BIDDER or with any competitor.

BIDDER hereby agrees to commence WORK under this Contract on or before a date to be specified in the NOTICE TO PROCEED. The BIDDER further agrees fully complete the PROJECT within two hundred seventy (270) consecutive calendar days after the date specified in the NOTICE TO PROCEED. The BIDDER further agrees to pay as liquidated damages, the sum of \$400 for each consecutive calendar day thereafter as provided in Section 15 of the General Conditions.

*Insert "a corporation", "a partnership", or "an individual" as applicable.

BIDDER acknowledges receipt of the following ADDENDUM:

BIDDER agrees to perform all the work described in the CONTRACT DOCUMENTS for the following unit prices or lump sum:

NOTE: BIDS shall include sales tax and all other applicable taxes and fees.

BASE BID SCHEDULE – CONTRACT 2

NO.	ITEM	UNIT	UNIT PRICE	QTY.	TOTAL PRICE
1	Water Storage Tank (200,000 Gallon Elevated)	EA	_____	1	_____
TOTAL BASE BID – CONTRACT 2					=====

Respectfully submitted:

Signature

Address

Title

City, State, Zip

Date

Phone Number

License No. (If Applicable)

Facsimile Number

SEAL - (if BID is by a corporation)

ATTEST: _____

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned _____, as Principal, and _____ as Surety, are hereby held and firmly bound unto Warren County Water District as OWNER in the penal sum of ** _____ for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, successors and assigns.

Signed, this _____ day of _____, 20____. The Condition of the above obligation is such that whereas the Principal has submitted to Warren County Water District a certain BID, attached hereto and hereby made a part hereof to enter into a Contract in writing, for Morgantown Road Area Improvements - Contract 2.

NOW, THEREFORE,

- (a) If said BID shall be rejected, or
- (b) If said BID shall be accepted and the Principal shall execute and deliver a Contract in the Form of Contract attachment hereto (properly completed in accordance with said BID) and shall furnish a BOND for faithful performance of said Contract, and for the payment of all persons performing labor furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said BID, then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its BOND shall be in no way impaired or affected by any extension of the time within which the OWNER may accept such BID; and said Surety does hereby waive notice of any such extension.

** Required Bid Bond is 5 percent of Base Bid amount.

Bid Bond

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

_____(L.S.)
Principal

Surety

BY: _____

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the project is located.

**COMPLIANCE STATEMENT REGARDING
STATE AND FEDERAL STANDARDS PROVISIONS**

1. Equal Employment Opportunity

During the performance of this Contract, the CONTRACTOR agrees as follows:

- A. The CONTRACTOR will not discriminate against any employee or applicant for employment because of race, creed, sex, color or national origin. The CONTRACTOR will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, creed, sex, color or national origin. Such action shall include, but not be limited to, the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The CONTRACTOR agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the County setting forth the provisions of this non-discrimination clause.
- B. The CONTRACTOR will, in all solicitation or advertisements for employees placed by or on behalf of the CONTRACTOR, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, sex, or national origin.
- C. The CONTRACTOR will cause the foregoing provisions to be inserted in all subcontracts for any work covered by this Contract so that such provisions will be binding upon each subcontractor, provided that the foregoing provisions shall not apply to contracts or subcontracts for standard commercial supplies or raw materials.
- D. The CONTRACTOR will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations and relevant orders of the Secretary of Labor.
- E. The CONTRACTOR will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by the rules, regulations and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the County's Department of Housing and Community Development and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations and orders.
- F. In the event of the CONTRACTOR's noncompliance with the noncompliance clauses of this Agreement or with any of such rules, regulations or orders, this Agreement may be canceled, terminated, or suspended in whole or in part and the CONTRACTOR may be declared ineligible for further

Compliance Statement

Government contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

- G. The CONTRACTOR will include the provisions of paragraphs (a) through (g) in every subcontract or purchase order unless exempted by rules, regulations or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The CONTRACTOR will take such action with respect to any subcontract or purchase order as the County's Department of Housing and Community Development may direct as a means of enforcing such provisions including sanctions for non-compliance: Provided, however, that in the event the CONTRACTOR becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the County's Department of Housing and Community Development, the CONTRACTOR may request the United States to enter into such litigation to protect the interests of the United States.

2. "Section 3" Compliance in the Provision of Training, Employment, and Business Opportunities

- A. The work to be performed under this Contract is on a project assisted under a program providing direct Federal financial assistance from the Division of Abandoned Mine Lands and is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 USC 1701u. Section 3 requires that to the greatest extent feasible opportunities for training and employment be given lower income residents of the project area and contracts for work in connection with the project be awarded to business concerns which are located in, or owned in substantial part by persons residing in the area of the project.
- B. The parties to this Contract will comply with the provisions of said Section 3 and the regulations issued pursuant thereto by the Secretary of Housing and Urban Development set forth in 24 CFR Part 135, and all applicable rules and orders of the Department issued thereunder prior to the execution of this Contract. The parties to this Contract certify and agree that they are under no contractual or other disability which would prevent them from complying with these requirements.
- C. The CONTRACTOR will send to each labor organization or representative of workers with which she/he has a collective bargaining agreement or other Contract or understanding, if any, a notice advising the said labor organization or workers' representative of his/her commitments under this Section 3 clause and shall post copies of the notice in conspicuous places available to employees and applicants for employment or training.

- D. The CONTRACTOR will include this Section 3 clause in every subcontract for work in connection with the project and will, at the direction of the applicant for or recipient of Federal financial assistance, take appropriate action pursuant to the subcontract upon a finding that the subcontractor is in violation of regulations issued by the Secretary of Housing and Urban Development, 24 CFR Part 135. The CONTRACTOR will not subcontract with any subcontractor where it has notice or knowledge that the latter has been found in violation of regulations under 24 CFR Part 135 and will not let any subcontract unless the subcontractor has first provided it with a preliminary statement of ability to comply with the requirements of these regulations.
- E. Compliance with the provisions of Section 3, the regulations set forth in 24 CFR Part 135, and all applicable rules and orders of the Department issued hereunder prior to the execution of the Contract, shall be a condition of the Federal financial assistance provided to the project, binding upon the applicant or recipient for such assistance, its successors and assigns. Failure to fulfill these requirements shall subject the applicant or recipient, its contractors and subcontractors, its successor and assigns to those sanctions specified by the grant or loan agreement or contract through which federal assistance is provided, and to such sanctions as are specified by 24 CFR Part 135.

3. Access to Records

The grantee, the Federal Grantor Agency, the Comptroller General of the United States, or any of their duly authorized representatives, shall have access to any books, documents, papers, and records of the CONTRACTOR which are directly pertinent to this specific Contract, for the purpose of making audit, examination, excerpts, and transcriptions. The CONTRACTOR shall maintain all required records for three years after the Agency makes final payments and all other pending matters are closed.

4. Civil Rights Act of 1964

Under Title VI of the Civil Rights Act of 1964, no person shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.

5. Section 109 of the Housing and Community Development Act of 1974

No person in the United States shall on the grounds of race, color, national origin, or sex be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity funded in whole or in part with funds made available under this title.

6. Interest of Members of a County

Compliance Statement

No member of the governing body of the County and no other office, employee, or agent of the County who exercises any functions or responsibilities in connection with the planning and carrying out of the program, shall have any personal financial interest, direct or indirect, in this Contract; and the CONTRACTOR shall take appropriate steps to assure compliance.

7. Interest of Other Local Public Officials

No member of the governing body of the locality and no other public official of such locality, who exercises any functions or responsibilities in connection with the planning and carrying out of the program, shall have any personal financial interest, direct or indirect, in this Contract; and the CONTRACTOR shall take appropriate steps to assure compliance.

8. Interest of CONTRACTOR and Employees

The CONTRACTOR covenants that he presently has no interest and shall not acquire interest, direct or indirect, in the study area or any parcels therein or any other interest which would conflict in any manner or degree with the performance of his services hereunder. The CONTRACTOR further covenants that in the performance of this Contract, no person having any such interest shall be employed.

Name and Title of Signer (Print or Type)

Signature

Date

AFFIDAVIT FOR BIDDERS CLAIMING RESIDENT BIDDER STATUS

The BIDDER hereby swears and affirms under penalty of perjury that, in accordance with KRS 45A.494(2), the BIDDER is an individual, partnership, association, corporation, or other business entity that, on the date the Contract was first advertised as available for bidding:

1. Is authorized to transact business in the Commonwealth.
2. Has for one year prior to and through the date of Advertisement:
 - 2.1 Filed Kentucky corporate income taxes.
 - 2.2 Made payments to the Kentucky unemployment insurance fund established in KRS 341.49.
 - 2.3 Maintained a Kentucky workers' compensation policy.

The OWNER reserves the right to request documentation supporting a BIDDER'S claim of Resident BIDDER status. Failure to provide such documentation upon request shall result in disqualification of the BIDDER or Contract termination.

Signature Printed Name

Title Date

Company Name _____
Address _____

Subscribed and sworn to before me by _____
(Affiant) (Title)

of _____ this _____ day of _____, 20____.
(Company Name)

Notary Public

My commission expires: _____

GENERAL CONDITIONS

1. Definitions
2. Additional Instructions and Detail Drawings
3. Schedules, Reports and Records
4. Drawings and Specifications
5. Shop Drawings
6. Materials, Services and Facilities
7. Inspection and Testing
8. Substitutions
9. Patents
10. Surveys, Permits, Regulations
11. Protection of Work, Property, Persons
12. Supervision by Contractor
13. Changes in the Work
14. Changes in Contract Price
15. Time for Completion and Liquidated Damages
16. Correction of Work
17. Subsurface Conditions
18. Suspension of Work, Termination and Delay
19. Payments to Contractor
20. Acceptance of Final Payment as Release
21. Insurance
22. Contract Security
23. Assignments
24. Indemnification
25. Separate Contracts
26. Subcontracting
27. Engineer's Authority
28. Land and Rights-of-Way
29. Guaranty
30. Arbitration
31. Taxes

1. DEFINITIONS

- 1.1 Wherever used in the CONTRACT DOCUMENTS, the following terms shall have the meanings indicated which shall be applicable to both the singular and plural thereof:
- 1.2 ADDENDA—Written or graphic instruments issued prior to the execution of the Agreement which modify or interpret the CONTRACT DOCUMENTS, DRAWINGS and SPECIFICATIONS, by additions, deletions, clarifications or corrections.
- 1.3 BID—The offer or proposal of the BIDDER submitted on the prescribed form setting forth the prices for the WORK to be performed.
- 1.4 BIDDER—Any person, firm or corporation submitting a BID for the WORK.
- 1.5 BONDS—Bid, Performance, and Payment Bonds and other instruments of security, furnished by the CONTRACTOR and his surety in accordance with the CONTRACT DOCUMENTS.
- 1.6 CHANGE ORDER—A written order to the CONTRACTOR authorizing an addition, deletion or revision in the WORK within the general scope of the CONTRACT DOCUMENTS, or authorizing an adjustment in the CONTRACT PRICE or CONTRACT TIME.

General Conditions

1.7 CONTRACT DOCUMENTS—The contract, including Advertisement For Bids, Information For Bidders, BID, Bid Bond, Agreement, Payment Bond, Performance Bond, NOTICE OF AWARD, NOTICE TO PROCEED, CHANGE ORDER, DRAWINGS, SPECIFICATIONS, and ADDENDA.

1.8 CONTRACT PRICE—The total monies payable to the CONTRACTOR under the terms and conditions of the CONTRACT DOCUMENTS.

1.9 CONTRACT TIME—The number of calendar days stated in the CONTRACT DOCUMENTS for the completion of the WORK.

1.10 CONTRACTOR—The person, firm or corporation with whom the OWNER has executed the Agreement.

1.11 DRAWINGS—The part of the CONTRACT DOCUMENTS which show the characteristics and scope of the WORK to be performed and which have been prepared or approved by the ENGINEER.

1.12 ENGINEER—The person, firm or corporation named as such in the CONTRACT DOCUMENTS.

1.13 FIELD ORDER—A written order effecting a change in the WORK not involving an adjustment in the CONTRACT PRICE or an extension of the CONTRACT TIME, issued by the ENGINEER to the CONTRACTOR during construction.

1.14 NOTICE OF AWARD—The written notice of the acceptance of the BID from the OWNER to the successful BIDDER.

1.15 NOTICE TO PROCEED—Written communication issued by the OWNER to the CONTRACTOR authorizing him to proceed with the WORK and establishing the date of commencement of the WORK.

1.16 OWNER—A public or quasi-public body or authority, corporation, association, partnership, or individual for whom the WORK is to be performed.

1.17 PROJECT—The undertaking to be performed as provided in the CONTRACT DOCUMENTS.

1.18 RESIDENT PROJECT REPRESENTATIVE—The authorized representative of the OWNER who is assigned to the PROJECT site or any part thereof.

1.19 SHOP DRAWINGS—All drawings, diagrams, illustrations, brochures, schedules and other data which are prepared by the CONTRACTOR, a SUBCONTRACTOR, manufacturer, SUPPLIER or distributor, which illustrate how specific portions of the WORK shall be fabricated or installed.

1.20 SPECIFICATIONS—A part of the CONTRACT DOCUMENTS consisting of written descriptions of a technical nature of materials, equipment, construction systems, standards and workmanship.

1.21 SUBCONTRACTOR—An individual, firm or corporation having a direct contract with the CONTRACTOR or with any other SUBCONTRACTOR for the performance of a part of the WORK at the site.

1.22 SUBSTANTIAL COMPLETION—That date as certified by the ENGINEER when the construction of the PROJECT or a specified part thereof is sufficiently completed, in accordance with the CONTRACT DOCUMENTS, so that the PROJECT or specified part can be utilized for the purposes for which it is intended.

1.23 SUPPLEMENTAL GENERAL CONDITIONS — Modifications to General Conditions required by a Federal agency for participation in the PROJECT and approved by the agency in writing prior to inclusion in the CONTRACT DOCUMENTS, or such requirements that may be imposed by applicable state laws.

1.24 SUPPLIER—Any person or organization who supplies materials or equipment for the WORK, including that fabricated to a special design, but who does not perform labor at the site.

1.25 WORK—All labor necessary to produce the construction required by the CONTRACT DOCUMENTS, and all materials and equipment incorporated or to be incorporated in the PROJECT.

1.26 WRITTEN NOTICE—Any notice to any party of the Agreement relative to any part of this Agreement in writing and considered delivered and the service thereof completed, when posted by certified or registered mail to the said party at his last given address, or delivered in person to said party or his authorized representative on the WORK.

2. ADDITIONAL INSTRUCTIONS AND DETAIL DRAWINGS

2.1 The CONTRACTOR may be furnished additional instructions and detail drawings, by the ENGINEER, as necessary to carry out the WORK required by the CONTRACT DOCUMENTS.

2.2 The additional drawings and instruction thus supplied will become a part of the CONTRACT DOCUMENTS. The CONTRACTOR shall carry out the WORK in accordance with the additional detail drawings and instructions.

3. SCHEDULES, REPORTS AND RECORDS

3.1 The CONTRACTOR shall submit to the OWNER such schedule of quantities and costs, progress schedules, payrolls, reports, estimates, records and other data where applicable as are required by the CONTRACT DOCUMENTS for the WORK to be performed.

3.2 Prior to the first partial payment estimate, the CONTRACTOR shall submit construction progress schedules showing the order in which he proposes to carry on the WORK, including dates at which he will start the various parts of the WORK, estimated date of completion of each part, and as applicable:

3.2.1. The dates at which special detail drawings will be required; and

3.2.2 Respective dates for submission of SHOP DRAWINGS, the beginning of manufacture, the testing and the installation of materials, supplies and equipment.

3.3 The CONTRACTOR shall also submit a schedule of payments that he anticipates he will earn during the course of the WORK.

4. DRAWINGS AND SPECIFICATIONS

4.1 The intent of the DRAWINGS and SPECIFICATIONS is that the CONTRACTOR shall furnish all labor, materials, tools, equipment, and transportation necessary for the proper execution of the WORK in accordance with the CONTRACT DOCUMENTS and all incidental work necessary to complete the PROJECT in an acceptable manner, ready for use, occupancy or operation by the OWNER.

4.2 In case of conflict between the DRAWINGS and SPECIFICATIONS, the SPECIFICATIONS shall govern. Figure dimensions on DRAWINGS shall govern over scale dimensions, and detailed DRAWINGS shall govern over general DRAWINGS.

4.3 Any discrepancies found between the DRAWINGS and SPECIFICATIONS and site conditions or any inconsistencies or ambiguities in the DRAWINGS or SPECIFICATIONS shall be immediately reported to the ENGINEER, in writing, who shall promptly correct such inconsistencies or ambiguities in writing. WORK done by the CONTRACTOR after his discovery of such discrepancies, inconsistencies or ambiguities shall be done at the CONTRACTOR's risk.

5. SHOP DRAWINGS

5.1 The CONTRACTOR shall provide SHOP DRAWINGS as may be necessary for the prosecution of the WORK as required by the CONTRACT DOCUMENTS. The ENGINEER shall promptly review all SHOP DRAWINGS. The ENGINEER'S approval of any SHOP DRAWING shall not release the CONTRACTOR from responsibility for deviations from the CONTRACT DOCUMENTS. The approval of

General Conditions

any SHOP DRAWING which substantially deviates from the requirement of the CONTRACT DOCUMENTS shall be evidenced by a CHANGE ORDER.

5.2 When submitted for the ENGINEER'S review, SHOP DRAWINGS shall bear the CONTRACTOR'S certification that he has reviewed, checked and approved the SHOP DRAWINGS and that they are in conformance with the requirements of the CONTRACT DOCUMENTS.

5.3 Portions of the WORK requiring a SHOP DRAWING or sample submission shall not begin until the SHOP DRAWING or submission has been approved by the ENGINEER. A copy of each approved SHOP DRAWING and each approved sample shall be kept in good order by the CONTRACTOR at the site and shall be available to the ENGINEER.

6. MATERIALS, SERVICES AND FACILITIES

6.1 It is understood that, except as otherwise specifically stated in the CONTRACT DOCUMENTS, the CONTRACTOR shall provide and pay for all materials, labor, tools, equipment, water, light, power, transportation, supervision, temporary construction of any nature, and all other services and facilities of any nature whatsoever necessary to execute, complete, and deliver the WORK within the specified time.

6.2 Materials and equipment shall be so stored as to insure the preservation of their quality and fitness for the WORK. Stored materials and equipment to be incorporated in the WORK shall be located so as to facilitate prompt inspection.

6.3 Manufactured articles, materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned as directed by the manufacturer.

6.4 Materials, supplies and equipment shall be in accordance with samples submitted by the CONTRACTOR and approved by the ENGINEER.

6.5 Materials, supplies or equipment to be incorporated into the WORK shall not be purchased by the CONTRACTOR or the SUBCONTRACTOR subject to a chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller.

7. INSPECTION AND TESTING

7.1 All materials and equipment used in the construction of the PROJECT shall be subject to adequate inspection and testing in accordance with generally accepted standards, as required and defined in the CONTRACT DOCUMENTS.

7.2 The OWNER shall provide all inspection and testing services not required by the CONTRACT DOCUMENTS.

7.3 The CONTRACTOR shall provide at his expense the testing and inspection services required by the CONTRACT DOCUMENTS.

7.4 If the CONTRACT DOCUMENTS, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any WORK to specifically be inspected, tested, or approved by someone other than the CONTRACTOR, the CONTRACTOR will give the ENGINEER timely notice of readiness. The CONTRACTOR will then furnish the ENGINEER the required certificates of inspection, testing or approval.

7.5 Inspections, tests or approvals by the engineer or others shall not relieve the CONTRACTOR from his obligations to perform the WORK in accordance with the requirements of the CONTRACT DOCUMENTS.

7.6 The ENGINEER and his representatives will at all times have access to the WORK. In addition, authorized representatives and agents of any participating Federal or state agency shall be permitted to inspect all work, materials, payrolls, records of personnel, invoices of materials, and other relevant data

and records. The CONTRACTOR will provide proper facilities for such access and observation of the WORK and also for any inspection, or testing thereof.

7.7 If any WORK is covered contrary to the written instructions of the ENGINEER it must, if requested by the ENGINEER, be uncovered for his observation and replaced at the CONTRACTOR'S expense.

7.8 If the ENGINEER considers it necessary or advisable that covered WORK be inspected or tested by others, the CONTRACTOR, at the ENGINEER'S request, will uncover, expose or otherwise make available for observation, inspection or testing as the ENGINEER may require, that portion of the WORK in question, furnishing all necessary labor, materials, tools, and equipment. If it is found that such WORK is defective, the CONTRACTOR will bear all the expenses of such uncovering, exposure, observation, inspection, and testing; and of satisfactory reconstruction. If, however, such WORK is not found to be defective, the CONTRACTOR will be allowed an increase in the CONTRACT PRICE or an extension of the CONTRACT TIME, or both, directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction and an appropriate CHANGE ORDER shall be issued.

8. SUBSTITUTIONS

Whenever a material, article or piece of equipment is identified on the DRAWINGS or SPECIFICATIONS by reference to brand name or catalogue number, it shall be understood that this is referenced for the purpose of defining the performance or other salient requirements and that other products of equal capacities, quality and function shall be considered. The CONTRACTOR may recommend the substitution of a material, article, or piece of equipment of equal substance and function for those referred to in the CONTRACT DOCUMENTS by reference to brand name or catalogue number, and if, in the opinion of the ENGINEER, such material, article, or piece of equipment is of equal substance and function to that specified, the ENGINEER may approve its substitution and use by the CONTRACTOR. Any cost differential shall be deductible from the CONTRACT PRICE and the CONTRACT DOCUMENTS shall be appropriately modified by CHANGE ORDER. The CONTRACTOR warrants that if substitutes are approved, no major changes in the function or general design of the PROJECT will result. Incidental changes or extra component parts required to accommodate the substitute will be made by the CONTRACTOR without a change in the CONTRACT PRICE or CONTRACT TIME.

9. PATENTS

The CONTRACTOR shall pay all applicable royalties and license fees. He shall defend all suits or claims for infringement of any patent rights and save the OWNER harmless from loss on account thereof, except that the OWNER shall be responsible for any such loss when a particular process, design, or the product of a particular manufacturer or manufacturers is specified, however if the CONTRACTOR has reason to believe that the design, process or product specified is an infringement of a patent, he shall be responsible for such loss unless he promptly gives such information to the ENGINEER.

10. SURVEYS, PERMITS, REGULATIONS

10.1 The OWNER shall furnish all boundary surveys and establish all base lines for locating the principal component parts of the WORK together with a suitable number of bench marks adjacent to the WORK as shown in the CONTRACT DOCUMENTS. From the information provided by the OWNER, unless otherwise specified in the CONTRACT DOCUMENTS, the CONTRACTOR shall develop and make all detail surveys needed for construction such as slope stakes, batter boards, stakes for pile locations and other working points, lines, elevations and cut sheets.

10.2 The CONTRACTOR shall carefully preserve bench marks, reference points and stakes and, in case of willful or careless destruction, he shall be charged with the resulting expense and shall be responsible for any mistakes that may be caused by their unnecessary loss or disturbance.

10.3 Permits and licenses of a temporary nature necessary for the prosecution of the WORK shall be secured and paid for by the CONTRACTOR unless otherwise stated in the SUPPLEMENTAL GENERAL CONDITIONS. Permits, licenses and easements for permanent structures or permanent changes in

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existing facilities shall be secured and paid for by the OWNER, unless otherwise specified. The CONTRACTOR shall give all notices and comply with all laws, ordinances, rules and regulations bearing on the conduct of the WORK as drawn and specified. If the CONTRACTOR observes that the CONTRACT DOCUMENTS are at variance therewith, he shall promptly notify the ENGINEER in writing, and any necessary changes shall be adjusted as provided in Section 13. CHANGES IN THE WORK.

11. **PROTECTION OF WORK, PROPERTY AND PERSONS**

11.1 The CONTRACTOR will be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the WORK. He will take all necessary precautions for the safety of, and will provide the necessary protection to prevent damage, injury or loss to all employees on the WORK and other persons who may be affected thereby, all the WORK and all materials or equipment to be incorporated therein, whether in storage on or off the site, and other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

11.2 The CONTRACTOR will comply with all applicable laws, ordinances, rules, regulations and orders of any public body having jurisdiction. He will erect and maintain, as required by the conditions and progress of the WORK, all necessary safeguards for safety and protection. He will notify owners of adjacent utilities when protection of the WORK may affect them. The CONTRACTOR will remedy all damage, injury or loss to any property caused, directly or indirectly, in whole or in part, by the CONTRACTOR, any SUBCONTRACTOR or anyone directly or indirectly employed by any of them or anyone for whose acts any of them be liable, except damage or loss attributable to the fault of the CONTRACT DOCUMENTS or to the acts or omissions of the OWNER or the ENGINEER or anyone employed by either of them or anyone for whose acts either of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of the CONTRACTOR.

11.3 In emergencies affecting the safety of persons or the WORK or property at the site or adjacent thereto, the CONTRACTOR, without special instruction or authorization from the ENGINEER or OWNER, shall act to prevent threatened damage, injury or loss. He will give the ENGINEER prompt WRITTEN NOTICE of any significant changes in the WORK or deviations from the CONTRACT DOCUMENTS caused thereby, and a CHANGE ORDER shall thereupon be issued covering the changes and deviations involved.

12. **SUPERVISION BY CONTRACTOR**

The CONTRACTOR will supervise and direct the WORK. He will be solely responsible for the means, methods, techniques, sequences and procedures of construction. The CONTRACTOR will employ and maintain on the WORK a qualified supervisor or superintendent who shall have been designated in writing by the CONTRACTOR as the CONTRACTOR's representative at the site. The supervisor shall have full authority to act on behalf of the CONTRACTOR and all communications given to the supervisor shall be as binding as if given to the CONTRACTOR. The supervisor shall be present on the site at all times as required to perform adequate supervision and coordination of the WORK.

13. **CHANGES IN THE WORK**

13.1 The OWNER may at any time, as the need arises, order changes within the scope of the WORK without invalidating the Agreement. If such changes increase or decrease the amount due under the CONTRACT DOCUMENTS, or in the time required for performance of the WORK, an equitable adjustment shall be authorized by CHANGE ORDER.

13.2 The ENGINEER, also, may at any time, by issuing a FIELD ORDER, make changes in the details of the WORK. The CONTRACTOR shall proceed with the performance of any changes in the WORK so ordered by the ENGINEER unless the CONTRACTOR believes that such FIELD ORDER entitles him to a change in CONTRACT PRICE or TIME, or both, in which event he shall give the ENGINEER WRITTEN NOTICE thereof within seven (7) days after the receipt of the ordered change. Thereafter the CONTRACTOR shall document the basis for the change in CONTRACT PRICE or TIME within thirty (30)

days. The CONTRACTOR shall not execute such changes pending the receipt of an executed CHANGE ORDER or further instruction from the OWNER.

14. CHANGES IN CONTRACT PRICE

The CONTRACT PRICE may be changed only by a CHANGE ORDER. The value of any WORK covered by a CHANGE ORDER or of any claim for increase or decrease in the CONTRACT PRICE shall be determined by one or more of the following methods in the order of precedence listed below:

(a) Unit prices previously approved.

(b) An agreed lump sum.

(c) The actual cost for labor, direct overhead, materials, supplies, equipment and other services necessary to complete the work. In addition, there shall be added an amount to be agreed upon but not to exceed fifteen (15) percent of the actual cost of the WORK to cover the cost of general overhead and profit.

15. TIME FOR COMPLETION AND LIQUIDATED DAMAGES

15.1 The date of beginning and the time for completion of the WORK are essential conditions of the CONTRACT DOCUMENTS and the WORK embraced shall be commenced on a date specified in the NOTICE TO PROCEED.

15.2 The CONTRACTOR will proceed with the WORK at such rate of progress to insure full completion within the CONTRACT TIME. It is expressly understood and agreed, by and between the CONTRACTOR and the OWNER, that the CONTRACT TIME for the completion of the WORK described herein is a reasonable time, taking into consideration the average climatic and economic conditions and other factors prevailing in the locality of the WORK.

15.3 If the CONTRACTOR shall fail to complete the WORK within the CONTRACT TIME, or extension of time granted by the OWNER, then the CONTRACTOR will pay to the OWNER the amount for liquidated damages as specified in the BID for each calendar day that the CONTRACTOR shall be in default after the time stipulated in the CONTRACT DOCUMENTS.

15.4 The CONTRACTOR shall not be charged with liquidated damages or any excess cost when the delay in completion of the WORK is due to the following, and the CONTRACTOR has promptly given WRITTEN NOTICE of such delay to the OWNER or ENGINEER.

15.4.1 To any preference, priority or allocation order duly issued by the OWNER.

15.4.2 To unforeseeable causes beyond the control and without the fault or negligence of the CONTRACTOR, including but not restricted to, acts of God, or of the public enemy, acts of the OWNER, acts of another CONTRACTOR in the performance of a contract with the OWNER, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and abnormal and unforeseeable weather, and

15.4.3 To any delays of SUBCONTRACTORS occasioned by any of the causes specified in paragraphs 15.4.1 and 15.4.2 of this article.

16. CORRECTION OF WORK

16.1 The CONTRACTOR shall promptly remove from the premises all WORK rejected by the ENGINEER for failure to comply with the CONTRACT DOCUMENTS, whether incorporated in the construction or not, and the CONTRACTOR shall promptly replace and re-execute the WORK in accordance with the CONTRACT DOCUMENTS and without expense to the OWNER and shall bear the expense of making good all WORK of other CONTRACTORS destroyed or damaged by such removal or replacement.

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16.2 All removal and replacement WORK shall be done at the CONTRACTOR's expense. If the CONTRACTOR does not take action to remove such rejected WORK within ten (10) days after receipt of WRITTEN NOTICE, the OWNER may remove such WORK and store the materials at the expense of the CONTRACTOR.

17. **SUBSURFACE CONDITIONS**

17.1 The CONTRACTOR shall promptly, and before such conditions are disturbed, except in the event of an emergency, notify the OWNER by WRITTEN NOTICE of:

17.1.1 Subsurface or latent physical conditions at the site differing materially from those indicated in the CONTRACT DOCUMENTS; or

17.1.2 Unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in WORK of the character provided for in the CONTRACT DOCUMENTS.

17.2 The OWNER shall promptly investigate the conditions, and if he finds that such conditions do so materially differ and cause an increase or decrease in the cost of, or in the time required for, performance of the WORK, an equitable adjustment shall be made and the CONTRACT DOCUMENTS shall be modified by a CHANGE ORDER. Any claim of the CONTRACTOR for adjustment hereunder shall not be allowed unless he has given the required WRITTEN NOTICE; provided that the OWNER may, if he determines the facts so justify, consider and adjust any such claims asserted before the date of final payment.

18. **SUSPENSION OF WORK, TERMINATION AND DELAY**

18.1 The OWNER may suspend the WORK or any portion thereof for a period of not more than ninety days or such further time as agreed upon by the CONTRACTOR, by WRITTEN NOTICE to the CONTRACTOR and the ENGINEER which notice shall fix the date on which WORK shall be resumed. The CONTRACTOR will resume that WORK on the date so fixed. The CONTRACTOR will be allowed an increase in the CONTRACT PRICE or an extension of the CONTRACT TIME, or both, directly attributable to any suspension.

18.2 If the CONTRACTOR is adjudged a bankrupt or insolvent, or if he makes a general assignment for the benefit of his creditors, or if a trustee or receiver is appointed for the CONTRACTOR or for any of his property, or if he files a petition to take advantage of any debtor's act, or to reorganize under the bankruptcy or applicable laws, or if he repeatedly fails to supply sufficient skilled workmen or suitable materials or equipment, or if he repeatedly fails to make prompt payments to SUBCONTRACTORS or for labor, materials or equipment or if he disregards laws, ordinances, rules, regulations or orders of any public body having jurisdiction of the WORK or if he disregards the authority of the ENGINEER, or if he otherwise violates any provision of the CONTRACT DOCUMENTS, then the OWNER may, without prejudice to any other right or remedy and after giving the CONTRACTOR and his surety a minimum of ten (10) days from delivery of a WRITTEN NOTICE, terminate the services of the CONTRACTOR and take possession of the PROJECT and of all materials, equipment, tools, construction equipment and machinery thereon owned by the CONTRACTOR, and finish the WORK by whatever method he may deem expedient. In such case the CONTRACTOR shall not be entitled to receive any further payment until the WORK is finished. If the unpaid balance of the CONTRACT PRICE exceeds the direct and indirect costs of completing the PROJECT, including compensation for additional professional services, such excess SHALL BE PAID TO THE CONTRACTOR. If such costs exceed such unpaid balance, the CONTRACTOR will pay the difference to the OWNER. Such costs incurred by the OWNER will be determined by the ENGINEER and incorporated in a CHANGE ORDER.

18.3 Where the CONTRACTOR'S services have been so terminated by the OWNER, said termination shall not affect any right of the OWNER against the CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of monies by the OWNER due the CONTRACTOR will not release the CONTRACTOR from compliance with the CONTRACT DOCUMENTS.

18.4 After ten (10) days from delivery of a WRITTEN NOTICE to the CONTRACTOR and the ENGINEER, the OWNER may, without cause and without prejudice to any other right or remedy, elect to abandon the PROJECT and terminate the Contract. In such case, the CONTRACTOR shall be paid for all WORK executed and any expense sustained plus reasonable profit.

18.5 If, through no act or fault of the CONTRACTOR, the WORK is suspended for a period of more than ninety (90) days by the OWNER or under an order of court or other public authority, or the ENGINEER fails to act on any request for payment within thirty (30) days after it is submitted, or the OWNER fails to pay the CONTRACTOR substantially the sum approved by the ENGINEER or awarded by arbitrators within thirty (30) days of its approval and presentation, then the CONTRACTOR may, after ten (10) days from delivery of a WRITTEN NOTICE to the OWNER and the ENGINEER, terminate the CONTRACT and recover from the OWNER payment for all WORK executed and all expenses sustained. In addition and in lieu of terminating the CONTRACT, if the ENGINEER has failed to act on a request for payment or if the OWNER has failed to make any payment as aforesaid, the CONTRACTOR may upon ten (10) days written notice to the OWNER and the ENGINEER stop the WORK until he has been paid all amounts then due, in which event and upon resumption of the WORK. CHANGE ORDERS shall be issued for adjusting the CONTRACT PRICE or extending the CONTRACT TIME or both to compensate for the costs and delays attributable to the stoppage of the WORK.

18.6 If the performance of all or any portion of the WORK is suspended, delayed, or interrupted as a result of a failure of the OWNER or ENGINEER to act within the time specified in the CONTRACT DOCUMENTS, or if no time is specified, within a reasonable time, an adjustment in the CONTRACT PRICE or an extension of the CONTRACT TIME, or both, shall be made by CHANGE ORDER to compensate the CONTRACTOR for the costs and delays necessarily caused by the failure of the OWNER or ENGINEER.

19. PAYMENTS TO CONTRACTOR

19.1 At least ten (10) days before each progress payment falls due (but not more often than once a month), the CONTRACTOR will submit to the ENGINEER a partial payment estimate filled out and signed by the CONTRACTOR covering the WORK performed during the period covered by the partial payment estimate and supported by such data as the ENGINEER may reasonably require. If payment is requested on the basis of materials and equipment not incorporated in the WORK but delivered and suitably stored at or near the site, the partial payment estimate shall also be accompanied by such supporting data, satisfactory to the OWNER, as will establish the OWNER'S title to the material and equipment and protect his interest therein, including applicable insurance. The ENGINEER will, within ten (10) days after receipt of each partial payment estimate, either indicate in writing his approval of payment and present the partial payment estimate to the OWNER, or return the partial payment estimate to the CONTRACTOR indicating in writing his reasons for refusing to approve payment. In the latter case, the CONTRACTOR may make the necessary corrections and resubmit the partial payment estimate. The OWNER will, within thirty (30) days of presentation to him of an approved partial payment estimate, pay the CONTRACTOR a progress payment on the basis of the approved partial payment estimate. The OWNER shall retain ten (10) percent of the amount of each payment until final completion and acceptance of all work covered by the CONTRACT DOCUMENTS.

19.2 The request for payment may also include an allowance for the cost of such major materials and equipment which are suitably stored either at or near the site.

19.3 Prior to SUBSTANTIAL COMPLETION, the OWNER, with the approval of the ENGINEER and with the concurrence of the CONTRACTOR, may use any completed or substantially completed portions of the WORK. Such use shall not constitute an acceptance of such portions of the WORK.

19.4 The OWNER shall have the right to enter the premises for the purpose of doing work not covered by the CONTRACT DOCUMENTS. This provision shall not be construed as relieving the CONTRACTOR of the sole responsibility for the care and protection of the WORK, or the restoration of any damaged WORK except such as may be caused by agents or employees of the OWNER.

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19.5 Upon completion and acceptance of the WORK, the ENGINEER shall issue a certificate attached to the final payment request that the WORK has been accepted by him under the conditions of the CONTRACT DOCUMENTS. The entire balance found to be due the CONTRACTOR, including the retained percentages, but except such sums as may be lawfully retained by the OWNER, shall be paid to the CONTRACTOR within thirty (30) days of completion and acceptance of the WORK.

19.6 The CONTRACTOR will indemnify and save the OWNER or the OWNER'S agents harmless from all claims growing out of the lawful demands of SUBCONTRACTORS, laborers, workmen, mechanics, material men, and furnishers of machinery and parts thereof, equipment, tools, and all supplies, incurred in the furtherance of the performance of the WORK. The CONTRACTOR shall, at the OWNER'S request, furnish satisfactory evidence that all obligations of the nature designated above have been paid discharged, or waived. If the CONTRACTOR fails to do so the OWNER may, after having notified the CONTRACTOR, either pay unpaid bills or withhold from the CONTRACTORS unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to the CONTRACTOR shall be resumed, in accordance with the terms of the CONTRACT DOCUMENTS, but in no event shall the provisions of this sentence be construed to impose any obligations upon the OWNER to either the CONTRACTOR, his Surety, or any third party. In paying any unpaid bills of the CONTRACTOR, any payment so made by the OWNER shall be considered as a payment made under the CONTRACT DOCUMENTS by the OWNER to the CONTRACTOR and the OWNER shall not be liable to the CONTRACTOR for any such payments made in good faith.

19.7 If the OWNER fails to make payment thirty (30) days after approval by the ENGINEER, in addition to other remedies available to the CONTRACTOR, there shall be added to each such payment interest at the maximum legal rate commencing on the first day after said payment is due and continuing until the payment is received by the CONTRACTOR.

20. ACCEPTANCE OF FINAL PAYMENT AS RELEASE

The acceptance by the CONTRACTOR of final payment shall be and shall operate as a release to the OWNER of all claims and all liability to the CONTRACTOR other than claims in stated amounts as may be specifically excepted by the CONTRACTOR for all things done or furnished in connection with this WORK and for every act and neglect of the OWNER and others relating to or arising out of this WORK. Any payment, however, final or otherwise, shall not release the CONTRACTOR or his sureties from any obligations under the CONTRACT DOCUMENTS or the Performance BOND and Payment BONDS.

21. INSURANCE

21.1 The CONTRACTOR shall purchase and maintain such insurance as will protect him from claims set forth below which may arise out of or result from the CONTRACTOR'S execution of the WORK, whether such execution be by himself or by any SUBCONTRACTOR or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

21.1.1 Claims under workmen's compensation, disability benefit and other similar employee benefit acts;

21.1.2 Claims for damages because of bodily injury, occupational sickness or disease, or death of his employees;

21.1.3 Claims for damages because of bodily injury, sickness or disease, or death of any person other than his employees;

21.1.4 Claims for damages insured by usual personal injury liability coverage which are sustained (1) by any person as a result of an offense directly or indirectly related to the employment of such person by the CONTRACTOR, or (2) by any other person; and

21.1.5 Claims for damages because of injury to or destruction of tangible property, including loss of use resulting therefrom.

21.2 Certificates of Insurance acceptable to the OWNER shall be filed with the OWNER prior to commencement of the WORK. These Certificates shall contain a provision that coverages afforded under the policies will not be cancelled unless at least fifteen (15) days prior WRITTEN NOTICE has been given to the OWNER.

21.3 The CONTRACTOR shall procure and maintain, at his own expense, during the CONTRACT TIME, liability insurance as hereinafter specified:

21.3.1 CONTRACTOR'S General Public Liability and Property Damage Insurance including vehicle coverage issued to the CONTRACTOR and protecting him from all claims for personal injury, including death, and all claims for destruction of or damage to property, arising out of or in connection with any operations under the CONTRACT DOCUMENTS, whether such operations be by himself or by any SUBCONTRACTOR under him, or anyone directly or indirectly employed by the CONTRACTOR or by a SUBCONTRACTOR under him. Insurance shall be written with a limit of liability of not less than \$500,000 for all damages arising out of bodily injury, including death, at any time resulting therefrom, sustained by any one person in any one accident; and a limit of liability of not less than \$500,000 aggregate for any such damages sustained by two or more persons in any one accident. Insurance shall be written with a limit of liability of not less than \$200,000 for all property damage sustained by any one person in any one accident; and a limit of liability of not less than \$200,000 aggregate for any such damage sustained by two or more persons in any one accident.

21.3.2 The CONTRACTOR shall acquire and maintain, if applicable, Fire and Extended Coverage insurance upon the PROJECT to the full insurable value thereof for the benefit of the OWNER, the CONTRACTOR, and SUBCONTRACTORS as their interest may appear. This provision shall in no way release the CONTRACTOR or CONTRACTOR'S surety from obligations under the CONTRACT DOCUMENTS to fully complete the PROJECT.

21.4 The CONTRACTOR shall procure and maintain, at his own expense, during the CONTRACT TIME, in accordance with the provisions of the laws of the state in which the work is performed. Workmen's Compensation Insurance, including occupational disease provisions, for all of his employees at the site of the PROJECT and in case any work is sublet, the CONTRACTOR shall require such SUBCONTRACTOR similarly to provide Workmen's Compensation Insurance, including occupational disease provisions for all of the latter's employees, unless such employees are covered by the protection afforded by the CONTRACTOR. In case any class of employees engaged in hazardous work under this contract at the site of the PROJECT is not protected under Workmen's Compensation statute, the CONTRACTOR shall provide, and shall cause each SUBCONTRACTOR to provide, adequate and suitable insurance for the protection of his employees not otherwise protected.

21.5 The CONTRACTOR shall secure, if applicable, "All Risk" type Builder's Risk Insurance for WORK to be performed. Unless specifically authorized by the OWNER, the amount of such insurance shall not be less than the CONTRACT PRICE totaled in the BID. The policy shall cover not less than the losses due to fire, explosion, hail, lightning, vandalism, malicious mischief, wind, collapse, riot, aircraft, and smoke during the CONTRACT TIME, and until the WORK is accepted by the OWNER. The policy shall name as the insured the CONTRACTOR, the ENGINEER, and the OWNER.

22. CONTRACT SECURITY

The CONTRACTOR shall within ten (10) days after the receipt of the NOTICE OF AWARD furnish the OWNER with a Performance Bond and a Payment Bond in penal sums equal to the amount of the CONTRACT PRICE, conditioned upon the performance by the CONTRACTOR of all undertakings, covenants, terms, conditions and agreements of the CONTRACT DOCUMENTS, and upon the prompt payment by the CONTRACTOR to all persons supplying labor and materials in the prosecution of the WORK provided by the CONTRACT DOCUMENTS. Such BONDS shall be executed by the

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CONTRACTOR and a corporate bonding company licensed to transact such business in the state in which the WORK is to be performed and named on the current list of "Surety Companies Acceptable on Federal Bonds" as published in the Treasury Department Circular Number 570. The expense of these BONDS shall be borne by the CONTRACTOR. If at any time a surety on any such BOND is declared a bankrupt or loses its right to do business in the state in which the WORK is to be performed or is removed from the list of Surety Companies accepted on Federal BONDS. CONTRACTOR shall within ten (10) days after notice from the OWNER to do so, substitute an acceptable BOND (or BONDS) in such form and sum and signed by such other surety or sureties as may be satisfactory to the OWNER. The premiums on such BOND shall be paid by the CONTRACTOR. No further payments shall be deemed due nor shall be made until the new surety or sureties shall have furnished an acceptable BOND to the OWNER.

23. ASSIGNMENTS

Neither the CONTRACTOR nor the OWNER shall sell, transfer, assign or otherwise dispose of the Contract or any portion thereof, or of his right, title or interest therein, or his obligations thereunder, without written consent of the other party.

24. INDEMNIFICATION

24.1 The CONTRACTOR will indemnify and hold harmless the OWNER and the ENGINEER and their agents and employees from and against all claims, damages, losses and expenses including attorneys fees arising out of or resulting from the performance of the WORK, provided that any such claims, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property including the loss of use resulting therefrom; and is caused in whole or in part by any negligent or willful act or omission of the CONTRACTOR, and SUBCONTRACTOR, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable.

24.2 In any and all claims against the OWNER or the ENGINEER, or any of their agents or employees, by any employee of the CONTRACTOR, 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 workmen's compensation acts, disability benefit acts or other employee benefits acts.

24.3 The obligation of the CONTRACTOR under this paragraph shall not extend to the liability of the ENGINEER, his agents or employees arising out of the preparation or approval of maps, DRAWINGS, opinions, reports, surveys, CHANGE ORDERS, designs or SPECIFICATIONS.

25. SEPARATE CONTRACTS

25.1 The OWNER reserves the right to let other contracts in connection with this PROJECT. The CONTRACTOR shall afford other CONTRACTORS reasonable opportunity for the introduction and storage of their materials and the execution of their WORK, and shall properly connect and coordinate his WORK with theirs. If the proper execution or results of any part of the CONTRACTOR'S WORK depends upon the WORK of any other CONTRACTOR, the CONTRACTOR shall inspect and promptly report to the ENGINEER any defects in such WORK that render it unsuitable for such proper execution and results.

25.2 The OWNER may perform additional WORK related to the PROJECT by himself, or he may let other contracts containing provisions similar to these. The CONTRACTOR will afford the other CONTRACTORS who are parties to such Contracts (or the OWNER, if he is performing the additional WORK himself), reasonable opportunity for the introduction and storage of materials and equipment and the execution of WORK, and shall properly connect and coordinate his WORK with theirs.

25.3 If the performance of additional WORK by other CONTRACTORS or the OWNER is not noted in the CONTRACT DOCUMENTS prior to the execution of the CONTRACT, written notice thereof shall be

given to the CONTRACTOR prior to starting any such additional WORK. If the CONTRACTOR believes that the performance of such additional WORK by the OWNER or others involves him in additional expense or entitles him to an extension of the CONTRACT TIME, he may make a claim therefore as provided in Sections 14 and 15.

26. SUBCONTRACTING

26.1 The CONTRACTOR may utilize the services of specialty SUBCONTRACTORS on those parts of the WORK which, under normal contracting practices, are performed by specialty SUBCONTRACTORS.

26.2 The CONTRACTOR shall not award WORK to SUBCONTRACTOR(S), in excess of fifty (50%) percent of the CONTRACT PRICE, without prior written approval of the OWNER.

26.3 The CONTRACTOR shall be fully responsible to the OWNER for the acts and omissions of his SUBCONTRACTORS, and of persons either directly or indirectly employed by them, as he is for the acts and omissions of persons directly employed by him.

26.4 The CONTRACTOR shall cause appropriate provisions to be inserted in all subcontracts relative to the WORK to bind SUBCONTRACTORS to the CONTRACTOR by the terms of the CONTRACT DOCUMENTS insofar as applicable to the WORK of SUBCONTRACTORS and to give the CONTRACTOR the same power as regards terminating any subcontract that the OWNER may exercise over the CONTRACTOR under any provision of the CONTRACT DOCUMENTS.

26.5 Nothing contained in this CONTRACT shall create any contractual relation between any SUBCONTRACTOR and the OWNER.

27. ENGINEER'S AUTHORITY

27.1 The ENGINEER shall act as the OWNER's representative during the construction period. He shall decide questions which may arise as to quality and acceptability of materials furnished and WORK performed. He shall interpret the intent of the CONTRACT DOCUMENTS in a fair and unbiased manner. The ENGINEER will make visits to the site and determine if the WORK is proceeding in accordance with the CONTRACT DOCUMENTS.

27.2 The CONTRACTOR will be held strictly to the intent of the CONTRACT DOCUMENTS in regard to the quality of materials, workmanship and execution of the WORK. Inspections may be made at the factory or fabrication plant of the source of material supply.

27.3 The ENGINEER will not be responsible for the construction means, controls, techniques, sequences, procedures, or construction safety.

27.4 The ENGINEER shall promptly make decisions relative to interpretation of the CONTRACT DOCUMENTS.

28. LAND AND RIGHTS-OF-WAY

28.1 Prior to issuance of NOTICE TO PROCEED, the OWNER shall obtain all land and rights-of-way necessary for carrying out and for the completion of the WORK to be performed pursuant to the CONTRACT DOCUMENTS, unless otherwise mutually agreed.

28.2 The OWNER shall provide to the CONTRACTOR information which delineates and describes the lands owned and rights-of-way acquired.

28.3 The CONTRACTOR shall provide at his own expense and without liability to the OWNER any additional land and access thereto that the CONTRACTOR may desire for temporary construction facilities, or for storage of materials.

General Conditions

29. GUARANTY

The CONTRACTOR shall guarantee all materials and equipment furnished and WORK performed for a period of one (1) year from the date of SUBSTANTIAL COMPLETION. The CONTRACTOR warrants and guarantees for a period of one (1) year from the date of SUBSTANTIAL COMPLETION of the system that the completed system is free from all defects due to faulty materials or workmanship and the CONTRACTOR shall promptly make such corrections as may be necessary by reason of such defects including the repairs of any damage to other parts of the system resulting from such defects, The OWNER will give notice of observed defects with reasonable promptness. In the event that the CONTRACTOR should fail to make such repairs, adjustments, or other WORK that may be made necessary by such defects, the OWNER may do so and charge the CONTRACTOR the cost thereby incurred. The Performance BOND shall remain in full force and effect through the guarantee period.

30. ARBITRATION

30.1 All claims, disputes and other matters in question arising out of, or relating to, the CONTRACT DOCUMENTS or the breach thereof, except for claims which have been waived by the making and acceptance of final payment as provided by Section 20, shall be decided by arbitration in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association. This agreement to arbitrate shall be specifically enforceable under the prevailing arbitration law. The award rendered by the arbitrators shall be final, and judgment may be entered upon it in any court having jurisdiction thereof.

30.2 Notice of the demand for arbitration shall be filed in writing with the other party to the CONTRACT DOCUMENTS and with the American Arbitration Association, and a copy shall be filed with the ENGINEER. Demand for arbitration shall in no event be made on any claim, dispute or other matter in question which would be barred by the applicable statute of limitations.

30.3 The CONTRACTOR will carry on the WORK and maintain the progress schedule during any arbitration proceedings, unless otherwise mutually agreed in writing.

31. TAXES

The CONTRACTOR will pay all sales, consumer, use and other similar taxes required by the law of the place where the WORK is performed.

SUPPLEMENTAL GENERAL CONDITIONS

The provisions of the Supplemental General Conditions as described herein change, amend, or supplement the General Conditions. Provisions of the General Conditions which are not changed, amended, or supplemented, remain in full force.

1. Contract Approval

Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the project is located.

2. Contract Change Orders

2.1 All changes affecting the project's construction cost or modifications of the terms or conditions of the contract must be authorized by means of a written Contract change order which is mutually agreed to by the OWNER and the CONTRACTOR. The Contract change order will include extra work, work for which quantities have been altered from those shown in the bidding schedule, as well as decreases or increases in the quantities of installed units which are different than those shown in the bidding schedule because of final measurements. All changes must be recorded on a Contract change order before they can be included in a partial payment estimate.

2.2 When the CONTRACT sum is, in whole or in part, based on unit prices, the OWNER reserves the right to increase or decrease a unit price quantity as may be deemed reasonable or necessary in order to complete the work contemplated by this CONTRACT.

3. Partial Payment Estimates

3.1 Forms supplied by the ENGINEER shall be used when estimating periodic payments due the CONTRACTOR.

3.2 The OWNER may, after consultation with the ARCHITECT/ENGINEER, withhold or on account of subsequently discovered evidence, nullify the whole or part of any approved partial payment estimate to such extent as may be necessary to protect the OWNER from loss on account of:

3.2.1. Defective work not remedied.

3.2.2. Claims failed.

3.2.3. Failure of CONTRACTOR to make payments properly to subcontractors or suppliers.

Supplemental General Conditions

- 3.2.4. A reasonable doubt that the WORK can be completed for the balance then unpaid.
- 3.2.5. Damage to another CONTRACTOR.
- 3.2.6. Performance of WORK in violation of the terms of the CONTRACT DOCUMENTS.

3.3 Where WORK on unit price items is substantially complete but lacks testing clean-up and/or corrections, amounts shall be deducted from unit prices in partial payment estimates to amply cover such testing, clean-up and/or corrections.

3.4 When the items in 3.2 and 3.3 are cured, payment shall be made for amounts withheld because of them.

3.5 Payments will not be made that would deplete the retainage nor replace in escrow any funds that are required for retainage nor invest the retainage for the benefit of the CONTRACTOR.

4. Conflict of Interest

4.1 Unacceptable bids. An ENGINEER or ARCHITECT (individual or firm including persons they employ) who has prepared plans and specifications will not be considered an acceptable bidder. Any firm or corporation in which such ENGINEER or ARCHITECT (including persons they employ) who has prepared plans and specifications will not be considered an acceptable bidder. A firm or corporation in which such an officer, employee, or holds or controls a substantial interest will not be considered an acceptable bidder. Contracts or purchases by the CONTRACTOR shall not be awarded or made to a supplier or manufacturer if the ENGINEER or ARCHITECT (firm or individual) who prepared the plans and specifications has a corporate or financial affiliation with the supplier or manufacturer. Bids will not be awarded to firms or corporations which are owned or controlled wholly or in part by a member of the governing body of the OWNER or to an individual who is such a member.

4.2 The OWNER's officers, employees, or agents shall not engage in the award of administration of this CONTRACT if a conflict of interest, real or apparent, would be involved. Such a conflict would arise when: (a) the employee, officer or agent; (b) any member of their immediate family; (c) their partner or (d) an organization which employs, or is about to employ, any of the above has financial or interest in the CONTRACTOR. The OWNER's officers, employees or agents shall neither solicit nor accept gratuities, favors or anything of monetary value from the CONTRACTOR. The OWNER's officers, employees, or agents shall neither solicit nor accept gratuities, favors or anything of monetary value from the CONTRACTOR or subcontractor.

5. Protection of Lives and Property

5.1 In order to protect the lives and health of its employees under the CONTRACT, the CONTRACTOR shall comply with all pertinent provisions of the Occupational Safety and Health Administration (OSHA) and any State Safety and Health agency requirement.

5.2 The CONTRACTOR alone shall be responsible for the safety, efficiency, and adequacy of its plant, appliances, and methods, and for any damage which may result from their failure or their improper construction, maintenance or operation.

6. Remedies

6.1 Unless otherwise provided in this CONTRACT, all claims, counterclaims, disputes, and other matters in question between the OWNER and the CONTRACTOR arising out of or relating to this CONTRACT or the breach thereof will be decided by arbitration if the parties mutually agree, or in a court of competent jurisdiction within the State in which the OWNER is located.

6.2 The arbitration provisions of this section may be initiated by either party to this CONTRACT by filing with the other party and the ENGINEER/ARCHITECT a WRITTEN REQUEST for arbitration.

6.3 Each party to this CONTRACT will appoint one arbitrator; the two arbitrators will select a third arbitrator.

6.4 The arbitrators will select a hearing location as close to the OWNER's locale as possible.

6.5 The procedure for conducting the hearings will follow the Construction Industry Arbitration Rules of the American Arbitration Association.

7. Gratuities

7.1 If the OWNER finds after a notice and hearing that the CONTRACTOR, or any of the CONTRACTOR's agents or representatives, offered or give gratuities (in the form of entertainment, gifts, or otherwise), to any official, employee, or agent of the OWNER or State officials in attempt to secure this CONTRACT or favorable treatment in awarding, or making any determinations related to the performance of this CONTRACT, the OWNER may, by written notice to the CONTRACTOR, terminate this CONTRACT. The OWNER may also pursue other rights and remedies that the law or this CONTRACT provides. However, the existence of the facts on which the OWNER bases such findings shall be an issue and may be reviewed in proceeding sunder the Remedies clause of this CONTRACT.

7.2 In the event this CONTRACT is terminated as provided in paragraph 7.1 the OWNER may pursue the same remedies against the CONTRACTOR as it could pursue in the event of a breach of the CONTRACT by the CONTRACTOR. As a

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penalty, in addition to any other damages to which it may be entitled by law, the OWNER may pursue exemplary damages in an amount (as determined by the OWNER) which shall be not less than three nor more than ten times the costs the CONTRACTOR incurs in providing any such gratuities to any such officer or employee.

8. Audit and Access to Records

For all negotiated contracts (except those of \$10,000 or less), the Comptroller General, the OWNER or any of their duly authorized representatives, shall have access to any books, documents, papers, and records of the CONTRACTOR, which are pertinent to the CONTRACT, for the purpose of making audits, examinations, excerpts and transcriptions. The CONTRACTOR shall maintain all required records for three years after final payment is made and all other pending matters are closed.

9. Small, Minority and Women Businesses

If the CONTRACTOR intends to let any subcontracts for a portion of the work, the CONTRACTOR shall take affirmative steps to assure that small, minority and women's businesses are used when possible as sources of supplies, equipment, construction, and services. Affirmative steps shall consist of: (1) including qualified small minority, and women's businesses on solicitation lists; (2) assuring that small, minority and women's businesses are solicited whenever they are potential sources; (3) dividing total requirements, when economically feasible, into small tasks or quantities to permit maximum participation of small minority, and women's businesses; (4) establishing delivery schedule, where the requirements of the work permit, which will encourage participation by small, minority and women's businesses; (5) using the services and assistance of the Small Business Administration, and the Minority Business Development Agency of the U. S. Department of Commerce; (6) requiring each party to a subcontract to take the affirmative steps of this section; and (7) CONTRACTORS are encouraged to procure goods and services from labor surplus area firms.

10. Anti-kickback

The CONTRACTOR shall comply with the Copeland Anti-Kickback Act (18 USC 874) as supplemented in Department of Labor regulations (29 CFR, Part 3). This act provides that each CONTRACTOR shall be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public facilities, to give up any part of the compensation to which they are otherwise entitled. The OWNER shall report all suspected or reported violations.

11. Violating Facilities

Where this CONTRACT exceeds \$100,000 the CONTRACTOR shall comply with all applicable standards, orders, or requirements issued under section 306 of the Clean Air Act (42 U.S.C. 1857(h)), section 508 of the Clean Water Act (33 U.S.C.

1368), Executive Order 11738, and Environmental Protection Agency regulations 40 CFR Part 15 which prohibits the awarding of non-exempt federal contracts, grants, or loans to facilities included on EPA's list of violating facilities. The CONTRACTOR will report violations to the OWNER.

12. State Energy Policy

The CONTRACTOR shall comply with the Energy Policy and Conservation Act (P.L. 94-163). Mandatory standards and policies relating to energy efficiency, contained in the State Energy Conservation Plan, shall be utilized.

13. Equal Opportunity Requirements

13.1 For all Contracts in excess of \$10,000 the CONTRACTOR shall comply with Executive Order 11246, entitled "Equal Employment Opportunity," as amended by Executive Order 11375, and as supplemented in Department of Labor regulations (41 CFR Part 60).

13.2 The CONTRACTOR will execute the "Compliance Statement Regarding State and Federal Standards Provisions."

13.3 The CONTRACTOR's compliance with Executive Order 11246 shall be based on its implementation of the Equal Opportunity Clause, specific affirmation action obligations required by the Standard Federal Equal Employment Opportunity Construction Contract Specifications, as set forth in 41 CFR Part 60-4 and its efforts to meet the goals established for the geographical area where the CONTRACT is to be performed. The hours of minority and female employment and training must be substantially uniform throughout the length of the CONTRACT, and in each trade, and the CONTRACTOR shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from contractor to contractor or from project to project for the sole purpose of meeting the CONTRACTOR's goals shall be a violation of the CONTRACT, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

13.4 The CONTRACTOR shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the CONTRACT resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number; estimated dollar amount of subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the CONTRACT is to be performed.

14. Substitutions

Supplemental General Conditions

14.1 Requirements regarding "Substitutions" as described in paragraph 8 of the General Conditions shall be modified by adding the following:

14.2 Information on any requests for substitutions shall be submitted to the ENGINEER and must be approved in writing by the ENGINEER prior to the bid date. Substitutions not so approved will not be allowed.

15. **Deductions from Estimates**

With reference to Paragraph 3 of these Supplemental General Conditions, when computing the total estimate to date, 20 percent shall be deducted from unit prices on pipe when pressure testing, bacteriological testing, and rough cleanup work is not completed and 10 percent shall be deducted when only rough cleanup work is lacking. The ENGINEER may not require these deductions if the work is progressing in an organized, systematic, and expeditious manner.

16. **Additional Insurance Requirements and Summary**

16.1 In addition to the coverages listed in Paragraph 21 "Insurance," the CONTRACTOR shall also secure Explosion, Collapse, and Underground (XCU) coverage in the amounts listed herein for other liability coverages. The CONTRACTOR shall also obtain Products and Completed Operations Insurance for the term of the contract and warranty periods. CONTRACTOR=s vehicle coverage in the amount specified herein for other liability coverages shall include "any auto" used on the project.

16.2 The CONTRACTOR=s liability insurance shall be a total coverage in an amount such that the sum of the underlying coverage and the umbrella coverage shall total \$2,000,000 each occurrence and \$2,000,000 aggregate. A summary of insurance coverages and minimum amounts required is presented below (also see General Conditions, Paragraph 21 for further details of coverage requirements):

General public liability:	
Bodily injury	\$500,000
Property Damage	\$200,000
Personal Injury	\$500,000
Vehicle, "Any Auto"	\$500,000 / \$200,000
Explosion, Collapse & Underground	\$500,000 / \$200,000
Products and Completed Operations	Total Contract Amt.
"All Risks" Builders' Risk Insurance	Total Contract Amt.
Excess Liability Umbrella Coverage	Amt required for sum of general liability and umbrella to equal minimum of \$2,000,000
Workmen's Compensation	As req'd by Kentucky statutes

16.3 The CONTRACTOR=s Certificate of Insurance acceptable to the OWNER shall be delivered to the OWNER with the executed Agreement, Performance Bond and Payment Bond according to the timetable described on Page 2 of the

Information for Bidders. The OWNER shall not be required to execute the Contract and proceed with the project until an acceptable insurance certificate is delivered to the OWNER. If the Certificate of Insurance as specified is not delivered to the OWNER within 10 calendar days from the date when the Notice of Award is delivered to the Bidder, the OWNER may consider the Bidder in default, in which case the Bid Bond shall become the property of the OWNER.

16.4 The Certificate of Insurance shall include positive statements regarding Explosion, Collapse, and Underground Coverage and Products and Completed Operations coverage as specified above and all other coverages required in the General Conditions and Supplemental General Conditions. If any insurance coverage expires during the term of the Contract or warranty period the CONTRACTOR shall deliver to the OWNER a new Certificate of Insurance as specified prior to the expiration date of the former policy. The cancellation clause on the Certificate of Insurance shall be worded as shown on the sample certificate on the next page and the OWNER shall be listed as an "Additional Named Insured."

16.5 The insurance shall cover all OWNER-furnished materials and equipment stored at the Site or at another location prior to being incorporated in the Work and accepted by OWNER.

17. Bid Bonds

17.1 A certified check or cash in the amount of 5 percent of the total bid may be used in lieu of a bond from a surety company; however, an "Official" check is not an acceptable substitute. Throughout these Contract Documents, the term BID BOND shall be defined so as to include the certified check or cash, where such security is used in lieu of a bond from a surety company.

17.2 If the BIDDER fails to execute and deliver the Agreement, Performance Bond, Payment Bond, and Certificate of Insurance acceptable to the OWNER within 10 days from the date when the NOTICE OF AWARD is delivered to the BIDDER, the OWNER may consider the BIDDER in default. In this case the BID BOND accompanying the proposal shall become the property of the OWNER.

18. Execution of Performance and Payment Bonds

The Attorney-in-Fact that executes Performance and Payment Bonds for the Surety must be a resident of the Commonwealth of Kentucky. Otherwise, the bonds must be co-signed by an agent with residence in Kentucky who has Power of Attorney from the Surety.

Supplemental General Conditions



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
MM/DD/20YY

PRODUCER Insurance Agent/Broker Name Insurance Agent/Broker Street Address or P.O. Box Insurance Agent/Broker City, State & Zip Code Contact & Phone Number	THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.	
	INSURERS AFFORDING COVERAGE	NAIC #
INSURED Contractor Name Contractor Street Address or P.O. Box Contractor City, State & Zip Code	INSURER A: Name of Insurance Company	NAIC#
	INSURER B: Name of Insurance Company (if applicable)	NAIC#
	INSURER C: Name of Insurance Company (if applicable)	NAIC#
	INSURER D: Name of Insurance Company (if applicable)	NAIC#
	INSURER E: Name of Insurance Company (if applicable)	NAIC#

COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	ADDL INSRD	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
A	<input checked="" type="checkbox"/>	GENERAL LIABILITY <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> INCLUDES XCU COVERAGE <input type="checkbox"/> _____ GENL AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PROJECT <input type="checkbox"/> LOC	Policy #	Effective Date	Expiration Date	EACH OCCURENCE	\$1,000,000
						DAMAGE TO RENTED PREMISES (Ea occurrence)	\$100,000
						MED EXP (Any one person)	\$5,000
						PERSONAL & ADV INJURY	\$500,000
						GENERAL AGGREGATE	\$2,000,000
						PRODUCTS - COMPI/OP AGG	\$1,000,000
							\$
A	<input checked="" type="checkbox"/>	AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS <input type="checkbox"/> NON-OWNED AUTOS <input type="checkbox"/> _____ <input type="checkbox"/> _____	Policy #	Effective Date	Expiration Date	COMBINED SINGLE LIMIT (Each Occurrence)	\$500,000
						BODILY INJURY (Per person)	\$
						BODILY INJURY (Per accident)	\$
						PROPERTY DAMAGE (Per accident)	\$
A	<input type="checkbox"/>	GARAGE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> _____				AUTO ONLY - EA ACCIDENT	\$
						OTHER THAN AUTO ONLY: EA ACC	\$
						AGG	\$
A	<input checked="" type="checkbox"/>	EXCESS/UMBRELLA LIABILITY <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS MADE <input type="checkbox"/> DEDUCTIBLE <input type="checkbox"/> RETENTION \$ _____	Policy #	Effective Date	Expiration Date	EACH OCCURRENCE	\$1,000,000
						AGGREGATE	\$1,000,000
							\$
							\$
							\$
A	<input checked="" type="checkbox"/>	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? If yes, describe under SPECIAL PROVISIONS below	Policy #	Effective Date	Expiration Date	<input checked="" type="checkbox"/> WC STATUTORY LIMITS <input type="checkbox"/> OTHER	
						E.L. EACH ACCIDENT	\$500,000
						E.L. DISEASE - EA EMPLOYEE	\$500,000
						E.L. DISEASE - POLICY LIMIT	\$500,000
	<input checked="" type="checkbox"/>	OTHER "ALL RISKS" BUILDER RISK OR INSTALLATION FLOATER, AS APPLICABLE	Policy #	Effective Date	Expiration Date		MINIMUM OF CONTRACT AMOUNT

"EXAMPLE"

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES / EXCLUSIONS ADDED BY ENDORSEMENT / SPECIAL PROVISIONS

"PROJECT NAME"
Certificate holder is also additional insured.

CERTIFICATE HOLDER

Owners Name
P. O. Box 10180
Bowling Green, KY 42102

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE INSURER AFFORDING COVERAGE WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES

AUTHORIZED REPRESENTATIVE

19. Guarantee

19.1 The following shall be added to Paragraph 29 of the General Conditions, "Guarantee":

19.2 When a failure of the CONTRACTOR=s work creates an emergency which threatens service to the OWNER=s customers and, in the opinion of the OWNER, the CONTRACTOR=s forces cannot be mobilized in a timely fashion, the OWNER may perform Warranty work. Work may also be performed by the OWNER under the above conditions prior to commencement of the warranty period. The CONTRACTOR shall pay the OWNER for the actual cost of all such work.

20. Subcontractors, Suppliers and Others

The CONTRACTOR shall not employ any Subcontractor, Supplier or other person or organization (including those who are to furnish the principal items of materials and/or equipment) against whom the OWNER or ENGINEER may have reasonable objection. The CONTRACTOR shall deliver a list of all such Subcontractors, Suppliers, or other persons or organizations for acceptance by the OWNER and ENGINEER at least twenty (20) days prior to their being employed on the Project. Said list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each name listed. The CONTRACTOR shall supply any additional information regarding those named on said list that may be requested by the OWNER or ENGINEER. Acceptance of or objection to any Subcontractor, Supplier, or other person or organization shall be forwarded to the CONTRACTOR in writing within 10 days of receipt of said list by the OWNER or ENGINEER. If there are written objections, the CONTRACTOR shall then submit substitute names for acceptance. No acceptance by the OWNER or ENGINEER of any Subcontractor, Supplier, or other person or organization shall constitute a waiver of any right of the OWNER or ENGINEER to reject defective work or to object to such party after further investigation or unacceptable performance.

21. Progress Payment Subcontractors and Suppliers Release of Liens

21.1 With each partial payment estimate the CONTRACTOR shall submit to the ENGINEER a "Progress Payment Subcontractors and Suppliers Release of Lien" on the forms provided by the ENGINEER. The purpose of the releases of lien is to indicate to the OWNER that the CONTRACTOR has paid for all subcontracted work, equipment rental, supplies and/or materials (either stored or installed) that were included on the previous partial payment estimate. A separate release form shall be executed by an authorized representative of each subcontractor or supplier that had items included for payment on the previous estimate.

21.2 If the CONTRACTOR fails to provide clear release(s) of lien, the OWNER may proceed with either of the alternatives set forth in the General Conditions, Section 19.6.

22. Termination of Contractor's Services

In regards to Paragraph 18.2 of the General Conditions, the OWNER may terminate the services of the CONTRACTOR, take possession of the project, and finish the work by whatever method the OWNER may deem expedient. The reasons for such action by the OWNER are listed in the first sentence of said Paragraph 18.2 and each reason separated by the conjunction "or" shall be considered independent of the others, therefore it is not necessary for one of the reasons listed to occur in combination with any other reason listed for the OWNER to rightfully take such action.

23. Independent Contractor

Throughout the term of the contract and the specified warranty period the CONTRACTOR is and shall be considered an independent contractor and as such, is not an agent of the OWNER.

24. Required Documents for Processing Final Payment and Disbursement of Payment

When the project is completed the CONTRACTOR shall execute the following documents:

24.1 Final Estimate shall be prepared and submitted in accordance with the General Conditions, Section 19 and Supplemental General Conditions Section 3.

24.2 Prior to Disbursement of Final Payment the CONTRACTOR shall provide a "Certification of Release of Contractors Liens" as set forth on page SGC-12 of the Supplemental General Conditions and as called for in the General Conditions, Section 19.6 Payment to Contractor.

24.3 "Warranty Agreement" as set forth on Page SGC-13 of the Supplemental General Conditions and as called for in the General Conditions, Section 29 Guaranty.

24.4 "Certification of Receipt of Final Payment" as set forth on page SGC-14 of the Supplemental General Conditions shall be executed by the CONTRACTOR upon receipt of payment.

24.5 In addition to the above the CONTRACTOR shall provide for contract closeout purposes all other information, documentation, and/or certifications as may be required by any agency involved with the project including the OWNER. It shall be the CONTRACTOR's responsibility to determine from the OWNER and execute any and all such documents that may be required prior to submitting Final Estimate.

25. Wage Rates

Prevailing wage rates as issued by the Kentucky Department of Labor **are NOT required** on this Contract.

26. American Iron and Steel

American Iron and Steel compliance **is NOT required** on this Contract.

CERTIFICATION OF RELEASE OF CONTRACTOR LIENS

This is to certify that (Contractor's Name) has paid all debts for materials, supplies, labor, and subcontractors relative to the work which was performed on Morgantown Road Area Improvements – Contract 2 for Warren County Water District under a Contract dated _____.

The only exceptions are those listed below. If there are no exceptions, write in "None".

<u>NAME</u>	<u>DOLLAR AMOUNT</u>
1. _____	\$ _____
2. _____	\$ _____
3. _____	\$ _____
4. _____	\$ _____

We further certify that to the best of our knowledge there are no litigations either in process or pending in connection with the subject work with the following exceptions. If there are no exceptions, write in "None".

1. _____
2. _____

We further certify that this work was performed in strict conformance with the Drawings, Specifications, and Contract.

DATE: _____ BY: _____

State of Kentucky
County of _____

I, _____, a Notary Public in and for the State of Kentucky at Large, do hereby certify that the foregoing certification from _____ was duly produced before me on this ____ day of _____, 20__.

NOTARY PUBLIC, STATE OF KENTUCKY

My Commission Expires: _____

WARRANTY AGREEMENT

It is hereby agreed on this ___ day of _____, 20 ____, that the Warranty Period for the work performed on Morgantown Road Area Improvements – Contract 2. Contract dated _____, 20 ____, with Warren County Water District shall end at midnight on _____, 20 ____.

BY: _____

WARREN COUNTY WATER DISTRICT

BY: _____

State of Kentucky
County of _____

I, _____, a Notary Public in and for the State of Kentucky at Large, do hereby certify that the foregoing certification from _____ was duly produced before me on this _____ day of _____, 20 ____.

NOTARY PUBLIC, STATE OF KENTUCKY

My Commission Expires: _____

State of Kentucky
County of _____

I, _____, a Notary Public in and for the State of Kentucky at Large, do hereby certify that the foregoing certification from _____ was duly produced before me on this _____ day of _____, 20 ____.

NOTARY PUBLIC, STATE OF KENTUCKY

My Commission Expires: _____

CERTIFICATION OF RECEIPT OF FINAL PAYMENT

This is to certify that as of _____, 20____, (Contractor's Name) has accepted full and final payment for all work performed on Morgantown Road Area Improvements – Contract 2, Contract dated _____, 20____, with Warren County Water District (OWNER) and having done so, has released the OWNER in accordance with Section 20 of the General Conditions.

BY: _____

State of Kentucky
County of _____

I, the undersigned, a Notary Public in and for the State of Kentucky, do hereby certify that the above Certification from _____ was on this day sworn before me and acknowledged by him to be a free act and deed.

Witness my hand this _____ Day of _____, 20____

NOTARY PUBLIC

My Commission Expires: _____

NOTICE OF AWARD

TO: _____

Project Description: Morgantown Road Area Improvements – Contract 2.

The OWNER has considered the BID submitted by you for the above described WORK in response to its Advertisement for Bids dated December 23, 2019 and Information for Bidders.

You are hereby notified that your BID has been accepted for items in the amount of \$ _____.

You are required by the Information for Bidders to execute the Agreement and furnish the required CONTRACTOR'S Performance BOND, Payment BOND, and certificates of insurance within ten (10) calendar days from the date of this Notice to you.

If you fail to execute said Agreement and to furnish said BONDS within ten (10) days from the date of this Notice, said OWNER will be entitled to consider all your rights arising out of the OWNER'S acceptance of your BID as abandoned and as a forfeiture of your BID BOND. The OWNER will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the OWNER.

Dated this ___ day of _____, 2020.

Owner: Warren County Water District

By: _____
John M. Dix

Title: General Manager

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE OF AWARD is hereby acknowledged by _____ this the ___ day of _____, 2020.

By: _____ Title: _____

AGREEMENT

THIS AGREEMENT, made this ____ day of _____, 20__, by and between Warren County Water District, hereinafter called "OWNER" and _____ doing business as a corporation hereinafter called "CONTRACTOR".

WITNESSETH: That for and in consideration of the payments and agreements herein after mentioned:

1. The CONTRACTOR will commence and complete the Morgantown Road Area Improvements – Contract 2.

2. The CONTRACTOR will furnish all of the materials, supplies, tools, equipment, labor, and other services necessary for the construction and completion of the PROJECT described herein.

3. The CONTRACTOR will commence the work required by the CONTRACT DOCUMENTS within 10 calendar days after the date of the NOTICE TO PROCEED and will fully complete the same within 270 calendar days unless the period for completion is extended otherwise by the CONTRACT DOCUMENTS.

4. The CONTRACTOR agrees to perform all of the WORK described in the CONTRACT DOCUMENTS and comply with the terms therein for the sum of \$ _____ or as shown in the BID schedule.

5. The term "CONTRACT DOCUMENTS" means and includes the following:
- (A) Advertisement for Bids
 - (B) Information for Bidders
 - (C) Bid
 - (d) Bid Bond
 - (E) Compliance Statement
 - (F) Affidavit for Bidders Claiming Resident Bidder Status
 - (G) General Conditions
 - (H) Supplemental General Conditions
 - (I) Notice of Award
 - (J) Agreement
 - (K) Performance Bond
 - (L) Payment Bond
 - (N) Notice to Proceed
 - (O) Detailed Specifications prepared or issued by: Warren County Water District dated December 23, 2019.
 - (P) Drawings prepared by: Warren County Water District.
 - (Q) Addenda:
 - No. __, dated _____.
 - No. __, dated _____.
 - No. __, dated _____.
 - (R) Change Order(s)

Agreement

- 6. The OWNER will pay to the CONTRACTOR in the manner and at such times as set forth in the General Conditions such amounts as required by the CONTRACT DOCUMENTS.
- 7. This Agreement shall be binding upon all parties hereto and their respective heirs, executors, administrators, successors, and assigns.

IN WITNESS WHEREOF, the parties hereto have executed or caused to be executed by their duly authorized official, this Agreement in three (3) copies each of which shall be deemed an original on the date first above written.

OWNER:

Warren County Water District

By: _____
Name: John M. Dix
Title: General Manager

(SEAL)
Attest:

Name: _____

Title: _____

CONTRACTOR:

By: _____
Name _____
Address: _____

Employer Identification No. _____

(SEAL)
Attest:

Name: _____

Title: _____

PERFORMANCE BOND

KNOW ALL PERSONS BY THESE PRESENTS: that

(NAME OF CONTRACTOR)

(ADDRESS OF CONTRACTOR)

a _____, hereinafter called
(Corporation, Partnership, or Individual)

Principal, a _____
(NAME OF SURETY)

(ADDRESS OF SURETY)

hereinafter called Surety, are held and firmly bound unto

Warren County Water District
(NAME OF OWNER)

P. O. Box 10180, 523 US 31W Bypass, Bowling Green, KY 42102-4780
(ADDRESS OF OWNER)

hereinafter called OWNER, in the total aggregate penal sum of _____
(\$_____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER, dated the ___ day of _____, a copy of which is hereto attached and made a part hereof for the construction of:

Morgantown Road Area Improvements – Contract 2

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term thereof, and any extensions thereof which may be granted by the OWNER, with or without notice to the SURETY and during the one year guaranty period

Performance Bond

and if the PRINCIPAL shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the OWNER from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the OWNER all outlay and expense which the OWNER may incur in making good any default, then this obligation shall be void, otherwise to remain in full force and effect.

PROVIDED, that the said SURETY, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to WORK to be performed thereunder or the SPECIFICATIONS accompanying same shall in any way affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that it is expressly agreed that the BOND shall be deemed amended automatically and immediately, without formal and separate amendments hereto, upon amendment to the Contract not increasing the contract price more than 20 percent, so as to bind the PRINCIPAL and the SURETY to the full and faithful performance of the CONTRACT as so amended. The term "Amendment", wherever used in this BOND, and whether referring to this BOND, the Contract or the Loan Documents shall include any alteration, addition, extension, or modification of any character whatsoever.

PROVIDED, FURTHER, that no final settlement between the OWNER and the PRINCIPAL shall abridge the right of the other beneficiary hereunder, whose claim may be unsatisfied. The OWNER is the only beneficiary hereunder.

IN WITNESS WHEREOF, this instrument is executed in three counterparts, each one of which shall be deemed an original, this the ____ day of _____ . _____.

ATTEST:

(Principal) Secretary

Principal

(SEAL)

By: _____

(Witness as to Principal)

(Address)

(Address)

(Surety)

ATTEST:

Witness to Surety

Attorney-in-Fact

(Address)

(Address)

NOTE: Date of BOND must not be prior to date of Contract.

If CONTRACTOR is partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the Project is located.

PAYMENT BOND

KNOW ALL PERSONS BY THESE PRESENTS: that

(NAME OF CONTRACTOR)

(ADDRESS OF CONTRACTOR)

a _____, hereinafter called
(Corporation, Partnership, or Individual)

Principal, a _____
(NAME OF SURETY)

(ADDRESS OF SURETY)

hereinafter called Surety, are held and firmly bound unto

Warren County Water District
(NAME OF OWNER)

P. O. Box 10180, 523 US 31W Bypass, Bowling Green, KY 42102-4780
(ADDRESS OF OWNER)

hereinafter called OWNER and unto all persons, firms, and corporations who or which may furnish labor, or who furnish materials to perform as described under the CONTRACT and to their successors and assigns in the total aggregate penal sum of _____ (\$ _____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the PRINCIPAL entered into a certain CONTRACT with the OWNER, dated the ___ day of _____, a copy of which is hereto attached and made a part hereof for the construction of:

Morgantown Road Area Improvements – Contract 2

NOW, THEREFORE, if the PRINCIPAL shall promptly make payment to all persons, firms, and corporations furnishing materials for or performing labor in the prosecution of the WORK provided for in such CONTRACT, and any authorized extensions or modifications thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in

Payment Bond

connection with the construction of such WORK, and for all labor cost incurred in such WORK including that by a SUBCONTRACTOR, and to any mechanic or materialman lienholder whether it acquires its lien by operation of State or Federal law; then this obligation shall be void, otherwise to remain in full force and effect.

PROVIDED, that beneficiaries or claimants hereunder shall be limited to the SUBCONTRACTORS, and persons, firms, and corporations having a direct contract with the PRINCIPAL or its SUBCONTRACTORS.

PROVIDED, FURTHER, that the said SURETY for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the CONTRACT or to the WORK to be performed thereunder or the SPECIFICATIONS accompanying the same shall in any way affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of this contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that no suit or action shall be commenced hereunder by any claimant: (a) Unless claimant, other than one having a direct contract with the PRINCIPAL shall have given written notice to any two of the following: The PRINCIPAL, the OWNER, or the SURETY above named within ninety (90) days after such claimant did or performed the last of the work or labor, or furnished the last of the materials of which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the PRINCIPAL, OWNER, or SURETY, at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the state in which the aforesaid project is located, save that such service need not be made by a public officer. (b) After the expiration of one (1) year following the date of which PRINCIPAL ceased work on said CONTRACT, is being understood, however, that if any limitation embodied in the BOND is prohibited by any law controlling the construction hereof, such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.

PROVIDED, FURTHER, that it is expressly agreed that this BOND shall be deemed amended automatically and immediately, without formal and separate amendments hereto, upon amendment to the CONTRACT not increasing the CONTRACT price more than 20 percent, so as to bind the PRINCIPAL and the SURETY to the full and faithful performance of the CONTRACT as so amended. The term "Amendment", wherever used in this BOND and whether referring to this BOND, the CONTRACT or the loan Documents shall include any alteration, addition, extension or modification of any character whatsoever.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in three counterparts, each one of which shall be deemed an original, this the ____ day of _____ . _____.

ATTEST:

(Principal) Secretary

Principal

(SEAL)

By: _____

(Witness as to Principal)

(Address)

(Address)

(Surety)

ATTEST:

Witness to Surety

Attorney-in-Fact

(Address)

(Address)

NOTE: Date of BOND must not be prior to date of Contract.

If CONTRACTOR is partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the Project is located.

NOTICE TO PROCEED

TO: _____

DATE: _____
PROJECT: Morgantown Road Area
Improvements – Contract 2

You are hereby notified to commence WORK in accordance with the Agreement dated _____, on or before _____, 20___. You are to fully complete the WORK within 270 consecutive calendar days thereafter. The date of completion of all WORK is therefore _____, 20__.

Owner: Warren County Water District

By: _____
John M. Dix

Title: General Manager

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO PROCEED is hereby acknowledged

by _____

this the ___ day of _____, 20__

By: _____

Title: _____

Employer Identification
Number: _____

SECTION 1
GENERAL SCOPE AND SPECIAL PROVISIONS

1. Scope

The instructions and information set out in the paragraphs of the Detailed Specifications shall supersede the instructions and information set out in the Information for Bidders, General Conditions, and Supplemental General Conditions if and when differences occur.

2. Shop Drawings, Product Data, and Samples

Shop drawings, product data, and samples as discussed in Paragraph 5 of the General Conditions shall be furnished by the CONTRACTOR to the ENGINEER. Unless otherwise set out, all shop drawings shall be furnished in five copies. It shall be clearly understood by the CONTRACTOR that the ENGINEER will examine the shop drawings for general design only, and that his approval stamped on such drawings shall be approval only for general design, and the CONTRACTOR shall in all cases be held responsible for detailed dimensions. In case of discrepancy between the shop drawings and the requirements of the Drawings, Specifications, and Contract Documents, the provisions of the Drawings, Specifications, and Contract Documents shall prevail even though the shop drawings have been approved by the ENGINEER, unless the conflict therein has been specifically waived in writing by a Change Order.

3. Owner's Right to Carry Out the Work

If the CONTRACTOR defaults or neglects to carry out the work in accordance with the Contract Documents and fails within ten days after receipt of written notice from the OWNER to commence and continue correction of such default or neglect with diligence and promptness, the OWNER may, (without prejudice to any other remedy he may have) make good such deficiencies. In such case an appropriate Change Order shall be issued deducting from the payments then or thereafter due the CONTRACTOR the cost of correcting such deficiencies. If the payments then or thereafter due the CONTRACTOR are not sufficient to cover such amount, the CONTRACTOR shall pay the difference to the OWNER.

4. Execution and Coordination of the Work

4.1 It is intended that the work covered by this Contract be done so as to cause the minimum amount of interference with traffic and/or existing utilities. The CONTRACTOR will be required to organize and schedule his work so as to keep the existing facilities in full operation during the construction period insofar as is consistent with the nature of the construction work to be performed. The manner in which shutdowns will be made and the work schedule of the CONTRACTOR during shutdowns will be subject to the approval of the OWNER. The CONTRACTOR shall schedule a proposed shutdown with the OWNER at least three days prior to the

General Scope and Special Provisions

outage. All shutdowns shall be made by employees of the OWNER. Although every effort will be made to cause the minimum amount of interference with the CONTRACTOR's work, the interest of the OWNER in regard to the existing facilities must always take precedence over the construction work. Therefore, the right is reserved by the OWNER to put any lines or other facilities (that may be shut down for the construction work) back into service when an emergency arises.

4.2 The work on the project shall be scheduled so as to expedite service to new customers. The CONTRACTOR shall install meters and perform testing as each section of new water main is constructed. Water lines or sections of lines thus completed shall be placed in service while work proceeds on other lines or sections.

4.3 Following installation of the pipeline, "rough cleanup" work shall be performed. This shall consist of grading the trench to create a neat, low mound of backfill material and disposing of any excavated material, rubbish, etc. (See Section 3, Paragraph 21 and Section 7 Paragraph 13) Crushed stone shall be added to driveways where necessary and fences repaired to the satisfaction of the property owners. After trenches have had adequate time to settle, final grade work and seeding shall be performed as described in Section 3, Paragraph 22 and Section 7 Paragraph 14.

5. Progress Schedule, Construction Records, and Reports

5.1 The CONTRACTOR shall furnish the OWNER with proof that all payrolls for services rendered and invoices for materials supplied have been duly paid as herein required, and such other data as the OWNER may require.

5.2 The CONTRACTOR shall furnish (and keep current) a suitable progress chart or schedule showing the estimated (and actual) progress on the work. The progress chart or schedule shall be subject to the approval of the ENGINEER.

5.3 The CONTRACTOR shall furnish all the necessary information for and prepare the partial payment estimates on forms approved by the ENGINEER.

5.4 The OWNER, or his authorized representatives and agents, shall be permitted to inspect all payrolls, records of personnel, invoices of materials, and other relevant data and records.

6. Lines and Grades

6.1 The CONTRACTOR shall be held totally responsible for construction of the work according to the lines and grades shown on the Drawings. The CONTRACTOR shall also insure that the work is constructed in proper relation to proposed highway construction where applicable.

6.2 The CONTRACTOR shall furnish all labor, equipment, stakes, and grade boards. The CONTRACTOR also shall be required to furnish equipment and aides when required by the ENGINEER in checking lines and grades. The labor and

equipment shall be available to the ENGINEER on call, and the labor shall be fully capable of performing the duties of rodman and/or chainman.

7. Access to and Inspection of the Work

Representatives of the OWNER shall at all time have full access for inspection of the work and the CONTRACTOR shall provide proper facilities for such access and inspection.

8. Work on Private Property

8.1 In connection with work performed on private property, the CONTRACTOR shall take every precaution to avoid damage to the property owners' buildings, grounds, and facilities. Fences, hedges, shrubs, etc., within the construction limits shall be removed carefully, preserved, and replaced when the Construction is completed in accordance with the requirements set out hereinafter in these specifications. When construction is completed, the private property owner's facilities and grounds shall be restored to as good (or better) condition than found as quickly as possible at the CONTRACTOR's expense. The OWNER reserves the right to require the CONTRACTOR to obtain a signed Release from each property owner affected by the work. Said Release shall indicate that the property owner is satisfied with the restoration of his land. However, the execution of such a release shall not relieve the CONTRACTOR from any of his contractual obligations or other claims that may arise at a later date. The widths of construction easements obtained by the OWNER from property owners is normally 15 feet each side of the pipeline and the CONTRACTOR shall confine his activities to the area within the limits of the easements unless specific permission is obtained by the CONTRACTOR from property owners.

8.2 Large trees, or other facilities within the actual construction limits that cannot be preserved and replaced shall be removed by the CONTRACTOR but the OWNER will assume the responsibility for settling with the property owner for the loss of said trees or facilities. However, trees and facilities for which the OWNER has made such settlement will be designated on the Drawings and the CONTRACTOR shall be solely and entirely responsible for any damage to trees and facilities not so designated.

8.3 All trees and brush cleared along the route of the pipeline shall be disposed of by the CONTRACTOR in a manner suitable to the ENGINEER and property owner. If such trees and brush are left on the property the CONTRACTOR shall obtain a release for same from the property owner.

9. Traffic Control and Work in Highway Rights of Way

9.1 The CONTRACTOR shall (before beginning work on any public highway right-of-way) make arrangements for maintaining the traffic on said highways and/or roadways, or rerouting traffic as may be required. The applicable regulations of the Kentucky Department of Transportation (Ky D.O.T.) must be followed in this regard.

General Scope and Special Provisions

9.2 The CONTRACTOR shall furnish proper equipment which shall be available at all times for maintaining streets and roads upon which work is being performed. All such streets and roads shall be maintained suitable for traffic until complete and final acceptance of the work.

9.3 When the CONTRACTOR is cutting across a street or highway, he is to cut half of the street at one time, lay the pipe, and complete the backfilling operation so that traffic may pass over this trench before the opening of the trench for the other half of the street or highway. In lieu of the above, bridging of the trench may be required. The time and method of making these crossings shall be approved by the ENGINEER, and the agency or legal entity having responsibility for the maintenance of the street or highway.

9.4 The CONTRACTOR shall be responsible for erecting signs, providing flagmen, providing any other such items, and performing all work as required by Kentucky D.O.T. regulations, the Kentucky D.O.T. permit granted to the OWNER for construction of this specific project, and/or regulations of other agencies having jurisdiction over the right-of-way.

9.5 The CONTRACTOR shall plan his operations so as to cause a minimum of inconvenience to property owners and to traffic. No road, street or alley may be closed unless absolutely necessary, and then only if the following conditions are met:

9.5.1 Permit is secured from appropriate, State, County or Municipal authorities having jurisdiction.

9.5.2 Fire and Police Departments are notified before road is closed.

9.5.3 Suitable detours are provided and are clearly marked.

9.6 No driveways shall be cut or blocked without first notifying the occupants of the property. Every effort shall be made to schedule the blocking of drives to suit to occupants' convenience, and except in case of emergency, drives shall not be blocked for a period of more than 8 hours.

10. Shoring, Sheeting, and Bracing of Excavations

10.1 Where unstable material is encountered or where the depth of excavation warrants it, the sides of the trench or excavation shall be supported by substantial sheeting, bracing, and shoring, or the sides sloped to the angle of repose. The design and installation of all sheeting, sheet piling, bracing, and shoring shall be based on computations of pressure exerted by the materials to be retained under existing conditions. Adequate and proper shoring of all excavations and safety of workmen shall be the entire responsibility of the CONTRACTOR; however, the OWNER may require the submission of shoring drawings (accompanied by supporting computations) for approval prior to the CONTRACTOR undertaking any portion of the work.

10.2 Foundations, adjacent to where the excavation is to be made below the depth of the foundation, shall be supported by shoring, bracing, or underpinning as long as the excavation shall remain open and the CONTRACTOR shall be held strictly responsible for any damage to said foundations.

10.3 Care shall be taken to avoid excessive backfill loads on the completed pipe lines and the requirements regarding the width of the ditch as specified herein be strictly observed.

10.4 Trench sheeting shall not be removed until sufficient backfill has been placed to protect the pipe.

10.5 All sheeting, planking, timbering, bracing, and bridging, shall be placed, renewed, and maintained, as long as is necessary. Sheeting is not a pay item unless the CONTRACTOR is required and/or instructed by the OWNER to leave same in place.

11. Existing Utilities

11.1 Special precautions shall be taken by the CONTRACTOR to avoid damage to existing overhead and underground utilities owned and operated by the OWNER, or by other public or private utility companies.

11.2 With particular respect to existing underground utilities, all available information concerning their location has been shown on the Drawings. While it is believed that the locations shown are reasonably correct, the OWNER cannot guarantee the accuracy or adequacy of this information.

11.3 The location of buried telephone cable often differs from the preliminary information given the OWNER by phone companies and shown on the Drawings. Therefore, in order to construct a pipeline that is parallel to the highway right-of-way as specified, the CONTRACTOR may be required to cross buried telephone cable at various locations not indicated on the Drawings. The CONTRACTOR shall consider these crossings as incidental to the pipeline construction.

11.4 Before proceeding with the work, the CONTRACTOR shall confer with all public or private companies, agencies, or departments that own and operate utilities in the vicinity of the construction work. The purpose of the conference (or conferences) shall be to notify said companies, agencies, or departments of the proposed construction schedule, verify the location of, and possible interference with, the existing utilities that are shown on the Drawings, arrange for necessary suspension of service, and make arrangements to locate and avoid interference with all utilities (including house connections). The OWNER has no objection to the CONTRACTOR arranging for the said utilities companies, agencies, or departments to locate and uncover their own utilities; however, the CONTRACTOR shall bear the entire responsibility for locating and avoiding, or repairing damage to said existing utilities.

General Scope and Special Provisions

11.5 Where existing utilities or other underground structures are encountered, they shall not be displaced or molested unless necessary and then only with the approval of the respective owner. In such cases they shall be replaced in as good (or better) condition than found as quickly as possible. All such utilities that are so displaced or molested shall be replaced at the CONTRACTOR's expense.

11.6 Should it become necessary to provide additional guying or support of power, lighting, or telephone facilities, the CONTRACTOR shall consult with the authorities of these utilities so that suitable arrangements can be made for the protection of same.

11.7 All costs for temporary or permanent work necessary for the protection of utilities, private or public, shall be included in the contract amount to which the items of work pertain, or may be considered to be incidental thereto. In addition, the CONTRACTOR shall be responsible for any damage to the existing utilities resulting from the construction operations and shall bear the cost of all repair or replacement necessary for correction.

11.8 It is expected that the CONTRACTOR will be diligent in his efforts and use every possible means to locate existing utilities. Any claims for unavoidable damage, based on improper or unknown locations, will be examined thoroughly in the light of the CONTRACTOR's efforts to locate the said utilities or obstructions prior to beginning construction.

12. Utilities Required by CONTRACTOR

All electrical current and/or any utility service required by the CONTRACTOR shall be furnished at his own expense except as noted hereinafter.

13. Supervision of Installation

All special equipment or materials shall be installed under the supervision of a qualified installation engineer and/or representative furnished by the manufacturer of such equipment or materials.

14. Execution of the Contract

The construction Contract and the Performance Bonds shall be executed within the time specified in the Information for Bidders and in at least three (3) copies.

15. Permits, Codes, Etc.

Unless otherwise set out in the Specifications or required by the agencies involved, the CONTRACTOR shall make application for, obtain, and pay for all licenses and permits, and shall pay all fees and charges in connection therewith. The CONTRACTOR shall be required to comply with all state or municipal ordinances, laws, and/or codes insofar as the same is binding upon the OWNER.

16. Cleaning up and Removal of Rubbish

16.1 The CONTRACTOR shall at all times keep the premises free from accumulations of waste materials or rubbish caused by his employees or work and shall keep the work site in a clean and useable condition satisfactory to the ENGINEER. The CONTRACTOR shall direct his forces to promptly clean up streets, sidewalks, drainage channels, or private property, affected by his construction operations, when in the opinion of the ENGINEER such clean up is needed. At the completion of the work the CONTRACTOR shall remove all his rubbish from and about the site of the work and all of his tools, equipment, and surplus materials.

16.2 The Contract shall not be considered complete until all construction structures, equipment and rubbish from construction are cleaned from the site of the work. All damage to existing paving, grounds, and structures caused by the CONTRACTOR's operations must be repaired or the owners compensated for such damage before the contract will be considered complete. This includes the removal of rock from blasting (1 1/2 inches or larger in size), and the broom sweeping, or water removal, of dirt from pavement.

17. Items Deleted and Quantity Changes

The OWNER reserves the right to delete any bid item or in the case of unit price items, the OWNER may delete, reduce, or increase the quantities involved. BIDDERS shall be aware of this possibility and shall base their BIDS accordingly.

SECTION 2

MULTI-COLUMN ELEVATED WATER STORAGE TANK

1.01 GENERAL REQUIREMENTS

A. Scope

The Contractor shall be responsible for all labor, materials and equipment necessary for the design, fabrication, construction, painting, disinfection and testing of an elevated, welded carbon steel water storage tank supported by a series of supporting columns and cross bracing. This style of tank is commonly referred to as a "Multi-Column" Tank. Design and construction of the Elevated Tank shall conform to all requirements of AWWA D100 Standard for Welded Carbon Steel Tanks for Water Storage, except as modified by the requirements of these contract documents.

B. Qualification of Manufacturer

- 1) The design and construction of the "Multi-Column" elevated water storage tank shall only be undertaken by a Contractor with a minimum of five years experience with elevated tank construction. The Contractor must be able to demonstrate experience through the design and construction of at least fifty (50) "Multi-Column" elevated water tanks. The Contractor shall not subcontract the design or erection of the steel tank and supporting tower.
- 2) As providing a safe work environment is critical for this project, other contractors, and the community, to be approved to bid on this project, given the complexity, and risk associated with the work, all tank contractors are required to have an Experience Modification Rate (EMR) below 1.00 and a Total Recordable Incident Rate (TRIR) below 3.0 for the last three (3) years. Bidders are required to verify the above requirement by providing with their proposal a statement from their insurance carrier confirming the EMR requirement, and their last three (3) years of OSHA 300 Logs to confirm the TRIR requirement.

C. Submittals

No bid will be considered unless this information is provided with the proposal:

- 1) A list of five "Multi-Column" elevated tanks constructed within the last five years, including the name of the Owner, tank capacity and the Consulting Engineer.
- 2) A preliminary drawing of the tank showing major dimensions and plate thickness upon which the bid is based, the high and low water levels and the dimensions of the supporting tower.
- 3) A foundation design drawing showing preliminary dimensions and approximate quantities of concrete and reinforcing steel.

D. Standard Specifications

All work on the water storage tank shall fully conform to the requirements of the latest published editions of the following Standard Specifications:

Multi-Column Elevated Water Storage Tank

- 1) AWWA (American Water Works Association) D100 Standard for Welded Carbon Steel Tanks for Water Storage.
- 2) AWWA D102 - Standard for Painting Steel Water Storage Tanks.
- 3) AWWA C652 - Standard for Disinfection of Water Storage Facilities.
- 4) AWS (American Welding Society) D1.1
- 5) NSF (National Sanitation Foundation) 61 - Materials in contact with Potable Water.
- 6) Steel Structures Painting Council Manual - Volume 1 - Good Painting Practice.
- 7) Steel Structures Painting Council Manual - Volume 2 - Systems and Specifications.
- 8) ACI 318 - Building Code Requirements for Reinforced Concrete
- 9) ACI 301 –Specifications for Structural Concrete

E. Tank Details

The elevated tank shall be all-welded construction of the most economical design. All members of structural steel or of reinforced concrete shall be designed to safely withstand the maximum stresses to which they may be subjected during erection and operation.

- 1) The minimum operating capacity of the storage tank will be 200,000 US gallons.
- 2) The capacity of the tank, low water level to high water level, shall be contained within a maximum operating head range of 28 feet +/- 2.5 feet.
- 3) The height of the tank, top of foundation to high water level, shall be 131 feet.
- 4) Top of foundation elevation shall be 769.00.
- 5) The existing ground elevation is 768.00 +/- 2' (see grading plan).
- 6) The finished ground elevation shall be 768.00 +/- 1' (see grading plan).

F. Permits, Easements, Electrical Lines and Utilities

Permits, licenses, airspace authority approval and easements required for the construction of the tank and associated work shall be provided by the Owner.

The site plan or specifications shall clearly indicate the approximate location of all overhead or underground electrical lines and other utilities and piping. The Owner is responsible for relocating or de-energizing any electrical or utility lines that may interfere with the safe construction of the foundation or structure(s). In general, no overhead lines, or supports, shall pass or be located within 50 feet of any part of the structure or the footprint of the tank. A minimum vertical clearance of 15 feet shall be provided along any access routes.

G. Working Drawings

After contract award and prior to construction, the Contractor shall provide engineering drawings and design calculations for the elevated steel tank and the foundation. Drawings shall show the size and location of all structural components and the foundations along with reinforcement details, the required strength and grade of all materials, and the size and arrangement of principle piping and equipment. The drawings and calculations shall bear the certification of a professional Engineer licensed in the State of Kentucky. The design coefficients and resultant loads for snow, wind and seismic forces, and the methods of analysis shall be documented.

2.01 DESIGN

A. General

The structural design of the elevated storage tank shall conform to the following design standards (latest edition) except as modified or clarified as follows:

- 1) Foundations – AWWA D100 and ACI 318 – Building Code Requirements for reinforced concrete.
- 2) Steel Tank – AWWA D100
- 3) Steel Tank Painting – AWWA D102

B. Environmental Loads – AWWA D100 and ASCE 7

- 1) **Wind Load** – Wind pressure shall be determined in accordance with AWWA D100, Section 3.1.4. Basic wind speed used in the Wind Pressure formula shall be determined using the mapped site location and Figure 1 of AWWA D100. For tanks located in coastal regions, the Owner's Engineer shall consider the use of an increased basic wind speed as appropriate.

Basic Wind Speed (BWS) = 120 MPH

- 2) **Seismic Load** – Seismic loads shall be determined in accordance with AWWA D100, Section 13.
 - a) Region Dependent Transition Period (T_L) = 12 sec. (Fig. 19)
 - b) Site Class C (Table 25)
 - c) MCE Spectral Response Acceleration at 0.2sec (S_s) and 1sec (S_1) (Fig's. 5-18)
 $S_s = \underline{0.320}$
 $S_1 = \underline{0.148}$
Longitude = -86.524866 (at tank center)
Latitude = 37.013772 (at tank center)
 - d) Importance Factor (I_E) = 1.50 (Table 24)
- 3) **Snow Load** – Snow load shall be determined in accordance with AWWA D100, Section 3.1.3.1.

C. Foundation

A Geotechnical investigation has been carried out at the site and a copy of the report is included with the Contract Documents. Recommendations for the foundation and allowable bearing capacities are defined in this report. The Owner shall retain the services of the Geotechnical consultant to verify the adequacy of the bearing stratum after the Contractor has carried out the excavation and before any concrete or reinforcement is placed. The concrete foundation shall be designed by the Contractor based upon the recommendations in the Geotechnical report. The report must provide the allowable soil bearing pressure with appropriate factors of safety, the active and passive earth pressure coefficients, the angle of soils internal friction, its cohesion, unit weight and recommendations for bearing depth and backfill requirements.

Multi-Column Elevated Water Storage Tank

D. Steel Tank

- 1) **General**
The materials, design, fabrication, erection, welding, testing and inspection of the steel tank shall be in accordance with the applicable sections of AWWA D100 except as modified in this document.
- 2) **Minimum Plate Thickness**
The minimum thickness for any part of the structure shall be 3/16 inch for parts not in contact with water and 1/4 inch for parts in contact with water. All portions of the tank including the roof shall be of watertight construction.

3.01 CONSTRUCTION

A. Concrete Foundation

The foundation shall be designed and constructed to safely and permanently support the structure. The basis of the foundation construction shall be consistent with the soils investigation data included herein at the end of these specifications. Appropriate changes to construction schedule and price will be negotiated if, during excavation, soil conditions are encountered which differ from those described in geotechnical report. The concrete foundation shall be constructed in accordance with ACI 301. Minimum concrete compressive strength shall be 4,000 psi.

B. Steel Tank Construction

- 1) **General**
The erection of the steel tank shall comply with the requirements of Section 10 of AWWA D100 except as modified by these documents.
- 2) **Welding**
All shop and field welding shall conform to AWS and AWWA D100, Section 10. The contractor shall ensure welders or welding operators are qualified in accordance with ASME Section IX or ANSI/AWS B2.1.
- 3) **Fabrication**
All fabrication and shop assembly shall conform to the requirements of AWWA D100, Section 9, Shop Fabrication.
- 4) **Erection**
Plates subjected to stress by the weight or pressure of the contained liquid shall be assembled and welded in such a manner that the proper curvature of the plates in both directions is maintained. Plates shall be assembled and welded together by a procedure that will result in a minimum of distortion from weld shrinkage.
- 5) **Inspection and Testing**
Inspection of shop and field welds shall be in accordance with AWWA D100, Section 11, Inspection and Testing. All inspection shall be performed prior to interior and exterior field painting. Radiographic inspection shall be performed by an independent testing agency with all costs included in the Contractor's

bid and paid by the Contractor.

- 6) **Roof Lap Joints**
All interior lap joints shall be sealed by means of **continuous seal welding**. This shall include penetrations of roof accessories.
- 7) **Painting and Disinfection**
Surface preparation and coating of all steel surfaces shall be in accordance with Section 7 "Coating System for Steel Water Storage Tanks".

4.01 ACCESSORIES

A. General

The following accessories shall be provided in accordance with these specifications. All items shall be in full conformity with the current applicable OSHA safety regulations and the operating requirements of the structure.

B. Ladders

Access ladders shall be provided at the following locations:

- 1) The tower ladder shall extend up one column from near the base connecting with the balcony. The first rung shall be located approximately 8 feet above top of foundation.
- 2) An outside tank ladder from the balcony to the roof hatch.
- 3) An inside tank ladder from the roof hatch to the inside bottom of the tank.

C. Fall Protection

The tower ladder shall be equipped with a cable type arrest system meeting OSHA regulations. The system shall be supplied complete with safety harnesses, locking mechanisms, and accessories for two persons. An arrest system is not required on the balcony to roof hatch ladder or inside ladder.

D. Balcony

The tank shall be equipped with a balcony not less than 24" wide with a handrail not less than 42" high. The floor shall be perforated for drainage.

E. OPENINGS

- 1) **Roof Hatches**
Provide two access hatches on the roof of the tank. One hatch shall be 30 inch diameter and allow access from the roof to the interior of the tank. The hatch will be hinged and equipped with a hasp for locking. The hatch cover shall have a 2 inch downward edge. The second hatch will be 24 inch diameter and flanged with a removable cover so constructed that an exhaust

Multi-Column Elevated Water Storage Tank

fan may be connected for ventilation during painting operations. The openings shall have a minimum 4 inch curb.

2) **Tank Vent**

The tank vent should be centrally located on the tank roof above the maximum weir crest elevation. The tank vent shall have an intake and relief capacity sufficiently large that excessive pressure or vacuum will not develop during maximum flow rate. The vent shall be designed, constructed and screened so as to prevent the ingress of wind driven debris, insects, birds and animals. The vent shall be designed to operate when frosted over or otherwise clogged. The screens or relief material shall not be damaged by the occurrence and shall return automatically to operating position after the pressure or vacuum is relieved. The tank vent and screen shall be all stainless steel or aluminum.

3) **Riser Manhole**

A minimum 18 x 24 inch elliptical access manhole shall be provided approximately 3 feet above the base of the wet riser. The hatch shall open inward.

F. **Riser**

The diameter of the wet riser shall be not less than 5 feet.

G. **Piping**

1) **Inlet Piping**

The vertical inlet pipe connection to the bottom of the riser shall be a 8 inch standard weight carbon steel pipe with appropriate transition to a ductile iron base elbow of the same diameter. The vertical pipe shall extend up through the riser to an elevation 10 feet below the high water line. The inlet pipe shall terminate with a 45 degree bend. The inlet pipe shall be adequately supported.

2) **Outlet Piping**

The vertical outlet pipe connection to the bottom of the riser shall be a 8 inch standard weight carbon steel pipe with appropriate transition to a ductile iron base elbow of the same diameter. The vertical pipe shall extend up into the riser one foot above the riser base.

3) **Overflow**

The overflow pipe shall be designed to carry the maximum design flow rate of 250 GPM. The 6 inch steel overflow pipe shall have a minimum wall thickness of 1/4". A suitable weir shall be provided inside the tank with the crest located at High Water Level. The overflow shall be routed from the weir to closely match the roof contour and extend down the column, underground, and terminate at the concrete splash pad shown on the site plan. The point of discharge shall have a flap valve and be equipped with a stainless steel screen.

H. **Identification Plate**

A tank identification plate shall be mounted on the tank riser pipe above the access manhole. The identification plate shall be corrosion resistant and contain the

following information.

- 1) Tank Contractor
- 2) Contractor's project or file number
- 3) Tank capacity
- 4) Height to High Water Level
- 5) Date erected

I. Cellular Antenna Provisions

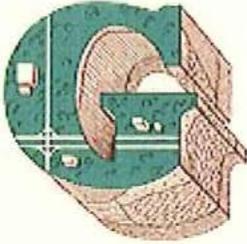
The tank shall have a 14 feet diameter antenna ring for future mounting of cellular antennas. The ring shall also serve as a handrail and be 5 feet tall. The ring shall be designed to handle wind loading associated with 12 antennas, 8 feet tall by 2 feet wide.

A BSC-150 shape (1 5/8" x 3 1/4"), 12 gauge, stainless steel uni-strut shall be mounted to the ladder supports for the full height of the tank leg to support future mounting of antenna cables.

5.01 Guarantee

- A.** The tank Contractor shall guarantee its work for a period of one year from the in-service to the extent that it will repair any defects caused by faulty design, workmanship or material furnished under the specifications. If Contractor is not advised of any defects within 30 days of end of guarantee period, guarantee shall be considered fulfilled and complete. Defects caused by damaging service conditions such as electrolytic, chemical, abrasive or other damaging service conditions are not covered by this guarantee.
- B.** The tank Contractor shall conduct a one year warranty inspection within 30 days of the one-year anniversary of the in-service date. Any deficiencies shall be corrected at the Contractor's expense.
- C.** All guarantees obtained by the tank Contractor from the manufacturer or installer of paint, equipment or accessories not manufactured by tank Contractor shall be obtained for the benefit of the Purchaser.

SECTION 2a - Geotech Report (Tank Site)



GREENBAUM ASSOCIATES, INC.
GEOTECHNICAL & MATERIALS ENGINEERS

994 Longfield Avenue
Louisville, Ky 40215
502/361-8447
FAX 502/361-4793

March 11, 2015

Mr. Ryan J. Leisey
Warren County Water District
P.O. Box 10180
Bowling Green, KY 42102-4780

**Re: Geotechnical Investigation
Proposed 200,000 Gallon Elevated Water Storage Tank
Hilltop Trail Tank Site
Bowling Green, Kentucky
Greenbaum Project Number 15-032**

Dear Mr. Leisey:

In accordance with your instructions, we carried out a subsurface investigation and prepared the attached analysis and report.

This tank may be supported on soil bearing spread footings designed based on an allowable net bearing capacity of 5,000 pounds per square foot. Further detail is provided in the text of the report.

Should you have any questions relating to the report, please call.

Yours very truly,

GREENBAUM ASSOCIATES, INC.

A handwritten signature in black ink, appearing to read 'Sandor R. Greenbaum'.

Sandor R. Greenbaum, P.E.
Principal Engineer

GEOTECHNICAL INVESTIGATION

**FOR
PROPOSED 200,000 GALLON
ELEVATED WATER STORAGE TANK
HILLTOP TRAIL TANK
BOWLING GREEN, KENTUCKY**

**FOR
WARREN COUNTY WATER DISTRICT
P.O. BOX 10180
BOWLING GREEN, KY 42102-4780**

**BY
GREENBAUM ASSOCIATES, INC.
994 LONGFIELD AVENUE
LOUISVILLE, KENTUCKY 40215**

MARCH 11, 2015

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A handwritten signature in black ink, appearing to be 'D. A. Greenbaum', is written over the copyright notice and extends towards the bottom right corner of the page.

DS2-9

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 - 5.2 Site Preparation and Earthwork
 - 5.3 Earth Pressures and Retaining Walls
 - 5.4 Temporary Earth Slopes or Cuts
 - 5.5 Limitations

APPENDIX

- Important Information about your Geotechnical Engineering Report (1 sheet)
- Site Location Plan (1 sheet)
- Boring Location Plan (1 sheet)
- Soil Description Terminology / Rock Quality Determination (1 sheet)
- Test Boring Reports (4 sheets)
- Classification of Soils for Engineering Reports (1 sheet)
- Grain Size Distribution (1 sheet)
- Atterberg Limits Results (1 sheet)

1.0 Introduction

The Warren County Water District intends to build a new 200,000 gallon elevated water storage tank on a site on the west side of Glen Lily Road in Bowling Green, Kentucky. The locations of the borings are shown on the attached boring location plan. The locations shown are only approximate and the drawing is intended to show only the relative positions of the borings. Also attached is a site location plan.

The proposed tank site is in a relatively level and is covered by a patch of trees in the center. Boring locations were placed around the trees, two of the borings having to be offset from the proposed location due to those trees.

We were contracted by the Warren County Water District to carry out a geotechnical investigation directed at determining foundation support characteristics of the materials upon which this elevated water storage tank will be supported. Work was coordinated through Mr. Ryan J. Leisey, P.E., Manager of Engineering and Construction at the Warren County Water District.

2.0 General Geology

The Kentucky Geological Survey shows the soils in this area to be residuum, which are soils formed through weathering of the local bedrock. The bedrock in the area of the proposed water tank is mapped by the Kentucky Geological Survey as the Big Clifty Sandstone Member of the Golconda Formation.

The description provided by the Kentucky Geological Survey for the Big Clifty Sandstone Member is as follows:

Sandstone, shale, and siltstone: Sandstone, very fine to fine-grained, tan to brown, almost entirely crossbedded; iron stained. Shale, gray-green, 2 to 16 feet thick, occurs at top; dark-gray shale 3 to 14 feet thick occurs at bottom and is interbedded with sandstone and siltstone in lower 5 to 6 feet. Member forms vertical cliffs 50 feet high along valleys and caps hills in most of area south of Barren River. Springs common at top of lower shale.

3.0 Investigation

Four borings were carried out within or near the footprint of the proposed tank by standard penetration procedures to refusal on bedrock, around the perimeter of the proposed tank footprint. Two of the borings were core drilled five feet into rock. A CME-550 all-terrain-vehicle-mounted drill rig was used to carry out the borings through the use of 3-¼ inch inside diameter hollow stem augers. The boring locations were staked from property corners using a 100-foot tape, so boring locations are only as accurate as this procedure allows.

The standard penetration procedure involves driving a standard 2-inch diameter split spoon in the formation at selected intervals using a 140-pound hammer falling through 30 inches. The blow counts for each 6 inches of drive, to a total of 18 inches, are recorded and the number of blows for the 12 inches after the first 6 inches is a standard measure of the condition of the soil. As the split spoon is removed from the ground, it retrieves a sample of the soil in a disturbed condition. Nevertheless, this sample is suitable for certain classification tests and is representative of the soils at the depth tested.

An NQ double tube core barrel with a diamond drill bit was used to core the rock. The double tube core barrel itself minimizes the erosive action of the drilling fluid on the core and thereby improves core recovery. A swivel type double tube core barrel was used. The core barrel consists of a core barrel head, an outer barrel, an inner core recovery tube, a reaming shell, a core lifter and a coring bit. In operation, the inner tube remains stationary while the outer barrel is rotated. This minimizes the possibility of core disturbance through torsional forces and thereby improves recovery. Water passages direct the flow of the drilling fluid into the annular space between the two tubes and vents provide for the exit of the water from the barrel. The inner tube assembly is suspended from the outer tube head in such manner that downward force can be applied to both tubes while only the outer tube is rotated.

Soil samples were returned to the laboratory where a program of testing was carried out. This testing included a grain size analysis, an Atterberg Limits test and natural moisture determinations on all of the soil samples.

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Grain size determination arrives at a curve of grain size against that fraction of the soil that is finer than that particular grain size. It also allows the determination of the clay fraction, silt fraction, sand fraction, etc. in any particular soil sample. Based on this division of grain sizes, the field soils classifications are refined and the boring logs adjusted. In the case of fine grained soils, the soils are largely silt and clay thus requiring that the soils be suspended in an aqueous medium and the rate at which the particles drop out is measured in order to arrive at the grain size distribution. Silt and clay grains are so fine that sieve analysis alone will not function in this range. The coarse fraction of this sample is separated from the fine and run through a nest of sieves in order to further detail the grain size distribution in the coarse range.

The Atterberg Limits determination arrives at those moisture contents at which the soil turns from a solid state to a plastic condition (the Plastic Limit) and then from a plastic condition to a liquid condition (The Liquid Limit). The points in question are arrived at by standard procedures that accept specific cohesive and flow properties of the soil as standards for these limits. Knowing the moisture content of the soil in relation to these limits provides a broad measure of the soil strength and soil characteristics. The arithmetic difference between these two limits is called the Plasticity Index and all three together are used for classifying the soils in a number of standard systems.

Natural moisture determinations were run on all soil samples. This test arrives at the in-situ moisture content of the soil and is useful for correlating the strength of various samples of like texture and in conjunction with the Atterberg limits, gives a strong measure of the strength range the soils are likely to be found in.

4.0 Findings

4.1 Boring Results

At the surface we found 6 to 7 inches of topsoil. This was underlain by light brown sandy silt to a depth of up to 2.5 feet below which weathered sandstone is encountered. Auger refusal was encountered between 6.3 and 13.6 feet depth, but split spoon refusal was encountered in all the boring starting at 2.5 feet depth. Five feet of sandstone was cored in two of the borings and core recoveries of 40 and 83 percent were measured, but Rock Quality Designation (RQD) was found to be zero in both borings. The zero RQD is because the core breaks up into pieces less than four inches long.

Report of Geotechnical Investigation
Proposed 200,000 Gallon Elevated Water Storage Tank
Glen Lily road
Bowling Green, Kentucky
Project Number 15-032

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Although no groundwater was encountered in any of the borings upon completion of drilling, water may be perched on the bedrock surface seasonally.

4.2 Laboratory Results

One sample of soil was tested and classified. This sample, taken from boring B-2 from 2 feet to 3.5 feet depth, was found to be sandy silt containing 33 percent sand, 49 percent silt and 18 percent clay. An Atterberg limits test on this sample indicated a liquid limit of 20 and found the sample to be non-plastic. This soil is classified as ML by the Unified system and as A-4 by the AASHTO system.

4.3 Seismicity

By the 2012 edition of the International Building Code, this is a very dense soil and soft rock profile, site class C. The Spectral Response Acceleration Coefficients, for this area, for risk category IV, as provided by U.S.G.S., FEMA Design Parameters are:

$$S_S = 0.290 \text{ g}$$

$$S_{MS} = 0.348 \text{ g}$$

$$S_{DS} = 0.232 \text{ g}$$

$$S_1 = 0.139 \text{ g}$$

$$S_{M1} = 0.231 \text{ g}$$

$$S_{D1} = 0.154 \text{ g}$$

5.0 Recommendations

5.1 Foundations

This elevated water storage tank may be supported on spread footings bearing on weathered sandstone. These foundations may be designed based on an allowable bearing pressure of not more than 5,000 pounds per square foot. This bearing strata is present at about 30 inches below existing grade or less. Any soil should be removed and should be replaced with lean concrete or Kentucky Number 57 stone.

Tank foundations must bear at least 30 inches below finished grade to insulate the bearing strata from freezing. Foundations will undergo up to an inch of settlement with differential settlement not expected to exceed three-quarters of an inch.

5.2 Site Preparation and Earthwork

All fill should be placed in lifts not exceeding 8 inches in uncompacted thickness and must be compacted to at least 98 percent of the soils maximum dry density as determined by the Standard Proctor (ASTM D-698). Soil moisture content should be within 2 percent of optimum as determined from the Standard Proctor.

Soil from any off-site borrow sources should be tested and approved by this office prior to being used on the site. Satisfactory borrow materials are those falling in one of the following classifications: GC, SM, SC, ML, or CL. Soil types MH, CH and OH soils and peat are unsatisfactory borrow materials.

The site should be maintained in a well-drained condition both during and after construction. Site grading should provide for drainage of surface run-off from tank foundations.

The placement of compacted fill should be carried out by an experienced excavator with the proper materials. The excavator must be prepared to adapt his procedures, equipment and materials to the type of project, to weather conditions, and the structural requirements of the engineer. Methods and materials used in summer may not be applicable in winter; soil used in proposed fill may require wetting or drying for proper placement and compaction. Conditions may also vary during the course of a project or in different areas of this site. These needs should be addressed in the project drawings and specifications.

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During freezing conditions, the fill must **not** be frozen when delivered to the site. It also must not be allowed to freeze during or after compaction. Since the ability to work the soil while keeping it from freezing depends in part on the soil type, the specifications should require the contractor to submit a sample of his proposed fill before construction starts, for laboratory testing. If the soil engineer determines that it is not suitable, it should be rejected. In general, silty sand, clayey sand, and cohesive/semi-cohesive soils should not be used as fill under freezing conditions. All frozen soil of any type should be rejected for use as compacted fill.

It is important that compacted fill be protected from freezing after it is placed. The excavator should be required to submit a plan for protecting the soil. The plan should include details on the type and amount of material (straw, blankets, extra loose fill, topsoil, etc.) proposed for use as frost protection. The need to protect the soil from freezing is ongoing throughout construction and applies both before **and** after concrete is placed, until backfilling for final frost protection is completed. Foundations placed on frozen soil can experience heaving and significant settlement, rotation, or other movement as the soil thaws. Such movement can also occur if the soil is allowed to freeze **after** the concrete is placed and then allowed to thaw. The higher the percentage of fines (clay and silt, P-200 material) in the fill, the more critical is the need for protection from freezing.

The contractor should be required to adjust the moisture content of the soil to within a narrow range near the optimum moisture content (as defined by the applicable Proctor or AASHTO Test). In general, fill should be placed within 2% of optimum moisture. The need for moisture control is more critical as the percentage of fines increases. Naturally occurring cohesive/semi-cohesive soil are often much wetter than the optimum. Placing and attempting to compact such soils to the specified density may be difficult. Even if compacted to the specified density, excessively wet soils may not be suitable as pavement subgrades due to pumping under applied load. This is especially true when wet cohesive/semi-cohesive soil is used as backfill in utility trenches and like situations. Excessively wet soil in thick fill sections may cause post-construction settlement beyond that estimated for fill placed at or near ($\pm 2\%$) the optimum moisture content.

5.3 Earth Pressure and Retaining Walls

Any retaining walls should be constructed with a drainage blanket of sand or a synthetic drainage material. Synthetic drainage media should be available from suppliers of geotextile. The wall should be drained at its base by a perforated PVC underdrain or weepholes at a spacing of not more than 10 feet. Where a relatively thin drainage blanket is used, the retaining wall should be designed based on a coefficient of active earth pressure (K_a) of 0.33 and a soil unit weight (γ_w) of 130 pounds per cubic foot. This results in an equivalent fluid pressure of 43 pounds per cubic foot. Where granular backfill completely fills the area defined by a plane extending upward from the base of the wall at a 45 degree angle, the retaining wall may be designed based on a coefficient of active earth pressure (K_a) of 0.27 and a soil unit weight (γ_w) of 135 pounds per cubic foot. This results in an equivalent fluid pressure of 37 pounds per cubic foot.

However, where the wall is restrained from movement the wall must be designed based on the "at rest" earth pressure. The coefficient of "at rest" earth pressure (K_0) is 0.50 with a soil unit weight (γ_w) of 130 pounds per cubic foot in the case of a thin drainage blanket behind the wall, resulting in an equivalent fluid of 65 pounds per cubic foot unit weight. Where granular backfill completely fills the area defined by a plane extending upward from the base of the wall at a 45 degree angle, the retaining wall may be designed based on a coefficient of "at rest" earth pressure (K_0) of 0.43 and a soil unit weight (γ_w) of 130 pounds per cubic foot. This results in an equivalent fluid pressure of 56 pounds per cubic foot.

Surcharge above the wall will add additional load. A uniform surcharge must be multiplied by the appropriate coefficient of earth pressure to determine the additional load applied to the wall. The internal angle of friction (Φ) of the weathered sandstone underlying foundations is 30° resulting in a coefficient of friction of 0.38.

Any retaining wall design must use appropriate factors of safety. It is critical that drainage be provided as mentioned earlier in this section in order to avoid hydrostatic pressure. Hydrostatic pressure would increase pressure against the wall substantially.

5.4 Temporary Earth Slopes or Cuts

Temporary earth cuts necessary to construct foundations or utility lines should be no deeper than 4 feet without benching or sloping. Cuts deeper than this should be sloped no steeper than one horizontal to one vertical or should have benches every 2 feet of height equating to this slope. If vertical faces deeper than 4 feet are used, bracing designed for short term loads may be used. Excavations should comply with OSHA regulations. If soft soils are encountered, Greenbaum Associates, Inc. should view the cut face prior to personnel entering the excavation.

5.5 Limitations

We strongly recommend that bearing surfaces and compaction be monitored by Greenbaum Associates, Inc. Our technicians will be available to further assist you in providing these and other normally specified quality control services. The report is preliminary until such time as these examinations are completed to confirm conditions consistent with those discovered in the investigation.

The conclusions and recommendations offered in this report are based on the subsurface conditions encountered in the borings. No warranties can be made regarding the continuity of conditions between or beyond borings. If, during construction, soil conditions are encountered that differ from those indicated in this report, a representative of Greenbaum Associates, Inc. should inspect the site to determine if design modification is required.

This study was directed at a specific tank at this location to be constructed within a reasonably short period after this study. Use for any other location, structures or substantial changes in construction period may invalidate the recommendations. The geotechnical engineer should be consulted relative to any substantial change in these.

This study is directed at mechanical properties of the soils and includes no sampling, testing or evaluation for environmental considerations.

Important Information about Your Geotechnical Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical engineering study conducted for a civil engineer may not fulfill the needs of a construction contractor or even another civil engineer. Because each geotechnical engineering study is unique, each geotechnical engineering report is unique, prepared *solely* for the client. No one except you should rely on your geotechnical engineering report without first conferring with the geotechnical engineer who prepared it. *And no one — not even you — should apply the report for any purpose or project except the one originally contemplated.*

Read the Full Report

Serious problems have occurred because those relying on a geotechnical engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

A Geotechnical Engineering Report Is Based on A Unique Set of Project-Specific Factors

Geotechnical engineers consider a number of unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical engineering report that was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light industrial plant to a refrigerated warehouse,

- elevation, configuration, location, orientation, or weight of the proposed structure,
- composition of the design team, or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes—even minor ones—and request an assessment of their impact. *Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.*

Subsurface Conditions Can Change

A geotechnical engineering report is based on conditions that existed at the time the study was performed. *Do not rely on a geotechnical engineering report* whose adequacy may have been affected by: the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events, such as floods, earthquakes, or groundwater fluctuations. *Always* contact the geotechnical engineer before applying the report to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.

Most Geotechnical Findings Are Professional Opinions

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ—sometimes significantly—from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide construction observation is the most effective method of managing the risks associated with unanticipated conditions.

A Report's Recommendations Are *Not* Final

Do not overrely on the construction recommendations included in your report. *Those recommendations are not final*, because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations only by observing actual

subsurface conditions revealed during construction. *The geotechnical engineer who developed your report cannot assume responsibility or liability for the report's recommendations if that engineer does not perform construction observation.*

A Geotechnical Engineering Report Is Subject to Misinterpretation

Other design team members' misinterpretation of geotechnical engineering reports has resulted in costly problems. Lower that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Contractors can also misinterpret a geotechnical engineering report. Reduce that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing construction observation.

Do Not Redraw the Engineer's Logs

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

Give Contractors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can make contractors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give contractors the complete geotechnical engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise contractors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure contractors have sufficient time to perform additional study.* Only then might you be in a position to give contractors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

Read Responsibility Provisions Closely

Some clients, design professionals, and contractors do not recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that

have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations" many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The equipment, techniques, and personnel used to perform a *geoenvironmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical engineering report does not usually relate any geoenvironmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own geoenvironmental information, ask your geotechnical consultant for risk management guidance. *Do not rely on an environmental report prepared for someone else.*

Obtain Professional Assistance To Deal with Mold

Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. To be effective, all such strategies should be devised for the *express purpose* of mold prevention, integrated into a comprehensive plan, and executed with diligent oversight by a professional mold prevention consultant. Because just a small amount of water or moisture can lead to the development of severe mold infestations, a number of mold prevention strategies focus on keeping building surfaces dry. While groundwater, water infiltration, and similar issues may have been addressed as part of the geotechnical engineering study whose findings are conveyed in this report, the geotechnical engineer in charge of this project is not a mold prevention consultant; *none of the services performed in connection with the geotechnical engineer's study were designed or conducted for the purpose of mold prevention. Proper implementation of the recommendations conveyed in this report will not of itself be sufficient to prevent mold from growing in or on the structure involved.*

Rely on Your ASFE-Member Geotechnical Engineer for Additional Assistance

Membership in ASFE/THE BEST PEOPLE ON EARTH exposes geotechnical engineers to a wide array of risk management techniques that can be of genuine benefit for everyone involved with a construction project. Confer with your ASFE-member geotechnical engineer for more information.

ASFE THE GEOPROFESSIONAL BUSINESS ASSOCIATION

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IIGER03135.0MRP



Site Location Plan
Hilltop Trail Tank
Glen Lily Road, Bowling Green, Kentucky
Greenbaum Project Number: 15-032


**Greenbaum
Associates, Inc.**

Warren County Water District



Boring Location Plan
Hilltop Trail Tank
Glen Lily Road, Bowling Green, Kentucky
Greenbaum Project Number: 15-032



**Greenbaum
Associates, Inc.**

Warren County Water District

SOIL DESCRIPTION TERMINOLOGY

Soils are identified and classified in this report according to the Unified Classification System with the following modifiers:

RELATIVE DENSITY OF GRANULAR SOILS

<u>Description</u>	<u>Blows/Foot</u>
Very Loose	0 to 4
Loose	4 to 10
Medium Dense	10 to 30
Dense	30 to 50
Very Dense	50 to 80
Extremely Dense	80+

CONSISTENCY OF COHESIVE SOILS

<u>Description</u>	<u>N-value</u>	<u>q_u (tsf)</u>
Very Soft	0 to 2	0 to 0.25
Soft	3 to 4	0.26 to 0.50
Medium Stiff	5 to 8	0.51 to 1.0
Stiff	9 to 15	1.1 to 2.0
Very Stiff	16 to 30	2.1 to 4.0
Hard	>30	4.1 to 8.0
Very Hard		8.1+

PARTICULAR SIZES

<u>Components</u>	<u>Size or Sieve No.</u>
Boulders	over 12 inches
Cobbles	3 to 12 inches
Gravel - Coarse	$\frac{3}{4}$ to 3 inches
Fine	No. 4 to $\frac{3}{4}$ inch
Sand - Coarse	No. 10 to No. 4
Medium	No. 40 to No. 10
Fine	No. 200 to No. 40
Fines (silt and clay)	Finer than No. 200

SOIL MOISTURE

	<u>Descriptive Term</u>
Dry	Dry of Standard Proctor Optimum
Damp	Moist (sand only)
Moist	Near Standard Proctor Optimum
Wet	Wet of Standard Proctor Optimum
Saturated	Free Water in Sample

ROCK DESCRIPTION TERMINOLOGY

The Rock Quality Determination (Deere et. Al., 1969) method of determining rock quality as reported here was obtained by summing up the total length of core recovered in each run, counting only those pieces of core which are four inches (10 cm.) in length or longer and which are hard and sound. The sum is then represented as a percentage over the length of the run. If the core is broken by handling or by the drilling process, the fresh broken pieces are fitted together and counted as one piece provided that they the requisite length of four inches (10 cm.). RQD is reported as a percentage.

RELATIONSHIP BETWEEN RQD AND ROCK QUALITY

<u>RQD (%)</u>	<u>Description of Rock Quality</u>
0 to 25	Very Poor
26 to 50	Poor
51 to 75	Fair
76 to 90	Good
91 to 100	Excellent



Greenbaum Associates, Inc.
 Louisville, KY 40215 (502) 361-8447

Client: Warren County Water District	HOLE No. B-1
Project: Hilltop Trail Tank Glen Lily Road, Bowling Green, KY	Sheet 1 of 1
Project No.: 15-032	

Boring Location: See Boring Location Plan	Surface Elevation: Ground	Station: n/a
Drilling Equipment: CME-550 with Safety Hammer	Drilling Method: 3 1/4 Inch Hollow Stem Auger	
Depth to water immediately: Dry	Overburden: 8	Rock: 5
Total Depth: 8.0		
Logged By: S. Greenbaum	Driller: M. Wells	Date Logged: 2/25/15 - 2/25/15

DEPTH (feet)	GRAPHIC LOG	SAMPLE NO.	RECOVERY %	RQD %	MATERIAL DESCRIPTION	ELEVATION (feet)	STANDARD PENETRATION TEST (blows/ft)	N VALUE
					Topsoil (6 inches)	Ground		
					Moist, Medium Dense, Light Brown Sandy Silt			
	X		33		Light Brown, Weathered Sandstone	▲	●	>> 50/ 3"
5	X					▲	●	>> 50/ 2"
					AUGER REFUSAL @ 8.0 FEET			
					Light Gray Sandstone with Very Thin Shale Interbeds			
		NX	40	0				
					TERMINATED @ 13.0 FEET			

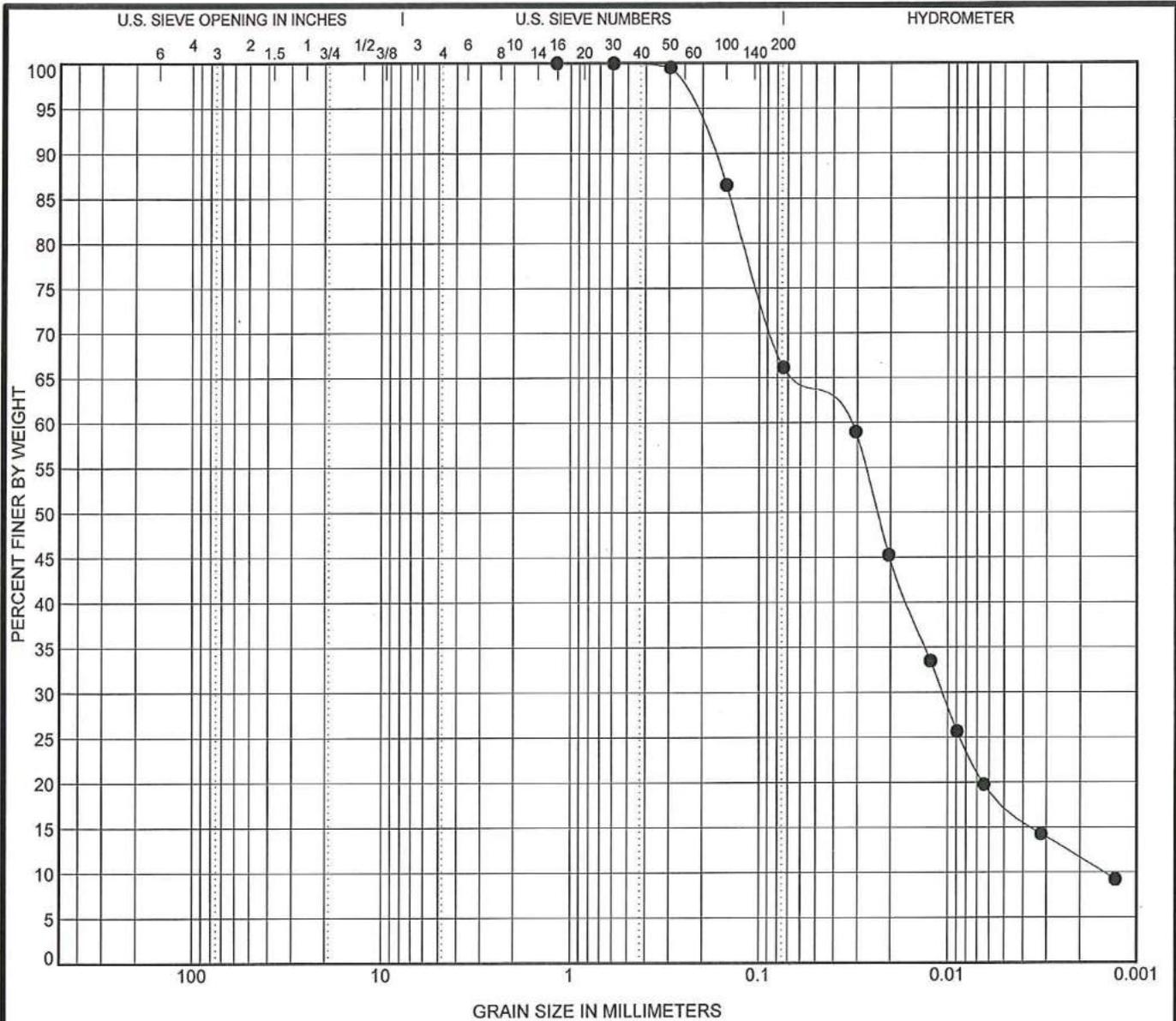
LOG WITH WELL AND SPT GRAPH_15-032.GPJ_08-053.GPJ_3/10/15

SAMPLER TYPE SS - Split Spoon ST - Shelby Tube HQ - Rock Core, 2-1/2"	DRILLING METHOD HSA - Hollow Stem Auger CFA - Continuous Flight Augers DC - Driving Casing	Hole No. <div style="text-align: center; font-weight: bold; font-size: 1.2em;">B-1</div>
NX - Rock Core, 2-1/8" CU - Cuttings CT - Continuous Tube	RW - Rotary Wash RC - Rock Core	

CLASSIFICATION OF SOILS FOR ENGINEERING PURPOSES

(ASTM: D 2487 and 2488)

Major divisions	Group symbols	Typical names	Laboratory classification criteria					
Coarse-grained soils (More than half of material is larger than No. 200 sieve size)	Gravels (More than half of coarse fraction larger than No. 4 sieve size)	Clean gravels (Little or no fines)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines	Determine percentages of sand and gravel from grain-size curve, depending on percentage of fines (fraction smaller than No. 200 sieve size), coarse-grained soils are classified as follows: Less than 5 per cent GW, GP, SW, SP More than 12 per cent GM, GC, SM, SC 5 to 12 per cent Borderline cases requiring dual symbols	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3		
			GP	Poorly graded gravels, gravel-sand mixtures, little or no fines		Not meeting all gradation requirements for GW		
		Gravels with fines (Appreciable amount of fines)	GM	d		Silty gravels, gravel-sand-silt mixtures	Atterberg limits below "A" line or P.I. less than 4	Above "A" line with P.I. between 4 and 7 are <i>borderline</i> cases requiring use of dual symbols
				u			Atterberg limits below "A" line or P.I. greater than 7	
		Clean sands (Little or no fines)	SW	Well-graded sands, gravelly sands, little or no fines		$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3		
				SP		Poorly graded sands, gravelly sands, little or no fines	Not meeting all gradation requirements for SW	
	Sands with fines (Appreciable amount of fines)	SM	d	Silty sands, sand-silt mixtures	Atterberg limits below "A" line or P.I. less than 4	Limits plotting in hatched zone with P.I. between 4 and 7 are <i>borderline</i> cases requiring use of dual symbols.		
			u		Atterberg limits below "A" line or P.I. greater than 7			
	Sands (More than half of coarse fraction is smaller than No. 4 sieve size)	Clean sands (Little or no fines)	GC	Clayey gravels, gravel-sand-clay mixtures	Fine-grained soils (More than half of material is smaller than No. 200 sieve)			
				SW		Well-graded sands, gravelly sands, little or no fines		
		SP	Poorly graded sands, gravelly sands, little or no fines					
			Sands with fines (Appreciable amount of fines)	SM		d	Silty sands, sand-silt mixtures	
u								
SC		Clayey sands, sand-clay mixtures						
Silts and clays (Liquid limit less than 50)	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity						
		CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays				
		OL		Organic silts and organic silty clays of low plasticity				
	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts						
		CH		Inorganic clays of high plasticity, fat clays				
	OH	Organic clays of medium to high plasticity, organic silts						
	Silts and clays (Liquid limit greater than 50)	OH		Organic clays of medium to high plasticity, organic silts				
CH			Inorganic clays of high plasticity, fat clays					
Highly organic soils	Pt	Peat and other highly organic soil						



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
● B-2 3.0	SANDY SILT (ML)	20	NP	NP	2.20	23.28

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● B-2 3.0	1.19	0.035	0.011	0.001	0.0	33.4	48.7	17.8



Greenbaum Associates, Inc.
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GRAIN SIZE DISTRIBUTION

Project: Hilltop Trail Tank
 Location: Glen Lily Road, Bowling Green, KY
 Number: 15-032

US GRAIN SIZE 15-032.GPJ GREENBAUM.GDT 3/9/15

SECTION 3

COATING SYSTEM FOR STEEL WATER STORAGE TANK

1. General

The work described in this section is to be performed on a legged, elevated water storage tank described herein. The new tank will be located on the west side of Bowling Green, Kentucky. The table below summarizes certain information about the subject tank:

TABLE 3.1

HILL TOP TRAIL TANK SPECIFICATIONS

Nominal Capacity (gals)	200,000
Height to Bottom of Bowl (ft)	102'-9"
Height to O.F. (ft)	131'-0"
Date Erected	

2. Inspection

By submitting a Bid, the Bidder will acknowledge that the plans, specifications, and site have been inspected by the Bidder or the right to do so has been waived.

3. General Scope

The work to be performed under this Contract shall include the preparation, and painting of the entire interior and exterior of the new Hill Top Trail Tank. The work further includes certain incidental miscellaneous items. The work shall include all associated work, including the furnishing of all labor, materials, supplies, equipment, or services necessary for the completion of the work, ready for continuous and satisfactory operation.

4. Cleaning and Painting

4.1 The new tank material shall be shop-primed by the tank fabricator in accordance with the specifications.

4.2 All additional paint shall be applied on site, under favorable conditions only, and by skilled painters. All surfaces to which paint is applied shall be clean and dry. No paint shall be applied when the temperature is within 5 degrees of the dew point, or when the steel or air temperature or humidity is below that recommended by the paint manufacturer. The painting requirements and recommendations of the paint manufacturer shall be strictly followed by the CONTRACTOR.

Detailed Specifications

Section 3

4.3 All cleaning and painting shall be done in a workmanlike manner. In addition to the minimum and maximum dry film requirements, all sags, runs, dry spray, pinholes, craters, or other irregularities which would be detrimental to the life or appearance of the coating(s) shall be removed and repaired as directed by the ENGINEER. The CONTRACTOR shall provide all rigging and equipment required for inspection such as holiday detector, surface thermometer, psychrometer, film gauges, etc.

4.4 Particular care shall be taken at all times to prevent paint from falling on and damaging nearby vehicles, residences and buildings. The CONTRACTOR shall be responsible for any and all damage caused by his operations, including painting.

5. Abrasive

Abrasive shall be a non-metallic type of grit, sized to produce the profile specified by the paint manufacturer for the coating system being applied. It shall be properly stored and shall be free from contaminants. The proper storage and disposal of blasting residue shall be the responsibility of the CONTRACTOR.

6. Paint Submittals

6.1 The CONTRACTOR shall submit the following for approval by the ENGINEER:

6.1.1 Coating manufacturer's certificate for each coating proposed for use attesting that the coatings meet the Specifications in this section and are proper for the proposed application.

6.1.2 Coating manufacturer's specifications, data sheets, and application instructions for each coating proposed for use.

6.1.3 Color chart for ENGINEER's selection of colors.

6.1.4 Certification of compliance to each product performance requirement.

7. Interior Cleaning and Painting

7.1 All interior surfaces, including interior surfaces of pipes, vents, manholes, etc. shall be abrasive blasted to SSPC-SP 10, Near-White Blast. The sequencing and timing of the areas to be cleaned and painted shall be approved by the ENGINEER. Before the formation of rust and after approval of the surface by the ENGINEER, all surfaces blasted to Near White shall be primed with the first coat specified below. Prior to the applying the first coat, all blasted seams, bolt heads and nuts, erection lugs and scars, and corners shall be primed by brush using 25% thinned primer, followed by the overall spray priming.

7.2 The tank is to be seal welded. After priming, the lapped roof seams the joints at the roof vent, roof manway and any rough edges that would cause difficulty in

Coating System for Steel
Water Storage Tank

providing a holiday-free coating shall be sealed with epoxy seam sealer, Tnemec Series 62-1400, or equal in accordance with the manufacturer's recommendations. The material shall be smoothly beveled and applied neatly. This work shall be included in the CONTRACTOR's base bid.

7.3 After the recommended drying period for the seam sealer, a full intermediate coat as specified below shall be applied by roller. After the recommended drying period for the intermediate coat, a full finish coat as specified below shall be added by spray application.

7.4 The coating for the interior surfaces is intended to comply with the requirements of AWWA D102, Inside System No. 2, Three-Coat Two-Component Catalyzed High Build Epoxy System with the exception of the minimum mils stated below, and the brush pre-priming of the seams and potential holiday areas.

7.5 Interior coating material system shall be as listed below by either of the three manufacturers specified:

Sherwin-Williams.

(1) Macropoxy 646 PW (White)	4.0 to 6.0 mils
(2) Macropoxy 646 PW (Beige)	4.0 to 6.0 mils
(3) Macropoxy 646 PW (White)	<u>4.0 to 6.0 mils</u>
Required Total Dry Film Thickness	12.0 to 18.0 mils

Tnemec Company Inc.

(1) Series N140 Pota-Pox Plus Primer (White)	4.0 to 6.0 mils
(2) Series N140 Pota-Pox Plus Intermediate (Beige)	4.0 to 6.0 mils
(3) Series N140 Pota-Pox Plus Finish (White)	<u>4.0 to 6.0 mils</u>
Required Total Dry Film Thickness	12.0 to 18.0 mils

Rust-Oleum Inc.

(1) Primer:	W9223 NSF61-approved epoxy (White)	5.0 to 8.0 mils
(2) Intermediate:	W9223 NSF61-approved epoxy (Beige)	5.0 to 8.0 mils
(3) Finish:	W9293 Tank Epoxy(White)	<u>5.0 to 8.0 mils</u>
Required Total Dry Film Thickness		15.0 to 24.0 mils

7.6 Interior coatings will be checked with a wet sponge low voltage holiday detector and testing shall be done in accordance with Section 8.4 of AWWA D102 in the presence of the INSPECTOR. Any voids indicated shall be repaired by applying more of the finish coat of paint by brush or roller. The areas shall be retested after the appropriate drying time. The coating system must pass the holiday test regardless of the coating thickness existing.

7.7 The interior paint shall be completely cured and the tank shall not be filled with water until approved by the ENGINEER, OWNER, and paint manufacturer. Solvent rub tests, pencil hardness tests, or other industry recognized testing procedures may be used. If forced ventilation or supplementary heating is required to effect curing, the CONTRACTOR shall furnish and install the equipment to perform the ventilation and/or supplementary heating required.

Detailed Specifications

Section 3

7.8 The CONTRACTOR shall be responsible for assuring that no foreign material such as paint, abrasive, rags, or tools enter the inlet-outlet or overflow piping during the prosecution of the work. Any material in this piping at the time the tank is placed into service shall be removed at the expense of the CONTRACTOR.

8. Exterior Cleaning and Painting

8.1 All exterior areas that have rust or exposed metal shall be power tool cleaned in accordance with SSPC-SP 3 or brush-blasted in accordance with SSPC-SP 6. These surfaces shall then be cleaned of all dust and debris and immediately coated by the selected spot primer specified below.

8.2 The tank shall be seal welded. Special attention shall be given to lapped joints, bolt heads and nuts, threads, corners, member intersections, and other deviations from smooth surfaces. These areas shall be primed by brush using 25% thinned primer followed by the overall priming.

8.3 After cleaning and spot priming, the tank exterior shall be given one complete coat of primer.

8.4 The intermediate coat shall be applied after the primer has been inspected and approved.

8.5 The tank and accessories shall then be given a final coat of the selected paint in a color selected by the OWNER. After painting, intersections of steel plates, etc., not seal welded shall be sealed with Sika-Flex 1A Flexible sealant, or approved equal.

8.6 The exterior coating material system shall be one of the systems listed below:

Rust-Oleum Inc.

(1) Spot Primer:	9100 Epoxy	
(2) Full Prime Coat:	9100 Epoxy	3.0 to 5.0 mils
(3) Intermediate Coat:	9100 Epoxy	3.0 to 5.0 mils
(4) Finish:	9800 Urethane Mastic	<u>3.0 to 5.0 mils</u>
Required Total Dry Film Thickness		9.0 to 15.0 mils

Tnemec Company Inc.

(1) Spot Primer:	Series 135	
(2) Full Prime Coat:	Series 135	3.0 to 5.0 mils
(3) Intermediate Coat:	Series 135	3.0 to 5.0 mils
(4) Finish:	Series 73	<u>3.0 to 5.0 mils</u>
Required Total Dry Film Thickness		9.0 to 15.0 mils

Sherwin-Williams.

(1) Spot Primer:	Macropoxy 646 PW	
------------------	------------------	--

Coating System for Steel
Water Storage Tank

(2) Full Prime Coat:	Macropoxy 646 PW	3.0 to 5.0 mils
(3) Intermediate Coat:	Macropoxy 646 PW	3.0 to 5.0 mils
(4) Finish:	Acrolon 218 HS	<u>3.0 to 5.0 mils</u>
Required Total Dry Film Thickness		9.0 to 15.0 mils

8.7 All concrete surfaces that are to remain exposed on the site shall be cleaned and painted with a two-coat epoxy system approved by the ENGINEER. Color shall be white.

9. Signs

After completion of exterior painting, the CONTRACTOR shall paint three (3) signs on the vertical shell plates of the tank. The layout, spacing, and orientation of the sign on the tank shall be as indicated by the OWNER. Each sign shall be approximately 15 feet tall by 15 feet wide. The general arrangement for each sign shall be as shown in Figure 1. Paint for the signs shall be as specified for the final exterior coat, except the color shall be as approved by the OWNER.



Figure 1 - Tank Sign

10. Collection, Storage, Removal, and Disposal of Cleaning and Blasting Residue

All operations associated with this project shall be in conformance with EPA regulations, the Occupational Safety and Health Act (OSHA) of 1970 and all rules, regulations, and standard promulgated under this Act, as well as all other applicable State and Local standards, rules, and regulations governing worker safety and health and solid waste transport and disposal.

Detailed Specifications
Section 3

11. Disinfection of Tank

After the proper curing time has elapsed and prior to placing the tank in service, the interior of the tank and riser shall be washed with potable water and all residue shall be removed by the CONTRACTOR. The tank shall then be thoroughly disinfected by the OWNER in accordance with AWWA C652. Chlorination Method 3 as described in said specification shall be utilized. Bacteriological sampling and testing shall be performed by the OWNER.

17. First Anniversary Inspection

The inside and outside surfaces of the tank shall be inspected by representatives of the OWNER and CONTRACTOR at approximately one year's time after painting work has been completed. This inspection shall be in accordance with Section 9 of AWWA D102. The CONTRACTOR shall provide the necessary rigging for the inspection and shall be fully prepared to make any repairs that might be required. If coating repairs are required, the CONTRACTOR shall use material approved by the ENGINEER that will permit restoring the tank to service the same day the material is applied.

SECTION 4
BASIS OF PAYMENT

1. General

The CONTRACTOR shall furnish all necessary labor, machinery, tools, apparatus, materials, equipment, services, and other necessary supplies and do and perform all Work including all excavation and backfilling (without additional compensation except where specifically set out in these Specifications) at the unit or lump sum prices for the following items.

2. Water Storage Tank – Elevated 200,000 Gallon

Payment for 200,000 Gallon Elevated Water Storage Tank shall be made at the lump sum Contract price, complete in place, as described on the Drawings and in the Specifications, conforming to all required AWWA standards.

3. Summary

The above items, Item 2, refer to and are the same items as listed on the Bid Form, and constitute all of the pay items for this Contract. Any other items of work listed in the Specifications, or shown on the Drawings, shall be considered to be incidental to the above items or other items listed in the proposal.