SECTION 00520
AGREEMENT

THIS AGREEMENT is between the City of Wimberley ("OWNER") and Black Castle General Contractor ("CONTRACTOR").

OWNER and CONTRACTOR, in consideration of the mutual covenants set forth, agree as follows:

ARTICLE 1 - WORK

1.1 CONTRACTOR shall complete all work as specified or indicated in the contract documents. The work is generally described as follows:

A. The Project consists of constructing a new wastewater treatment plant.

ARTICLE 2 - THE PROJECT

2.1 The Project for which the Work under the Contract Documents may be whole or only a part is generally described as follows:

City of Wimberley
Wastewater Treatment Plant Project

ARTICLE 3 - ENGINEER

3.1 The Project has been designed by:

Alan Plummer Associates, Inc.
6300 La Calma Drive Ste 400
Austin, TX 78752

ENGINEER, who is to act as Owner's Representative, assumes all duties and responsibilities, and has the rights and authority assigned to ENGINEER in the Contract Documents in connection with the completion of the work in accordance with the Contract Documents.

ARTICLE 4 - CONTRACT TERMS

Time of Essence

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

4.2 Dates for Substantial Completion and Final Payment

A. The Work will be substantially completed within 260 calendar days from the date when the Contract Time commences as provided in Paragraph 2.03 of the General Conditions, and completed and ready for final payment in accordance with Paragraph 14.07 of the General Conditions within 45 calendar days after substantial completion.

2

4.3 Liquidated Damages

A. CONTRACTOR and OWNER recognize time is of the essence of this Agreement and that Work will suffer financial loss if the Work is not completed within the times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. The parties also recognized the delays, expense, and difficulties involved in pricing in a legal or arbitration preceding the actual loss suffered by OWNER if Work is not completed on time.

B. Accordingly, instead of requiring such proof, OWNER and CONTRACTOR agree that as liquidated damages for delay (not a penalty), CONTRACTOR shall pay OWNER $2000 for each calendar day that expires after the time specified in Paragraph 4.02 for Substantial Completion until the Work is substantially complete. After Substantial Completion, if Contract shall neglect, refuse, or fail to complete the remaining Work within the Contract Time or any proper extension thereof granted by OWNER, CONTRACTOR shall pay OWNER $4000 for each calendar day that expires after the time specified in Paragraph 4.02 for completion and readiness for final payment until the Work is completed and ready for final payment.

2

ARTICLE 5 - CONTRACT PRICE

5.1 OWNER shall pay CONTRACTOR for completion of the Work in accordance with Article 14 of the General Conditions in current funds for all Work, at the prices stated in Contractor's Bid, attached as Exhibit A.

ARTICLE 6 - PAYMENT PROCEDURES

6.1 Submittal and Processing of Payments

A. CONTRACTOR shall submit Applications for Payment in accordance with Article 14 of the General Conditions. ENGINEER will process applications for Payment as provided in the General Conditions.

6.2 Progress Payments; Retainage

A. OWNER shall make progress payments on the account of the Contract Price on the basis of Contractor's Application for Payment on or about the 25th day of each month during performance of the Work as provided in Paragraph 6.02.A.1 and 6.02.A.2 below. All such payments will be measured by the schedule of values established as provided in Paragraph 2.07.A of the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no schedule of values, as provided in the General Requirements:

1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as ENGINEER may determine or OWNER may withhold, including but not limited to liquidated damages, in accordance with Paragraph 14.02 of the General conditions:
   A. ninety-five percent (95%) of Work completed (with the balance being retainage); and
   B. ninety-five percent (95%) of cost of materials and equipment not incorporated in the Work (with the balance being retainage).
2. Upon Substantial Completion, less such amounts as ENGINEER shall determine in accordance with Paragraph 14.02.B of the General Conditions and less one hundred percent (100%) of ENGINEER'S estimate of the value of Work to be completed or corrected as shown on the tentative list of items to be completed or corrected attached to the certificate of Substantial Completion. Also, if the Work is substantially complete and if OWNER finds the amount retained to be in excess of the amount adequate for the protection of the OWNER, at OWNER'S discretion, he may release to the CONTRACTOR all or a portion of the excess amount. A full ten (10) percent shall be retained any time the Work falls behind schedule; the additional five (5) percent retainage shall be deposited in an interest bearing account and the interest earned paid to the CONTRACTOR along with final payment. Final Payment.

B. Upon final completion and acceptance of the Work in accordance with Paragraph 14.07 of the General Conditions, OWNER shall pay the remainder of the Contract Price as recommended by ENGINEER as provided in said Paragraph 14.07.

ARTICLE 7 - ARTICLE 7 – INTEREST

7.1 The OWNER is not obligated to pay interest on moneys not paid except as provided in Texas Government Code Chapter 2252.032.

ARTICLE 8 - CONTRACTOR'S REPRESENTATIONS

8.1 In order to induce OWNER to enter into this Agreement, CONTRACTOR makes the following representations:

A. CONTRACTOR has examined and carefully studied the Contract Documents and other related data identified in the Bidding Documents.

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

C. CONTRACTOR is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.

D. CONTRACTOR has carefully studied all:

1. Reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities), which have been identified in the Supplementary Conditions, as provided in Paragraph 4.02 of the General Conditions.

E. CONTRACTOR has obtained and carefully studied (or assumes responsibility for doing so) all additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site, which may affect cost, progress, or performance of the Work, or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents , and safety precautions and programs incident thereto.

F. CONTRACTOR does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, with the Contract Time, and in accordance with the other terms and conditions of the Contract Documents.

G. CONTRACTOR is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.

H. CONTRACTOR has correlated the information known to Contractor, information and observations obtained from visits to the Site, reports and drawings identified in the Contract Documents, and all additional examinations, investigations, tests, studies, and data with the contract Documents.

I. CONTRACTOR has given ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that CONTRACTOR has discovered in the Contract Documents, and the written resolution thereof by ENGINEER is acceptable to CONTRACTOR.

J. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

ARTICLE 9 - CONTRACT DOCUMENTS

9.1 Contents

A. The Contract Documents consist of the following:

1. Invitation to Bid (pages 00020-1 to 00020-2, inclusive);
2. Instructions to Bidders (pages 00200-1 to 00200-10, inclusive);

3. Bid Proposal (pages 00410-1 to 00410-5, inclusive);
4. Bid Schedule (pages 00411-1 to 00411-8, inclusive);
5. Bid Bond (pages 00415-1 to 00415-2, inclusive);
6. Contractor Compliance to State Law (page 00430-1);
7. Non-Collusion Affidavit (page 00435-1)
8. Conflict of Interest Questionnaire (page 00440-1);
9. Equipment Supply Manufacturers (page 00450-1);
10. This Agreement (pages 00520-1 to 00520-6, inclusive);
11. Performance Bond (pages 00610-1 to 00610-2, inclusive);
12. Payment Bond (pages 00615-1 to 00615-2, inclusive);
13. Certificates of Insurance (page 00630-1);
14. Contractor Compliance to Texas Sales Code (page 00635-1)
15. General Conditions (pages 00700-1 to 00700-68, inclusive);
16. Supplementary Conditions (pages 00800-1 to 00800-15, inclusive);
17. Texas Water Development Contract Documents (enumerated as follows):
    - 0550 Supplemental contract Conditions for CWSRF & DWSRF Projects
    - 0459 Vendor Compliance with Reciprocity on Non-Resident Bidders
    - ED-103 Contractor's Act of Assurance
    - ED-104 Contractor's Act of Assurance Resolution
    - WRD-255 Bidder's Certifications
    - SRF-404 Debarment / Suspension Certification
    - 0216 Affirmative Steps Solicitation Report – Applicant/Entity
    - 0216 Affirmative Steps Solicitation Report – Prime Contractor
    - 0217 DBE Prime Contractor Affirmative Steps Certification & Goals
    - 0373 DBE Loan/ Grant Participation Summary – Applicant/Entity
    - 0373 DBE Loan/Grant Participation Summary – Prime Contractor
    - 1106-A Monthly American Iron and Steel Certificate
    - 1106-B American iron and Steel (AIS) De Minimis Log
    - DB-0154 Monthly Davis Bacon Wage Rate Certificate of Compliance Submittal by Owner (Sub-Recipient)
    - EPA-424D Assurances – Construction Programs
18. Exhibits (enumerated as follows):
    A. Wage Rates
    B. Insurance Information
    C. Scope of Work
    D. Geotechnical Data and Design Report
19. Specifications as listed in Table of Contents
20. Drawings;
21. Addenda (Numbers _1_ to _2_, inclusive);

B. The following which may be delivered or issued on or after the Effective Date of the Agreement and are not attached hereto:
1. Notice to Proceed
2. Written Amendments(s)
3. Change Order(s)
4. Field Order(s)
5. Work Change Directive(s)
6. Engineers Written Interpretations(s)

C. Attached the documents listed in Paragraph 9.01.A to this Agreement (except as expressly noted otherwise above).

D. There are no Contract Documents other than those listed above in Article 9.

E. The Contract Documents may only be amended, modified, or supplemented as provide in Paragraph 3.04 of the General Conditions.

ARTICLE 10 - MISCELLANEOUS

10.1 Terms

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

10.2 Assignment of Contract

A. No assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such written consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

10.3 Successors and Assigns

A. OWNER and CONTRACTOR each binds itself, its partners, successors, assign, and legal representatives to the other party hereto, its partners, successors, assign, and legal representatives in respect to all convents, agreements, and obligations contained in the Contract Documents.

10.4 Severability

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

10.5 Venue

A. Bidder agrees that venue shall lie exclusively in Hays County, Texas for any legal action.

10.6 Pay Estimates

A. The deadline for the CONTRACTOR to submit monthly pay estimates to the OWNER is the 15th day of the following month.

10.7 Preparation and Submittal of Construction Record Drawings

A. The CONTRACTOR is responsible for the preparation and submittal of construction record drawings per Section 01300 "Submittals." One complete set of Construction Record bluelines will be submitted prior to the final pay request and forwarded to the OWNER and ENGINEER for the ENGINEER to prepare as-built drawings.

10.8 Inspector

A. The OWNER will procure an inspector for this project separate from this Agreement with the CONTRACTOR. The Inspector's responsibilities are delineated in 00700 General Conditions, Article 13.

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

This Agreement will be effective on FEBRUARY 27, 2018 (which is the Effective Date of the Agreement

OWNER:

City of Wimberley

By: _____

Title: Mayor

[CITY SEAL]

Attest: Laura Calco

Title: City Secretary

Address for giving notices:

P.O. Box 2027
Wimberley, TX 78676

CONTRACTOR:

Rodney A. Salvaggio

By: _____

Title: President

[CORPORATE SEAL]

Attest: Y Pollard

Title: Secretary

Address for giving notices:

2115 Stephens Place
Suite 210
New Braunfels, TX 78130

License No: _____
(Where applicable)

Agent for service or process: _____

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

SECTION 00020
INVITATION TO BID

Notice

Notice is hereby given that the City of Wimberley (OWNER) will receive sealed Bids at Wimberley City Hall, 221 Stillwater, Wimberley, TX, 78676 until 3:00 p.m. local time on the Tuesday of March 28, 2017 for construction of:

City of Wimberley
Wastewater Treatment Plant Project

Bids will be immediately opened and read aloud publicly following the close of the Bid Period. Any Bid received after closing time will be returned unopened. Proposals may be modified or withdrawn at any time prior to the time set for opening Bids.

This project includes, but is not limited to, construction of a new 75,000 gallon per day wastewater treatment facility and reclaimed water irrigation system for the City of Wimberley including civil, mechanical, structural, electrical, and instrumentation components. For additional detail, see Exhibit C "Scope of Work."

Examination and Purchase of Documents

Contract Documents may be examined or purchased at the offices of:

Alan Plummer Associates, Inc. 6300 La Calma, Suite 400 Austin, Texas 78752 Telephone (512) 452-5905 Facsimile (512) 452-2325 Attention: Mr. Steve Coonan	AND	City of Wimberley 221 Stillwater Wimberley, Texas 78676 Attention: Don Ferguson

Contract Documents may be examined or purchased during normal business hours beginning on the Thursday of February 16, 2017.

Bidder has the following options for purchasing Contract Documents:
Bidder can purchase hardcopies for a non-refundable cost of $45 per full-size set and $25 per half-size set or an electronic copy on a compact disc (CD) for a non-refundable cost of $25.

The cost of Contract Documents is not refundable. Submit check, cashier check or money order for payment. Cash will not be acceptable. Make checks payable to Alan Plummer Associates, Inc. Only complete sets of Contract Documents will be provided.

Questions Regarding Bid Process or Bid Documents

Bidder desiring further information or interpretation should direct questions regarding Bid Process or Bid Documents (Project Manual or Drawings) must make a written request for such information to Mr. Steve Coonan no later than on the Monday of March 20, 2017. Written questions may be submitted by mail to the address shown above; or by e-mail to scoonan@apaienv.com; or by FAX (512) 452-2325.

Prebid Conference

A non-mandatory prebid conference will be held at the City of Wimberley City Hall (221 Stillwater) at 1:00 p.m. on the Thursday of March 9, 2017.

Bid Requirements

Proposals shall be accompanied by either a Bid Bond from a surety satisfying the requirements specified below for the Performance Bond, Payment Bond and any other bonds set forth in the Contract Documents, or certified check upon a national or state bank in an amount not less than 5 percent (5%) of the total maximum bid price, payable without recourse to the City of Wimberley as a guarantee that the

Bidder will within ten (10) days after Notice of Award enter into a Contract and furnish a Performance Bond, Payment Bond and any other bonds set forth in the Contract Documents upon the forms provided, each in the amount of 100 percent (100%) of the Contract price, from a surety licensed to conduct business in the state where the Project is located and named in the current list of "Surety Companies Acceptable on Federal Bonds" as published in Circular 570 (amended) by the Audit Staff Bureau of Accounts, U.S. Treasury Department.

The surety shall have an "A" minimum rating of performance and a financial rating strength of five times the Contract price, all as stated in current "Best's Key Rating Guide, Property-Liability." Each Bond shall be accompanied by a "Power of Attorney" authorizing the attorney-in-fact to bind the surety, and shall be certified to include the date of the Bond.

Equal Opportunity in Employment - All qualified Applicants will receive consideration for employment without regard to race, color, religion, sex, age, handicap or national origin. Bidders on this work will be required to comply with the President's Executive Order No. 11246, as amended by Executive Order 11375, and as supplemented in Department of Labor regulations 41 CFR Part 60.

The City of Wimberley reserves the right to accept or reject any or all Bids or parts of Bids, to waive any formalities and technicalities and to accept the Bid most advantageous to the OWNER. No bid may be withdrawn until the expiration of ninety (90) days from the date bids are opened.

Texas Water Development Board

Any contract awarded under this Invitation to Bid is contingent upon release of funds from the Texas Water Development Board (TWDB).

Any contract awarded under this Invitation to Bid is expected to be funded in part by a loan or loan with principal forgiveness from the TWDB and a grant from the United States Environmental Protection Agency (EPA). Neither the State of Texas, EPA, nor any of its departments, agencies, or employees, are or will be a party to this Invitation to Bid or any resulting contract.

The TWDB's Clean Water and Drinking Water State Revolving Fund programs receive federal funds from the EPA. As a condition of federal grant awards, EPA regulations require that loan recipients make a "good faith effort" to award a fair share of work to Disadvantaged Business Enterprises (DBE) who are Minority Business Enterprises (MBE's), and Women-owned Business Enterprises (WBE's) whenever procuring construction, supplies, services and equipment. More information on DBE requirements is available in the TWDB-0550 "Supplemental Contract Conditions" in Section II. 2. "Disadvantaged Business Enterprise Goals."

EPA Fair Share Goals

Category	MBE	WBE
Construction	12.94%	8.72%
Equipment	7.12%	5.39%
Supplies	9.68%	9.34%
Services	10.84%	5.72%

This project is subject to the American Iron and Steel (AIS) requirements of P.L. 113-76 Consolidated Appropriations Act, 2014. All iron and steel products for construction, alteration, maintenance, or repairs incorporated in these plans must be produced in the United States.

Davis-Bacon and Related Acts (DBRA) apply to contractors and subcontractors performing on federally funded or assisted contracts in excess of $2,000 for the construction, alteration or repair of public buildings or public works.

The City of Wimberley
Mr. Don Ferguson
City Administrator

END OF SECTION

SECTION 00200
INSTRUCTIONS TO BIDDERS

ARTICLE 1 - DEFINED TERMS

1.1 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:

A. Issuing Office: The office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered. The issuing office is as follows:

Alan Plummer Associates, Inc.
6300 La Calma, Suite 400
Austin, Texas 78752
Telephone: (512) 452-5905
Facsimile: (512) 452-2325
Attention: Mr. Steve Coonan

ARTICLE 2 - COPIES OF BIDDING DOCUMENTS

2.1 Complete sets of the Bidding Documents may be obtained as stated in the Invitation to Bid.

2.2 Complete sets of Bidding Documents shall be used in preparing Bids; neither OWNER nor ENGINEER assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

2.3 OWNER and ENGINEER, in making copies of Bidding Documents available on the above terms, do so only for the purpose of obtaining Bids for the Work and do not confer a license or grant for any other use.

ARTICLE 3 - QUALIFICATIONS OF BIDDERS

3.1 To demonstrate Bidder's qualifications to perform the Work, when requested the two (2) apparent low Bidders shall complete and submit within 48-hours after the date of the Bid opening Contractor's Qualifications, such as financial data, previous experience, present commitments, and such other data as may be called for below.

A. Provide the information listed in AGC's "Construction Contractor's Qualification Statement for Engineered Construction," AGC Document No. 220, which shall include, but not be limited to the following:

1. Financial statement (current-within last 6 months of bid).
2. List of construction projects performed within the last 5-years, listing description, construction amount, owner, and engineer.
3. List of litigation in which the Bidder is involved.
4. List of equipment owned that will be utilized on the Project.
5. List of current projects, owner, contract amount, and percent complete.

3.2 In determining the Bidder's Qualifications, factors to be considered will include work previously completed by the Bidder and whether the Bidder;

A. Maintains a permanent place of business; has adequate equipment to do the Work properly and expeditiously; has the financial resources to meet all obligations incident to the Work; and has appropriate technical experience.

B. Each Bidder may be required to show that he has handled former work so that no just claims are pending against such work. No Bid will be accepted from a Bidder who is engaged in any work, which would impair his ability to perform or finance this Work.

3.3 Should the low Bidder fail to produce evidence to the ENGINEER and OWNER on any of the foregoing points within 48-hours of request, he may be termed non-responsive and disqualified and the Work awarded to the next low responsive Bidder.

ARTICLE 4 - EXAMINATION OF BIDDING DOCUMENTS, OTHER RELATED DATA, AND SITE

4.1 Contract Documents, Drawings and Specifications, and Reports

A. Contract Documents may be examined and obtained from the Issuing Office as described in Section 00020 "Invitation to Bid."

B. All referenced City of San Marcos Specifications shall be considered as having been included in the technical Specifications of this Project Manual. All City of San Marcos Specifications can be viewed online at http://www.sanmarcostx.gov/index.aspx?page=1231.

4.2 Subsurface and Physical Conditions

A. The Supplementary Conditions identify:
   1. Those reports of explorations and tests of subsurface conditions at or contiguous to the Site that ENGINEER has used in preparing the Bidding Documents.
   2. Those drawings of physical conditions in or relating to existing surface and subsurface structures at or contiguous to the Site (except Underground Facilities) that ENGINEER has used in preparing the Bidding Documents.

B. Copies of reports and drawings referenced in Paragraph 4.1.A will be made available by ENGINEER to any Bidder on request for review at the Issuing Office and are available as stated above. Refer to Paragraph 4.02 of the General Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any "technical data" or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.

4.3 Underground Facilities

A. Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site is based upon information and data furnished to OWNER and ENGINEER by owners of such Underground Facilities, including OWNER, or others. Refer to Paragraph 4.04 of the General Conditions.

4.4 Hazardous Environmental Condition

A. There are not any known hazardous environmental conditions present on the Project site.

4.5 Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated conditions appear in Paragraphs 4.02, 4.03, and 4.04 of the General Conditions. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Contract Documents due to any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work appear in Paragraph 4.06 of the General Conditions.

4.6 On request, OWNER will provide Bidder access to the Site to conduct such examinations, investigations, explorations, tests, and studies as Bidder deems necessary for submission of a Bid. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies. Bidder shall comply with all applicable Laws and Regulations relative to excavation and utility locates. Bidders interested in visiting the site shall contact Mr. Don Ferguson, City Administrator, during normal business hours at (512) 847-0025. Visits will be by appointment only.

4.7 Reference is made to Article 7 of the General Conditions for the identification of the general nature of other work that is to be performed at the Site by OWNER or others (such as utilities and other prime contractors) that relates to the Work contemplated by these Bidding Documents. On request, OWNER will provide to each Bidder access to or copies of Contract Documents (other than portions thereof related to price) for examination for such other work.

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

A. examine and carefully study the Bidding Documents, the other related data identified in the Bidding Documents, and any Addenda;

B. visit the Site and become familiar with and satisfy Bidder as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;

C. become familiar with and satisfy Bidder as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work;

D. carefully study all:
   1. reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in Paragraph 4.02 of the General Conditions, and
   2. reports and drawings of Hazardous Environmental Conditions at the Site which have been identified in the Supplementary Conditions as provided in Paragraph 4.06 of the General Conditions;

E. obtain and carefully study (or accept consequences of not doing so) all additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents, and safety precautions and programs incident thereto;

F. agree at the time of submitting its Bid that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents;

G. become aware of the general nature of the work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Bidding Documents;

H. correlate the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents;

I. promptly give ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder; and

J. determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work.

4.9 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Bidding Documents and applying any specific means, methods, techniques, sequences, and procedures of construction that may be shown or indicated or expressly required by the Bidding Documents, that Bidder has given

ENGINEER written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in the Bidding Documents and the written resolutions thereof by ENGINEER are acceptable to Bidder, and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

ARTICLE 5 - PRE-BID CONFERENCE

5.1 A pre-bid conference will be held at the time and location indicated in the Invitation to Bid. Representatives of OWNER and ENGINEER will be present to discuss the Project. Bidders are encouraged to attend and participate in the conference. ENGINEER will transmit to all prospective Bidders of record such Addenda as ENGINEER considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective.

ARTICLE 6 - SITE AND OTHER AREAS

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

ARTICLE 7 - INTERPRETATIONS AND ADDENDA

7.1 All questions about the meaning or intent of the Bidding Documents are to be submitted to ENGINEER in writing. Interpretations or clarifications considered necessary by ENGINEER in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by ENGINEER as having received the Bidding Documents. Questions received less than five working days prior to the date for opening of Bids may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

7.2 Bidders may not propose clarifications or take exceptions in submitting a bid. Any Bid including exceptions or making a proposal that is not in accordance with the terms and conditions of the Contract, or for Work that is not in strict compliance with the Contract Documents shall be considered non-responsive and will not be considered for award. Any Bidder that wishes to offer alternate terms and conditions, or offer Work not in strict compliance with the Contract Documents may submit these to the ENGINEER no later than ten days prior to the date for opening of Bids. If any of the proposed changes to the Contract Documents are acceptable, the ENGINEER will issue Addenda as appropriate.

7.3 Addenda may be issued to clarify, correct, or change the Bidding Documents as deemed advisable by OWNER or ENGINEER.

ARTICLE 8 - BID SECURITY

8.1 A Bid must be accompanied by Bid security made payable to OWNER in an amount of 5.0 percent of Bidder's maximum Bid price and in the form of a certified check or bank money order or a Bid bond (on the form attached) issued by a surety meeting the requirements of Paragraphs 5.01 and 5.02 of the General Conditions.

8.2 The Bid security of the Successful Bidder will be retained until such Bidder has executed the Contract Documents, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within fifteen (15) days after the Notice of Award, OWNER may annul the Notice of Award and the Bid security of that Bidder will be forfeited. The Bid security of other Bidders whom OWNER believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of seven days after the Effective Date of the Agreement or ninety (90) days after the Bid opening, whereupon Bid security furnished by such Bidders will be returned.

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

ARTICLE 9 - CONTRACT TIMES

9.1 The number of days for the completion of the Work (the Contract time) shall be as stated in the Agreement.

ARTICLE 10 - LIQUIDATED DAMAGES

10.1 Provisions for liquidated damages, if any, are set forth in the Agreement.

ARTICLE 11 - SUBSTITUTE AND "OR-EQUAL" ITEMS

11.1 The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration of possible substitute or "or-equal" items. Whenever it is specified or described in the Bidding Documents that a substitute or "or-equal" item of material or equipment may be furnished or used by CONTRACTOR if acceptable to ENGINEER, application for such acceptance will not be considered by ENGINEER until after the Effective Date of the Agreement.

ARTICLE 12 - SUBCONTRACTORS, SUPPLIERS, AND OTHERS

12.1 The apparent Successful Bidder, and any other Bidder so requested, shall within 48-hours after Bid opening, submit to OWNER a list of all such Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work for which such identification is required. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, individual, or entity if requested by OWNER. If OWNER or ENGINEER, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, OWNER may, before the Notice of Award is given, request apparent Successful Bidder to submit a substitute, without an increase in the Bid.

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

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

12.4 Following paragraph requiring submittal of major equipment suppliers is optional. If required coordinated with Section 00450 "Equipment Supply Manufacturers."

12.5 Bidders shall complete Section 00450 "Equipment Supply Manufacturers" and submit it with the Bid.

ARTICLE 13 - PREPARATION OF BID PROPOSAL

13.1 The Bid Proposal, included with the Bidding Documents, shall be used. Supplemental data to be furnished shall be included in the same sealed envelope with the Proposal.

13.2 All blanks on the Bid Proposal shall be completed by printing in ink or by typewriter and the Bid signed in ink. The Bid price of each item shall be stated in words, if specifically requested, and/or numerals; in case of conflict, words will take precedence. Erasures or alterations shall be initialed in ink by the person signing the Bid Proposal. A Bid price shall be indicated for each section, Bid

item, alternative, adjustment unit price item, and unit price item listed therein, as applicable, or the words "No Bid," "No Change," or "Not Applicable" entered.

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

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

13.5 A Bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown below the signature.

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

13.7 A Bid by a joint venture shall be executed by each party of the joint venture in the manner indicated on the Bid Proposal. The official address of the joint venture shall be shown below the signature.

13.8 All names shall be typed or printed in ink below the signatures.

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

13.10 The address and telephone number for communications regarding the Bid shall be shown.

13.11 The Bid shall contain evidence of Bidder's authority and qualification to do business in the state where the Project is located or covenant to obtain such qualification prior to award of the Contract. Bidder's state contractor license number, if any, shall also be shown on the Bid Proposal.

13.12 Bidders shall complete all portions of the Bid Proposal. Any additional information or statements will not be considered in the evaluation of Bids. Failure to comply with this requirement may result in the Bid being rejected.

ARTICLE 14 - BASIS OF BID; COMPARISON OF BIDS

14.1 Lump Sum

A. Bidders shall submit a Bid on a lump sum basis as set forth in the Bid Proposal.

[OR]

B. Bidders shall submit a Bid on a lump sum basis for the base Bid and include a separate price for each alternate described in the Bidding Documents as provided for in the Bid Proposal. The price for each alternate will be the amount added to the base Bid if OWNER selects the alternate. In the comparison of Bids, alternates will be applied in the same order as listed in the Bid Proposal.

[OR]

14.2 Unit Price

A. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the Bid Schedule.

B. The total of all estimated prices will be the sum of the products of the estimated quantity of each item and the corresponding unit price. The final quantities and Contract Price will be determined in accordance with Paragraph 11.03 of the General Conditions.

C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between words and figures will be resolved in favor of the words.

14.3 The Bid price shall include such amounts as the Bidder deems proper for overhead and profit on account of cash allowances, if any, named in the Contract Documents as provided in Paragraph 11.02 of the General Conditions.

ARTICLE 15 - SUBMITTAL OF BID PROPOSAL

15.1 Bidders shall use the Bid Proposal included in the Contract Documents, which may be detached from the Contract Documents, or, if provided, the separate unbound copy of the Bid Proposal, and the Bid Bond Form. The attachments to be submitted are listed in Article 7 of the Bid Proposal.

15.2 A Bid shall be submitted no later than the date and time prescribed and at the place indicated in the Advertisement or Invitation to Bid and shall be enclosed in an opaque sealed envelope plainly marked with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted), the name and address of Bidder, and shall be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate envelope plainly marked on the outside with the notation "BID ENCLOSED." A mailed Bid shall be addressed to Mr. Don Ferguson, City of Wimberley.

ARTICLE 16 - MODIFICATION AND WITHDRAWAL OF BID

16.1 A Bid may be modified or withdrawn by an appropriate document duly executed in the manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids.

16.2 If within 24 hours after Bids are opened, any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, that Bidder will be disqualified from further bidding on the Work.

ARTICLE 17 - OPENING OF BIDS

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

ARTICLE 18 - BIDS TO REMAIN SUBJECT TO ACCEPTANCE

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

ARTICLE 19 - EVALUATION OF BIDS AND AWARD OF CONTRACT

19.1 OWNER reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. OWNER further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to not be responsible. OWNER may also reject the Bid of any Bidder if OWNER believes that it would not be in the best interest of the Project to make an award to that Bidder. OWNER also reserves the right to waive all informalities not involving price, time, or changes in the Work and to negotiate contract terms with the Successful Bidder.

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

19.3 In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.

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

19.5 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders, proposed Subcontractors, Suppliers, individuals, or entities to perform the Work in accordance with the Contract Documents.

19.6 Bidder's compliance with Texas state law relative to award of contracts to nonresident bidders is required and will be considered in the evaluation of bids.

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

ARTICLE 20 - CONTRACT SECURITY AND INSURANCE

20.1 Article 5 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth OWNER'S requirements as to performance and payment bonds and insurance. When the Successful Bidder delivers the executed Agreement to OWNER, it shall be accompanied by such bonds.

ARTICLE 21 - SIGNING OF AGREEMENT

21.1 When OWNER gives a Notice of Award to the Successful Bidder, it shall be accompanied by the required number of unsigned counterparts of the Agreement with the other Contract Documents which are identified in the Agreement as attached thereto. Within 15 days thereafter, Successful Bidder shall sign and deliver the required number of counterparts of the Agreement and attached documents to OWNER. Within ten days thereafter, OWNER shall deliver one fully signed counterpart to Successful Bidder with a complete set of the Drawings with appropriate identification.

ARTICLE 22 - SALES AND USE TAXES

22.1 Owner is exempt from state sales and use taxes on materials and equipment to be incorporated in the Work. Refer to Paragraph SC-6.10 of the Supplementary Conditions for additional information.

ARTICLE 23 - RETAINAGE

23.1 Provisions concerning retainage are set forth in Article 6 of the Agreement.

ARTICLE 24 - ADDITIONAL SETS OF DRAWINGS AND SPECIFICATIONS

24.1 The CONTRACTOR to whom the Contract is awarded will be furnished, without cost to him, copies of the Drawings and Specifications, with all the Addenda thereto, as indicated in Article 2.02 of the General Conditions and as modified by SC-2.02 of the Supplementary Conditions. Additional copies of the Drawings and Specifications may be obtained from the ENGINEER for the cost contained in the Invitation for Bids.

ARTICLE 25 - EMPLOYMENT PRACTICES

25.1 CONTRACTOR agrees not to discriminate against any employee or applicant for employment because of race, religion, color, sex, age, disability, or national origin. CONTRACTOR agrees to comply with the Immigration Reform and Control Act of 1986 and the Americans with Disabilities Act of 1990, and CONTRACTOR will indemnify and hold OWNER harmless for any failure to so

comply and any discrimination for which CONTRACTOR may be charged. OWNER encourages CONTRACTOR to provide equal opportunity to disadvantaged business enterprises including minority-owned and female-owned businesses to participate in the performance of this Contract.

25.2 This Contract shall be based upon payment by the CONTRACTOR and his subcontractors of wage rates not less than the general prevailing rate of per diem wages for Work of a similar character in the locality in which the Work is performed, and not less than the general prevailing rate of per diem wages for legal holiday and overtime work as described in the Texas Water Development Board Monthly Davis Bacon Wage Rate Certificate of Compliance (DB-0154).

ARTICLE 26 - AWARD OF CONTRACT TO NONRESIDENT BIDDER

26.1 A governmental entity may not award a governmental contract to a nonresident bidder unless the nonresident underbids the lowest bid submitted by a responsible resident bidder by an amount that is not less than the amount by which a resident bidder would be required to underbid the nonresident bidder to obtain a comparable contract in the state in which the nonresident's principal place of business is located. (Source: Texas Government Code Chapter 2252 Subchapter A Nonresident Bidders, (§ 2252.002.) The bidder will complete Section 00430 "Contractor Compliance with State Law" form, which must be submitted with the bid.

ARTICLE 27 - PERMITS

27.1 Attention is directed to the requirements of the General Conditions regarding obtaining permits. The CONTRACTOR shall obtain and pay for all applicable permits in connection with the Work including a stormwater discharge permit. The Bid Prices shall include the costs for obtaining all required permits, as well as performing the work in accordance with the permit requirements.

ARTICLE 28 - EXISTING FACILITIES

28.1 The Drawings show the locations of all known surface and subsurface structures, piping and conduits believed to be involved in this proposed construction. However, the OWNER and ENGINEER assume no responsibility for failure to show any or all of these facilities on the Drawings, or to show them in their exact locations. It is mutually agreed that such failure will not be considered sufficient basis for claims for additional compensation for Extra Work, unless the obstruction encountered is such as to necessitate changes in the lines or grades or requires the building of special work, provisions for which are not made in the Drawings or Specifications, in which case the provisions in the Section 00700 "Standard General Conditions of the Construction Contract" and Section 00800 "Supplementary Conditions" for extra work shall apply.

ARTICLE 29 - BASE BID FORMAT

29.1 The specifications for of these Documents have been written around the manufacturers listed in the various sections of the specifications. The equipment of these manufacturers comprises the Contract base Bid. It is the option of each Bidder to submit alternative pieces of equipment from manufacturers not named in the various sections of the specifications. In the event that a Bidder so chooses to submit alternates to the Base Bid, he must submit a letter to accompany Section 00450 "Equipment Supply Manufacturers" identifying alternate pieces of equipment and enter the appropriate deductive amount under corresponding Bid Item(s) in the Bid Proposal. The alternative bid shall include the cost for all civil, mechanical, structural, electrical, and instrumentation modifications necessary including the cost of any engineering design work deemed necessary by the ENGINEER due to the modifications.

29.2 If alternates to the Base Bid items are proposed, it is the Bidder's responsibility to submit supporting documentation with his Bid for the ENGINEER'S review. Supporting documentation will consist of a separate information package for each proposed alternate including descriptive literature, dimensioned prints of all components, performance data in sufficient detail to fully describe equipment being offered, location of facilities where major components are manufactured and assembled, location of nearest stocking distributor of spare parts, and name and location of nearest factory authorized service center. Failure to supply sufficient information to fully evaluate proposed alternates will be cause for rejection of the deductive amount.

29.3 The OWNER reserves the right to accept or reject any or all deductive alternates listed in the Bid Proposal and to accept or reject any informality.

ARTICLE 30 - PARTNERING

30.1 OWNER intends to participate in a partnering process with CONTRACTOR. The process is intended to help develop better and more effective communication and mutual understanding of common goals. The objectives of the process will be to achieve effective and efficient performance of the Work and completion of the Work within the Contract Price and Contract Times, all in accordance with the Contract Documents.

30.2 Participation in the partnering process will be voluntary. To initiate the process, within ninety (90) days after the Notice to Proceed the key personnel of OWNER, ENGINEER, CONTRACTOR, and CONTRACTOR'S major Subcontractors will be invited to attend a one-day seminar followed by a one-day team building workshop to develop a partnering statement. The seminar and the workshop will be conducted by a neutral facilitator at a time and location agreed to by OWNER and CONTRACTOR in the general vicinity of the Site.

30.3 The facilitator will be selected by OWNER, subject to approval by CONTRACTOR. Costs of the facilitator and facilities for the initial seminar and workshop will be paid by OWNER. Thereafter, all facilitator-related and facilities costs will be shared equally by OWNER and CONTRACTOR with no change in the Contract Price. Each party will pay all costs associated with the participation of its own personnel.

30.4 It is intended that the initial seminar and workshop sessions be followed by periodic half-day evaluation sessions approximately every 90 days as agreed to by OWNER and CONTRACTOR.

30.5 A primary objective of the partnering process is to maximize the potential for resolution of disputes in a timely and non-adversarial manner. The use of alternative dispute resolution (ADR) methods will be encouraged in order to promote and maintain amicable working relationships among the parties. In the event that ADR procedures are unsuccessful, the dispute resolution provisions set forth in the Contract Documents will be employed.

30.6 These provisions express the intent and spirit of the partnering process, and nothing stated herein or in the partnering statement shall change in any way the rights, responsibilities, and obligations of the parties as set forth in the Contract Documents. The partnering statement will not be a part of the Contract Documents and will not modify any defense, claim, obligation, or right that otherwise exists.

END OF SECTION

SECTION 00410
BID PROPOSAL

Project No.: 1732-002-01

Project Name: Wastewater Treatment Plant

ARTICLE 1 - BID RECIPIENT

1.1 This Bid is submitted to:

The City of Wimberley
c/o City Secretary
City Hall – City of Wimberley
P.O. Box 2027
Wimberley, TX 78676

ARTICLE 2 - BIDDER'S ACKNOWLEDGEMENTS

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

2.2 Bidder accepts all of the terms and conditions of the Invitation to Bid and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. The Bid will remain subject to acceptance for ninety (90) days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of OWNER.

2.3 Bidder accepts the provisions of the Agreement as to liquidated damages in the event of its failure to complete Work in accordance with the schedule set forth in the Agreement.

ARTICLE 3 - BIDDER'S REPRESENTATIONS

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

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

Addendum No.	Addendum Date
1	4/7/2017
2	4/17/2017

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

C. Bidder is familiar with and is satisfied as to all federal, state and local laws and regulations that may affect cost, progress and the furnishings of Goods and Special Services.

D. Bidder has carefully studied all reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in Supplementary Conditions.

E. Bidder has obtained and carefully studied (or accepts the consequences for not doing so) all additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents to be employed by Bidder, and safety precautions and programs incident thereto.

F. Bidder does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents.

G. Bidder is aware of the general nature of work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Bidding Documents.

H. Bidder has correlated the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents.

I. Bidder has given ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by ENGINEER is acceptable to Bidder.

J. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.

K. Bidder will submit written evidence of its authority to do business in the state where the Project is located not later than the date of its execution of the Agreement.

ARTICLE 4 - FURTHER REPRESENTATIONS

4.1 Bidder further represents that:

A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation;

B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;

C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and

D. Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over Owner.

ARTICLE 5 - BASIS OF BID

5.1 Bidder will complete the Work in accordance with the Contract Documents for the prices shown in the attached Bid Schedule:

A. Unit Prices have been computed in accordance with Paragraph 11.03 of the General Conditions.

B. Bidder acknowledges that the estimated quantities are not guaranteed, and final payment for all Unit Price Bid items will be based on actual quantities provided, determined as provided in the Contract Documents.

C. Unit Price and figures column will be used to compute the actual bid price.

ARTICLE 6 - TIME OF COMPLETION

6.1 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 14.07.B of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.

ARTICLE 7 - ATTACHMENTS TO THIS BID

7.1 The following documents are attached to and made a condition of this Bid:

A. Section 00411 Bid Schedule

B. Section 00415 Bid Bond

C. Section 00420 Employment Requirements and Wage Rates

D. Section 00430 Contractor Compliance to State Law

E. Section 00435 Non-Collusion Affidavit

F. Section 00440 Conflict Interest Questionnaire

ARTICLE 8 - DEFINED TERMS

8.1 The terms used in this Bid have the meanings indicated in the General Conditions and the Supplementary Conditions. The significance of terms with initial capital letters is described in the General Conditions.

ARTICLE 9 - VENUE

9.1 Bidder agrees that venue shall lie exclusively in Hays County, Texas, for any legal action.

ARTICLE 11 - BID SUBMITTAL

This Bid submitted by:

If Bidder is:

A Corporation

Corporation Name: BLACK CASTLE GENERAL CONTRACTOR (Seal)
(typed or printed)

Black Castle General Contractor Corporate Seal Texas 2004

State of Incorporation: TEXAS

Type: (General Business, Professional, Service, Limited Liability) GENERAL BUSINESS

By: _____
(signature - attach evidence of authority to sign)

Name: RODNEY SCHWARZLOSE
(typed or printed)

Title: PRESIDENT
(CORPORATE SEAL)

Attest: _____
(signature of Corporate Secretary) TIFFANIE POLLARD

Date of Qualification to do business in TEXAS is 03/2004
(State where Project Located) (Date)

A Joint Venture

Name of Joint Venture: _____
(typed or printed)

First Joint Venture Name: _____ (Seal)

By: _____
(signature of first joint venture partner- attach evidence of authority to sign)

Name: _____
(typed or printed)

Title: _____

Second Joint Venture Name: _____ (Seal)

By: _____
(signature of second joint venture partner- attach evidence of authority to sign)

Name: _____
(typed or printed)

Title: _____

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

An Individual

Name: _____
(typed or printed)

By: _____
(individual's signature) (Seal)

Doing Business As: _____

Business Address: _____

A Partnership

Partnership Name: _____
(typed or printed) (Seal)

Name of General Partner: _____
(typed or printed)

By: _____
(signature of general partner – attach evidence of authority to sign)

Contact for receipt of official communications:

Name: BLACK CASTLE GENERAL CONTRACTOR

Business Address: 1299 E COMMON AVE., NEW BRAUNFELS, TEXAS 78130

Phone: (830)387-4623 Facsimile: (830)387-4429

E-mail: INFO@BLACKCASTLEGC.COM

Bid Submitted on: APRIL 19, 2017

State Contractor License No. N/A . (If applicable)

END OF SECTION

SECTION 00411
BID SCHEDULE
FOR
Wastewater Treatment Plant Project
City of Wimberley, Texas

The undersigned, in compliance with the Invitation for Bids for construction of the following Project:

Wastewater Treatment Plant

for the City of Wimberley, Texas, having examined the Project Manual, Drawings and Addenda, the site of the proposed Work and being familiar with all of the conditions surrounding construction of the proposed Project, having conducted all inquiries, tests and investigations deemed necessary and proper; hereby proposes to furnish all labor, permits, material, machinery, tools, supplies and equipment, and incidentals, and to perform all Work required for construction of the Project in accordance with the Project Manual, Drawings and Addenda within the time indicated for the following prices of:

Note: The Bidder will enter the line item subtotal in the "Amount" column below, which is the product of the estimated "Quantity" multiplied by the "Unit Price". Any mathematical errors will be corrected for the purpose of determining the correct Amount to be entered in the Bid Form. The Amounts, including any corrected Amounts, will then be totaled to determine the actual amount of the Bid.

Bid Item No.	Unit	Est. Qty.	Description/Price in Words	Unit Price	Extended Amount
WASTEWATER TREATMENT PLANT					
1. SP-004	LS	1	Package MBR Treatment Plant for a lump sum of Two million three hundred eight thousand seven / hundred Dollars and Zero Cents.	$	$ 2,308,700.00
2. SP-006	EA	2	Effluent Transfer Pumps for each a sum of Thirteen Thousand Seven Hundred Dollars and — Cents.	$ 13700	$ 27400
RECLAIMED WATER IRRIGATION SYSTEM					
3. SP-005	LS	1	Irrigation System, including Controller and 31 zones (2" Pipe, 3" Pipe, Valves, Heads, etc.) for a lump sum of One Hundred Eighty Three Thousand Five Hundred Dollars and — Cents.	$ 183500	$ 183500
4. SP-007	EA	2	Reclaimed Water Pumps for each a sum of Forty Thousand Three Hundred Dollars and — Cents.	$ 40300	$ 80600

Bid Item No.	Unit	Est. Qty.	Description/Price in Words	Unit Price	Extended Amount
5. 510-AR 6" Dia.	LF	800	Service Pipe 6" Dia. PVC Type (all depths), including Excavation and Backfill for each linear foot a sum of One Hundred Sixteen Dollars and — Cents.	$ 114	$ 92,800
6. 511-A6	EA	3	Valves, Gate Valve, 6" Dia for a sum of Eleven Hundred — Dollars and Cents.	$ 1100	$ 3300
7. SP-008	LS	1	500,000 Gallon Reclaimed Water Storage Tank, Bolted Steel w/ Cone Roof for a lump sum of One Hundred Seventy Two Thousand Six Hundred Dollars and — Cents.	$ 172600	$ 172600
FORCE MAIN LINE					
8. 510-AR 6" Dia.	LF	1800	Pipe 6" Dia. PVC Type (all depths), including Excavation and Backfill for a lump sum of One Hundred Six Dollars and — Cents.	$ 106	$ 190,800
9. 509S-1	LF	1700	Trench Excavation Safety Protective Systems, (all depths over 5') for a lump sum of One Dollars and — Cents.	$ 1	$ 1700
10. 511-A6	EA	3	Valves, Plug Valve, 6" Dia. for a lump sum of Twenty Five Hundred — Dollars and — Cents.	$ 2500	$ 7500
TOTAL AMOUNT BID (Items 1-10)			Total amount bid for Bid Items 1 through 7, the sum of Three million Sixty eight thousand nine hundred Dollars and Zero Cents.	$ 3,068,900.00	

Bid Item No.	Unit	Est. Qty.	Description/Price in Words	Unit Price	Extended Amount
Alternate Bid Items: The TOTAL BASE BID may be adjusted by the Alternate Bid Items listed below in accordance with Section 01230 "Alternatives" prior to the award of the Contract. Award of the Contract will be based on the adjusted TOTAL BASE BID. The decision to accept the alternate bid items listed will be solely at the discretion of the OWNER and will be made on an item by item basis. CONTRACTOR shall provide sufficient information, such as product data, materials, manufacturer, referenced installations and related data on alternate bid items with the Bid for ENGINEER to evaluate the equipment. Additional information requested shall be furnished upon request by the ENGINEER.					
ALTERNATE BIDS					
7. SP-008	LS	1	Alternate for Bid Item No. 7: 500,000 Gallon Reclaimed Water Storage Tank, Bolted Steel Tank, Open Top for a lump sum of One Hundred Fifty Three Thousand Four Hundred Dollars and — Cents.	$ 153400	$ 153400 -
TOTAL ALTERNATE BID AMOUNT (Items 1-6, 8-10, Alt 7)			Total amount bid for Bid Items 1 through 6 plus Alternate Bid Item 7, the sum of Three Million Forty nine Thousand Seven hundred Dollars and zero Cents.		$ 3,049,700.00

If additional space is required for tabulating alternate bid items, include a separate, typewritten sheet.

In the event of a mathematical error, the correct product, determined by using the "Unit Price" and "Quantity", and the correct sum, determined by totaling the correct line item Amounts, will prevail over the amount entered by the Bidder. The unit prices shown above will be the unit prices used to tabulate the Bid and used in the Contract, if awarded by the City.

BID GUARANTY: A Bid guaranty must be enclosed with this Bid in the amount of not less than five percent (5%) of the total Bid. Following the Bid opening, submitted Bids may not be withdrawn for a period of 90 Calendar Days. Award of Contract will occur within this period, unless mutually agreed between the parties. The Bid guaranty may become the property of the OWNER, or the OWNER may pursue any other action allowed by law, if:

- Bidder withdraws a submitted Bid within the period stated above;
- Bidder fails to submit the required post Bid information within three (3) business days of receipt of notice of Bidder award status by the OWNER, or any mutually agreed extension of that period;
- or Bidder fails to execute the Contract and furnish the prescribed documentation (bonds, insurance, etc.) needed to complete execution of the Contract within five (5) Working Days after notice of award, or any mutually agreed extension of that period.

GEOTECHNICAL REPORT ACKNOWLEDGEMENT: The undersigned bidder certifies that he/she has read and understands all the geological and geotechnical information and data as provided in the Contract Documents, including all Addenda. ***The Bidder acknowledges and agrees that the Geotechnical Report represents the contractual statement of the subsurface conditions reasonably anticipated to be encountered during construction. The Geotechnical Report will be used to evaluate whether subsurface conditions differ materially from those indicated in the Geotechnical Report.***

TIME OF COMPLETION: The undersigned Bidder agrees to commence work on the date specified in the written "Notice to Proceed" to be issued by the OWNER and to **substantially** complete construction of the improvements, as required by the Project Manual, Drawings and Addenda for the Work within **200 Calendar** Days. **If a Substantial Completion date has been specified, the Bidder further agrees to reach Final Completion within 45 Calendar Days after Substantial Completion as required by the Project Manual, Drawings and Addenda for the work.** The Bidder further agrees that should the Bidder fail to **substantially complete the Work or to** complete the Work within the number of days indicated in the Bid or as subsequently adjusted, Bidder shall pay the liquidated damages for each consecutive day thereafter as provided below; unless the OWNER elects to pursue any other action allowed by law.

WAIVER OF ATTORNEY FEES: In submitting its bid, in consideration for the waiver of its right to attorney's fees by the OWNER, the Bidder knowingly and intentionally agrees to and shall waive the right to attorney's fees under Section 271.153 of the Texas Local Government Code in any administrative proceeding, alternative dispute resolution proceeding, or litigation arising out of or connected to any Contract awarded pursuant to this solicitation process.

LIQUIDATED DAMAGES: The Bidder understands and agrees that the timely completion of the described Work is of the essence. The Bidder and OWNER further agree that the OWNER's actual damages for delay caused by failure to timely complete the Project are difficult, if not impossible to measure. However, with respect to the additional administrative and consultant costs to be incurred by OWNER, the reasonable estimate of such damages has been calculated and agreed to by OWNER and Bidder. Therefore, the Bidder and the OWNER agree that for each and every **Calendar Day** the Work or any portion thereof, remains incomplete after the **Substantial Completion** date as established by the above paragraph, "Time of Completion", payment will be due to the Owner in the amount of Two Thousand dollars ($2,000) per **Calendar Day** as liquidated damages, not as a penalty, but for delay damages to the OWNER. **If both Substantial and Final Completion dates have been specified, the Bidder and the OWNER further agree that for each and every Calendar Day the Work or any portion thereof, remains incomplete after the Final date as established by the above paragraph, "Time of Completion", payment will be due to the OWNER in the amount of Four Thousand dollars ($4,000) per Calendar Day as liquidated damages, not as a penalty, but for delay damages to the OWNER.** Such amount shall be deducted by the OWNER from any Contract payment due. In the event of a default or breach by the CONTRACTOR and demand is made upon the surety to complete the project, in accordance with the Contract Documents, the surety shall be liable for liquidated damages pursuant to the Contract Documents in the same manner as the CONTRACTOR would have been.

OWNER reserves the right to reject any or all Bids and to waive any minor informality in any Bid or solicitation procedure (a minor informality is one that does not affect the competitiveness of the Bids).

The undersigned acknowledges receipt of the following addenda:

Addendum No. 1 dated 4/7/17 Received _____

Addendum No. 2 dated 4/17/17 Received _____

Addendum No. 3 dated _____ Received _____

Addendum No. 4 dated _____ Received _____

Addendum No. 5 dated _____ Received _____

BID DOCUMENT EXECUTION AND ACKNOWLEDGEMENT:

The undersigned Bidder certifies that he/she has read and understands the Section 00020 Invitation for Bids, the Section 00200 Instructions to Bidders, and all other requirements applicable to the bidding process provided in the Bid and Contract Documents.

Secretary, *if Bidder is a Corporation
TIFFANIE POLLARD

BLACK CASTLE GENERAL CONTRACTOR
Bidder

Authorized Signature

(Seal)

Black Castle General Contractor
Corporate Seal
Texas
2004

PRESIDENT
Title

APRIL 18, 2017
Date

1299 E COMMON AVE.,

NEW BRAUNFELS, TEXAS 78130
Address

(830) 387-4623 / (830) 387-4429
Telephone Number / FAX Number

INFO@BLACKCASTLEGC.COM
Email Address for Person Signing Bid

INFO@BLACKCASTLEGC.COM
Email Address for Bidder's Primary Contact Person

* Copy of Corporate Resolution and minutes with certificate of officer of Bidder as to authority of signatory to bind Bidder is to be signed and dated no earlier than one week before Bid date, and attached to this document.

END OF BID SCHEDULE

SECTION 00415
BID BOND

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

BIDDER (Name and Address):

Black Castle General Contractor
1299 Common Ave
New Braunfels, TX 78130

SURETY (Name and Address of Principal Place of Business):
Nationwide Mutual Insurance Company
7 World Trade Center, 250 Greenwich Street, 37th Floor
New York, NY 10007-0033

OWNER (Name and Address):
City of Wimberley
221 Stillwater
Wimberley, TX 78676

BID
Bid Due Date: November 13, 2017
Project (Brief Description Including Location):
Wastewater Treatment Plant Project, Wimberley, TX

BOND
Bond Number: n/a
Date (Not later than Bid due date): November 13, 2017
Penal sum Five Percent of the Greatest Amount Bid (Words) 5% of G.A.B. (Figures)

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

BIDDER	SURETY
Black Castle General Contractor Bidder's Name and Corporate Seal	Nationwide Mutual Insurance Company Surety's Name and Corporate Seal
By: PRES Signature and Title	By: Signature and Title Wilbert Raymond Watson, Attorney-in-Fact (Attach Power of Attorney)
Attest: Rolland, Secretary Signature and Title	Attest: Linda Stalder Signature and Title Witness

Note: Above addresses are to be used for giving required notice.

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Surety's liability.

2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.

3. This obligation shall be null and void if:

   3.1. Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or

   3.2. All Bids are rejected by Owner, or

   3.3. Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).

4. Payment under this Bond will be due and payable upon default by Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.

5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from Bid due date without Surety's written consent.

6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after Bid due date.

7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.

8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.

9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.

10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.

11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

1027138

Power of Attorney

KNOW ALL MEN BY THESE PRESENTS THAT:

Nationwide Mutual Insurance Company, an Ohio corporation hereinafter referred to as the "Company" and does hereby make, constitute and appoint: Troy Russell Key, Andrea Rose Crawford, Debra Lee Moon, Sandra Lee Roney, Wilbert Raymond Watson, Sammy Joe Mullis Jr, John William Newby

each in their individual capacity, its true and lawful attorney-in-fact, with full power and authority to sign, seal, and execute on its behalf any and all bonds and undertakings, and other obligatory instruments of similar nature, in penalties not exceeding the sum of

Unlimited

and to bind the Company thereby, as fully and to the same extent as if such instruments were signed by the duly authorized officers of the Company; and all acts of said Attorney pursuant to the authority given are hereby ratified and confirmed.

This power of attorney is made and executed pursuant to and by authority of the following resolution duly adopted by the board of directors of the Company:

"RESOLVED, that the president, or any vice president be, and each hereby is, authorized and empowered to appoint attorneys-in-fact of the Company, and to authorize them to execute and deliver on behalf of the Company any and all bonds, forms, applications, memorandums, undertakings, recognizances, transfers, contracts of indemnity, policies, contracts guaranteeing the fidelity of persons holding positions of public or private trust, and other writings obligatory in nature that the business of the Company may require; and to modify or revoke, with or without cause, any such appointment or authority; provided, however, that the authority granted hereby shall in no way limit the authority of other duly authorized agents to sign and countersign any of said documents on behalf of the Company."

"RESOLVED FURTHER, that such attorneys-in-fact shall have full power and authority to execute and deliver any and all such documents and to bind the Company subject to the terms and limitations of the power of attorney issued to them, and to affix the seal of the Company thereto; provided, however, that said seal shall not be necessary for the validity of any such documents."

This power of attorney is signed and sealed under and by the following bylaws duly adopted by the board of directors of the Company.

Execution of Instruments. Any vice president, any assistant secretary or any assistant treasurer shall have the power and authority to sign or attest all approved documents, instruments, contracts, or other papers in connection with the operation of the business of the company in addition to the chairman of the board, the chief executive officer, president, treasurer or secretary; provided, however, the signature of any of them may be printed, engraved, or stamped on any approved document, contract, instrument, or other papers of the Company.

IN WITNESS WHEREOF, the Company has caused this instrument to be sealed and duly attested by the signature of its officer the 1st day of May, 2017.

Antonio C. Albanese, Vice President of Nationwide Mutual Insurance Company

Nationwide Mutual Insurance Company CORPORATE 1925 SEAL Ohio Surety Use Only

ACKNOWLEDGMENT

STATE OF NEW YORK, COUNTY OF NEW YORK: ss

On this 1st day of May, 2017, before me came the above-named officer for the Company aforesaid, to me personally known to be the officer described in and who executed the preceding instrument, and he acknowledged the execution of the same, and being by me duly sworn, deposes and says, that he is the officer of the Company aforesaid, that the seal affixed hereto is the corporate seal of said Company, and the said corporate seal and his signature were duly affixed and subscribed to said instrument by the authority and direction of said Company.

BARRY T. BASSIS
Notary Public, State of New York
No. 02BA4656400
Qualified in New York County
Commission Expires April 30, 2019

Notary Public
My Commission Expires
April 30, 2019

CERTIFICATE

I, Laura B. Guy, Assistant Secretary of the Company, do hereby certify that the foregoing is a full, true and correct copy of the original power of attorney issued by the Company; that the resolution included therein is a true and correct transcript from the minutes of the meetings of the boards of directors and the same has not been revoked or amended in any manner; that said Antonio C. Albanese was on the date of the execution of the foregoing power of attorney the duly elected officer of the Company, and the corporate seal and his signature as officer were duly affixed and subscribed to the said instrument by the authority of said board of directors; and the foregoing power of attorney is still in full force and effect.

IN WITNESS WHEREOF, I have hereunto subscribed my name as Assistant Secretary, and affixed the corporate seal of said Company this 13th day of November, 2017.

Assistant Secretary

This document is void if VOID appears in the BLUE line on the right, the Nationwide watermark is missing from the center of the page and/or the red consecutive number is missing from the upper right-hand corner. Contact us at 212-329-6900 if this document is void or if you have any questions.

Nationwide Mutual Insurance Company

Home Office: Columbus, Ohio
Surety Administrative Office:
7 World Trade Center, 37th Floor
250 Greenwich Street
New York, NY 10007-0033

Surety Claim Notification

Claim notices should be sent via e-mail to FSReportALoss@freedomspecialtyins.com or via mail to the address above to the attention of the Surety Claims Manager. All other notices should be sent via e-mail to SuretyNotice@freedomspecialtyins.com or via mail to the address above to the attention of the Surety Underwriting Department.

Thank you for your cooperation.

Nationwide Mutual Insurance Company, Surety Department

SECTION 00430
CONTRACTOR COMPLIANCE TO STATE LAW

Chapter 2252 of the Texas Government Code applies to the award of government contract to nonresident bidders. This law provides that:

> "a government entity may not award a governmental contract to nonresident bidder unless the nonresident underbids the lower bid submitted by a responsible resident bidder by an amount that is not less than the amount by which a resident bidder would be required to underbid the nonresident bidder to obtain a comparable contract in the state in which the nonresident's principal place of business is located."

"Nonresident Bidder" refers to a person who is not a resident of Texas.

"Resident Bidder" refers to a person whose principal place of business is in this state, including a contractor whose ultimate parent company or majority owner has its principal place of business in this state.

The appropriate blanks in Section A hereof must be filled out by all nonresident bidders in order for your bid to be considered. The failure of nonresidents to do so will automatically disqualify the Bidder.

Resident Bidders must check in the box in Section B.

☐ Nonresident bidders in _____ (give state), our principal place of business, are required to be _____ percent lower than resident bidders by State law.

☐ Nonresident bidders in _____ (give state), our principal place of business, are not required to under bid resident bidders.

☒ Our principal place of business or corporate offices is in the State of Texas.

Bidder:

Company Name: BLACK CASTLE GENERAL CONTRACTOR
(typed or printed)

By: _____
(signature - attach evidence of authority to sign)

Name: RODNEY SCHWARZLOSE
(typed or printed)

Title: PRESIDENT
(signature - attach evidence of authority to sign)

Business Address: 1299 E COMMON AVE., NEW BRAUNFELS, TEXAS 78130

Phone: (830) 387-4623 Facsimile: (830) 387-4429

E-mail: INFO@BLACKCASTLEGC.COM

SUBSCRIBED AND SWORN BEFORE ME, this 18 day of APRIL, 16.

Notary Public TPollard
My Commission Expires: 10/23/2019

TIFFANIE POLLARD
My Notary ID # 130416557
Expires October 23, 2019

THIS FORM MUST BE RETURNED WITH YOUR BID

END OF SECTION

SECTION 00435
NON-COLLUSION AFFIDAVIT

STATE OF TEXAS COUNTY OF Comal

OWNER: City Of Wimberley, City Hall
221 Stillwater
Wimberley, Tx 78676

CONTRACT

Date: 4/19/2017
Amount:
Description (Name and Location): Waste Water Treatment Plant

Rodney Schwarzlose of lawful age, being first duly sworn, says that (he/she) is the agent authorized by the Bidder to submit the attached Bid.

Affiant further states that the Bidder has not been a party to any collusion among Bidders in the restraint of freedom of competition by agreement to bid at a fixed price or to refrain from bidding; or with any official or employee of the OWNER as to quantity, quality, or price in the prospective Contract, or any other terms of said prospective Contract; or, in any discussion between Bidders and any official of the OWNER concerning exchange of money or other thing of value for special consideration in the letting of a Contract.

Company Name: Black Castle General Contractor
(typed or printed)

By: [signature]
(signature - attach evidence of authority to sign)

Name: Rodney Schwarzlose
(typed or printed)

Title: President
(signature - attach evidence of authority to sign)

Business Address: 1299 E Common Ave, New Braunfels, Tx 78130

Phone: (830) 387-4623 Facsimile: (830) 387-4429

E-mail: rodneys@blackcastlegc.com

SUBSCRIBED AND SWORN BEFORE ME, this 19 day of April.

Notary Public TPollard

My Commission Expires: 10/23/2019

TIFFANIE POLLARD
My Notary ID # 130416557
Expires October 23, 2019

THIS FORM MUST BE RETURNED WITH YOUR BID

END OF SECTION

SECTION 00440
CONFLICT OF INTEREST QUESTIONNAIRE

CONFLICT OF INTEREST QUESTIONNAIRE — FORM CIQ

For vendor or other person doing business with local governmental entity

This questionnaire reflects changes made to the law by H.B. 1491, 80th Leg., Regular Session.

This questionnaire is being filed in accordance with Chapter 176, Local Government Code by a person who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the person meets requirements under Section 176.006(a).

By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the person becomes aware of facts that require the statement to be filed. *See* Section 176.006, Local Government Code.

A person commits an offense if the person knowingly violates Section 176.006, Local Government Code. An offense under this section is a Class C misdemeanor.

OFFICE USE ONLY

Date Received

1 Name of person who has a business relationship with local governmental entity.

BLACK CASTLE GENERAL CONTRACTOR

2 ☐ Check this box if you are filing an update to a previously filed questionnaire.

(The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than the 7th business day after the date the originally filed questionnaire becomes incomplete or inaccurate.)

3 Name of local government officer with whom filer has employment or business relationship.

N/A

Name of Officer

This section (item 3 including subparts A, B, C & D) must be completed for each officer with whom the filer has an employment or other business relationship as defined by Section 176.001(1-a), Local Government Code. Attach additional pages to this Form CIQ as necessary.

A. Is the local government officer named in this section receiving or likely to receive taxable income, other than investment income, from the filer of the questionnaire?

☐ Yes ☒ No

B. Is the filer of the questionnaire receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer named in this section AND the taxable income is not received from the local governmental entity?

☐ Yes ☒ No

C. Is the filer of this questionnaire employed by a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership of 10 percent or more?

☐ Yes ☒ No

D. Describe each employment or business relationship with the local government officer named in this section.

N/A

4

Signature of person doing business with the governmental entity

4/18/17

Date

Adopted 08/28/2007

THIS FORM MUST BE RETURNED WITH YOUR BID

END OF SECTION

SECTION 00450
EQUIPMENT SUPPLY MANUFACTURERS

1.1 GENERAL

A. This form shall be completed and submitted with Bid. Bidders not submitting this form may be considered non-responsive.

B. Bidder shall circle the name of the manufacturer of the equipment which he proposes to furnish for each specification section listed. Upon award of a contract, the named equipment shall be furnished.

C. Only one manufacturer's name shall be circled for each item of equipment. Substitutions will be permitted only if named equipment does not meet the requirements of the Contract Documents, the manufacturer is unable to meet the delivery requirements of the construction schedule, or the manufacturer is dilatory in complying with the requirements of the Contract Documents.

D. Substitutions shall be subject to concurrence of the Owner and shall be confirmed by Change Order.

1.2 EQUIPMENT SUPPLY MANUFACTURERS

A. The manufacturers listed herein are those as acceptable manufacturers in the individual equipment specification. Alternate write-in manufacturers shall be indicated in the Bid form only. Contractors must indicate one of the listed manufacturers on this sheet. Alternate manufacturers will be reviewed separately during the evaluation of the Bids.

B. Preliminary acceptance of equipment listed by manufacturer's name shall not in any way constitute a waiver of the specifications covering such equipment; final acceptance will be based on full conformity with the Contract Documents.

C. Failure to furnish all information requested may be cause for rejection of the Bid.

Section	Equipment	Manufacturer(s)
11074	End Suction Centrifugal Pumps	AURORA PUMPS FLOWSERVE CORPORATION ITT GOULDS PUMPS XYLEM/~~GOULDS WATER TECHNOLOGY~~
11120	Rotary Fine Screen System	HUBER TECHNOLOGIES
11264	Biological Tower	ECO-VERDE, LLC ~~BIOAIR SOLUTIONS~~, LLC ~~BIOREM, INC~~ EVOQUA WATER TECHNOLOGIES DANIEL MECHANICAL COMPANY MET-PRO ENVIRONEMENTAL AIR SOLUTIONS
11264	Odor Control Fan	~~HARTZELL~~ HOWDEN VERANTIS
11390	Package Membrane Bioreactor (MBR) Wastewater Treatment Plan	OVIVO KRUGER SMITH AND LOVELESS H2O

THIS FORM MUST BE RETURNED WITH YOUR BID

END OF SECTION

PERFORMANCE BOND

STATE OF TEXAS §
§
COUNTY OF_____ §

KNOW ALL MEN BY THESE PRESENTS, that _____, of _____ as PRINCIPAL (Contractor), and _____, as Surety, authorized under the laws of the State of Texas to act as surety on bonds for principals, are held and firmly bound unto the City of Wimberley, as OWNER, in the penal sum of _____ Dollars ($_____) for the payment whereof, the said PRINCIPAL and Surety bind themselves and their heirs, administrators, executors, successors and assigns, jointly and severally, by these presents:

WHEREAS, the PRINCIPAL has entered into a certain written Contract with the OWNER, dated the _____day of_____, 20_____, for the City of Wimberley Wastewater Treatment Plant Project which Contract is hereby referred to and made a part hereof as fully and to the same extent as if copied at length herein.

NOW, THEREFORE, the condition of this obligation is such, that if the said PRINCIPAL shall faithfully perform said Contract and shall in all respects duly and faithfully observe and perform all and singular covenants, conditions and agreements in and by said Contract agreed and covenanted by the PRINCIPAL to be observed and performed, and according to the true intent and meaning of said Contract and the Plans and Specifications hereto annexed, then this obligation shall be void: otherwise to remain in full force and effect;

PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions of Chapter 2253, Public Work Performance and Payment Bonds, of the Texas Government Code, and all liabilities on this bond shall be determined in accordance with the provisions of said Chapter 2253 to the same extent as if it were copied at length herein.

PROVIDED, FURTHER, Surety shall hold a Certificate of Authority from the United States secretary of treasury to qualify as a surety or reinsurer on obligations permitted or required under federal law and is in compliance with Texas Government Code Article 2253.021 and Texas Insurance Code, Article 7.19-1.

PROVIDED FURTHER, that if any legal action were filed upon this bond, venue shall lie in Hays County, State of Texas.

Surety, for value received, stipulates and agrees that the bond shall automatically be increased by the amount of any change order or supplemental agreement which increases the contract price with or without notice to the Surety and that no change, extension of time, alteration or addition to the terms of the contract, or the work performed thereunder, or the plans, specifications, or drawings 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 the contract, or to the work to be performed thereunder.

Surety agrees that the bond provides for the repairs and/or replacement of all defects due to faulty materials and workmanship that appear within a period of one (1) year from the date of completion and acceptance of the improvement by the OWNER.

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.

IN WITNESS WHEREOF, the said PRINCIPAL and Surety have signed and sealed this instrument this_____day of_____, 20_____.

_____	_____
PRINCIPAL	SURETY
By _____	By _____
Title _____	Title _____
Address _____	Address _____
_____	_____
_____	_____
(Seal)	(Seal)

The name and address of the Resident Agent of Surety is:

_____

_____

Note: Date of Bond must not be prior to date of Contract.

PAYMENT BOND

STATE OF TEXAS §
§
COUNTY OF_____ §

KNOW ALL MEN BY THESE PRESENTS, that _____, of _____ as PRINCIPAL (Contractor), and _____, as Surety, authorized under the laws of the State of Texas to act as surety on bonds for principals, are held and firmly bound unto the City of Wimberley, as OWNER, in the penal sum of _____ Dollars ($_____) for the payment whereof, the said PRINCIPAL and Surety bind themselves and their heirs, administrators, executors, successors and assigns, jointly and severally, by these presents:

WHEREAS, the PRINCIPAL has entered into a certain written Contract with the OWNER, dated the _____day of_____, 20_____, for the City of Wimberley Wastewater Treatment Plant Project which Contract is hereby referred to and made a part hereof as fully and to the same extent as if copied at length herein.

NOW, THEREFORE, the condition of this obligation is such, that the bond guarantees the full and proper protection of all claimants supplying labor and material in the prosecution of the work provided for in said contract and for the use of each claimant and that conversely should the PRINCIPAL faithfully perform said contract and in all respects duly and faithfully observe and perform all and singular the covenants, conditions, and agreements in and by said Contract agreed to by the Principal, and according to the true intent and meaning of said contract and the Plans and Specifications hereto annexed, then this obligation shall be void; otherwise, to remain in full force and effect.

PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions of Chapter 2253, Public Work Performance and Payment Bonds, of the Texas Government Code, and all liabilities on this bond shall be determined in accordance with the provisions of said Chapter 2253 to the same extent as if it were copied at length herein.

PROVIDED, FURTHER, Surety shall hold a Certificate of Authority from the United States secretary of treasury to qualify as a surety or reinsurer on obligations permitted or required under federal law and is in compliance with Texas Government Code Article 2253.021 and Texas Insurance Code, Article 7.19-1.

PROVIDED FURTHER, that if any legal action were filed upon this bond, venue shall lie in Hays County, State of Texas.

Surety, for value received, stipulates and agrees that the bond shall automatically be increased by the amount of any change order or supplemental agreement which increases the contract price with or without notice to the Surety and that no change, extension of time, alteration or addition to the terms of the contract, or the work performed thereunder, or the plans, specifications, or drawings 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 the contract, or to the work to be performed thereunder.

If CONTRACTOR is partnership, all partners should execute the BOND.

IN WITNESS WHEREOF, the said PRINCIPAL and Surety have signed and sealed this instrument this_____day of_____, 20_____.

_____	_____
PRINCIPAL	SURETY
By _____	By _____
Title _____	Title _____
Address _____	Address _____
_____	_____
_____	_____
(Seal)	(Seal)

The name and address of the Resident Agent of Surety is:

_____

_____

Note: Date of Bond must not be prior to date of Contract.

SECTION 00630
CERTIFICATES OF INSURANCE

Certificate of Insurance Form shall be inserted in this place containing the coverage and endorsements when provided by the CONTRACTOR and when approved by OWNER and ENGINEER in accordance with the General Conditions and Supplementary Conditions.

CONTRACTOR shall deliver to OWNER, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance in accordance with Article 5.04 of the General Conditions and as modified by SC-5.04 of the Supplementary conditions.

END OF SECTION

SECTION 00635
CONTRACTOR COMPLIANCE WITH TEXAS SALES TAX CODE

Comply with all requirements of the Texas Sales Tax Code. The Contractor hereby certifies that the Contract Amount is divided as follows:

Material incorporated into the Project: (resold to Owner as defined in Tax Code)	$ 1,841,340.00
All other charges and costs:	$ 1,227,560.00
Total*	$ 3,068,900.00

*The total must equal the total amount of the Contract.

CONTRACTOR:

BLACK CASTLE GENERAL CONTRACTOR
Company (please print)

By: (signature of authorized person)

2115 STEPHENS PLACE SUITE 210
Address

Title: PRESIDENT

NEW BRAUNFELS, TX 78130
City State Zip

THIS FORM SHALL BE EXECUTED AT TIME OF EXECUTION OF CONTRACT AND MADE PART OF THE CONTRACT

END OF SECTION

SECTION 00700
GENERAL CONDITIONS

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

and

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STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.

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

2. *Agreement*—The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.

3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

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

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

6. *Bidder*—The individual or entity who submits a Bid directly to Owner.

7. *Bidding Documents*—The Bidding Requirements and the proposed Contract Documents (including all Addenda).

8. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid security of acceptable form, if any, and the Bid Form with any supplements.

9. *Change Order*—A document recommended by Engineer which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.

10. *Claim*—A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.

11. *Contract*—The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*—Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop

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Drawings, other Contractor submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.

13. *Contract Price*—The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).

14. *Contract Times*—The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any; (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.

15. *Contractor*—The individual or entity with whom Owner has entered into the Agreement.

16. *Cost of the Work*—See Paragraph 11.01 for definition.

17. *Drawings*—That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.

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

19. *Engineer*—The individual or entity named as such in the Agreement.

20. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.

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

22. *Hazardous Environmental Condition*—The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto.

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

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

25. *Liens*—Charges, security interests, or encumbrances upon Project funds, real property, or personal property.

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

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27. *Notice of Award*—The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.

28. *Notice to Proceed*—A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.

29. *Owner*—The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.

30. *PCBs*—Polychlorinated biphenyls.

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

32. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.

33. *Project*—The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.

34. *Project Manual*—The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.

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

36. *Resident Project Representative*—The authorized representative of Engineer who may be assigned to the Site or any part thereof.

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

38. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.

39. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

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

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41. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.

42. *Specifications*—That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.

43. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.

44. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

45. *Successful Bidder*—The Bidder submitting a responsive Bid to whom Owner makes an award.

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

47. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or Subcontractor.

48. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

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

50. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

51. *Work Change Directive*—A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a

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Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

1.02 *Terminology*

A. The words and terms discussed in Paragraph 1.02.B through F are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

B. *Intent of Certain Terms or Adjectives:*

1. The Contract Documents include the terms "as allowed," "as approved," "as ordered," "as directed" or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives "reasonable," "suitable," "acceptable," "proper," "satisfactory," or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.09 or any other provision of the Contract Documents.

C. *Day:*

1. The word "day" means a calendar day of 24 hours measured from midnight to the next midnight.

D. *Defective:*

1. The word "defective," when modifying the word "Work," refers to Work that is unsatisfactory, faulty, or deficient in that it:

a. does not conform to the Contract Documents; or

b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or

c. has been damaged prior to Engineer's recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 14.04 or 14.05).

E. *Furnish, Install, Perform, Provide:*

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1. The word "furnish," when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.

2. The word "install," when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words "perform" or "provide," when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.

4. When "furnish," "install," "perform," or "provide" is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, "provide" is implied.

F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.

B. *Evidence of Insurance:* Before any Work at the Site is started, Contractor and Owner shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.

2.02 *Copies of Documents*

A. Owner shall furnish to Contractor up to ten printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

2.03 *Commencement of Contract Times; Notice to Proceed*

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

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2.04 *Starting the Work*

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

2.05 *Before Starting Construction*

A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for timely review:

1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;

2. a preliminary Schedule of Submittals; and

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

2.06 *Preconstruction Conference; Designation of Authorized Representatives*

A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.05.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.

B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit instructions, receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.07 *Initial Acceptance of Schedules*

A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.

1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of

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the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.

2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.

3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 *Intent*

A. The Contract Documents are complementary; what is required by one is as binding as if required by all.

B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that reasonably may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated result will be provided whether or not specifically called for, at no additional cost to Owner.

C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

3.02 *Reference Standards*

A. Standards, Specifications, Codes, Laws, and Regulations

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

2. No provision of any such standard, specification, manual, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

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3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies:*

1. *Contractor's Review of Contract Documents Before Starting Work*: Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor discovers, or has actual knowledge of, and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.

2. *Contractor's Review of Contract Documents During Performance of Work*: If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation , (b) any standard, specification, manual, or code, or (c) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.

3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies:*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:

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

   b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Amending and Supplementing Contract Documents*

A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.

B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:

1. A Field Order;

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2. Engineer's approval of a Shop Drawing or Sample (subject to the provisions of Paragraph 6.17.D.3); or

3. Engineer's written interpretation or clarification.

3.05 *Reuse of Documents*

A. Contractor and any Subcontractor or Supplier shall not:

1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions; or

2. reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer.

B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

3.06 *Electronic Data*

A. Unless otherwise stated in the Supplementary Conditions, the data furnished by Owner or Engineer to Contractor, or by Contractor to Owner or Engineer, that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.

B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party.

C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

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ARTICLE 4 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS

4.01 *Availability of Lands*

A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.

C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 *Subsurface and Physical Conditions*

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

1. those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site; and

2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or

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

3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

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4.03 *Differing Subsurface or Physical Conditions*

A. *Notice:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed either:

1. is of such a nature as to establish that any "technical data" on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or

2. is of such a nature as to require a change in the Contract Documents; or

3. differs materially from that shown or indicated in the Contract Documents; or

4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *Engineer's Review*: After receipt of written notice as required by Paragraph 4.03.A, Engineer will promptly review the pertinent condition, determine the necessity of Owner's obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer's findings and conclusions.

C. *Possible Price and Times Adjustments:*

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

   a. such condition must meet any one or more of the categories described in Paragraph 4.03.A; and

   b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.07 and 11.03.

2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:

   a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or

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

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c. Contractor failed to give the written notice as required by Paragraph 4.03.A.

3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in Paragraph 10.05. However, neither Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

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

1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data provided by others; and

2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:

a. reviewing and checking all such information and data;

b. locating all Underground Facilities shown or indicated in the Contract Documents;

c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction; and

d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. *Not Shown or Indicated:*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

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2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.

4.05 *Reference Points*

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

4.06 *Hazardous Environmental Condition at Site*

A. *Reports and Drawings:* The Supplementary Conditions identify those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at the Site.

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or

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

3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.

C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible

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for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.

D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 4.06.E.

E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered written notice to Contractor: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.

F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.

G. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects,

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attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

I. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 – BONDS AND INSURANCE

5.01 *Performance, Payment, and Other Bonds*

A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.

B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed each bond.

C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

5.02 *Licensed Sureties and Insurers*

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

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5.03 *Certificates of Insurance*

A. Contractor shall deliver to Owner, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.

B. Owner shall deliver to Contractor, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.

C. Failure of Owner to demand such certificates or other evidence of Contractor's full compliance with these insurance requirements or failure of Owner to identify a deficiency in compliance from the evidence provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.

D. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor.

E. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner in the Contract Documents.

5.04 *Contractor's Insurance*

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

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;

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

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

4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:

   a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or

   b. by any other person for any other reason;

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5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and

6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

B. The policies of insurance required by this Paragraph 5.04 shall:

1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, be written on an occurrence basis, include as additional insureds (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;

2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;

3. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;

4. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);

5. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and

6. include completed operations coverage:

   a. Such insurance shall remain in effect for two years after final payment.

   b. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

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5.05 *Owner's Liability Insurance*

A. In addition to the insurance required to be provided by Contractor under Paragraph 5.04, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

5.06 *Property Insurance*

A. Unless otherwise provided in the Supplementary Conditions, Owner shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:

1. include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee;

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

3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);

4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;

5. allow for partial utilization of the Work by Owner;

6. include testing and startup; and

7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other loss payee to whom a certificate of insurance has been issued.

B. Owner shall purchase and maintain such equipment breakdown insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee.

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C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other loss payee to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.

D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

E. If Contractor requests in writing that other special insurance be included in the property insurance policies provided under this Paragraph 5.06, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall in writing advise Contractor whether or not such other insurance has been procured by Owner.

5.07 *Waiver of Rights*

A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or loss payees thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.

B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for:

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1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and

2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.

C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them.

5.08 *Receipt and Application of Insurance Proceeds*

A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the loss payees, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order.

B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

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

A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other

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party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

A. If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6 – CONTRACTOR'S RESPONSIBILITIES

6.01 *Supervision and Superintendence*

A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.

B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

6.02 *Labor; Working Hours*

A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.

B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner's written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

6.03 *Services, Materials, and Equipment*

A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

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B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

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

6.04 *Progress Schedule*

A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 as it may be adjusted from time to time as provided below.

1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.

2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

6.05 *Substitutes and "Or-Equals"*

A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.

1. *"Or-Equal" Items:* If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or-equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:

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

1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

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2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole; and

3) it has a proven record of performance and availability of responsive service.

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

1) there will be no increase in cost to the Owner or increase in Contract Times; and

2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

2. *Substitute Items:*

a. If in Engineer's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.

b. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.

c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented by the General Requirements, and as Engineer may decide is appropriate under the circumstances.

d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:

1) shall certify that the proposed substitute item will:

a) perform adequately the functions and achieve the results called for by the general design,

b) be similar in substance to that specified, and

c) be suited to the same use as that specified;

2) will state:

a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time,

b) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and

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c) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;

3) will identify:

a) all variations of the proposed substitute item from that specified, and

b) available engineering, sales, maintenance, repair, and replacement services; and

4) shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change.

B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.

C. *Engineer's Evaluation:* Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by a Change Order in the case of a substitute and an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.

D. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.

E. *Engineer's Cost Reimbursement*: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.

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

6.06 *Concerning Subcontractors, Suppliers, and Others*

A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be

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required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.

B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.

C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:

1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity; nor

2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.

E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.

F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as a loss payee on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, Engineer, and all other individuals or entities identified in the Supplementary

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Conditions to be listed as insureds or loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

6.07 *Patent Fees and Royalties*

A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.

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

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

6.08 *Permits*

A. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

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6.09 *Laws and Regulations*

A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.

B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.

C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

6.10 *Taxes*

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

6.11 *Use of Site and Other Areas*

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

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.

2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.

3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party

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indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.

B. Removal *of Debris During Performance of the Work:* During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. *Loading Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.12 *Record Documents*

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

6.13 *Safety and Protection*

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

1. all persons on the Site or who may be affected by the Work;

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

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

B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall

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notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.

C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.

D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.

E. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

F. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 *Safety Representative*

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

6.15 *Hazard Communication Programs*

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

6.16 *Emergencies*

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

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6.17 *Shop Drawings and Samples*

A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as Engineer may require.

1. *Shop Drawings:*

a. Submit number of copies specified in the General Requirements.

b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.

2. *Samples:*

a. Submit number of Samples specified in the Specifications.

b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.

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

C. *Submittal Procedures:*

1. Before submitting each Shop Drawing or Sample, Contractor shall have:

a. reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;

b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

c. determined and verified the suitability of all materials offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and

d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.

2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.

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3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawings or Sample submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

D. *Engineer's Review:*

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

E. *Resubmittal Procedures:*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

6.18 *Continuing the Work*

A. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

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6.19 *Contractor's General Warranty and Guarantee*

A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on representation of Contractor's warranty and guarantee.

B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or

2. normal wear and tear under normal usage.

C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:

1. observations by Engineer;

2. recommendation by Engineer or payment by Owner of any progress or final payment;

3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;

4. use or occupancy of the Work or any part thereof by Owner;

5. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;

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

7. any correction of defective Work by Owner.

6.20 *Indemnification*

A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable .

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B. If any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:

1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or

2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

6.21 *Delegation of Professional Design Services*

A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable law.

B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.

C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.

D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.

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E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

ARTICLE 7 – OTHER WORK AT THE SITE

7.01 *Related Work at Site*

A. Owner may perform other work related to the Project at the Site with Owner's employees, or through other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:

1. written notice thereof will be given to Contractor prior to starting any such other work; and

2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.

B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.

C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

7.02 *Coordination*

A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:

1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;

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

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

B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

7.03 *Legal Relationships*

A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.

B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's wrongful actions or inactions.

C. Contractor shall be liable to Owner and any other contractor under direct contract to Owner for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's wrongful action or inactions.

ARTICLE 8 – OWNER'S RESPONSIBILITIES

8.01 *Communications to Contractor*

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

8.02 *Replacement of Engineer*

A. In case of termination of the employment of Engineer, Owner shall appoint an engineer to whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Engineer.

8.03 *Furnish Data*

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

8.04 *Pay When Due*

A. Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.02.C and 14.07.C.

8.05 *Lands and Easements; Reports and Tests*

A. Owner's duties with respect to providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

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8.06 *Insurance*

A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.07 *Change Orders*

A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

8.08 *Inspections, Tests, and Approvals*

A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

8.09 *Limitations on Owner's Responsibilities*

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

8.10 *Undisclosed Hazardous Environmental Condition*

A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.06.

8.11 *Evidence of Financial Arrangements*

A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents.

8.12 *Compliance with Safety Program*

A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed pursuant to Paragraph 6.13.D.

ARTICLE 9 – ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *Owner's Representative*

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

9.02 *Visits to Site*

A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design

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professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 9.09. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

9.03 *Project Representative*

A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.09. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 *Authorized Variations in Work*

A. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

9.05 *Rejecting Defective Work*

A. Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

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9.06 *Shop Drawings, Change Orders and Payments*

A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.

B. In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.

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

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

9.07 *Determinations for Unit Price Work*

A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of Paragraph 10.05.

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

A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question.

B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believes that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.

C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.

D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 *Limitations on Engineer's Authority and Responsibilities*

A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract,

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tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

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

C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with, the Contract Documents.

E. The limitations upon authority and responsibility set forth in this Paragraph 9.09 shall also apply to the Resident Project Representative, if any, and assistants, if any.

9.10 *Compliance with Safety Program*

A. While at the Site, Engineer's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Engineer has been informed pursuant to Paragraph 6.13.D.

ARTICLE 10 – CHANGES IN THE WORK; CLAIMS

10.01 *Authorized Changes in the Work*

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

B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

10.02 *Unauthorized Changes in the Work*

A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.04, except in the

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case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.D.

10.03 *Execution of Change Orders*

A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:

1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;

2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and

3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

10.04 *Notification to Surety*

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

10.05 *Claims*

A. *Engineer's Decision Required*: All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.

B. *Notice:* Written notice stating the general nature of each Claim shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Times shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is

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the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).

C. *Engineer's Action*: Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:

1. deny the Claim in whole or in part;

2. approve the Claim; or

3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.

D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.

E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.

F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

ARTICLE 11 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

11.01 *Cost of the Work*

A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 11.01.B, and shall include only the following items:

1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay

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

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.

3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.

4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.

5. Supplemental costs including the following:

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

   b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

   c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.

   d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.

   e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

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f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.

g. The cost of utilities, fuel, and sanitary facilities at the Site.

h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, express and courier services, and similar petty cash items in connection with the Work.

i. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

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

1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expediters, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.

2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.

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

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

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A.

C. *Contractor's Fee:* When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.

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D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

11.02 *Allowances*

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

B. *Cash Allowances:*

1. Contractor agrees that:

a. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

b. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

C. *Contingency Allowance:*

1. Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.

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

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11.03 *Unit Price Work*

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.

C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.

D. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:

1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and

2. there is no corresponding adjustment with respect to any other item of Work; and

3. Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 12 – CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 *Change of Contract Price*

A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

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

1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or

2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or

3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the

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Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).

C. *Contractor's Fee:* The Contractor's fee for overhead and profit shall be determined as follows:

1. a mutually acceptable fixed fee; or

2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:

   a. for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;

   b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent;

   c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 12.01.C.2.a and 12.01.C.2.b is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;

   d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;

   e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and

   f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

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12.03 *Delays*

A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.

B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.

D. Owner, Engineer, and their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

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

13.01 *Notice of Defects*

Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. Defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 *Access to Work*

Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall

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provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

13.03 *Tests and Inspections*

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

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

1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;

2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in Paragraph 13.04.C; and

3. as otherwise specifically provided in the Contract Documents.

C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.

E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation.

F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

13.04 *Uncovering Work*

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

B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.

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C. If it is found that the uncovered Work is defective, Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05.

D. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

13.05 *Owner May Stop the Work*

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

13.06 *Correction or Removal of Defective Work*

A. Promptly after receipt of written notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).

B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

13.07 *Correction Period*

A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:

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1. repair such defective land or areas; or

2. correct such defective Work; or

3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and

4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.

B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.

C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.

D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

13.08 *Acceptance of Defective Work*

A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and for the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

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13.09 *Owner May Correct Defective Work*

A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct, or remedy any such deficiency.

B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.

C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 *Schedule of Values*

A. The Schedule of Values established as provided in Paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 *Progress Payments*

A. *Applications for Payments:*

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an

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Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.

3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

B. *Review of Applications:*

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.

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

   a. the Work has progressed to the point indicated;

   b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and any other qualifications stated in the recommendation); and

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

3. By recommending any such payment Engineer will not thereby be deemed to have represented that:

   a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or

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involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or

b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:

   a. to supervise, direct, or control the Work, or

   b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or

   c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or

   d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or

   e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.

5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:

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

   b. the Contract Price has been reduced by Change Orders;

   c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or

   d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. *Payment Becomes Due:*

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.

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D. *Reduction in Payment:*

1. Owner may refuse to make payment of the full amount recommended by Engineer because:

   a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;

   b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;

   c. there are other items entitling Owner to a set-off against the amount recommended; or

   d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.

2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor remedies the reasons for such action.

3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1 and subject to interest as provided in the Agreement.

14.03 *Contractor's Warranty of Title*

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

14.04 *Substantial Completion*

A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.

B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.

C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the

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certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the tentative certificate to Owner, notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will, within said 14 days, execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.

D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.

E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the tentative list.

14.05 *Partial Utilization*

A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:

1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 14.04.A through D for that part of the Work.

2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.

3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

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4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

14.06 *Final Inspection*

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

14.07 *Final Payment*

A. *Application for Payment:*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:

   a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.04.B.6;

   b. consent of the surety, if any, to final payment;

   c. a list of all Claims against Owner that Contractor believes are unsettled; and

   d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

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

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have

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been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. *Payment Becomes Due:*

1. Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and will be paid by Owner to Contractor.

14.08 *Final Completion Delayed*

A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 *Waiver of Claims*

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

1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and

2. a waiver of all Claims by Contractor against Owner other than those previously made in accordance with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

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ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION

15.01 *Owner May Suspend Work*

A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.05.

15.02 *Owner May Terminate for Cause*

A. The occurrence of any one or more of the following events will justify termination for cause:

1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);

2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;

3. Contractor's repeated disregard of the authority of Engineer; or

4. Contractor's violation in any substantial way of any provisions of the Contract Documents.

B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:

1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion);

2. incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere; and

3. complete the Work as Owner may deem expedient.

C. If Owner proceeds as provided in Paragraph 15.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or

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remedies under this Paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.

E. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.

F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B and 15.02.C.

15.03 *Owner May Terminate For Convenience*

A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):

1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;

3. all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and

4. reasonable expenses directly attributable to termination.

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

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15.04 *Contractor May Stop Work or Terminate*

A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Paragraph 15.03.

B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this Paragraph 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Paragraph.

ARTICLE 16 – DISPUTE RESOLUTION

16.01 *Methods and Procedures*

A. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.

B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.

C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:

1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions; or

2. agrees with the other party to submit the Claim to another dispute resolution process; or

3. gives written notice to the other party of the intent to submit the Claim to a court of competent jurisdiction.

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ARTICLE 17 – MISCELLANEOUS

17.01 *Giving Notice*

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:

1. delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended; or

2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 *Computation of Times*

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

17.03 *Cumulative Remedies*

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

17.04 *Survival of Obligations*

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

17.05 *Controlling Law*

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

17.06 *Headings*

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

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SECTION 00800
SUPPLEMENTARY CONDITIONS

These Supplementary Conditions amend or supplement Section 00700 "Standard General Conditions of the Construction Contract" prepared by the Engineers Joint Contract Documents Council (EJDC C-700, 2007 edition) and other provisions of the Contract Documents as indicated below. All provisions, which are not so amended or supplemented, remain in force and effect.

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

The order of precedence in case of conflicts or discrepancies between various parts of the Contract documents subject to the ruling of the engineer shall generally, but not necessarily, follow the guidelines listed below:

A. Drawings

B. Texas Water Development Board Contract Documents

C. Supplementary Conditions

D. General Contract Documents

SC-1.01 Make the following modifications to Paragraph 1.01 *Defined Terms*

A. Delete 1.01 A. 19. Insert the following:

"19. *Engineer* - Alan Plummer Associates, Inc., 6300 La Calma Drive, Suite 400, Austin, Texas 78752, or its designated representative."

B. Add the following paragraphs at the end of Paragraph 1.01 A.44 "Substantial Completion."

"Substantial Completion is further defined as (i) that degree of completion of the Project's operating facilities or systems sufficient to provide Owner the full time, uninterrupted, and continuous beneficial operation of the Work; and (ii) all required functional, performance, and acceptance or startup testing has been successfully demonstrated for all components, devices, equipment, and instrumentation and control to the satisfaction of Engineer in accordance with the requirements of the Specifications.

All items shall be placed into operation prior to the date specified for substantial completion and shall remain continuously on-line following the date specified for substantial completion. The components shall not have any work items remaining that require the final items to be taken out of service following substantial completion, but still may require minor miscellaneous work and adjustment which does not prevent OWNER'S use of the project for its intended purpose.

To be considered as substantially complete and ready for operation, the following requirements shall be met:

Equipment shall be installed complete with the permanent electrical and instrumentation items complete and operable. Suppliers' installation report shall be complete and furnished to ENGINEER.

Normal mode of operation shall be utilized including all automatic control features with associated interlocks and protection systems.

Structural and architectural items shall be sufficiently complete for the intended service and shall provide adequate protection of electrical and instrumentation equipment placed into operation."

C. Add the following new paragraphs immediately after Paragraph 1.01 A.51 *Work Changed Directive*:

"52. *Modification* – (a) Written Amendment; (b) Change Order; (c) Field Order; (d) Work Change Directive.

53. *Request for Information* – A written inquiry initiated by the Engineer or the Contractor requesting information, clarification, pricing, variances, or directing minor changes in the work, but which does not involve a change in the Contract a Price or the Contract Time.

54. *Specialist* – The term Specialist refers to a person, partnership, firm, or corporation of established reputation (or if newly organized, whose personnel have previously established a reputation in the same field), which is regularly engaged in, and which maintains a regular force of workers skilled in either (as applicable) manufacturing or fabricating items required by the Contract Documents, or otherwise performing Work required by the Contract Documents. When the Specifications require the installation by a Specialist, that term shall also be deemed to mean either the manufacturer, or a person, partnership, firm, or corporation who will perform the Work under the manufacturer's direct supervision."

SC-1.02 Make the following modifications to Paragraph 1.02 *Terminology.*

A. Delete Paragraph 1.02.C in its entirety and insert the following in its place:

"C. *Day*:

1. A "calendar" day shall be a day of twenty-four hours measured from midnight to the next midnight, and is any day of the year, no days being exempted.

2. A "working day" shall be a day, not including Saturdays, Sundays, or any of the following holidays: New Year's Day, President's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day, in which weather or other conditions not under the control of the Contractor will permit construction of the principal units of the work for a period of not less than seven hours between 7:00 a.m. and 6:00 p.m."

SC-2.02 Make the following modifications to Paragraph 2.02 *Copies of Documents.*

A. SC-2.02: Delete Paragraph 2.02.A in its entirety and insert the following in its place:

"A. Owner shall furnish Contractor one set of Drawings and Project Manual in electronic format. Printed copies will be furnished to the Contractor upon request at the cost of reproduction."

SC-2.05 Make the following modifications to Paragraph 2.05 *Before Starting Construction.*

A. Add a new paragraph immediately after Paragraph 2.05.A.3.

"B. Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. Contractor shall promptly report in writing to the Engineer any conflict, error, ambiguity, or discrepancy, which the Contractor may discover and shall obtain a written interpretation from the Engineer before proceeding with any work, affected thereby."

SC-2.08 Make the following modifications to ARTICLE 2 – PRELIMINARY MATTERS.

A. Add the following new paragraph immediately after Paragraph 2.07.

'2.08: *Change in Contract Time*

A. The Contract Time may only be changed as set forth in Article 12 of the General Conditions. The Contract Time cannot be amended by the submission, approval or otherwise of a progress schedule."

SC-3.01 Make the following modifications to Paragraph 3.01 *Intent.*

A. Add the following new paragraphs immediately after Paragraph 3.01.C:

"D. The Contract Documents comprises the entire Agreement between Owner and Contractor. The Contract Documents may be altered only by a Modification."

"E. Sections of Division 1, General Requirements, govern the execution of the Work of all Sections of the Specifications."

SC-3.03 Make the following modifications to Paragraph 3.03 *Reporting and Resolving Discrepancies.*

B. Add the following new subparagraph immediately after Subparagraph 3.03.A.1:

"Contractor represents that he has familiarized himself with the nature and extent of the Contract Documents, Work, location, all local conditions, and Laws and Regulations that in any manner may affect performance of the work, and represents that he has correlated his study and observations with the requirements of the Contract Documents. Contractor also represents that he has studied all conditions referred to in the Contract Documents and will make such additional surveys and investigations as he deems necessary for the performance of the Work at the Contract Price in accordance with the requirements of the Contract Documents and that he has correlated the results of all such data with the requirements of the Contract Documents."

C. Delete Paragraph 3.03.A.3 in its entirety and insert the following in its place:

"3. In the event of a conflict in the Drawings, Specifications, or other portions of the Contract Documents, which were not reported prior to the Bidding of the Contract, the Contractor shall be deemed to have included the most expensive item, system, procedure, etc in his Bid."

SC-4.02 Make the following modifications to 4.02 *Subsurface and Physical Conditions.*

A. Add the following new paragraphs immediately after Paragraph 4.02.B.:

"C. In the preparation of Drawings and Specifications, Engineer and Engineer's Consultants relied upon the following reports of explorations and tests of subsurface conditions at the Site:

1. Report dated September 16, 2016 prepared by HVJ Associates, Inc., 4201 Freidrich Lane, Suite 110, Austin, Texas 78744-1045 entitled: Geotechnical Data and Design Report, Wastewater Treatment Plant and collection System Project consisting of 54 sheets.

D. In the preparation of Drawings and Specifications, Engineer and Engineer's Consultants relied upon the following drawings of physical conditions in or relating to existing surface and subsurface structures (except underground facilities), which are at or contiguous to the site:

1. Drawings dated April 4, 2009 prepared by Jay N. Campbell, Alan Plummer Associates, Inc. entitled: Wimberley Wastewater System EAAS Package Plant at Wimberley Wastewater Treatment Plant consisting of 11 sheets.

2. Drawings dated November 2, 1987 prepared by Charles Darryl Primeaux, entitled: Construction Plans for Blue Hole Recreational Area Phase 1 Wastewater Treatment Plant, Septic Fields, and Lift Station consisting of 8 pages.

E. Copies of reports and drawings itemized in SC-4.02 C and SC-4.02.D that have not been included with Bidding Documents may be examined at the Owner's and Engineer's offices during regular business hours. These reports and drawings are not part of the Contract Documents, but the "technical data" contained therein upon which the Contractor may rely as identified and established above are incorporated therein by reference. Contractor is not entitled to rely on other information and data utilized by Engineer in the Preparation of Drawings and Specifications."

SC-4.03 Make the following modifications to Paragraph 4.03 *Differing Subsurface or Physical Condition.*

A. Amend Paragraph 4.03.A. by deleting "promptly" and inserting "promptly, but no later than within three (3) days,"

SC-4.04 Make the following modifications to Paragraph 4.04 *Underground Facilities.*

A. Amend Paragraph 4.04.B.1 by deleting "Contractor shall promptly", and inserting "Contractor shall promptly, but no later than within three (3) days".

SC-4.06 Delete paragraphs 4.06.A and 4.06.B in their entirety and insert the following paragraph in their place:

"4.06.A. No reports or drawings related to Hazardous Environmental Conditions are known to Owner or Engineer."

SC-5.01 Make the following modifications to Paragraph 5.01 *Performance, Payment and Other Bonds.*

A. Add the following language at the end of Paragraph 5.01.C.

"Failure of the Contractor to provide a satisfactory replacement bond may be considered an event of default under Article 15, Paragraph 15.02."

SC-5.03 Make the following modifications to Paragraph 5.03 *Certificates of Insurance.*

A. Add the following language to the end of the last sentence of Paragraph 5.03.A:

"in accordance with Paragraph 5.04 and as amended in these Supplementary Conditions."

B. Delete Paragraph 5.03.B in its entirety.

SC-5.04 Add the following new paragraph immediately after Paragraph 5.04.B:

"C. The limits of liability for the insurance required by Paragraph 5.04 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:

1. Worker's Compensation and related coverages under Paragraph 5.04.A.1 and 5.04.A.2 of the General Conditions:

Worker's Compensation	
1. State	Statutory
2. Applicable Federal (e.g. Longshore)	Statutory
Employers' Liability	
1. Bodily Injury by Accident	$500,000
2. Bodily Injury by Disease-Each Employee	$500,000
3. Bodily Injury by Disease-Policy Limit	$500,000

2. Contractor's General Liability under Paragraphs 5.04.A.3 through 5.04.A.6 which shall include completed operations and product liability coverage and eliminate the exclusion with respect to property under the care, custody and control of Contractor:

Insurance for Claims and Damages	
1. General Aggregate (Except Products – Completed Operations)	$1,000,000/Occurrence $2,000,000/Aggregate
2. Products – Completed Operations Aggregate (One Person. Organization)	$1,000,000/Occurrence $2,000,000/Aggregate
3. Personal and Advertising Injury	$1,000,000
4. Each occurrence (Bodily Injury and Property Damage)	$1,000,000
5. Limit Per Person – Medical expense	$5,000
6. Property Damage Liability Insurance will provide explosion, collapse and underground coverage where applicable.	$1,000,000
7. Watercraft Liability Policy. Coverage shall apply to all self-propelled vessels where applicable.	$1,000,000
8. Excess Liability, Umbrella Form to include coverage of Watercraft Liability, General Aggregate-Each Occurrence.	$1,000,000

3. Contractor's Automobile Liability required by Paragraph 5.04.A.6 of the General Conditions:

Bodily Injury	
1. Each Person	$1,000,000
2. Each Accident	$1,000,000
Property Damage	
1. Each Accident	$1,000,000
Or	
2. Combined Single Limit (Bodily Injury and Property Damage)	$1,000,000

5. Contractor's Contractual Liability required by Paragraph 5.04.B.4:

Contractor's Contractual Liability Insurance	
1. General Aggregate	$10,000,000
2. Each Occurrence (Bodily Injury and Property Damage)	$10,000,000

6. Additional Insured on all insurance policies shall include:

   a) City of Wimberley, 221 Stillwater Road, Wimberley, Texas 78676.
   b) Alan Plummer Associates, Inc., 6300 La Calma Drive, Suite 400, Austin, Texas 78752.

SC-5.06 Make the following modifications to Paragraph 5.06 *Property Insurance.*

A. Delete Paragraph 5.06.A in its entirety and insert the following in its place; Subparagraphs 1 through 7 shall remain:

"A. Contractor shall purchase and maintain property insurance upon the Work at the site in the amount of the full replacement cost thereof (subject to deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). These policies of insurance shall comply with the requirements of Paragraph 5.08. This insurance shall:"

B. Amend Paragraph 5.06.A.4 by inserting the following language after the word "location" in the second line:

"and in transit for incorporation in the Work from such storage locations"

C. Delete Paragraph 5.06.B in its entirety and insert the following in its place:

"B. Contractor shall purchase and maintain such boiler and machinery insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations, which will include the interests of those listed as an insured or listed as an additional insured in Paragraph 5.04.B.1 and the Supplementary Conditions."

D. Delete Paragraph 5.06.D in its entirety.

E. Delete Paragraph 5.06.E in its entirety.

SC-5.07 Make the following modifications to 5.07 *Waiver of Rights.*

A. Delete Paragraph 5.07.B in its entirety.

B. Delete Paragraph 5.07.C in its entirety.

SC-5.08 Make the following modifications to 5.08 *Receipt and Application of Insurance Proceeds.*

A. Delete Paragraph 5.08 in its entirety.

SC-5.11 Make the following modifications to ARTICLE 5 – BONDS AND INSURANCE.

A. Add the following new paragraph immediately after Paragraph 5.10:

"5.11 *Owner's Insurance for Project*

A. Owner shall not be responsible for purchasing and maintaining any insurance to protect the interest of the Contractor, Subcontractors, or other in the Work. The stated limits of insurance required are minimum only. Contractor shall determine the limits that are adequate. These limits may be basic policy limits or any combination of basic limits and umbrella limits. In any event, Contractor is fully responsible for all losses arising out of, resulting from or connected with operations under this Contract, whether or not said losses are covered by insurance. The acceptance of certificates or other evidence of insurance by the Owner, Engineer, and/or others listed as additional insured in Paragraph 5.05.B.1 and the Supplementary Conditions that in any respect do not comply with the Contract requirements does not release the Contractor from compliance herewith."

SC-6.02 Add the following new paragraph immediately after Paragraph 6.02.B.

"C. Contractor shall reimburse inspector procured by Owner for additional extraordinary cost for onsite personnel overtime work resulting from Contractor's overtime operations. Reimbursement shall be on the cost basis defined in Paragraph 14.02.D.2.b of these Supplemental Conditions."

SC-6.05 Make the following modifications to 6.05 *Substitutes and "Or-Equals".*

A. Delete Paragraph 6.05.A in its entirety and insert the following in its place:

"A. Where equipment and products are specified by name, no substitutes or "or-equal" will be considered or approved unless the term "or-equal" or similar language is included in the individual Section of the Specifications. If the individual Sections of the Specifications specifically permit substitutes or "or-equals" for consideration, they must be submitted and will be reviewed and evaluated in accordance with the provisions established in Paragraph 6.05 and Division 1, General Requirements, of the Specifications."

B. Amend Paragraph 6.05.B by changing the reference in the last sentence from "6.05.A.2" to "6.05.A".

C. Amend Paragraph 6.05.E by changing the reference in the first sentence from "6.05.A.2" to "6.05.A".

D. Amend Paragraph 6.05.E by deleting the word "substitute" in all locations and replacing it with the phrase "substitute or "or-equal"".

E. Add the following language at the end of Paragraph 6.05.E:

"Reimbursement rates for Engineer or Related Entities for evaluation of proposed substitutes shall be on the basis as established in Paragraph 14.02.C.2.b of these Supplementary Conditions."

SC-6.06 Make the following modifications to Paragraph 6.06 *Concerning Subcontractors, Suppliers and Others.*

A. Amend Paragraph 6.06.B by deleting the words "Supplementary Conditions" and inserting words "Contract Documents" in their place.

B. Add the following new paragraph immediately after Paragraph 6.06.G:

"H. Owner or Engineer may furnish to any such Subcontractor, Supplier, or other person or organization, to the extent practicable, information about amounts paid to Contractor in accordance with Contractor's Application for Payment or account of the particular Subcontractor's, Supplier's, other person's or organization's Work."

SC-6.09 Make the following modifications to 6.09 *Laws and Regulations.*

A. Add the following new Paragraphs immediately after 6.09.C:

"D. All bidders submitting bids on public works projects within the State of Texas are required to complete and submit with their Bid the Vendor Compliance to State Law form, which is included in the Contract forms (Section 00430)."

E. Workers Compensation Statement for Building or Construction Projects for Government entities in Texas. (Definitions included in this paragraph pertain only to this paragraph, which is included verbatim as a statutory requirement of the State of Texas.)

A. Definitions:

Certificate of Coverage ("certificate") – A copy of a certificate of insurance, a certificate of authority to self-insure issued by the commission, or a coverage agreement (TWCC-81, TWC-82, TWC-83, or TWCC-84), showing statutory workers' compensation insurance coverage for the person's or entity's employees providing services on a project for the duration of the project.

Duration of the project – Includes the time from the beginning of the work on the project until the Contractor's/person's work on the project has been completed and accepted by the governmental entity.

Persons providing services on the project ("Subcontractor" in Texas labor Code, Section 406.096) – Includes all persons or entities performing all or part of the services the Contractor has undertaken to perform on the project, regardless of whether that person contracted directly with the Contractor and regardless of whether that person has employees. This includes, without limitation, Independent Contractors, Subcontractors, leasing companies, motor carriers, owner-operators, employees of any such unity, or employees of any entity which furnishes persons to provide services on the project. "Services" include, without limitation, providing, hauling, or delivering equipment or materials, or providing labor, transportation, or other service related to a project. "Services" does not include activities unrelated to the project, such as food/beverage vendors, office supply deliveries, and delivery of portable toilets.

B. The Contractor shall provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all employees of the Contractor providing services on the project, for the duration for the project.

C. The Contractor must provide a certificate of coverage to the governmental entity prior to being awarded the contract.

D. If the coverage period shown on the Contractor's current certificate of coverage ends during the duration of the project, the Contractor must, prior to the end of the coverage period, file a new certificate of coverage with the governmental entity showing that coverage has been extended.

E. The Contractor shall obtain from each person providing services on a project, and provide to the governmental entity:

(1) a certificate of coverage, prior to that person beginning work on the project, so the governmental entity will have on file certificates of coverage showing coverage for all persons providing services on the project; and

(2) no later than seven days after receipt by the contractor, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project.

F. The Contractor shall retain all required certificates of coverage for the duration of the project and one year thereafter.

G. The Contractor shall notify the governmental entity in writing by certified mail or personal delivery, within 10 days after the Contractor knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project.

H. The Contractor shall post on each project site a notice, in the text, form, and manner prescribed by the Texas Workers' Compensation Commission, informing all persons providing services on the project that they are required to be covered, and stating how a person may verify coverage and report lack of coverage.

I. The Contractor shall contractually require each person with whom it contracts to provide services on a project to:

(1) provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas

Labor Code Section 401.11(44) for all of its employees providing services on the project, for the duration of the project;

(2) provide to the Contractor, prior to that person beginning work on the project, a certificate of coverage showing that coverage is being provided for all employees of the person providing services on the project, for the duration of the project;

(3) provide the Contractor, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage shown on the current certificate of coverage ends during the duration of the project;

(4) obtain from each other person with whom it contracts, and provide to the Contractor;

(a) a certificate of coverage, prior to the other person beginning work on the project; and

(b) a new certificate of coverage showing extension of coverage, prior to the end of the coverage period, if the coverage period shown on the current certificate if coverage ends during the duration of the project;

(5) retain all certificates of coverage on file for the duration of the project and for one year thereafter;

(6) notify the governmental entity in writing by certified mail or personal delivery, within 10 days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project; and

(7) Contractually require each person with whom it contracts, to perform as required by paragraphs (1) – (7), with the certificates of coverage to be provided to the person for whom they are providing services.

J. By signing this contract or providing or causing to be provided a certificate of coverage, the Contractor is representing to the governmental entity that all employees of the Contractor who will provide services on the project will be covered by workers' compensation coverage for the duration of the project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the commission's Division of Self-Insurance Regulation. Providing false or misleading information may subject the Contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions.

K. The Contractor's failure to comply with any of these provisions is a breach of contract by the Contractor which entitles the governmental entity to declare the contract void if the Contractor does not remedy the breach within ten days after receipt of notice of breach from the governmental entity."

SC-6.10 Make the following modifications to Paragraph 6.10 *Taxes*.

A. Add the following to Paragraph 6.10.A.

"The Owner qualifies as an exempt agency as defined by the statutes of the State of Texas. The contractor shall comply with all statutes and rulings of the State Comptroller."

SC-6.16 Make the following modifications to Paragraph 6.16 *Emergencies*.

A. Amend Paragraph 6.16.A by deleting the third sentence and inserting the following in its place:

"If Engineer determines that the incident giving rise to the emergency action was not the responsibility of the Contractor and that a change in the Contract Documents is required

because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued."

SC-6.17 Make the following modifications to Paragraph 6.17 *Shop Drawings and Samples.*

A. Add the following subparagraphs after subparagraph 6.17.C.3:

"4. All Shop Drawings shall be in strict compliance with the Contract Documents. The Contractor may seek a deviation by requesting a Modification. All approved Written Amendments, Change Orders, Field Orders, and/or Work Change Directives shall be incorporated into the Shop Drawings. The Contractor may submit a Modification Request in accordance with the Division 1, General Requirements sections, with the submittal accompanied by shop drawings, product data, and samples that varies from strict compliance with the Contract Documents. If the Engineer approves the proposed Modification, the submittal will be considered to be in compliance with the Contract Documents and it will be reviewed in accordance with the Contract Documents. If the proposed Modification is not approved, the submittal will be returned to the contractor with appropriate comments.

5. All shop drawings shall bear a duly executed statement by the Contractor as shown below:"

THIS SHOP DRAWING HAS BEEN REVIEWED AND DETERMINED TO BE IN
- ☐ COMPLIANCE
- ☐ COMPLIANCE SUBJECT TO APPROVAL OF ATTACHED MODIFICATION REQUEST

WITH THE CONTRACT DOCUMENT AS MODIFIED BY ADDENDA, CHANGE ORDER AND FIELD ORDER.

Contractor _____

BY

_____

DATE _____

SC-6.18 Make the following modifications to Paragraph 6.18 *Continuing the Work.*

A. Add the following language to the end of Paragraph 6.18.A.

"Contractor assumes and bears responsibility for all costs and time delays associated with any variation from the requirements of the Contract Documents."

SC-6.19 Make the following modifications to Paragraph 6.19 *Contractor's General Warranty and Guarantee.*

A. Add the following new paragraph.

"D. The General Warranty period shall be one year from date of Substantial Completion of the Work. Refer to individual Sections for additional warranty requirements."

SC-6.20 Make the following modifications to Paragraph 6.20 *Indemnification.*

A. Delete paragraph 6.20.A in its entirety and insert the following in its place:

"A. TO THE FULLEST EXTENT PERMITTED BY LAWS AND REGULATIONS, CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS OWNER, ENGINEER, ENGINEER'S CONSULTANTS, AND THE OFFICERS, DIRECTORS, EMPLOYEES, AGENTS AND OTHER CONSULTANTS, ATTORNEYS, SUBCONTRACTORS, AND OTHER PROFESSIONALS OF EACH AND ANY OF THEM FROM AND AGAINST ALL CLAIMS, COSTS, LOSSES, AND DAMAGES (INCLUDING, BUT NOT LIMITED TO, ALL FEES AND CHARGES OF ENGINEERS, ARCHITECTS, ATTORNEYS, AND OTHER PROFESSIONALS AND ALL COURT OR ARBITRATION OR OTHER DISPUTE RESOLUTION COSTS) CAUSED BY, ARISING OUT OF OR RESULTING FROM THE PERFORMANCE OF THE WORK, PROVIDED THAT ANY SUCH CLAIM, COST, LOSS OR DAMAGE: (I) IS ATTRIBUTABLE TO BODILY INJURY, SICKNESS, DISEASE OR DEATH, OR TO INJURY TO OR DESTRUCTION OF TANGIBLE PROPERTY (OTHER THAN WORK ITSELF), INCLUDING THE LOSS OF USE RESULTING THEREFROM, AND (II) IS CAUSED IN WHOLE OR IN PART BY ANY NEGLIGENT ACT OR OMISSION OF CONTRACTOR, ANY SUBCONTRACTOR, ANY SUPPLIER, ANY PERSON OR ORGANIZATION DIRECTLY OR INDIRECTLY EMPLOYED BY ANY OF THEM TO PERFORM OR FURNISH ANY OF THE WORK OR ANYONE FOR WHOSE ACTS ANY OF THEM MAY BE LIABLE, REGARDLESS OF WHETHER OR NOT CAUSED IN PART BY ANY NEGLIGENCE OR OMISSION OF A PERSON OR ENTITY INDEMNIFIED HEREUNDER OR WHETHER LIABILITY IS IMPOSED UPON SUCH INDEMNIFIED PARTY BY LAWS AND REGULATIONS REGARDLESS OF THE NEGLIGENCE OF ANY SUCH PERSON OR ENTITY."

SC-9.04 Make the following modifications to Paragraph 9.04 *Authorized Variations in Work.*

A. Add the following language to the end of Paragraph 9.04.A:

"The Contractor shall notify the Engineer in writing prior to beginning any Work addressed in a Field Order if the Contractor does not agree that the Work involved represents no additional cost and/or time change in the Contract Documents."

SC-10.03 Make the following modifications to Paragraph 10.03 *Execution of Change Orders.*

A. Add the following new paragraph immediately after 10.03.A:

"B. Contractor assumes and bears responsibility for all costs and time delays associated with any variation from the requirements of the Contract Documents unless the variation is specially approved by Change Order."

SC-10.05 Make the following modifications to Paragraph 10.05 *Claims.*

A. Amend the first sentence in Paragraph 10.05.B by deleting "30" and inserting "7" in its place.

SC-11.01 Make the following modifications to Paragraph 11.01 *Cost of Work.*

A. Amend Paragraph 11.01.A by deleting the following words in the third sentence:

"those prevailing in the locality of the Project, shall include only the following items, and shall not include any of the costs itemized in Paragraph 11.01.B."

and adding the following in its place:

"those paid for the Work included in the Contract Price, shall include only the following Items, and shall not include any of the costs itemized in Paragraph 11.01.B. Contractor shall provide certified payroll records listing personnel classifications and salaries for all individuals involved in additional Work. Salaries for those not included in the certified payroll will be considered as being included under Paragraph 11.01.B."

B. Amend Paragraph 11.01.A.1 by deleting the following words in the second sentence:

"without limitation superintendents, foreman"

and inserting the following in its place:

"one foreman (unless otherwise agreed upon prior to beginning Work)"

C. Amend Paragraph 11.01.A.1 by deleting the following words in the last sentence:

"be included in the above"

and inserting the following in its place:

"not exceed 1.5 times regular pay and shall be included in the above"

D. Amend Paragraph 11.01.B.1 by adding "superintendents" to the list of excluded personnel in the first sentence.

E. Amend Paragraph 11.01.D by inserting "and at intervals" in the last sentence as shown below:

"....and submit in a form **and at intervals** acceptable to Engineer...."

SC-11.03 Make the following modifications to Paragraph 11.03 *Unit Price Work.*

A. Delete Paragraph 11.03.D in its entirety and insert the following in its place:

"D. The unit price of an item of Unit Price Work shall be subject to reevaluation and adjustment under the following conditions:

1. If the total cost of a particular item of Unit Price Work amounts to twenty percent (20%) or more of the total Contract Price and the variation in the quantity of that particular item of Unit Price Work performed by the Contractor differs by more that twenty percent (20%) from the estimated quantity of such item indicated in the Agreement; and
2. If there is no corresponding adjustment with respect to any other item of Work; and
3. If Contractor believes that additional expenses has incurred as a result thereof; or if Owner believes that the quantity entitles Owner to an adjustment in the Unit Price Work, either the Owner or Contractor may make a claim for an adjustment in the Contract Price in accordance with Article 10, Changes in the Work; Claims, if the parties are unable to agree as to the effect of any such variation in the quantity of the Unit Price Work performed."

SC-12.03 Make the following modifications to Paragraph 12.03 *Delays.*

A. Amend last sentence of Paragraph 12.03.A by deleting:

"abnormal weather condition,"

B. Add the following language at the end of Paragraph 12.03.A.

"No time extensions will be allowed for weather conditions for Projects using calendar days for the Contract Time."

SC-12.04 Make the following modifications to ARTICLE 12 – CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIME.

A. Add the following new paragraph immediately after Paragraph 12.03:

"12.04 *No Damage for Delays*

The Contractor agrees to make no claims for damage for delay in the performance of the Contract occasioned by any act or omission due to an act of the Owner, Engineer, or any of the Engineer's or Owner's agents, and agrees that any such claim shall be fully compensated by an extension of time, as set forth in a Change Order, to complete performance of the Work as provided herein."

SC-13.07 Make the following modifications to Paragraph 13.07 *Correction Period.*

A. Amend Paragraph 13.07.A.4 by adding the following language at the end of the subparagraph :

"When early acceptance of a Substantially Completed portion of the Work is accomplished in the manner indicated, the correction period for that portion of the Work shall commence at the time of Substantial Completion of the Work."

SC-14.02 Make the following modifications to Paragraph 14.02 *Progress Payments.*

A. Amend Paragraph 14.02.C.1 by deleting "Ten" and inserting "Fifteen" in it place.

B. Amend Paragraph 14.02.D.1 by adding the following new paragraphs after Subparagraph 14.02.D.1.d:

"e. Owner has been notified of failure to make payments to Subcontractors or Suppliers or labor; or

f. failure to submit up-to-date record documents as required by General Conditions Paragraph 6.12 *Record Documents;* or

g. failure to submit monthly progress schedule updates or revised schedules as requested by the Owner or Engineer; or

h. failure to provide Project photographs required by Specifications."

C. Delete Paragraph 14.02.D.2 and 14.02.D.3 in their entirely and insert the following in their place:

"2. Owner may permanently withhold payment from Contract Price for

a. liquidated damages incurred by Contractor, or

b. compensation for Engineer for overtime charges of Resident Project Representative and assistants, third review of submittals, review of substitutions, re-inspection fees, inspections or designs related to correction of defective Work, or other Services identified as requiring payment by the Contractor. Compensation will be based on the following rates:

Position	Hourly Rate
Principal in Charge	$220
Project Manager	$150
Project Engineer	$110
Construction Manager	$150
Resident Engineer	$130
Resident Project Representative	$130
Assist. Resident Project Representative	$110
Design Engineer	$95
Engineering Technician	$80
Secretary	$65
Expenses will be billed at actual cost multiplied by 1.15	

c. Costs for test performed by the Owner to verify that Work previously tested and found to be defective have been corrected. Verification testing is to be provided at the Contractor's expense to verify products or constructed Works are in compliance after corrections have been made."

3. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed by Owner and Contractor, when Contractor corrects to Owner's satisfaction the reasons for such action."

B. Add the following new subparagraph immediately after Subparagraph 14.02.D.3:

"4. If it is subsequently determined that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1."

SC-14.07 Make the following modifications to Paragraph 14.07 *Final Payment.*

A. Add the following new paragraph immediately after Paragraph 14.07.C:

"D. In the event the Contractor fails to attain Substantial Completion of the entire Project (all bid items) within the Contract Time, the Owner may withhold money permanently from the Contractor's total compensation the amount per day stipulated as liquidated damages in the Agreement. The Owner will be the sole judge as to whether the Work has been substantially completed within the allotted time. Accordingly, it is agreed and understood that said amount is to be assessed by the Owner, not as a penalty, but as a predetermined and agreed upon liquidated damage. Additionally, assessment of liquidated damages by Owner shall not constitute a waiver of the Owner's right to sue and collect additional damages which Owner may sustain by the failure of the Contractor to perform in accordance with the terms of its Contract."

SC-15.02 Make the following modifications to Paragraph 15.02 *Owner May Terminate for Cause.*

B. Add the following new subparagraphs immediately after Subparagraph "15.02.A.4:

"5. If Contractor fails to provide the replacement bond required by General Conditions, Paragraph 5.01.C.

6. If an petition of bankruptcy is filed by or against Contractor, or if Contractor's adjudged as bankrupt or insolvent or makes a general assignment for the benefit of creditors, or if a receiver is appointed for the benefit of Contractor's creditors, or if a receiver is appointed on account of Contractor's insolvency, upon the occurrence of any such event, Owner shall be entitled to request of Contractor or its successor in interest adequate assurance of future performance in accordance with the terms and conditions hereof. Failure to comply with such request within seven (7) days of delivery of the request shall entitle Owner to terminate this agreement and to the accompanying rights set forth in Paragraphs 15.02 and 15.03 hereof. In all events, pending receipt of adequate assurance of performance and actual performance in accordance therewith, Owner shall be entitled to proceed with the Work with its own forces or with other Contractors on a time and material or other appropriate basis. The cost of Work by Owner or other Contractors will be back charged against the Contract Price hereof."

SC-15.04 Make the following modifications to Paragraph 15.04 *Contractor May Stop Work or Terminate.*

A. Add the following new paragraph immediately after Paragraph 15.04.B:

"C. Contractor further agrees to retain personal control and to give personal attention to the fulfillment of this Contract and not to assign or sublet the Contract without the written consent of Owner, and that no part or feature of the Work will be sublet to anyone objectionable to

Engineer or Owner. Contractor further agrees that the subletting of any portion or feature of the Work, or materials required in the performance of this Contract, shall not relieve Contractor from its obligations to Owner, as provided by this Agreement. Neither this Agreement, nor any right, privilege or cause of action arising hereunder may be assigned in whole or in part for any purpose, and whether in settlement of litigation or not, and any purported assignment shall be null, void and unenforceable without the written consent of the Owner. The Owner and the Contractor each binds itself and its successors and assigns to the other party with respect to all covenants of this Agreement."

SC-16.01 Delete Paragraph 16.01 in its entirety and insert the following in its place:

"SC-16.01 *Meet to Confer and Negotiate*

A. Engineer's action under Paragraph 10.05.C shall become final and binding thirty (30) days after receipt of written notice of Engineer's action or decision unless, within that time period, Owner or Contractor gives to the other party written notice of intent to submit the Claim to a process of bilateral negotiations as set forth below.

B. Within thirty (30) days of the delivery of such notice, Owner and Contractor shall meet and confer regarding the Claim. A good-faith effort to negotiate resolution shall be made by both parties.

C. If the negotiations contemplated by Paragraph 16.01.B are unsuccessful, management representatives of Owner and Contractor at least one tier above the individuals who met under Paragraph 16.01.B shall meet, confer, and negotiate within thirty (30) of the closure of the unsuccessful negotiations.

D. If the Claim is not resolved by negotiation, Engineer's action under Paragraph 16.05.C shall become final and binding thirty (30) days after termination of the negotiations unless, within that time period, Owner or Contractor:
   1. gives to the other party written notice of intent to submit the Claim to a court of competent jurisdiction, or
   2. agrees with the other party to submit the Claim to another dispute resolution process.

E. Notwithstanding any applicable statue of limitations, a party giving notice under Paragraph 16.01.D.1 shall commence an action of the Claim within one year of giving such notice. Failure to do so shall result in the Claim being time-barred and Engineer's action or denial shall become final and binding."

END OF SECTION

Texas Water
Development Board

Texas Water Development Board
Supplemental Contract Conditions
And Instructions

(TWDB-0550)

For Construction Services for Projects Funded through the Clean Water (Equivalency) and Drinking Water State Revolving Fund Programs

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Forms and Guidance:

The Texas Water Development Board (TWDB) forms and guidance documents noted in this instruction document may be accessed through the TWDB Financial Assistance website at:

http://www.twdb.texas.gov/financial/instructions/index.asp

Search by either the document number or name.

I. INSTRUCTIONS FOR APPLICANTS

1. Applicability

These Supplemental Contract Conditions contain provisions that are worded to comply with certain statutes and regulations which specifically relate to all Drinking Water State Revolving Fund (DWSRF) projects and Clean Water State Revolving Fund (CWSRF) Equivalency Program projects. Provisions which are applicable to the project's funding source or dollar value of the contract are so noted within these provisions.

2. Use of Conditions

The conditions and forms listed under ***Section II: Instructions to Bidders*** are to be included in the instructions to bidders for construction services. The provisions listed under ***Section III: Construction Contract Supplemental Conditions*** shall be included, in their entirety, with the other general and special conditions that are typically included in the construction contract documents by the design engineer.

3. Modifications to Provisions

These provisions shall be included as a stand-alone section in the contract documents. The Applicant may need to modify parts of these provisions to better fit the other provisions of the construction contract. The Applicant and the consulting engineer should carefully study these provisions before incorporating them into the construction contract documents. In particular, Water Districts and other types of Districts should be aware of statutes relating to their creation and operation which may affect the application of these conditions. The TWDB Project Engineer/Reviewer should be consulted if the Applicant thinks there is a need to modify parts of these provisions.

The Applicant is to determine and incorporate the affirmative action goals for the project into Supplemental Contract Condition No. 12. Supplemental Condition No. 15, Archeological Discoveries and Cultural Resources, and Condition No. 16, Endangered Species, may be superseded or modified by project specific conditions established during the environmental review process.

These documents may confer certain duties and responsibilities on the consulting engineer that are beyond, or short of, what the Applicant intends to delegate. The Applicant should ensure that the contractual agreement with the Engineer provides for the appropriate services. Otherwise the Applicant should revise the wording in these special conditions to agree with actually delegated functions.

4. Good Business Practices

There are other contract provisions that the Applicant and Engineer need to include as a matter of good business practice. It is recommended that provisions addressing the following matters be included in the construction contract.

(a) Specifying the time frame for accomplishing the construction of the project, and the

consequences of not completing on time, including liquidation damages.

(b) Specifying the type and dollar value of and documentation of insurance the Contractor is to carry. At a minimum, the Contractor should carry worker's compensation, liability and builder's risk insurance.
(c) Identifying the responsibility of the Contractor - responsibility and warranty of work.
(d) Price reduction for defective pricing of negotiated costs.
(e) Differing site conditions - notice and claims regarding site conditions differing from indicated conditions.
(f) Covenants against contingent fees - prohibit contingent fees for securing business.
(g) Gratuities - prohibitions against offering and accepting gratuities.
(h) Audit and access records.
(i) Suspension of work - conditions under which the Applicant may suspend work.
(j) Termination - conditions under which the Applicant may terminate.
(k) Remedies - how disputes will be remedied.

5. Other Requirements

There may be other local government requirements and applicable Federal and State statutes and regulations which are not included by these conditions. It is the Loan/Principal Forgiveness Applicant's responsibility to ensure that the project and all contract provisions are consistent with the relevant statutes and regulations.

6. Advertisements for Bids

State procurement statutes require advertising a contract for bid for at least two (2) consecutive weeks. By not following this requirement, the project may need to be re-advertised. The official advertisement for bids that is published in newspapers should include certain information such as, but not limited to, the following:

(a) A clear description of what is being procured.
(b) How to obtain plans and specifications (P&S), necessary forms and information.
(c) The date and time by which bids are to be submitted (deadline).
(d) The address where bids are to be provided.
(e) This contract is contingent upon release of funds from the Texas Water Development Board (TWDB).
(f) Any contract or contracts awarded under this Invitation for Bid (IFB) or Request for Qualifications (RFQ) are expected to be funded in part by financial assistance from the TWDB. Neither the U.S. Environmental Protection Agency (EPA) or the State of Texas, nor any of its departments, agencies, or employees, are or will be a party to this IFB, RFQ, or any resulting contract.
(g) This project is subject to the American Iron and Steel (AIS) requirements of 33 U.S.C §1388 for Clean Water State Revolving Fund projects or Public Law 114-113, Consolidated Appropriations Act, 2016, or subsequent appropriations acts, for Drinking Water State Revolving Fund projects. Any contract(s) awarded under this Invitation for Bids is/are subject to the American Iron and Steel (AIS) requirements of these laws.
(h) This contract is subject to the EPA's "fair share policy", which includes EPA-approved "fair share goals" for Minority Business Enterprise (MBE) and Women Business Enterprise (WBE) firms in the Construction, Supplies, Equipment, and

Services procurement categories. EPA's policy requires that applicants and prime Contractors make a good faith effort to award a fair share of contracts, subcontracts, and procurements to Minority Business Enterprise and Women-Owned Business Enterprise firms. Although EPA's policy does not mandate that the fair share goals be achieved, it does require applicants and prime Contractors to demonstrate use of the six affirmative steps. The current fair share goals for the State of Texas are as follows:

CATEGORY	MBE	WBE
CONSTRUCTION	12.94%	8.72%
SUPPLIES	9.68%	9.34%
EQUIPMENT	7.12%	5.39%
SERVICES	10.84%	5.72%

(i) Equal Opportunity in Employment - All qualified Applicants will receive consideration for employment without regard to race, color, religion, sex (including pregnancy), sexual orientation, gender identity, national origin, age (40 or older), disability, or genetic information. Bidders on this work will be required to comply with the Department of Labor regulations at 41 CFR Part 60-4, relating to Construction Contractors--Affirmative Action Requirements, which include the President's Executive Order No. 11246, as amended by Executive Order No. 11375 and Executive Order No. 13672, in the award and administration of contracts awarded under TWDB financial assistance agreements. Failure by the Contractor to carry out these requirements is a material breach, which may result in the termination of the awarded financial assistance.

(j) Acknowledgement of any special requirements such as mandatory pre-bid conference.

(k) Right to reject any and all bids.

(l) Davis-Bacon prevailing wage requirements apply to the construction, alteration or repair of treatment works carried out, in whole or in part, with assistance made available by the Clean Water State Revolving Fund (CWSRF) or a construction project financed, in whole or in part, from the Drinking Water State Revolving Fund (DWSRF).

(m) The Davis-Bacon prevailing wage requirements apply to Contractors and Subcontractors performing on federally funded or assisted contracts in excess of $2,000 for the construction, alteration or repair (including painting) of a treatment works project under the CWSRF or a construction project under the DWSRF.

(n) For prime contracts in excess of $100,000, Contractors and Subcontractors must also, under the provisions of the Contract Work Hours and Safety Standards Act, as amended, pay laborers and mechanics, including guards and watchmen, at least one and one-half times their regular rate of pay for all hours worked over 40 in a workweek. The Fair Labor Standards Act may also apply to Davis-Bacon covered contracts.

(o) Any contracts or subcontracts in excess of $2,000 must include the provisions of the Davis-Bacon Wage Rate Requirements found in TWDB Guidance No. DB-0156.

(p) Wage Determinations - U.S. Department of Labor (DOL) wage determination must be included in the bidding and contract documents. DOL wage determinations may be obtained online at http://www.wdol.gov/. Once it is determined that Davis-Bacon wage rates will apply to a construction contract, the Applicant must state in the solicitation that

Davis-Bacon prevailing wage rates are applicable and bid packages must include the current Davis-Bacon general wage determination for the area where construction will occur. While the solicitation remains open, the Applicant must monitor www.wdol.gov on a weekly basis to ensure that the wage determination contained in the solicitation remains current. The Applicant must amend the solicitation if the DOL issues a modification more than 10 days prior to the closing date (i.e. bid opening) for the solicitation. If DOL modifies or supersedes the applicable wage determination less than 10 days prior to the closing date, the Applicant may request a finding from TWDB that there is not reasonable time to notify interested Contractors of the modification of the wage determination.

(q) For additional information on Davis-Bacon Wage Rate Requirements and its applicability to this contract, please consult TWDB Guidance No. DB-0156.

7. Bid Proposal

The Bid proposal form should account for the following:

(a) If a lump sum bid, include a list of the materials used and associated costs.
(b) Distinguish Eligible and Ineligible items.
(c) Accommodate Trench Safety requirements with separate per unit pay item for trench excavation safety protection, Health and Safety Code Chapter 756, Subchapter C.
(d) Include space for the Contractor to acknowledge receipt of each Addendum issued during the bidding process.

8. Bidding Process

The Plans and Specifications, P&S, should include an explanation of how the bids will be processed and should include the following components:

(a) Whether a Pre-bid Conference will be held, whether it is optional or mandatory, where and when it will be held.
(b) Specify the criteria and process for determining responsiveness and responsibility of the bidder
(c) Specify the method of determining the successful bidder and award (e.g., award to the lowest responsive, responsible bidder, accounting for any multiple parts to bids), and accounting for non-resident bidder reciprocity requirements.
(d) Allow for withdrawal of a bid due to a material mistake.
(e) Identify the time frame that the bids may be held by the Applicant before awarding a contract (i.e., typically for 60 or 90 days).
(f) Acknowledge right of the Applicant to reject any and all bids.

9. Debarment and Suspension Certification

Financial assistant recipients must fully comply with the requirements of Subpart C of 2 CFR Part 180 – "*Responsibilities of Participants Regarding Transactions Doing Business with Other Persons*" - as implemented and supplemented by 2 CFR Part 1532. The recipient is responsible for ensuring that any lower tier covered transaction, as described in Subpart B of 2 CFR Part 180 – *"Covered Transactions"* – includes a term or condition requiring compliance with Subpart C.

The recipient is fully responsible for requiring the inclusion of a similar term or condition in any subsequent lower tier covered transactions.

Recipient acknowledges that failing to disclose the information required under 2 CFR 180.355 may result in the delay or negation of the financial assistance, or pursuance of legal remedies including debarment and suspension.

The recipient must complete and submit certification No. ***SRF-404: Debarment / Suspension Certification***, certifying that it has checked the federal System for Award Management website (http://www.sam.gov) and determined that the Contractor is not an "excluded party" that is debarred, suspended or otherwise excluded from participation in federal assistance programs under Executive Order 12549, as required by 2 CFR Part 180 and 2 CFR Part 1532.

10. Release of Funds

Prior to the TWDB approval to issue a notice to proceed (NTP), and subsequent release of funds for construction (according to program specific requirements), the Applicant and its consultant shall provide the following bid documents:

(a) Submittal of Bid Documents to TWDB Project Engineer/Reviewer to allow contingent award of contract:
Advertisement and Affidavit of advertisement,
Bid tabulation,
All Addenda submitted and approved for the contract,
Bid proposal of apparent low bidder (or chosen bidder with explanation) with bid bond,
Entity's Disadvantaged Business Enterprise forms TWDB 0216 and TWDB 373,
Contractor's Disadvantaged Business Enterprise forms TWDB 0216, 0217, and 0373,
If Subcontractors are being used to fulfill the contract, EPA forms 6100-3 and 6100-4,
Site Certificate (ED-101),
Consulting engineer's recommendation to award letter,
A description of any bidding irregularities,
Construction inspection proposal,
Vendor Compliance with Reciprocity of Non-Resident Bidder Form (TWDB-0459),
Bidder's Certifications Form (WRD-255)

(b) Following contingent award of the contract, TWDB Project Engineer/Reviewer should receive a bound copy of the executed contract documents (including specifications). This document should include:
Executed agreement,
Contractor's Act of Assurance (TWDB Form ED -103),
Contractor's Act of Assurance Resolution (TWDB Form ED-104),
Payment and Performance Bonds (must be executed on or after the date of the contract),
Contractor's Certificate of Insurance,
Sufficiency of Funds letter.

After reviewing and approving the executed bid documents, the TWDB will issue an authorization for the Applicant to issue a notice to proceed. At this time, TWDB staff can begin releasing construction funds in accordance with program requirements.

Once construction begins, the Applicant must submit monthly, with each Outlay Request, the following documents:

- DB-0154 – Monthly Davis Bacon Wage Rate Certificate of Compliance.
- TWDB-1106-A – Monthly American Iron and Steel Certificate.

Failure to provide these certificates will result in denial of release of funds.

For any questions or proposed modifications to these conditions, please contact your TWDB Project Engineer/Reviewer.

II. INSTRUCTIONS TO BIDDERS

The language and conditions listed in this Section shall be included in the "Instructions to Bidders" section of the construction contract documents.

1. Contingent Award of Contract

This contract is contingent upon release of funds from the Texas Water Development Board. Any contract(s) awarded under this Invitation for Bids is/are expected to be funded in part by a loan or loan with principal forgiveness from the Texas Water Development Board and a grant from the United States Environmental Protection Agency, U.S. EPA. Neither the State of Texas, the U.S. EPA, nor any of its departments, agencies, or employees, are or will be a party to this Invitation for Bids or any resulting contract.

2. Disadvantaged Business Enterprise Goals

The Texas Water Development Board's (TWDB) Clean Water and Drinking Water State Revolving Fund programs receive federal funds from the U. S. Environmental Protection Agency (EPA). As a condition of federal grant awards, EPA regulations require that loan recipients make a "**good faith effort**" to award a fair share of work to Disadvantaged Business Enterprises (DBE) who are Minority Business Enterprises (MBE's), and Women-owned Business Enterprises (WBE's) whenever procuring construction, supplies, services and equipment. More information on DBE requirements is available in the Supplemental Contract Conditions section of this guidance No. ***14. Disadvantaged Business Enterprises***.

The current fair share goals for the State of Texas are as follows:

CATEGORY	MBE	WBE
CONSTRUCTION	12.94%	8.72%
EQUIPMENT	7.12%.	5.39%
SUPPLIES	9.68%	9.34%
SERVICES	10.84%	5.72%

3. Davis-Bacon Wage Rate Requirements

(a) Davis-Bacon prevailing wage requirements apply to the construction, alteration or repair of treatment works carried out, in whole or in part, with assistance made available by the Clean Water State Revolving Fund (CWSRF) or a construction project financed, in whole or in part, from the Drinking Water State Revolving Fund (DWSRF).

(b) The Davis-Bacon prevailing wage requirements apply to Contractors and Subcontractors performing on federally funded or assisted contracts in excess of $2,000 for the construction, alteration or repair (including painting) of a treatment works project under the CWSRF or a construction project under the DWSRF.

(c) For prime contracts in excess of $100,000, Contractors and Subcontractors must also, under the provisions of the Contract Work Hours and Safety Standards Act, as amended, pay laborers and mechanics, including guards and watchmen, at least one and one-half times their regular rate of pay for all hours worked over 40 in a workweek. The Fair Labor Standards

Act may also apply to Davis-Bacon covered contracts.

(d) Any contracts in excess of $2,000 must include the provisions of the Davis-Bacon Wage Rate Requirements. If the Owner (sub-recipient) is a governmental entity such as a city or district, it must insert in full the contract clauses found in TWDB Guidance DB-0156, Appendix 1: Section 3, Section 4 if the contract exceeds $100,000, and Section 5. If the Owner (sub-recipient) is a non-governmental entity such as a water supply corporation or a private company, it must insert in full the contract clauses found in TWDB Guidance DB-0156, Appendix 2: Section 3, Section 4 if the contract exceeds $100,000, and Section 5. The Owner (sub-recipient) must ensure all prime contracts require the same full text in any subcontracts. See TWDB Guidance DB-0156 for the text of the contract language that must be included.

Additional information on Davis-Bacon Wage Rate Requirements and its applicability to this contract can be found in TWDB Guidance DB-0156.

4. American Iron and Steel

Any contract(s) awarded under this Invitation for Bids is/are subject to the American Iron and Steel (AIS) requirements of 33 U.S.C §1388 for Clean Water State Revolving Fund projects or Public Law 114-113, Consolidated Appropriations Act, 2016, or subsequent appropriations acts, for Drinking Water State Revolving Fund projects. The Contractor must complete the statement of understanding regarding this requirement, found in the Special Contract Conditions, Item No. 9.

5. Equal Employment Opportunity and Affirmative Action

All qualified applicants will receive consideration for employment without regard to race, color, religion, sex (including pregnancy), sexual orientation, gender identity, national origin, age (40 or older), disability, or genetic information. Bidders on this work will be required to comply with the Department of Labor regulations at 41 CFR Part 60-4, relating to Construction Contractors--Affirmative Action Requirements, which include the President's Executive Order No. 11246, as amended by Executive Order No. 11375 and Executive Order No. 13672, in the award and administration of contracts awarded under TWDB financial assistance agreements. Failure by the Contractor to carry out these requirements is a material breach, which may result in the termination of the awarded financial assistance.

6. Debarment and Suspension Certification

This contract is subject to the federal requirements of Subpart C of 2 CFR Part 180 and Part 1532 regarding Debarment and Suspension. The Contractor will comply with the assurances provided with the bid that leads to a contract.

7. Bid Guarantee

Each bidder shall furnish a bid guarantee equivalent to five percent of the bid price (Water

Code 17.183). If a bid bond is provided, the Contractor shall utilize a surety company which is authorized to do business in Texas in accordance with Surety Bonds and Related Instruments, Chapter 3503 of the Insurance Code.

8. Award of Contract to Nonresident Bidder

A governmental entity may not award a governmental contract to a nonresident bidder unless the nonresident underbids the lowest bid submitted by a responsible resident bidder by an amount that is not less than the amount by which a resident bidder would be required to underbid the nonresident bidder to obtain a comparable contract in the state in which the nonresident's principal place of business is located. A nonresident bidder is a Contractor whose corporate offices or principal place of business is outside of the state of Texas (Source: Texas Government Code, Chapter 2252, Subchapter A, Nonresident Bidders, § 2252.002).

The bidder will complete form TWDB-0459, Vendor Compliance with Reciprocity on Non-Resident Bidders, **which must be submitted with the bid.**

Forms to be submitted with Bid:

- WRD-255, Bidder's Certifications regarding Equal Employment Opportunity and Non-Segregated Facilities.
- TWDB-0459, Vendor Compliance with Reciprocity on Non-Resident Bidder.
- SRF-404, Certification Regarding Debarment, Suspension and Other Responsibility Matters, (to be completed and submitted by the sub-recipient).
- Disadvantaged Business Enterprise (DBE) Construction Contract Phase Forms

Form	Prime Contractor	Submit Form To
TWDB-0216	Required	TWDB
TWDB-0217	Required	TWDB
TWDB-0373	Required	TWDB

III. SUPPLEMENTAL CONTRACT CONDITIONS

1. Supersession

The Owner and the Contractor agree that the TWDB Supplemental Conditions apply to that work eligible for Texas Water Development Board assistance to be performed under this contract and these clauses supersede any conflicting provisions of this contract.

2. Privity of Contract

Funding for this project is expected to be provided in part by the Texas Water Development Board. Neither the State of Texas, nor any of its departments, agencies or employees is, or will be, a party to this contract or any lower tier contract. This contract is subject to applicable provisions 31 TAC Chapter 371 (DWSRF) or 375 (CWSRF) in effect on the date of the assistance award for this project.

3. Definitions

(a) The term "Owner" means the local entity contracting for the construction services.
(b) The term "TWDB" means the Executive Administrator of the Texas Water Development Board, or other person who may be at the time acting in the capacity or authorized to perform the functions of such Executive Administrator, or the authorized representative thereof.
(c) The term "Engineer" means the engineer the Owner has authorized to work on the project.

4. Laws to be Observed

In the execution of the Contract, the Contractor must comply with all applicable Local, State and Federal laws, including but not limited to laws concerned with labor, safety, minimum wages, and the environment. The Contractor shall make himself familiar with and at all times shall observe and comply with all Federal, State, and Local laws, ordinances and regulations which in any manner affect the conduct of the work, and shall indemnify and save harmless the Owner, Texas Water Development Board, and their representatives against any claim arising from violation of any such law, ordinance or regulation by the Contractor, their Subcontractor or their employees.

5. Review by Owner and TWDB

(a) The Owner, authorized representatives and agents of the Owner, and TWDB shall, at all times have access to and be permitted to observe and review all work, materials, equipment, payrolls, personnel records, employment conditions, material invoices, and other relevant data and records pertaining to this Contract, provided, however that all instructions and approval with respect to the work will be given to the Contractor only by the Owner through authorized representatives or agents.

(b) Any such inspection or review by the TWDB shall not subject the State of Texas, or its representatives, to any action for damages.

6. Performance and Payment Bonds

Each Contractor awarded a construction contract must furnish performance and payment bonds:

(a) The performance bond shall include without limitation guarantees that work done under the contract will be completed and performed according to approved plans and specifications and in accordance with sound construction principles and practices;

(b) The performance and payment bonds shall be in a penal sum of not less than 100 percent of the contract price and remain in effect for one year beyond the date of approval by the Engineer of the political subdivision; and

(c) The Contractor shall utilize a surety company which is authorized to do business in Texas in accordance with Surety Bonds and Related Instruments, Chapter 3503 of the Insurance Code.

7. Payment Schedule and Cost Breakdown

(a) The Contractor shall submit for approval immediately after execution of the Agreement, a carefully prepared Progress Schedule, showing the proposed dates of starting and completing each of the various sections of the work, the anticipated monthly payments to become due to the Contractor, and the accumulated percent of progress each month.

(b) The following paragraph applies only to contracts awarded on a lump sum contract

price:

COST BREAKDOWN - The Contractor shall submit to the Owner a detailed breakdown of the estimated cost of all work to be accomplished under the contract, arranged and itemized as to meet the approval of the Owner or funding agencies. This breakdown shall be submitted promptly after execution of the agreement and before any payment is made to the Contractor for the work performed under the contract. After approval by the Owner the unit prices established in the breakdown shall be used in estimating the amount of partial payments to be made to the Contractor.

8. Workman's Compensation Insurance Coverage (as applicable, consistent with Texas Labor Code § 406.096)

(a) The Contractor shall certify in writing that the Contractor provides workers' compensation insurance coverage for each employee of the Contractor employed on the public project.

(b) Each Subcontractor on the public project shall provide such a certificate relating to coverage of the Subcontractor's employees to the general Contractor, who shall provide the Subcontractor's certificate to the governmental entity.

(c) A Contractor who has a contract that requires workers' compensation insurance coverage may provide the coverage through a group plan or other method satisfactory to the governing body of the governmental entity.

(d) The employment of a maintenance employee by an employer who is not engaging in building or construction as the employer's primary business does not constitute

engaging in building or construction.

(e) In this section:

i. "Building or construction" includes:

- erecting or preparing to erect a structure, including a building, bridge, roadway, public utility facility, or related appurtenance;
- remodeling, extending, repairing, or demolishing a structure; or
- otherwise improving real property or an appurtenance to real property through similar activities.

ii. "Governmental entity" means this state or a political subdivision of this state. The term includes a municipality.

9. American Iron & Steel

The following statement must be completed by the Contractor and made a part of the agreement between the Owner and the Contractor:

The Contractor acknowledges to and for the benefit of the Owner ("Purchaser") and the Texas Water Development Board (TWDB) that it understands the goods and services under this Agreement are being funded with monies made available by the Clean Water State Revolving Fund and/or Drinking Water State Revolving Fund that have statutory requirements commonly known as "American Iron and Steel" that requires all of the iron and steel products used in the project to be produced in the United States ("American Iron and Steel Requirement") including iron and steel products provided by the Contactor pursuant to this Agreement. The Contractor hereby represents and warrants to and for the benefit of the Owner and the TWDB that (a) the Contractor has reviewed and understands the American Iron and Steel Requirement, (b) all of the iron and steel products used in the project will be and/or have been produced in the United States in a manner that complies with the American Iron and Steel Requirement, unless a waiver of the requirement is approved, and (c) the Contractor will provide any further verified information, certification or assurance of compliance with this paragraph, or information necessary to support a waiver of the American Iron and Steel Requirement, as may be requested by the Owner or the TWDB. Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the Owner to enforce this Agreement and recover as damages against the Contractor any loss, expense, or cost (including without limitation attorney's fees) incurred by the Owner resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the TWDB or any damages owed to the TWDB by the Owner). While the Contractor has no direct contractual privity with the TWDB, as a lender to the Owner for the funding of its project, the Owner and the Contractor agree that the TWDB is a third-party beneficiary and neither this paragraph (nor any other provision of this Agreement necessary to give this paragraph force or effect) shall be amended or waived without the prior written consent of the TWDB.

Additional information on the American Iron and Steel (AIS) and its applicability to this contract can be found in the TWDB-1106 guidance. It is recommended the Owner

receive and maintain files documenting the Contractor's use of AIS. Monthly compliance with AIS will be verified by the Owner through the submittal of the TWDB form TWDB-1106-A.

10. Davis-Bacon Wage Rate Requirements

(a) Compliance Procedures

In order to be held in compliance and satisfy this federal requirement, the following must be fulfilled:

i. **Wage Determinations** - U.S. Department of Labor (DOL) wage determination must be included in the bidding and contract documents. DOL wage determinations may be obtained online at http://www.wdol.gov/. Once it is determined that Davis-Bacon wage rates will apply to a construction contract, the Owner must state in the solicitation that Davis-Bacon prevailing wage rates are applicable and bid packages must include the current Davis-Bacon general wage determination for the area where construction will occur. While the solicitation remains open, the Owner must monitor www.wdol.gov on a weekly basis to ensure that the wage determination contained in the solicitation remains current. The Owner must amend the solicitation if the DOL issues a modification more than 10 days prior to the closing date (i.e. bid opening) for the solicitation. If DOL modifies or supersedes the applicable wage determination less than 10 days prior to the closing date, the Owner may request a finding from the TWDB that there is not a reasonable time to notify interested Contractors of the modification of the wage determination.

ii. **Insert wage rate requirements in full for all contracts and subcontracts in excess of $2,000** - If the Owner is a governmental entity such as a city or district, it must insert in full the contract clauses shown below as Option 1: Section 3, Section 4 if the contract exceeds $100,000, and Section 5. If the Owner is a non-governmental entity such as a water supply corporation or a private company, it must insert in full the contract clauses shown below as Option 2: Section 3, Section 4 if the contract exceeds $100,000, and Section 5. The Owner must ensure all prime contracts require the same full text in any subcontracts.

iii. **Monthly Certification** – The Owner must complete and submit monthly a Davis Bacon Wage Rate Certificate of Compliance once construction has begun. **(Use Monthly Davis Bacon Wage Rate Certificate of Compliance Submittal by Owner (Subrecipient) DB-0154).**

iv. **Contractor Payroll Requirements** - The Contractor is required to pay the prevailing wage rates on a weekly basis to laborers and mechanics in accordance with the requirements of 29 CFR 5.5, which are incorporated into the actual construction contract. Contractors/ Subcontractors must furnish weekly a statement with respect to the wages paid to each employee during the preceding week. They may use the Department of Labor (DOL) Payroll Form WH-347 and weekly Statement of Compliance on the reverse, or their own payroll form with all of the same data elements as the DOL Payroll Form WH-347, and the TWDB's form, Statement of Compliance Certification by Contractor for SRF, DB-0155. The DOL Payroll Form WH-347 can be found under the forms section of this document or at the following link: http://www.dol.gov/whd/programs/dbra/wh347.htm.

v. **Interviews** - The Owner must periodically interview a sufficient number of employees entitled to the Davis-Bacon prevailing wages to verify that Contractors or Subcontractors are paying the appropriate wage rates. All interviews must be conducted in confidence. The Owner must use Standard Form 1445 (SF 1445) found in the forms section of TWDB guidance document TWDB-0156 or equivalent documentation to memorialize the interviews. The Owner must establish and follow an interview schedule based on its assessment of the risks of noncompliance with Davis-Bacon posed by Contractors or Subcontractors and the duration of the contract or subcontract. The Owner must conduct more frequent interviews if the initial interviews or other information indicated that there is a risk that the Contractor or Subcontractor is not complying with Davis-Bacon. The Owner must immediately conduct interviews in response to an alleged violation of the prevailing wage requirements.

vi. **Payroll Records** - Certified payroll records are required to be retained by the Owner and Contractor for three years after completion of the construction project. The Owner must periodically conduct spot checks of a representative sample of weekly payroll data to verify that Contractors or Subcontractors are paying the appropriate wage rates.

vii. **Wage Rate Poster** – The Contractor must post the required Poster (WH-1321) and applicable wage rates at the construction site. The wage rate poster may be found at under the forms section of TWDB Guidance DB-0156 or at http://www.dol.gov/whd/programs/dbra/wh1321.htm.

viii. **Report Violations** – The Owner must immediately report violations of the Davis-Bacon prevailing wage requirements to the EPA Davis-Bacon Coordinator listed in the assistance agreement and to the appropriate DOL WHD Office listed at http://www.dol.gov/dol/contact/index.htm.

(b) Subcontracts

The Contractor will insert in full the required wage rate requirement in any subcontract in excess of $2,000 as specified in (a)(ii) of this section.

(c) Davis-Bacon General Wage Determinations

A "wage determination" is the listing of wage and fringe benefit for each classification of laborers and mechanics which the Administrator of the Wage and Hour Division of the U.S. DOL has determined to be prevailing in a given area for a particular type of construction. The Davis-Bacon Wage Determinations are classified by the nature of the construction projects performed, specifically listed as "schedules": residential, building, highway, and heavy construction. A brief outline of the definitions for each schedule is listed below.

- Construction Type: Heavy determination
  This determination includes those projects that are not properly classified as either "building," "highway," or "residential." Unlike these classifications, heavy construction is not a homogenous classification. Because of this catch-all nature, projects within the heavy classification may sometimes be distinguished on the basis of their particular project characteristics, and separate schedules may be issued for dredging projects, water and sewer line projects, dams, major bridges, and flood control projects.

- Construction Type: Highway determination
  This determination includes construction, alteration or repair of roads, streets, highways, runways, taxiways, alleys, trails, paths, parking areas, and other similar projects not incidental to building or heavy construction.

- Construction Type: Building determination
  This determination includes construction of sheltered enclosures with walk-in access for the purpose of housing persons, machinery, equipment or supplies; all construction of such structures; the installation of utilities and of equipment, both above and below grade levels; as well as incidental grading, utilities and paving. Such structures need not be "habitable" to be building construction. Also, the installation of heavy machinery and/or equipment does not generally change the project's character as a building.

- Construction Type: Residential
  This determination includes the construction, alteration or repair of single-family houses, apartment buildings of no more than four stories in height. This includes all incidental items such as site work, parking areas, utilities, streets, and sidewalks.

The Owner should review their Contractor's wage decisions and confirm they provide an adequate classification of the labor required for the specific construction contract. Most CWSRF and DWSRF projects will fall under the "Heavy" construction type, but Owners should ask their consulting Engineers if unsure. Some contracts or projects may require more than one general schedule to be included depending on the nature and extent of the work (i.e. a building is constructed in a water treatment facility). This is described in more detail in DOL's All Agency Memorandum 130 with Addendum 131. See the DOL's website http://www.dol.gov/whd/programs/dbra/memorand.htm. In such cases, the TWDB would designate the work to which each wage determination or part thereof applies per Federal Acquisition Regulations (FAR) 22.404-2 thru 404-3 https://www.acquisition.gov/far/current/html/Subpart%2022_4.html%20-%20wp1102017. Should overlaps occur in the wage classification schedules for the contract(s), the Owner may consider adopting the higher rate classification.

In all cases, the Owner is responsible to insure an adequate classification is provided to insure compliance with the law. Where a Contractor alerts the Owner that the classification is inadequate, the Owner should work with the Contractor and the DOL to address any valid concerns.

All questions regarding Davis-Bacon guidance can be directed to: U.S. Department of Labor Wage and Hour Division1-866-4USWAGE (1-866-487-9243), TTY: 1-877-889-5627, Monday-Friday 8 a.m. to 8 p.m. Eastern Time.

If you require further information about Davis-Bacon and how to apply it to your project, please contact the Texas Water Development Board Project Team Manager for your region or Clay Schultz, Director, Regional Water Project Development, (512) 463-6277.

The Owner and Contractor may obtain additional information on the Davis-Bacon Wage Rates requirements in the TWDB's Guidance DB-0156 – *"Guidance on Davis-Bacon Wage Rate Requirements"*.

Option 1 – Applies to Governmental Entities (such as Cities and Districts)

1. Applicability of the Davis-Bacon (DB) prevailing wage requirements.

DB prevailing wage requirements apply to the construction, alteration, and repair of treatment works carried out in whole or in part with assistance made available by the Clean Water State Revolving Fund and to any construction project carried out in whole or in part by assistance made available by the Drinking Water State Revolving Fund. If an Owner encounters a unique situation at a site that presents uncertainties regarding DB applicability, the Owner must discuss the situation with the TWDB before authorizing work on that site.

2. Obtaining Wage Determinations.

(a) Owners shall obtain the wage determination for the locality in which a covered activity subject to DB will take place prior to issuing requests for bids, proposals, quotes or other methods for soliciting contracts (solicitation) for activities subject to DB. These wage determinations shall be incorporated into solicitations and any subsequent contracts. Prime contracts must contain a provision requiring that Subcontractors follow the wage determination incorporated into the prime contract.

(i) While the solicitation remains open, the Owner shall monitor www.wdol.gov weekly to ensure that the wage determination contained in the solicitation remains current. The recipients shall amend the solicitation if DOL issues a modification more than 10 days prior to the closing date (i.e. bid opening) for the solicitation. If DOL modifies or supersedes the applicable wage determination less than 10 days prior to the closing date, the Owners may request a finding from the TWDB that there is not a reasonable time to notify interested Contractors of the modification of the wage determination. The TWDB will provide a report of its findings to the Owner.

(ii) If the Owner does not award the contract within 90 days of the closure of the solicitation, any modifications or supersedes DOL makes to the wage determination contained in the solicitation shall be effective unless the TWDB, at the request of the Owner, obtains an extension of the 90 day period from DOL pursuant to 29 CFR 1.6(c)(3)(iv). The Owner shall monitor www.wdol.gov on a weekly basis if it does not award the contract within 90 days of closure of the solicitation to ensure that wage determinations contained in the solicitation remain current.

(b) If the Owner carries out activity subject to DB by issuing a task order, work assignment or similar instrument to an existing Contractor (ordering instrument) rather than by publishing a solicitation, the Owner shall insert the appropriate DOL wage determination from www.wdol.gov into the ordering instrument.

(c) Owners shall review all subcontracts subject to DB entered into by prime Contractors to verify that the prime Contractor has required its Subcontractors to include the applicable wage determinations.

(d) As provided in 29 CFR 1.6(f), DOL may issue a revised wage determination applicable to an Owner's contract after the award of a contract or the issuance of an ordering instrument if DOL determines that the Owner has failed to incorporate a wage determination or has used a wage determination that clearly does not apply to the contract or ordering instrument. If this occurs, the Owner shall either terminate the contract or ordering instrument and issue a revised solicitation or ordering instrument or incorporate DOL's wage determination retroactive to the beginning of the contract or ordering instrument by change order. The Owner's Contractor must be compensated for any increases in wages resulting from the use of DOL's revised wage determination.

3. Contract and Subcontract provisions.

(a) The Owner(s) shall insert in full in any contract in excess of $2,000 which is entered into for the actual construction, alteration and/or repair, including painting and decorating, of a treatment work under the

CWSRF or a construction project under the DWSRF financed in whole or in part from Federal funds or in accordance with guarantees of a Federal agency or financed from funds obtained by pledge of any contract of a Federal agency to make a loan, grant or annual contribution (except where a different meaning is expressly indicated), and which is subject to the labor standards provisions of any of the acts listed in 29 CFR 5.1, the Water Resources Reform and Development Act of 2014 for a CWSRF-funded project or the Consolidated Appropriations Act, 2016 (or subsequent federal law) for a DWSRF-funded project, the following clauses:

(1) Minimum wages.

(i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the Contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the Contractor and its Subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

Owners may obtain wage determinations from the U.S. Department of Labor's web site, www.dol.gov.

(ii)(A) The Owner(s), on behalf of EPA, shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The TWDB shall approve a request for an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the Owner(s) agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), documentation of the action taken and the request, including the local wage determination shall be sent by the Owner (s) to the TWDB. The TWDB will

transmit the request, to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210 and to the EPA DB Regional Coordinator concurrently. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification request within 30 days of receipt and so advise the TWDB or will notify the TWDB within the 30-day period that additional time is necessary.

(C) In the event the Contractor, the laborers or mechanics to be employed in the classification or their representatives, and the Owner(s) do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the TWDB shall refer the request and the local wage determination, including the views of all interested parties and the recommendation of the TWDB, to the Administrator for determination. The request shall be sent to the EPA DB Regional Coordinator concurrently. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt of the request and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii)(B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the Contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the Contractor does not make payments to a trustee or other third person, the Contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, provided, that the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(2) Withholding. The Owner(s) shall, upon written request of the EPA Award Official or an authorized representative of the Department of Labor, withhold or cause to be withheld from the Contractor under this contract or any other Federal contract with the same prime Contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime Contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the Contractor or any Subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the EPA may, after written notice to the Contractor, sponsor, applicant, or Owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) Payrolls and basic records.

(i) Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits

under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the Contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The Contractor shall submit weekly, for each week in which any contract work is performed, a copy of all payrolls to the Owner, that is, the entity that receives the funds from the TWDB. Such documentation shall be available on request of the TWDB or EPA. As to each payroll copy received, the Owner shall provide written confirmation in a form satisfactory to the TWDB indicating whether or not the project is in compliance with the requirements of 29 CFR 5.5(a)(1) based on the most recent payroll copies for the specified week. The payrolls shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on the weekly payrolls. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at http://www.dol.gov/whd/forms/wh347instr.htm or its successor site. The prime Contractor is responsible for the submission of copies of payrolls by all Subcontractors. Contractors and Subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the Owner(s) for transmission to the TWDB or EPA if requested by EPA, the TWDB, the Contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime Contractor to require a Subcontractor to provide addresses and social security numbers to the prime Contractor for its own records, without weekly submission to the Owner(s).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor or Subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under § 5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under § 5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the Contractor or Subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(iii) The Contractor or Subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the TWDB, EPA or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the Contractor or Subcontractor fails to submit the required records or to make them available, the EPA or TWDB may, after written notice to the Contractor, sponsor, applicant, or Owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) Apprentices and trainees

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the Contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a Contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the Contractor's or Subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for

apprentices. Any employee listed on the payroll as a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the Contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended and 29 CFR part 30.

(5) Compliance with Copeland Act requirements. The Contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

(6) Subcontracts. The Contractor or Subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the EPA determines may by appropriate, and also a clause requiring the Subcontractors to include these clauses in any lower tier subcontracts. The prime Contractor shall be responsible for the compliance by any Subcontractor or lower tier Subcontractor with all the contract clauses in 29 CFR 5.5.

(7) Contract termination; debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a Contractor and a Subcontractor as provided in 29 CFR 5.12.

(8) Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(9) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the Contractor (or any of its Subcontractors) and Owner(s), TWDB, EPA, the U.S. Department of Labor, or the employees or their representatives.

(10) Certification of eligibility.

(i) By entering into this contract, the Contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the Contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

4. Contract Provision for Contracts in Excess of $100,000.

(a) Contract Work Hours and Safety Standards Act. The Owner shall insert the following clauses set forth in paragraphs (a)(1), (2), (3), and (4) of this section in full in any contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses

shall be inserted in addition to the clauses required by Item 3, above or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

(1) Overtime requirements. No Contractor or Subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (a)(1) of this section the Contractor and any Subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such Contractor and Subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (a)(1) of this section, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (a)(1) of this section.

(3) Withholding for unpaid wages and liquidated damages. The Owner, upon written request of the EPA Award Official or an authorized representative of the Department of Labor, shall withhold or cause to be withheld, from any moneys payable on account of work performed by the Contractor or Subcontractor under any such contract or any other Federal contract with the same prime Contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime Contractor, such sums as may be determined to be necessary to satisfy any liabilities of such Contractor or Subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (a)(2) of this section.

(4) Subcontracts. The Contractor or Subcontractor shall insert in any subcontracts the clauses set forth in paragraph (a)(1) through (4) of this section and also a clause requiring the Subcontractors to include these clauses in any lower tier subcontracts. The prime Contractor shall be responsible for compliance by any Subcontractor or lower tier Subcontractor with the clauses set forth in paragraphs (a)(1) through (4) of this section.

(b) In addition to the clauses contained in Item 3, above, in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in 29 CFR 5.1, the Owner shall insert a clause requiring that the Contractor or Subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the Owner shall insert in any such contract a clause providing that the records to be maintained under this paragraph shall be made available by the Contractor or Subcontractor for inspection, copying, or transcription by authorized representatives of the EPA, TWDB, and the Department of Labor, and the Contractor or Subcontractor will permit such representatives to interview employees during working hours on the job.

5. Compliance Verification

(a) The Owner shall periodically interview a sufficient number of employees entitled to DB prevailing wages (covered employees) to verify that Contractors or Subcontractors are paying the appropriate wage rates. As provided in 29 CFR 5.6(a)(6), all interviews must be conducted in confidence. The Owner must use Standard

Form 1445 (SF 1445) found in the forms section of TWDB guidance document TWDB-0156 or equivalent documentation to memorialize the interviews. Copies of the SF 1445 are also available from EPA on request.

(b) The Owner shall establish and follow an interview schedule based on its assessment of the risks of noncompliance with DB posed by Contractors or Subcontractors and the duration of the contract or subcontract. Owners must conduct more frequent interviews if the initial interviews or other information indicated that there is a risk that the Contractor or Subcontractor is not complying with DB.
Owners shall immediately conduct interviews in response to an alleged violation of the prevailing wage requirements. All interviews shall be conducted in confidence."

(c) The Owner shall periodically conduct spot checks of a representative sample of weekly payroll data to verify that Contractors or Subcontractors are paying the appropriate wage rates. The Owner shall establish and follow a spot check schedule based on its assessment of the risks of noncompliance with DB posed by Contractors or Subcontractors and the duration of the contract or subcontract. At a minimum, if practicable, the Owner should spot check payroll data within two weeks of each Contractor or Subcontractor's submission of its initial payroll data and two weeks prior to the completion date the contract or subcontract. Owners must conduct more frequent spot checks if the initial spot check or other information indicates that there is a risk that the Contractor or Subcontractor is not complying with DB. In addition, during the examinations the Owner shall verify evidence of fringe benefit plans and payments there under by Contractors and Subcontractors who claim credit for fringe benefit contributions.

(d) The Owner shall periodically review Contractors and Subcontractor's use of apprentices and trainees to verify registration and certification with respect to apprenticeship and training programs approved by either the U.S Department of Labor or a state, as appropriate, and that Contractors and Subcontractors are not using disproportionate numbers of, laborers, trainees and apprentices. These reviews shall be conducted in accordance with the schedules for spot checks and interviews described in Item 5(b) and (c) above.

(e) Owners must immediately report potential violations of the DB prevailing wage requirements to the EPA Region 6 DB Coordinator, TWDB, and to the appropriate DOL Wage and Hour District Office listed at http://www.dol.gov/whd/america2.htm.

Option 2 – Applies to Non-Governmental Entities (such as Water Supply Corporations and Private Companies)

1. Applicability of the Davis-Bacon (DB) prevailing wage requirements.

DB prevailing wage requirements apply to the construction, alteration, and repair of treatment works carried out in whole or in part with assistance made available by the CWSRF and to any construction project carried out in whole or in part by assistance made available by the DWSRF. If an Owner encounters a unique situation at a site that presents uncertainties regarding DB applicability, the Owner must discuss the situation with the TWDB before authorizing work on that site.

2. Obtaining Wage Determinations.

(a) Owners must obtain proposed wage determinations for specific localities at www.wdol.gov. After the Owner obtains its proposed wage determination, it must submit the wage determination to the TWDB for approval prior to inserting the wage determination into a solicitation, contract or issuing task orders, work assignments or similar instruments to existing Contractors (ordering instruments unless subsequently directed otherwise by the TWDB.)

(b) Owners shall obtain the wage determination for the locality in which a covered activity subject to DB will take place prior to issuing requests for bids, proposals, quotes or other methods for soliciting contracts (solicitation) for activities subject to DB. These wage determinations shall be incorporated into solicitations and any subsequent contracts. Prime contracts must contain a provision requiring that Subcontractors follow the wage determination incorporated into the prime contract.

(i) While the solicitation remains open, the Owner shall monitor www.wdol.gov on a weekly basis to ensure that the wage determination contained in the solicitation remains current. The recipients shall amend the solicitation if DOL issues a modification more than 10 days prior to the closing date (i.e. bid opening) for the solicitation. If DOL modifies or supersedes the applicable wage determination less than 10 days prior to the closing date, the Owners may request a finding from the TWDB that there is not a reasonable time to notify interested Contractors of the modification of the wage determination. The TWDB will provide a report of its findings to the Owner.

(ii) If the Owner does not award the contract within 90 days of the closure of the solicitation, any modifications or supersedes DOL makes to the wage determination contained in the solicitation shall be effective unless the TWDB, at the request of the Owner, obtains an extension of the 90 day period from DOL pursuant to 29 CFR 1.6(c)(3)(iv). The Owner shall monitor www.wdol.gov on a weekly basis if it does not award the contract within 90 days of closure of the solicitation to ensure that wage determinations contained in the solicitation remain current.

(c) If the Owner carries out activity subject to DB by issuing a task order, work assignment or similar instrument to an existing Contractor (ordering instrument) rather than by publishing a solicitation, the Owner shall insert the appropriate DOL wage determination from www.wdol.gov into the ordering instrument.

(d) Owners shall review all subcontracts subject to DB entered into by prime Contractors to verify that the prime Contractor has required its Subcontractors to include the applicable wage determinations.

(e) As provided in 29 CFR 1.6(f), DOL may issue a revised wage determination applicable to an Owner's contract after the award of a contract or the issuance of an ordering instrument if DOL determines that the Owner has failed to incorporate a wage determination or has used a wage determination that clearly does not apply to the contract or ordering instrument. If this occurs, the Owner shall either terminate the contract or ordering instrument and issue a revised solicitation or ordering instrument or incorporate DOL's wage

determination retroactive to the beginning of the contract or ordering instrument by change order. The Owner's Contractor must be compensated for any increases in wages resulting from the use of DOL's revised wage determination.

3. Contract and Subcontract provisions.

(a) The Owner(s) shall insert in full in any contract in excess of $2,000 which is entered into for the actual construction, alteration and/or repair, including painting and decorating, of a treatment work under the CWSRF or a construction project under the DWSRF financed in whole or in part from Federal funds or in accordance with guarantees of a Federal agency or financed from funds obtained by pledge of any contract of a Federal agency to make a loan, grant or annual contribution (except where a different meaning is expressly indicated), and which is subject to the labor standards provisions of any of the acts listed in 29 CFR 5.1, the Water Resources Reform and Development Act of 2014 for a CWSRF-funded project or the Consolidated Appropriations Act, 2016 (or subsequent federal law) for a DWSRF-funded project, the following clauses:

(1) Minimum wages.

(i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the Contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the Contractor and its Subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

Owners may obtain wage determinations from the U.S. Department of Labor's web site, www.dol.gov.

(ii)(A) The Owner(s), on behalf of EPA, shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The TWDB shall approve a request for an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the Owner(s) agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), documentation of the action taken and the request, including the local wage determination shall be sent by the Owner(s) to the TWDB. The TWDB will transmit the request, to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210 and to the EPA DB Regional Coordinator concurrently. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification request within 30 days of receipt and so advise the TWDB or will notify the TWDB within the 30-day period that additional time is necessary.

(C) In the event the Contractor, the laborers or mechanics to be employed in the classification or their representatives, and the Owner(s) do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the TWDB shall refer the request and the local wage determination, including the views of all interested parties and the recommendation of the TWDB, to the Administrator for determination. The request shall be sent to the EPA DB Regional Coordinator concurrently. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt of the request and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii)(B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the Contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the Contractor does not make payments to a trustee or other third person, the Contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(2) Withholding. The Owner(s) shall, upon written request of the EPA Award Official or an authorized representative of the Department of Labor, withhold or cause to be withheld from the Contractor under this contract or any other Federal contract with the same prime Contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime Contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the Contractor or any Subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the EPA may, after written notice to the Contractor, sponsor, applicant, or Owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) Payrolls and basic records.

(i) Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the Contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The Contractor shall submit weekly, for each week in which any contract work is performed, a copy of all payrolls to the Owner, that is, the entity that receives the funds from the TWDB. Such documentation shall be available on request of the TWDB or EPA. As to each payroll copy received, the Owner shall provide written confirmation in a form satisfactory to the TWDB indicating whether or not the project is in compliance with the requirements of 29 CFR 5.5(a)(1) based on the most recent payroll copies for the specified week. The payrolls shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on the weekly payrolls. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at http://www.dol.gov/whd/forms/wh347instr.htm or its successor site. The prime Contractor is responsible for the submission of copies of payrolls by all Subcontractors. Contractors and Subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the Owner(s) for transmission to the TWDB or EPA if requested by EPA, the TWDB, the Contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime Contractor to require a Subcontractor to provide addresses and social security numbers to the prime Contractor for its own records, without weekly submission to the Owner(s).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor or Subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under § 5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under § 5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the Contractor or Subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(iii) The Contractor or Subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the TWDB, EPA or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the Contractor or Subcontractor fails to submit the required records or to make them available, the EPA or TWDB may, after written notice to the Contractor, sponsor, applicant, or Owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) Apprentices and trainees

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the Contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a Contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the Contractor's or Subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on

the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the Contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended and 29 CFR part 30.

(5) Compliance with Copeland Act requirements. The Contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

(6) Subcontracts. The Contractor or Subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the EPA determines may by appropriate, and also a clause requiring the Subcontractors to include these clauses in any lower tier subcontracts. The prime Contractor shall be responsible for the compliance by any Subcontractor or lower tier Subcontractor with all the contract clauses in 29 CFR 5.5.

(7) Contract termination; debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a Contractor and a Subcontractor as provided in 29 CFR 5.12.

(8) Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(9) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the Contractor (or any of its Subcontractors) and Owner(s), TWDB, EPA, the U.S. Department of Labor, or the employees or their representatives.

(10) Certification of eligibility.

(i) By entering into this contract, the Contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the Contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

4. Contract Provision for Contracts in Excess of $100,000.

(a) Contract Work Hours and Safety Standards Act. The Owner shall insert the following clauses set forth in paragraphs (a)(1), (2), (3), and (4) of this section in full in any contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by Item 3, above or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

(1) Overtime requirements. No Contractor or Subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (a)(1) of this section the Contractor and any Subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such Contractor and Subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (a)(1) of this section, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (a)(1) of this section.

(3) Withholding for unpaid wages and liquidated damages. The Owner shall upon the request of the EPA Award Official or an authorized representative of the Department of Labor, withhold or cause to be withheld, from any moneys payable on account of work performed by the Contractor or Subcontractor under any such contract or any other Federal contract with the same prime Contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime Contractor, such sums as may be determined to be necessary to satisfy any liabilities of such Contractor or Subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (a)(2) of this section.

(4) Subcontracts. The Contractor or Subcontractor shall insert in any subcontracts the clauses set forth in paragraph (a)(1) through (4) of this section and also a clause requiring the Subcontractors to include these clauses in any lower tier subcontracts. The prime Contractor shall be responsible for compliance by any Subcontractor or lower tier Subcontractor with the clauses set forth in paragraphs (a)(1) through (4) of this section.

(b) In addition to the clauses contained in Item 3, above, in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in 29 CFR 5.1, the Owner shall insert a clause requiring that the Contractor or Subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the Owner shall insert in any such contract a

clause providing that the records to be maintained under this paragraph shall be made available by the Contractor or Subcontractor for inspection, copying, or transcription by authorized representatives of the EPA, TWDB, and the Department of Labor, and the Contractor or Subcontractor will permit such representatives to interview employees during working hours on the job.

5. Compliance Verification

(a) The Owner shall periodically interview a sufficient number of employees entitled to DB prevailing wages (covered employees) to verify that Contractors or Subcontractors are paying the appropriate wage rates. As provided in 29 CFR 5.6(a)(6), all interviews must be conducted in confidence. The Owner must use Standard Form 1445 (SF 1445) found in the forms section of TWDB guidance document TWDB-0156 or equivalent documentation to memorialize the interviews. Copies of the SF 1445 are also available from EPA on request.

(b) The Owner shall establish and follow an interview schedule based on its assessment of the risks of noncompliance with DB posed by Contractors or Subcontractors and the duration of the contract or subcontract. Owners must conduct more frequent interviews if the initial interviews or other information indicated that there is a risk that the Contractor or Subcontractor is not complying with DB. Owners shall immediately conduct interviews in response to an alleged violation of the prevailing wage requirements. All interviews shall be conducted in confidence."

(c) The Owner shall periodically conduct spot checks of a representative sample of weekly payroll data to verify that Contractors or Subcontractors are paying the appropriate wage rates. The Owner shall establish and follow a spot check schedule based on its assessment of the risks of noncompliance with DB posed by Contractors or Subcontractors and the duration of the contract or subcontract. At a minimum, if practicable the Owner should spot check payroll data within two weeks of each Contractor or Subcontractor's submission of its initial payroll data and two weeks prior to the completion date the contract or subcontract. Owners must conduct more frequent spot checks if the initial spot check or other information indicates that there is a risk that the Contractor or Subcontractor is not complying with DB . In addition, during the examinations the Owner shall verify evidence of fringe benefit plans and payments there under by Contractors and Subcontractors who claim credit for fringe benefit contributions.

(d) The Owner shall periodically review Contractors and Subcontractor's use of apprentices and trainees to verify registration and certification with respect to apprenticeship and training programs approved by either the U.S Department of Labor or a state, as appropriate, and that Contractors and Subcontractors are not using disproportionate numbers of, laborers, trainees and apprentices. These reviews shall be conducted in accordance with the schedules for spot checks and interviews described in Item 5(b) and (c) above.

(e) Owners must immediately report potential violations of the DB prevailing wage requirements to the EPA Region 6 DB Coordinator, TWDB, and to the appropriate DOL Wage and Hour District Office listed at http://www.dol.gov/whd/america2.htm.

11. Payments

(a) Progress Payments:

i. The Contractor shall prepare their requisition for progress payment as of the last day of the payment month and submit it, with the required number of copies, to the Engineer for review. Except as provided in paragraph (iii) of this subsection, the amount of the payment due to the Contractor shall be determined by adding to the total value of work completed to date, the value of materials properly stored on the site and deducting (1) five percent (5%) minimum of the total amount, as a retainage and (2) the amount of all previous payments. The total value of work completed to

date shall be based on the actual or estimated quantities of work completed and on the unit prices contained in the agreement (or cost breakdown approved pursuant to section 7.b relating to lump sum bids) and adjusted by approved change orders. The value of materials properly stored on the site shall be based upon the estimated quantities of such materials and the invoices prices. Copies of all invoices shall be available for inspection by the Engineer.

ii. The Contractor shall be responsible for the care and protection of all materials and work upon which payments have been made until final acceptance of such work and materials by the Owner. Such payments shall not constitute a waiver of the right of the Owner to require the fulfillment of all terms of the contract and the delivery of all improvements embraced in the contract complete and satisfactory to the Owner in all details.

iii. This clause applies to contracts when the Owner is a District or Authority. The retainage shall be ten (10%) percent minimum of the amount otherwise due until at least fifty (50%) of the work has been completed. After the project is fifty (50%) percent completed, and if the District or Authority's Board finds that satisfactory progress is being made, then the District may authorize any of the remaining progress payments to be made in full. The District is not obligated to pay interest earned on the first 50% of work completed (Texas Water Code Sec. 49.276(d)).

iv. The five (5%) percent retainage of the progress payments due to the Contractor may not be reduced until the building of the project is substantially complete and a reduction in the retainage has been authorized by the TWDB.

(b) Withholding Payments. The Owner may withhold from any payment otherwise due to the Contractor so much as may be necessary to protect the Owner and if so elects may also withhold any amounts due from the Contractor to any Subcontractors or material dealers for work performed or material furnished by them. The foregoing provisions shall be construed solely for the benefit of the Owner and will not require the Owner to determine or adjust any claims or disputes between the Contractor and his Subcontractors or material dealers, or to withhold any monies for their protection unless the Owner elects to do so. The failure or refusal of the Owner to withhold any monies from the Contractor shall in no way impair the obligations of any surety or sureties under any bond or bonds furnished under this contract.

(c) Payments Subject to Submission of Certificates. Each payment to the Contractor by the Owner shall be made subject to submission by the Contractor of all written certifications required of him and his Subcontractors by general and special conditions pertaining to this contract.

(d) Final Payment.

i. Upon satisfactory completion of the work performed under this contract, as a condition before final payment under this contract or as a termination settlement under this contract the Contractor shall execute and deliver to the Owner a release of all claims against the Owner arising under, or by virtue of, this contract, except claims which are specifically exempted by the Contractor to be set forth therein. Unless otherwise provided in this contract, by State law or otherwise expressly agreed to by the parties to this contract, final payment under this contract or settlement upon termination of this contract shall not constitute a waiver of the Owner's claims against the Contractor or his sureties under this contract or applicable performance and payment bonds.

ii. After final inspection and acceptance by the Owner of all work under the contract, the Contractor shall prepare their requisition for final payment which shall be based upon the carefully measured or computed quantity of each item of work at the applicable unit prices stipulated in the Agreement or cost breakdown (if lump sum), as adjusted by approved change orders. The total amount of the final payment due the Contractor under this contract shall be the amount computed as described above less all previous payments.

iii. The retainage and its interest earnings, if any, shall not be paid to the Contractor until the TWDB has authorized a reduction in, or release of, retainage on the contract work.

iv. Withholding of any amount due to the Owner, under general and/or special conditions regarding "Liquidated Damages," shall be deducted from the final payment due the Contractor.

12. Equal employment opportunity and affirmative action

This provision applies to Clean Water State Revolving Fund Program and Drinking Water State Revolving Fund projects where the contract agreement is for more than $10,000.

During the performance of this contract, the Contractor agrees as follows:

(1) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex (including pregnancy), sexual orientation, gender identity, national origin, age (40 or older), disability, or genetic information. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, sexual orientation, gender identity, 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 contracting officer setting forth the provisions of this

nondiscrimination clause.

(2) The Contractor will, in all solicitations or advancements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.

(3) The Contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the Contractor's legal duty to furnish information.

(4) The Contractor will send to each labor union or representative of workers with which the Contractor has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the labor union or workers' representative of the Contractor's commitments under Section 202 of Executive Order No. 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(5) The Contractor will comply with all provisions of Executive Order No. 11246 of Sept. 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(6) The Contractor will furnish all information and reports required by Executive Order No. 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 contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(7) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be cancelled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246 of Sept. 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(8) The Contractor will include the provisions of paragraphs (1) through (8) 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 No. 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 may be directed by the Secretary of Labor as a means of enforcing such provisions including sanctions for noncompliance: 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, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of $10,000 the provisions of these specifications and the notice which contains the applicable goals set for minority and female participation and which is set forth in the solicitations from which this contract resulted.

13. Debarment and Suspension

This provision applies only to Clean Water State Revolving Fund Equivalency Program projects and Drinking Water State Revolving Fund projects. This contract is subject to the Title 40 Code of Federal Regulations Part 32 concerning Debarment and Suspension. The Contractor will comply with the assurances provided with the bid that led to this contract.

Instructions for Certification

(a) By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.

(b) The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

(c) The prospective lower tier participant shall provide immediate written notice to the person to whom this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or had become erroneous by reason of changed circumstances.

(d) The terms covered transaction, debarred, suspended, ineligible, lower tier covered transaction, participant, person, primary covered transaction, principal, proposal, and voluntarily excluded, as used in this clause, have the meaning set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.

(e) The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is proposed for debarment under 48 CFR part 9, subpart 9.4, debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

(f) The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without

modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

(g) A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not proposed for debarment under 48 CFR part 9, subpart 9.4, debarred, suspended, ineligible, or voluntarily excluded from covered transactions, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the List of Parties Excluded from Federal Procurement and Non-procurement Programs.

(h) Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

(i) Except for transactions authorized under paragraph (e) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is proposed for debarment under 48 CFR part 9, subpart 9.4, suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Covered Transactions.

(1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

(2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

14. Disadvantaged Business Enterprises

The Texas Water Development Board's (TWDB) Clean Water and Drinking Water State Revolving Fund programs receive federal funds from the U. S. Environmental Protection Agency (EPA). As a condition of federal grant awards, EPA regulations require that loan recipients make a "good faith effort" to award a fair share of work to DBE's who are Minority Business Enterprises (MBE's), and Women-owned Business Enterprises (WBE's) whenever procuring construction, supplies, services and equipment.

The current fair share goals for the State of Texas are as follows:

Category	MBE	WBE
Construction	12.94%	8.72%
Supplies	9.68%	9.34%
Equipment	7.12%	5.39%
Services	10.84%	5.72%

After loan commitment, but prior to closing, Owners (Applicants) must provide forms TWDB-0216 and TWDB-0373. The project's Prime Engineer, Financial Advisor, and Bond Counsel must complete a TWDB-0217 form and indicate if any subcontracting opportunities will be available or if the Contractor will be self-performing the contract. Regardless of the procurement's outcome, all entities must submit a TWDB-0373 and list the Contractors selected by the Owner for the project. Failure to include a Contractor and contract amount will result in denial of payment until the proper documentation has been reviewed and approved.

For each construction contract, Owners are required to submit a TWDB-0216 and TWDB-0373 for the procurement of the project's Prime Contractor. If the Prime Contractor is utilizing Subcontractors for the project, then additional TWDB-0216 and TWDB-0373 forms will be required for submittal prior to request for payment.

The following forms are required for each contract:

Form	Prime Contractor	Submit Form To
TWDB-0216	Required	TWDB
TWDB-0217	Required	TWDB
TWDB-0373	Required	TWDB

(a) The Contractor shall, if awarding sub-agreements, to the extent appropriate for the goals listed in the instructions to bidders make a good faith effort to award a fair share of work to DBE's who are Minority Business Enterprises (MBE's) and Women-owned Business Enterprises (WBE's) as sources of supplies, construction, equipment and services by taking the following steps:

i. Ensure DBEs are made aware of contracting opportunities by including qualified small, minority, and women's businesses on solicitation lists;

ii. Assuring that small, minority, and women's businesses are solicited whenever they are potential sources;

iii. Dividing total requirements, when economically feasible, into small tasks or quantities to permit maximum participation of small, minority, and women's businesses;

iv. Establishing delivery schedules, where the requirements of the work permit, which will encourage participation by small, minority, and women's businesses; and

v. Using the services and assistance of the Small Business Administration, Minority Business Development Agency of the U.S. Department of Commerce, and Texas Marketplace, as appropriate.

15. Archeological Discoveries and Cultural Resources

No activity which may affect properties listed or properties eligible for listing in the National Register of Historic Places or eligible for designation as a State Archeological Landmark is authorized until the Owner has complied with the provisions of the National Historic Preservation Act and the Antiquities Code of Texas. The Owner has previously coordinated with the appropriate agencies and impacts to known cultural or archeological deposits have been avoided or mitigated. However, the Contractor may encounter unanticipated cultural or archeological deposits during construction.

If archeological sites or historic structures which may qualify for designation as a State Archeological Landmark according to the criteria in 13 TAC Chapter 26, or that may be eligible for listing on the National Register of Historic Places in accordance with 36 CFR Part 800, are discovered after construction operations are begun, the Contractor shall immediately cease operations in that particular area and notify the Owner, the TWDB, and the Texas Historical Commission, 1511 N. Colorado St., P.O. Box 12276, Capitol Station, Austin, Texas 78711-2276. The Contractor shall take reasonable steps to protect and preserve the discoveries until they have been inspected by the Owner's representative and the TWDB. The Owner will promptly coordinate with the State Historic Preservation Officer and any other appropriate agencies to obtain any necessary approvals or permits to enable the work to continue. The Contractor shall not resume work in the area of the discovery until authorized to do so by the Owner.

16. Endangered Species

No activity is authorized that is likely to jeopardize the continued existence of a threatened or endangered species as listed or proposed for listing under the Federal Endangered Species Act (ESA), and/or the State of Texas Parks and Wildlife Code on Endangered Species, or to destroy or adversely modify the habitat of such species.

If a threatened or endangered species is encountered during construction, the Contractor shall immediately cease work in the area of the encounter and notify the Owner, who will immediately implement actions in accordance with the ESA and applicable State statutes. These actions shall include reporting the encounter to the TWDB, the U. S. Fish and Wildlife Service, and the Texas Parks and Wildlife Department, obtaining any necessary approvals or permits to enable the work to continue, or implement other mitigation actions. The Contractor shall not resume construction in the area of the encounter until authorized to do so by the Owner.

17. Hazardous Materials

Materials utilized in the project shall be free of any hazardous materials, except as may be specifically provided for in the specifications.

If the Contractor encounters existing material on sites owned or controlled by the Owner or in material sources that are suspected by visual observation or smell to contain hazardous materials, the Contractor shall immediately notify the Engineer and the Owner. The Owner will be responsible for the testing and removal or disposal of

hazardous materials on sites owned or controlled by the Owner. The Owner may suspend the work, wholly or in part during the testing, removal or disposal of hazardous materials on sites owned or controlled by the Owner.

18. Project Signage

The Owner must implement one of the signage options below as described in TWDB Guidance TWDB-1109:

- Online signage placed on community website or social media outlet;
- Press release;
- Posters or wall signage in a public building or location;
- Newspaper or periodical advertisement for project construction, groundbreaking ceremony, or operation of the new or improved facility; or
- Standard on-site signage erected in a prominent location at the construction project site or along a major thoroughfare within the community as directed by the Owner.

If a recipient decides on a public or media event to publicize the accomplishment of significant events related to construction of the project, the U.S Environmental Protection Administration, Region 6, must be provided with at least a ten working day notice of the event and provided the opportunity to attend and participate. Please contact Associate Director Claudia Hosch, who can be reached at (214) 665-6464 or Hosch.Claudia@epa.gov.

19. Changes

*Provisions identified with an asterisk below are consistent with Local Government Code 271.060. Counties and Municipalities may modify the identified provisions, when applicable, to conform to Local Government Code 252.048 (Counties) or 252.048 (Municipalities).

(a) The Owner may at any time, without notice to any surety, by written order designated or indicated to be a change order, make changes in the work within the general scope of the contract, including but not limited to changes:
   i. In the specifications (including drawings and designs);
   ii. In the time, method or manner of performance of the work;
   iii. To decrease or increase the quantity of work to be performed or materials, equipment or supplies to be furnished;

(b) *The total price of a contract may not be increased by a change order unless provision has been made for the payment of the added cost by the appropriation of current funds or bond funds for that purpose, by the authorization of the issuance of certificates, or by a combination of those procedures.

(c) *A contract with an original contract price of $1 million or more may not be increased by more than 25 percent. If a change order for a contract with an original contract price of less than $1 million increases the contract amount to $1 million or more, subsequent change orders may not increase the revised contract amount by more than 25 percent.

(d) *A governing body may grant authority to an official or employee responsible for purchasing or for administering a contract to approve a change order that involves an

increase or decrease of $50,000 or less.

(e) Changes that involve an increase in price will be supported by documentation of the cost components. For projects funded through the EDAP program, or with grant proceeds, TWDB staff may request this information to be provided in a format equivalent to the Cost and Pricing Information form (No. WRD-277).

(f) Any change orders involving a change in the project requiring a relocation of project components, sizing, or process may require additional environmental approval. A map and description of the proposed changes should be sent to the TWDB Environmental Reviewer for coordination and approval as soon as possible to avoid any delay.

20. Operation and Maintenance Manuals and Training

(a) The Contractor shall obtain installation, operation, and maintenance manuals from manufacturers and suppliers for equipment furnished under the contract. The Contractor shall submit three copies of each complete manual to the Engineer within 90 days after approval of shop drawings, product data, and samples, and not later than the date of shipment of each item of equipment to the project site or storage location.

(b) The Owner shall require the Engineer to promptly review each manual submitted, noting necessary corrections and revisions. If the Engineer rejects the manual, the Contractor shall correct and resubmit the manual until it is acceptable to the Engineer as being in conformance with the design concept of the project and for compliance with information given in the Contract Documents. Owner may assess the Contractor a charge for reviews of the same items in excess of three (3) times. Such procedure shall not be considered cause for delay.

(c) Acceptance of manuals by Engineer does not relieve the Contractor of any requirements of terms of Contract.

(d) The Contractor shall provide the services of trained, qualified technicians to check final equipment installation, to assist as required in placing same in operation, and to instruct operating personnel in the proper manner of performing routine operation and maintenance of the equipment.

(e) Operations and maintenance manuals specified hereinafter are in addition to any operation, maintenance, or installation instructions required by the Contractor to install, test, and start-up the equipment. Each manual is to be bound in a folder and labeled to identify the contents and project to which it applies. The manual shall contain the following applicable items:

i. A listing of the manufacturer's identification, including order number, model, serial number, and location of parts and service centers.
ii. A list of recommended stock of parts, including part number and quantity.
iii. Complete replacement parts list.
iv. Performance data and rating tables.
v. Specific instructions for installation, operation, adjustment, and maintenance.
vi. Exploded view drawings for major equipment items.
vii. Lubrication requirements.
viii. Complete equipment wiring diagrams and control schematics with terminal

identification.

21. As-Built Dimensions and Drawings

(a) Contractor shall make appropriate daily measurements of facilities constructed and keep accurate records of location (horizontal and vertical) of all facilities.

(b) Upon completion of each facility, the Contractor shall furnish the Owner with one set of direct prints, marked with red pencil, to show as-built dimensions and locations of all work constructed. As a minimum, the final drawings shall include the following:

i. Horizontal and vertical locations of work.
ii. Changes in equipment and dimensions due to substitutions.
iii. "Nameplate" data on all installed equipment.
iv. Deletions, additions, and changes to scope of work.
v. Any other changes made.

22. Close-Out Procedures

To close-out the contract and release final retainage, the following steps must be completed:

(a) TWDB Staff must conduct a construction contract final inspection (CCFI);

(b) The following submittals must be received, reviewed, and accepted by the TWDB:

i. The final change order, adjustment of quantities, or a statement that all change orders have previously been submitted and there will be no more change orders;
ii. The final pay request from the Contractor;
iii. An affidavit by the Contractor that all bills have been paid;
iv. Certification by the consulting Engineer that the work has been completed and was constructed in accordance with the approved plans and specifications and sound engineering principals and construction practices;
v. Acceptance of the project by the Owner in the form of a written resolution or other formal action;
vi. Notification of the beginning date of the warranty period for the contract; and
vii. Confirmation that the Owner has received the as-built drawings from the Contractor.

(c) TWDB will issue a Certificate of Approval allowing the release of retainage.

23. Additional Forms and Information

The following forms and guidance documents, mentioned throughout this Guidance, are available on the TWDB site at: http://www.twdb.texas.gov/financial/instructions/index.asp

Forms:

Contractor's Act of Assurance (ED-103)
Contractor's Resolution on Authorized Representative (ED-104)
Vendor Compliance with Reciprocity on Non-Resident Bidders (TWDB-0459)
Debarment / Suspension Certification (SRF-404)
Bidder's Certifications- EEO (WRD – 255)
DBE Affirmative Steps solicitation Report (TWDB 0216)
DBE Prime Contractor Affirmative Steps Certification & Goals (TWDB 0217)
DBE Loan/Grant Participation Summary (TWDB 0373)
Monthly American Iron and Steel Certificate (TWDB-1106-A)
American Iron and Steel (AIS) De Minimis Log (TWDB-1106-B)
Monthly Davis Bacon Wage Rate Certificate of Compliance Submittal by Owner (Sub-Recipient) (DB-0154)

Guidance Documents:

TWDB-0210 Disadvantaged Business Enterprise Guidance
Requirements for American Iron and Steel (AIS) Guidance (TWDB-1106)
Guidance on Davis-Bacon Wage Rate Requirements for State Revolving Fund Projects (DB-0156)

VENDOR COMPLIANCE WITH RECIPROCITY ON NON-RESIDENT BIDDERS (TWDB-0459)

Government Code 2252.002 provides that, in order to be awarded a contract as low bidder, a non-resident bidder must bid projects for construction, improvements, supplies or services in Texas at an amount lower than the lowest Texas resident bidder by the same amount that a Texas resident bidder would be required to underbid a non-resident bidder in order to obtain a comparable contract in the state in which the non-resident's principal place of business is located. A non-resident bidder is a contractor whose corporate offices or principal place of business is outside of the state of Texas. This requirement does not apply to a contract involving Federal funds. The appropriate blanks in Section A must be filled out by all out-of-state or non-resident bidders in order for your bid to meet specifications. The failure of out-of-state or non-resident contractors to do so will automatically disqualify that bidder. Resident bidders must check the blank in Section B.

A. Non-resident vendors in _____(give state), our principal place of business, are required to be _____ percent lower than resident bidders by state law. A copy of the statute is attached.

   Non-resident vendors in _____(give state), our principal place of business, are not required to underbid resident bidders.

B. Our principal place of business or corporate offices are in the State of Texas: __X__ .

BIDDER:

BLACK CASTLE GENERAL CONTRACTOR
Company

NEW BRAUNFELS | TEXAS | 78130
City | State | Zip

RODNEY SCHWARZLOSE
By: (please print)

Signature

PRESIDENT
Title: (please print)

THIS FORM MUST BE RETURNED WITH THE BID

ED-103
Reviewed 09/26/2016

CONTRACTOR'S ACT OF ASSURANCE

STATE OF TEXAS §
§
COUNTY OF Comal §

BEFORE ME Tiffanie Pollard, a Notary Public duly commissioned and qualified in and for the County of Comal in the State of Texas came and appeared Rodney Schwarzlose, as represented by Black Castle GC, the Corporation's President, who declares he/she is authorized to represent Black Castle GC pursuant to provisions of a resolution adopted by said Corporation on the 4 day of January 2016 (a duly certified copy of such resolution is attached to and is hereby made a part of this document).

Rodney Schwarzlose, as the representative of, Black Castle GC declares that Black Castle GC assures the Texas Water Development Board that it will construct Waste Water Treatment Plant project at Wymberly, Texas, in accordance with sound construction practice, all laws of the State of Texas, and the rules of the Texas Water Development Board.

GIVEN UNDER MY HAND and seal of office this 18 day of April, 2017.

TPollard (Notary Public in and for the State of Texas)

Tiffanie Pollard (Print Name)

TIFFANIE POLLARD
My Notary ID # 130416557
Expires October 23, 2019

[SEAL]

ED-104
10/06/2016

CONTRACTOR'S ACT OF ASSURANCE RESOLUTION

I hereby certify that it was RESOLVED by a quorum of the directors of the BLACK CASTLE GENERAL CONTRACTOR (Name of Corporation), meeting on the 19 day of APRIL 20 17, that:

Authorized Representative(s):

Rodney Schwarzlose Murray Holden

be, and hereby is/are authorized to act on behalf of BLACK CASTLE GENERAL CONTRACTOR (Name of Corporation), as its representative in all business transactions conducted in the State of Texas, and;

That all above resolution was unanimously ratified by the Board of Directors at said meeting and that the resolution has not been rescinded or amended and is now in full forces and effect; and;

In authentication of the adoption of this resolution, I subscribe my name and affix the seal of the Corporation this 19 day of APRIL, 20 17.

TPollard (Secretary)
TIFFANIE POLLARD

[SEAL]

Black Castle General Contractor
Corporate Seal
Texas
2004

WRD-255
01/2010

BIDDER'S CERTIFICATIONS

Project Name: Wastewater Collection System Project

Project Number: 1732-002-01

Contract For: BLACK CASTLE GENERAL CONTRACTOR

The following certifications must be completed by the bidder for each contract.

A. EQUAL EMPLOYMENT OPPORTUNITY:

( ) I have developed and have on file at my each establishment affirmative action programs pursuant to 41 CFR Part 60-2.

( ) I have participated in previous contract(s) or subcontract(s) subject to the equal opportunity clause under **Executive Orders 11246 and 11375.** I have filed all reports due under the requirements contained in 41 CFR 60-1.7.

(X) I have not participated in previous contracts(s) subject to the equal opportunity clause under **Executive Orders 11246 and 11375.**

( ) I will obtain a similar certification from any proposed subcontractor(s), when appropriate.

B. NONSEGREGATED FACILITIES

(X) I certify that I do not and will not maintain any facilities provided for my employees in a segregated manner, or permit my employees to perform their services at any location under my control where segregated facilities are maintained; and that I will obtain a similar certification prior to the award of any federally assisted subcontract exceeding $10,000 which is not exempt from the equal opportunity clause as required by 41 CFR 60-1.8.

I understand that a false statement on this certification may be grounds for rejection of this bid proposal or termination of the contract award.

RODNEY SCHWARZLOSE - PRESIDENT
Typed Name & Title of Bidder's Authorized Representative

Signature of Bidder's Authorized Representative — Date 4/18/17

BLACK CASTLE GENERAL CONTRACTOR

1299 E COMMON AVE., NEW BRAUNFELS, TEXAS 78130
Name & Address of Bidder

SRF-404
4/16/2015

Debarment / Suspension Certification

I, Rodney Schwarzlose, hereby certify that I have checked on the federal
(Authorized Representative of Recipient)
System for Award Management (www.sam.gov) website and determined that
Black Castle General Contractor is not shown as an "excluded party" that is debarred,
(Name of entity)
suspended or otherwise excluded from or ineligible for participation in federal assistance programs under Executive Order 12549. (See 2 CFR Part 180 and 2 CFR Part 1532 for additional information on the federal governmentwide debarment and suspension system for nonprocurement programs and activities.)

I understand that a false statement herein may subject me to penalties under federal and state laws relating to filing false statements and other relevant statutes.

Signature

Date 4/18/17

President
Title

Rodney Schwarzlose
Name of Recipient

Verifying prime contractors and subcontractors for construction, equipment, supplies and services: Using the www.sam.gov website, the recipient must verify prior to awarding the contract that the prime contractor is not listed as an "excluded party" that is debarred, suspended or otherwise excluded from or ineligible. Once any subcontractors are known, they also must be verified as not listed as an "excluded party" prior to award of a subcontract. The recipient must print a dated record of the verification from the www.sam.gov website and retain a copy that is available for review by TWDB. The prime contractors and subcontractors must be verified prior to the contract award or the costs may be disallowed.

TWDB-0216

TEXAS WATER DEVELOPMENT BOARD
AFFIRMATIVE STEPS SOLICITATION REPORT

I. PROJECT INFORMATION

A. TWDB Project No.	B. Applicant/Entity Name	C. Total TWDB Funding Request	D. Program Type (insert "X" for all that apply)	
	City of Wimberley		☐	Drinking Water SRF (DWSRF)
			☑	Clean Water SRF (CWSRF)

Project Name: Wastewater Treatment Plant

Solicitation By: ☑ Applicant/Entity ☐ Prime Contractor: Black Castle General Contractor

Project Phase: ☐ Application ☐ Planning/Design ☐ Construction Contract # _____

II. PROJECT BIDDERS LIST:

Instructions Columns 1 - 4	List on this form, or provide on a separate list, each business entity solicited for procurement, the following: 1-Full business name & point of contact, 2-business address, 3-telephone number and 4-email for each business or firm. Entities must solicit to a **minimum of 3** business/firms for each type of contract sought (i.e. three engineering, financial advisor, and bond counsel firms) to demonstrate a **Good Faith Effort.**
Instructions Column 5	Enter one of the following procurement or contract categories: **CONSTRUCTION – SUPPLIES – EQUIPMENT – SERVICES**
Instructions 6	Enter the type of business: **Minority Business Enterprise (MBE), Women-Owned Business Enterprise (WBE), or OTHER (NOTE! "OTHER" = Company or firm is Non-MBE or WBE)**
Instructions Column 7	To achieve a "Good Faith Effort" a minimum of two methods must be utilized for solicitation, however, additional methods are encouraged by the TWDB should any of the attempted methods fail to meet DBE program requirements. Adequate backup documentation must be attached to this form for each method used. Methods of solicitation include: 1. **Newspaper Advertisements** 2. **Direct Contact by Phone, Fax, USPS Mail, E-mail** 3. **Meetings or Conferences** 4. **Minority Media** 5. **Internet & Web Postings** 6. **Trade Association Publications** 7. **Other Government Publications**

Notice: Entities receiving federal SRF loans must create and maintain a bidder's list if the recipient of the loan is subject to competitive bidding requirements. The list must include all firms that bid or quote on subcontracts under EPA assisted projects, including both MBE/WBEs and non-MBE/WBEs. Entities must keep the bidders list until the project is complete, the project period has expired, and the recipient is no longer receiving EPA funding under the loan.

TWDB-0216
Revised 2/16/2012

	Column 1 Business Name & Point of Contact	Column 2 Business Address	Column 3 Telephone Number	Column 4 E-Mail Address	Column 5 Procurement Category	Column 6 MBE/WBE Status	Column 7 Solicitation Methods
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							

Use additional sheets if necessary

Signature - Applicant/Entity or Prime Contractor	Title	Certification Date
	President	4/19/17

III. TWDB APPROVAL SIGNATURE

Form meets DBE Requirements	Yes ☐ No ☐
DBE Coordinator	Approval Date

TWDB-0216

TEXAS WATER DEVELOPMENT BOARD
AFFIRMATIVE STEPS SOLICITATION REPORT

I. PROJECT INFORMATION

A. TWDB Project No.	B. Applicant/Entity Name	C. Total TWDB Funding Request	D. Program Type (insert "X" for all that apply)	
	City of Wimberley		☐	Drinking Water SRF (DWSRF)
			☑	Clean Water SRF (CWSRF)

Project Name: Wastewater Treatment Plant

Solicitation By: ☐ Applicant/Entity ☑ Prime Contractor: _____

Project Phase: ☐ Application ☐ Planning/Design ☐ Construction Contract # _____

II. PROJECT BIDDERS LIST:

Instructions Columns 1 - 4	List on this form, or provide on a separate list, each business entity solicited for procurement, the following: 1-Full business name & point of contact, 2-business address, 3-telephone number and 4-email for each business or firm. Entities must solicit to a **minimum of 3** business/firms for each type of contract sought (i.e. three engineering, financial advisor, and bond counsel firms) to demonstrate a **Good Faith Effort.**
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Instructions 6	Enter the type of business: **Minority Business Enterprise (MBE), Women-Owned Business Enterprise (WBE), or OTHER (NOTE! "OTHER" = Company or firm is Non-MBE or WBE)**
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Notice: Entities receiving federal SRF loans must create and maintain a bidder's list if the recipient of the loan is subject to competitive bidding requirements. The list must include all firms that bid or quote on subcontracts under EPA assisted projects, including both MBE/WBEs and non-MBE/WBEs. Entities must keep the bidders list until the project is complete, the project period has expired, and the recipient is no longer receiving EPA funding under the loan.

TWDB-0216
Revised 2/16/2012

	Column 1 Business Name & Point of Contact	Column 2 Business Address	Column 3 Telephone Number	Column 4 E-Mail Address	Column 5 Procurement Category	Column 6 MBE/WBE Status	Column 7 Solicitation Methods
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							

Use additional sheets if necessary

Signature - Applicant/Entity or Prime Contractor	Title	Certification Date

III. TWDB APPROVAL SIGNATURE

Form meets DBE Requirements	Yes ☐ No ☐
DBE Coordinator	Approval Date

TWDB-0217

TEXAS WATER DEVELOPMENT BOARD (TWDB)
AFFIRMATIVE STEPS CERTIFICATION and GOALS

I. PROJECT INFORMATION

A. TWDB Project No.	B. Applicant/Entity Name	C. Total TWDB Funding Request	D. Program Type (insert "X" for all that apply)	
	City of Wimberley		☐	Drinking Water SRF DWSRF)
			☑	Clean Water SRF (CWSRF)

Prime Contractor: Black Castle General Contractor

Contract Number: _____ **Contract Amount:** _____

II. GOOD FAITH EFFORT (Applicable to all sub-agreements awarded by the prime contractor)

I understand that it is my responsibility to comply with all state and federal regulations and guidance in the utilization of Minority and Women-Owned Businesses in procurement. I certify that I will make a "good faith effort" to afford opportunities for Minority Business Enterprise (MBE), and Women-Owned Business Enterprise (WBE) by:

1	Including qualified MBEs and WBEs on procurement solicitation lists
2	Soliciting potential MBE's and WBE's
3	Reducing contract size/quantities when economically feasible to permit maximum participation by MBE's and WBE's
4	Establishing delivery schedules to encourage participation by MBE's and WBE's
5	Using the services and assistance of the Small Business Administration, Minority Business Development Agency, U.S. Department of Commerce, and Texas Marketplace
6	Submitting documentation to the Texas Water Development Board to verify good faith effort, steps 1-5.
☐	EXCEPTION: As the Prime Contractor, I certify that I have reviewed the contract requirements and found no available subcontracting opportunities. I also certify that I will fulfill 100 percent of the contract requirements with my own employees & resources. (Check if applicable)

Signature – Consultant/Prime Contractor	Title	Certification Date
	President	4/19/17

III. PROJECT PARTICIPATION ESTIMATES

Total Procurement		Potential MBE Participation		Potential WBE Participation	
Cost Category	Total	Goal	Extension	Goal	Extension
Construction	$0.00	12.94%	$0.00	8.72%	$0.00
Equipment	$0.00	7.12%	$0.00	5.39%	$0.00
Supplies	$0.00	9.68%	$0.00	9.34%	$0.00
Services	$0.00	10.84%	$0.00	5.72%	$0.00
Total Procurement (must equal contract amount)	$ 0.00		$ 0.00		$ 0.00

The fair share goals listed above are required by 40 CFR Part 33 Subpart D and are directly negotiated with EPA Region 6. Entities receiving federal financial assistance are subject to the TWDB's goals and may not be substituted with other agency or program goals.

IV. TWDB APPROVAL SIGNATURE

Form Meets DBE Requirements	Yes ☐ No ☐
DBE Coordinator	Approval Date

TWDB-0373

TEXAS WATER DEVELOPMENT BOARD
LOAN/PRINCIPAL FORGIVENESS PARTICIPATION SUMMARY

I. PROJECT INFORMATION

A. TWDB Project No.	B. Applicant/Entity Name	C. Total TWDB Funding Request	D. Program Type (insert "X" for all that apply)	
	City of Wimberley		☐	Drinking Water SRF (DWSRF)
			☑	Clean Water SRF (CWSRF)

Project Name: Wastewater Treatment Plant

Solicitation By: ☑ Applicant/Entity ☐ Prime Contractor: Black Castle General Contractor

Project Phase: ☐ Loan Commitment/Closing ☐ Planning/Design ☐ Construction Contract # _____

II. LIST OF ACTUAL CONTRACTS/PROCUREMENTS

Instructions Column 1	Enter the full name, street address, city/state/zip for each firm awarded a contract for the project
Instructions Column 2	Enter one of the following procurement or contract categories: **CONSTRUCTION – SUPPLIES – EQUIPMENT – SERVICES**
Instructions Column 3	Enter the type of business: **Minority Business Enterprise (MBE), Women-Owned Business Enterprise (WBE), or OTHER (NOTE: "OTHER" = Company or firm is Non-MBE or WBE)**
Instructions Column 4	Enter the exact amount of the awarded contract
Instructions Column 5	Enter the exact date the contract was or will be executed
Instructions Column 6	Indicate if valid MBE/WBE Certification is attached

	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
	Name & Address of Contracted Firm/Vendor	Procurement Category	MBE/WBE Status	Actual Contract Awarded ($)	Contract Execution Date	MBE/WBE Certification Included? (Y/N) (if applicable)
1						☐ Yes ☐ No
2						☐ Yes ☐ No

TWDB-0373
Revised 2/16/2012

	Column 1 Name & Address of Contracted Firm/Vendor	Column 2 Procurement Category	Column 3 MBE/WBE Status	Column 4 Actual Contract Awarded ($)	Column 5 Contract Execution Date	Column 6 MBE/WBE Certification Included? (Y/N) (if applicable)
3						☐ Yes ☐ No
4						☐ Yes ☐ No
5						☐ Yes ☐ No
6						☐ Yes ☐ No
7						☐ Yes ☐ No
8						☐ Yes ☐ No
9						☐ Yes ☐ No

Signature - Applicant/Entity Representative	Title	Certification Date
	Manager	4/19/17

III. TWDB APPROVAL SIGNATURE

Form meets DBE Requirements	Yes ☐ No ☐
DBE Coordinator	Approval Date

TWDB-0373

TEXAS WATER DEVELOPMENT BOARD
LOAN/PRINCIPAL FORGIVENESS PARTICIPATION SUMMARY

I. PROJECT INFORMATION

A. TWDB Project No.	B. Applicant/Entity Name	C. Total TWDB Funding Request	D. Program Type (insert "X" for all that apply)	
	City of Wimberley		☐	Drinking Water SRF (DWSRF)
			☑	Clean Water SRF (CWSRF)

Project Name: Wastewater Treatment Plant

Solicitation By: ☐ Applicant/Entity ☑ Prime Contractor: _____

Project Phase: ☐ Loan Commitment/Closing ☐ Planning/Design ☑ Construction Contract # _____

II. LIST OF ACTUAL CONTRACTS/PROCUREMENTS

Instructions Column 1	Enter the full name, street address, city/state/zip for each firm awarded a contract for the project
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Instructions Column 3	Enter the type of business: **Minority Business Enterprise (MBE), Women-Owned Business Enterprise (WBE), or OTHER (NOTE: "OTHER" = Company or firm is Non-MBE or WBE)**
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Instructions Column 5	Enter the exact date the contract was or will be executed
Instructions Column 6	Indicate if valid MBE/WBE Certification is attached

	Column 1	**Column 2**	**Column 3**	**Column 4**	**Column 5**	**Column 6**
	Name & Address of Contracted Firm/Vendor	Procurement Category	MBE/WBE Status	Actual Contract Awarded ($)	Contract Execution Date	MBE/WBE Certification Included? (Y/N) (if applicable)
1						☐ Yes ☐ No
2						☐ Yes ☐ No

	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
	Name & Address of Contracted Firm/Vendor	Procurement Category	MBE/WBE Status	Actual Contract Awarded ($)	Contract Execution Date	MBE/WBE Certification Included? (Y/N) (if applicable)
3						☐ Yes ☐ No
4						☐ Yes ☐ No
5						☐ Yes ☐ No
6						☐ Yes ☐ No
7						☐ Yes ☐ No
8						☐ Yes ☐ No
9						☐ Yes ☐ No

Signature - Applicant/Entity Representative	Title	Certification Date

III. TWDB APPROVAL SIGNATURE

Form meets DBE Requirements	Yes ☐ No ☐
DBE Coordinator	Approval Date

TWDB-1106-A
Rev 09/16

Monthly American Iron and Steel Certificate

Compliance Submittal by Owner (Sub-Recipient)

TWDB Project No. _____
Loan/Grant No. _____

This executed certificate must be submitted with each Outlay report for iron and steel projects included within construction contracts.

I, Rodney A. Schwarzlose, President of RCGC hereby certify that all iron and steel products and/or materials incorporated into the construction, alteration, maintenance, or repair of the subject project are in full compliance with the American Iron and Steel requirements of Section 608 of the Federal Water Pollution Control Act for the Clean Water State Revolving Fund or P.L. 113-235, Consolidated and Further Continuing Appropriations Act 2015, for the Drinking Water State Revolving Fund, or comply with waivers granted by the U.S. Environmental Protection Agency.

(Name) (Title)

I understand that a false statement herein may subject me to penalties under federal and state laws relating to filing false statements and other relevant statutes.

Signature _____ **Date** 4/18/17

TWDB-1106-B
Revised: 09/09/2016

American Iron and Steel
de minimis log

Owner Name: City
Project Name: CID 01 - Project
TWDB SRF Number: #####
Contractor Name: Contractor

Total Project Cost: $130,000.00
Total Material Cost: $100,000.00

Item No.	Iron or Steel Product	Unit Cost	Quantity	Total Cost	% Material Cost (< 1%)	Cumulative Cost	% Material Cost (< 5%)
1	Steel Door	$400.00	1	$ 400.00	0.40%	$ 400.00	0.40%
2	Bolts	$100.00	1	$ 100.00	0.10%	$ 500.00	0.50%
3	Welding rods	$30.00	1	$ 30.00	0.03%	$ 530.00	0.53%
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							

DB-0154
Revised: 3/10/2016

Monthly Davis-Bacon Wage Rate Certificate of Compliance Submittal by Owner (Subrecipient)

TWDB Project No. _____

Loan/Grant No. _____

This executed certificate must be submitted with each Outlay report for labor included within construction contracts. This Certificate applies only for Financial Assistance CLOSED AFTER 10/30/2009.

I, Rodney Schwazlose (Name), President (Title) of Black Castle General Contractor (Name of entity) hereby certify that periodic reviews of a representative sample of the weekly payroll data, and contractor weekly payroll certifications, such as OMB No. 1235-0008, have been performed to verify that contractors and subcontractors are paying the appropriate wage rate for compliance with section 513 of the Federal Water Pollution Control Act (33 U.S.C. 1372) for the Clean Water State Revolving Fund or with section 1450(e) of the Safe Drinking Water Act (42 U.S.C.300j-9(e)) for the Drinking Water State Revolving Fund. These require compliance with 40 U.S.C. §§3141–3147 (contained within the Davis-Bacon Act, as amended) and conformance with the U.S. Department of Labor regulations at 29 CFR Part 5, (Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction) and 29 CFR Part 3 (Contractors and Subcontractors on Public Work Financed in Whole or in Part by Loans or Grants from the United States).

I understand that a false statement herein may subject me to penalties under federal and state laws relating to filing false statements and other relevant statutes.

Signature _____ Date 4/18/17

ASSURANCES - CONSTRUCTION PROGRAMS

OMB Number: 4040-0009
Expiration Date: 01/31/2019

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0042), Washington, DC 20503.

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.

NOTE: Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the Awarding Agency. Further, certain Federal assistance awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant:, I certify that the applicant:

1. Has the legal authority to apply for Federal assistance, and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project costs) to ensure proper planning, management and completion of project described in this application.

2. Will give the awarding agency, the Comptroller General of the United States and, if appropriate, the State, the right to examine all records, books, papers, or documents related to the assistance; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.

3. Will not dispose of, modify the use of, or change the terms of the real property title or other interest in the site and facilities without permission and instructions from the awarding agency. Will record the Federal awarding agency directives and will include a covenant in the title of real property acquired in whole or in part with Federal assistance funds to assure non-discrimination during the useful life of the project.

4. Will comply with the requirements of the assistance awarding agency with regard to the drafting, review and approval of construction plans and specifications.

5. Will provide and maintain competent and adequate engineering supervision at the construction site to ensure that the complete work conforms with the approved plans and specifications and will furnish progressive reports and such other information as may be required by the assistance awarding agency or State.

6. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.

7. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.

8. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards of merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).

9. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.

10. Will comply with all Federal statutes relating to non-discrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§1681 1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29) U.S.C. §794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. §§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee 3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statue(s) under which application for Federal assistance is being made; and (j) the requirements of any other nondiscrimination statue(s) which may apply to the application.

11. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal and federally-assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.

12. Will comply with the provisions of the Hatch Act (5 U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.

13. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§276a to 276a-7), the Copeland Act (40 U.S.C. §276c and 18 U.S.C. §874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§327-333) regarding labor standards for federally-assisted construction subagreements.

14. Will comply with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is $10,000 or more.

15. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§1451 et seq.); (f) conformity of Federal actions to State (Clean Air) implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. §§7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93-205).

16. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.

17. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. §470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§469a-1 et seq).

18. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."

19. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.

20. Will comply with the requirements of Section 106(g) of the Trafficking Victims Protection Act (TVPA) of 2000, as amended (22 U.S.C. 7104) which prohibits grant award recipients or a sub-recipient from (1) Engaging in severe forms of trafficking in persons during the period of time that the award is in effect (2) Procuring a commercial sex act during the period of time that the award is in effect or (3) Using forced labor in the performance of the award or subawards under the award.

SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL	TITLE
APPLICANT ORGANIZATION	DATE SUBMITTED

FORM CD-512
(REV 12-04)

U.S. DEPARTMENT OF COMMERCE

CERTIFICATION REGARDING LOBBYING
LOWER TIER COVERED TRANSACTIONS

Applicants should review the instructions for certification included in the regulations before completing this form. Signature on this form provides for compliance with certification requirements under 15 CFR Part 28, "New Restrictions on Lobbying."

LOBBYING

As required by Section 1352, Title 31 of the U.S. Code, and implemented at 15 CFR Part 28, for persons entering into a grant, cooperative agreement or contract over $100,000 or a loan or loan guarantee over $150,000 as defined at 15 CFR Part 28, Sections 28.105 and 28.110, the applicant certifies that to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure occurring on or before October 23, 1996, and of not less than $11,000 and not more than $110,000 for each such failure occurring after October 23, 1996.

Statement for Loan Guarantees and Loan Insurance

The undersigned states, to the best of his or her knowledge and belief, that:

In any funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this commitment providing for the United States to insure or guarantee a loan, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

Submission of this statement is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required statement shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure occurring on or before October 23, 1996, and of not less than $11,000 and not more than $110,000 for each such failure occurring after October 23, 1996.

As the duly authorized representative of the applicant, I hereby certify that the applicant will comply with the above applicable certification.

NAME OF APPLICANT	AWARD NUMBER AND/OR PROJECT NAME
Rhodes Schwarzlose	Pres. DEPT
PRINTED NAME AND TITLE OF AUTHORIZED REPRESENTATIVE	
SIGNATURE	DATE 4/19/17

EXHIBIT A

Bid Item No.	Item Description	Est. Qty.	Unit	Unit Price	Extended Amount
1	Package MBR Treatment Plant	1	LF	$ 2,308,700.00	$ 2,308,700.00
2	Effluent Transfer Pumps	2	LF	$ 13,700.00	$ 27,400.00
3	Irrigation System, including Controller and 31 zones (2" Pipe, 3" Pipe, Valves, Heads, etc.)	1	LF	$ 183,500.00	$ 183,500.00
4	Reclaimed Water Pumps	2	EA	$ 40,300.00	$ 80,600.00
5	Service Pipe 6" Dia. PVC Type (all depths), including Excavation and Backfill	800	LF	$ 116.00	$ 92,800.00
6	Valves, Gate Valve, 6" Dia.	3	EA	$ 1,100.00	$ 3,300.00
7	500,000 Gallon Reclaimed Water Storage Tank, Bolted Steel w/ Cone Roof	1	CF	$ 172,600.00	$ 172,600.00
8	Pipe 6" Dia. PVC Type (all depths), including Excavation and Backfill	1,800	LF	$ 106.00	$ 190,800.00
9	Trench Excavation Safety Protective Systems, (all depths over 5')	1,700	LF	$ 1.00	$ 1,700.00
10	Valves, Gate Valve, 6" Dia.	3	EA	$ 2,500.00	$ 7,500.00
	TOTAL BASE BID				**$ 3,068,900.00**

EXHIBIT A - WAGE RATES
TX160016

General Decision Number: TX160016 01/08/2016 TX16

Superseded General Decision Number: TX20150016

State: Texas

Construction Types: Heavy and Highway

Counties: Atascosa, Bandera, Bastrop, Bell, Bexar, Brazos, Burleson, Caldwell, Comal, Coryell, Guadalupe, Hays, Kendall, Lampasas, McLennan, Medina, Robertson, Travis, Williamson and Wilson Counties in Texas.

HEAVY (excluding tunnels and dams, not to be used for work on Sewage or Water Treatment Plants or Lift / Pump Stations in Bell, Coryell, McClennon and Williamson Counties) and HIGHWAY Construction Projects

Note: Under Executive Order (EO) 13658, an hourly minimum wage of $10.15 for calendar year 2016 applies to all contracts subject to the Davis-Bacon Act for which the solicitation was issued on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least $10.15 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2016. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/08/2016

* SUTX2011-006 08/03/2011

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER (Paving and Structures)	$ 12.56	
ELECTRICIAN	$ 26.35	
FORM BUILDER/FORM SETTER		
Paving & Curb	$ 12.94	
Structures	$ 12.87	
LABORER		
Asphalt Raker	$ 12.12	

EXHIBIT A - WAGE RATES
TX160016

Flagger.....$ 9.45
Laborer, Common.....$ 10.50
Laborer, Utility.....$ 12.27
Pipelayer.....$ 12.79
Work Zone Barricade
Servicer.....$ 11.85

PAINTER (Structures).....$ 18.34

POWER EQUIPMENT OPERATOR:
Agricultural Tractor.....$ 12.69
Asphalt Distributor.....$ 15.55
Asphalt Paving Machine.....$ 14.36
Boom Truck.....$ 18.36
Broom or Sweeper.....$ 11.04
Concrete Pavement
Finishing Machine.....$ 15.48
Crane, Hydraulic 80 tons
or less.....$ 18.36
Crane, Lattice Boom 80
tons or less.....$ 15.87
Crane, Lattice Boom over
80 tons.....$ 19.38
Crawler Tractor.....$ 15.67
Directional Drilling
Locator.....$ 11.67
Directional Drilling
Operator.....$ 17.24
Excavator 50,000 lbs or
Less.....$ 12.88
Excavator over 50,000 lbs...$ 17.71
Foundation Drill, Truck
Mounted.....$ 16.93
Front End Loader, 3 CY or
Less.....$ 13.04
Front End Loader, Over 3 CY.$ 13.21
Loader/Backhoe.....$ 14.12
Mechanic.....$ 17.10
Milling Machine.....$ 14.18
Motor Grader, Fine Grade....$ 18.51
Motor Grader, Rough.....$ 14.63
Pavement Marking Machine....$ 19.17
Reclaimer/Pulverizer.....$ 12.88
Roller, Asphalt.....$ 12.78
Roller, Other.....$ 10.50
Scraper.....$ 12.27
Spreader Box.....$ 14.04
Trenching Machine, Heavy....$ 18.48

Servicer.....$ 14.51

Steel Worker

EXHIBIT A - WAGE RATES
TX160016

Reinforcing.....$ 14.00
Structural.....$ 19.29

TRAFFIC SIGNAL INSTALLER
Traffic Signal/Light Pole
Worker.....$ 16.00

TRUCK DRIVER
Lowboy-Float.....$ 15.66
Off Road Hauler.....$ 11.88
Single Axle.....$ 11.79
Single or Tandem Axle Dump
Truck.....$ 11.68
Tandem Axle Tractor w/Semi
Trailer.....$ 12.81

WELDER.....$ 15.97

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

==========

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198

indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

EXHIBIT A - WAGE RATES
TX160016

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

EXHIBIT A - WAGE RATES
TX160016

4.) All decisions by the Administrative Review Board are final.

==========

END OF GENERAL DECISION

EXHIBIT A - WAGE RATES
TX160045

General Decision Number: TX160045 01/08/2016 TX45

Superseded General Decision Number: TX20150045

State: Texas

Construction Types: Heavy
PIPELINE - ON-SHORE PIPELINE CONSTRUCTION:

Counties: Texas Statewide.

PIPELINE - ON-SHORE CONSTRUCTION

Note: Under Executive Order (EO) 13658, an hourly minimum wage of $10.15 for calendar year 2016 applies to all contracts subject to the Davis-Bacon Act for which the solicitation was issued on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least $10.15 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2016. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/08/2016

SUTX1997-002 01/01/1997

	Rates	Fringes
Laborers:		
Drillers	$ 16.08	2.01
Hot Pay	$ 15.58	2.01
Jackhammermen	$ 15.58	2.01
Loaders	$ 16.08	2.01
Powderman, blasters & shooters	$ 16.58	2.01
Unskilled	$ 15.08	2.01
Pipefitter	$ 36.49	7.45
Power equipment operators:		
Group 1	$ 22.95	6.05
Group 2	$ 17.54	4.80
Group 3	$ 12.37	3.55
Truck drivers:		
Group 1	$ 18.82	a

EXHIBIT A - WAGE RATES
TX160045

Group 2	$ 18.82	a
Group 3	$ 16.81	a
Group 4	$ 16.04	a
Group 5	$ 15.71	a

FOOTNOTE
a - $2.52 PER HOUR PLUS $41.00 PER WEEK

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

TRUCK DRIVER CLASSIFICATIONS

GROUP 1 - Truck Mechanics

GROUP 2 - Lowboy, rollagon or similar type equipment

GROUP 3 - A-Frame, Gin pole, Tandem float (4 & 5 axle) , rubber- tired tractor, fork lift, winch truck, track truck equipment, stringing truck

GROUP 4 - Single axle float (3 axle), flat bed truck (3 axle) dump truck (3 axle), skid truck (3 axle), hot pass (2 axle), Flat bed truck (2 axle) dump truck (2 axle), skid truck (2 axle) water truck (2 axle), pick up, bus jeep, staion wagon, swamp buggy or similar type equipment.

GROUP 5 - Stringer bead & hot pass (2 axle, flat bed truck (2 axle), dump truck (2 axle), skid truck (2 axle), water truck (2 axle), pick-up, bus jeep, station wagon, swamp buggy or similar type equipment.

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1 - Backhoe, dragline, clam, crane, ditching machine, side booms (except those in
GROUP 2), mechanic, operator on dredges, bulldozer, cleaning machine, coating machine, back filler, motor grader, end loader (3 yd. & over), blending machine, wate-kote machine,equipment welder, track tractor

GROUP 2 - Pipe dream, gin truck or winch truck with poles when used for hoisting, side boom (cradling rock drill), tow tractor,, farm tractor, road boring machine, end loader (under 3 y.d), fork lift (industrial type), pot fireman (power agitated); straightening machine, boring machine, bombardier (track or tow rig), mobile lubrication & service engineer, hydrostatic testing operator, rollagon or similar type equipment

GROUP 3 Fuel man, oiler or swamper (on trenching machine or shovel- type equipment)

EXHIBIT A - WAGE RATES
TX160045

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

==========

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

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Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

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classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

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A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
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and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

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U.S. Department of Labor
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Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

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U.S. Department of Labor
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Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

==========

END OF GENERAL DECISION

EXHIBIT "B"

Article B-1 Workers' Compensation Insurance Coverage.

A. Definitions:

Certificate of coverage (certificate)--A copy of a certificate of insurance, a certificate of authority to self-insure issued by the commission, or a coverage agreement (TWCC-81, TWCC-82, TWCC-83, or TWCC-84), showing statutory workers' compensation insurance coverage for the person's or entity's employees providing services on a project, for the duration of the project.

Duration of the project--includes the time from the beginning of the work on the project until the CONTRACTOR's/person's work on the project has been completed and accepted by the governmental entity.

Persons providing services on the project (subcontractor in 406.096)--includes all persons or entities performing all or part of the services the CONTRACTOR has undertaken to perform on the project, regardless of whether that person contracted directly with the CONTRACTOR and regardless of whether that person has employees. This includes, without limitation, independent contractors, subcontractors, leasing companies, motor carriers, owner-operators, employees of any such entity, or employees of any entity which furnishes persons to provide services on the project. Services include, without limitation, providing, hauling, or delivering equipment or materials, or providing labor, transportation, or other services related to a project. Services do not include activities unrelated to the project, such as food/beverage vendors, office supply deliveries, and delivery of portable toilets.

B. The CONTRACTOR shall provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all employees of the CONTRACTOR providing services on the project, for the duration of the project.

C. The CONTRACTOR must provide a certificate of coverage to the governmental entity prior to being awarded the contract.

D. If the coverage period shown on the CONTRACTOR'S current certificate of coverage ends during the duration of the project, the CONTRACTOR must, prior to the end of the coverage period, file a new certificate of coverage with the governmental entity showing that coverage has been extended.

E. The CONTRACTOR shall obtain from each person providing services on a project, and provide to the governmental entity:

(1) a certificate of coverage, prior to that person beginning work on the project, so the governmental entity will have on file certificates of coverage showing coverage for all persons providing services on the project; and

(2) no later than seven days after receipt by the CONTRACTOR, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project.

F. The CONTRACTOR shall retain all required certificates of coverage for the duration of the project and for one year thereafter.

G. The CONTRACTOR shall notify the governmental entity in writing by certified mail or personal delivery, within 10 days after the CONTRACTOR knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project.

H. The CONTRACTOR shall post on each project site a notice, in the text, form and manner prescribed by the Texas Workers' Compensation Commission, informing all persons providing services on the project that they are required to be covered, and stating how a person may verify coverage and report lack of coverage.

I. The CONTRACTOR shall contractually require each person with whom it contracts to provide services on a project, to:

(1) provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all of its employees providing services on the project, for the duration of the project;

(2) provide to the CONTRACTOR, prior to that person beginning work on the project, a certificate of coverage showing that coverage is being provided for all employees of the person providing services on the project, for the duration of the project;

(3) provide to the CONTRACTOR, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project;

(4) obtain from each other person with whom it contracts, and provide to the CONTRACTOR:

(a) a certificate of coverage, prior to the other person beginning work on the project; and

(b) a new certificate of coverage showing extension of coverage, prior to the end of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the project;

(5) retain all required certificates of coverage on file for the duration of the project and for one year thereafter;

(6) notify the governmental entity in writing by certified mail or personal delivery, within 10 days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project; and

(7) contractually require each person with whom it contracts, to perform as required by paragraphs (1)-(7), with the certificates of coverage to be provided to the person for whom they are providing services.

J. By signing this contract or providing or causing to be provided a certificate of coverage, the CONTRACTOR is representing to the governmental entity that all employees of the CONTRACTOR who will provide services on the project will be covered by workers' compensation coverage for the duration of the project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the commission's Division of Self-Insurance Regulation. Providing false or misleading information may subject the CONTRACTOR to administrative penalties, criminal penalties, civil penalties, or other civil actions.

K. The CONTRACTOR's failure to comply with any of these provisions is a breach of contract by the CONTRACTOR which entitles the governmental entity to declare the contract void if the CONTRACTOR does not remedy the breach within ten days after receipt of notice of breach from the governmental entity.

Article B-2 Required Notice.

The CONTRACTOR shall post a notice on each project site informing all persons providing services on the project that they are required to be covered, and stating how a person may verify current coverage and report failure to provide coverage. This notice does not satisfy other posting requirements imposed by the Act or other commission rules. This notice must be printed with a title in at least 30 point bold type and text in at least 19 point normal type, and shall be in both English and Spanish and any other language common to the worker population. The text for the notices shall be the following text provided by the commission on the sample notice, without any additional words or changes:

REQUIRED WORKERS' COMPENSATION COVERAGE

The law requires that each person working on this site or providing services related to this construction project must be covered by workers' compensation insurance. This includes persons providing, hauling, or delivering equipment or materials, or providing labor or transportation or other service related to the project, regardless of the identity of their employer or status as an employee.

Call the Texas Workers' Compensation Commission at 512-440-3789 to receive information on the legal requirement for coverage, to verify whether your employer has provided the required coverage, or to report an employer's failure to provide coverage.

Article B-3 Required Contract Provision.

The CONTRACTOR shall include in all contracts to provide service on the project the following language:

By signing this contract or providing or causing to be provided a certificate of coverage, the person signing this contract is representing to the governmental entity that all employees of the person signing this contract who will provide services on the project will be covered by workers' compensation coverage for the duration of the project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the commission's Division of Self-Insurance Regulation. Providing false or misleading information may subject the contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions.

Article B-4 Applicability.

I. The coverage requirement in this Exhibit "B" does not apply to sole proprietors, partners, and corporate officers who meet the requirements of the Act, 406.097(c), and who are explicitly excluded from coverage in accordance with the Act, 406.097(a) (as added by House Bill 1089, 74th Legislature, 1995, 1.20). This subsection applies only to sole proprietors, partners, and corporate executive officers who are excluded from coverage in an insurance policy or certificate of authority to self-insure that is delivered, issued for delivery, or renewed on or after January 1, 1996.

II. The coverage requirement in this Exhibit "B" does not apply to motor carriers who are required pursuant to Texas Civil Statutes, Article 6675c, to register with the Texas Department of Transportation and who provide accidental insurance coverage pursuant to Texas Civil Statutes, Article 6675c, 4(j).

EXHIBIT C
SCOPE OF WORK

The Work to be performed under this City of Wimberley Wastewater System Improvements Project Contract, also known as the Wastewater Treatment Plant Project, includes, but is not limited to, constructing a new wastewater treatment plant and reclaimed water irrigation system including the Work described below and all related appurtenances. The Work shall be as follows:

1. Construction of a new wastewater treatment plant. New membrane bioreactor wastewater treatment plant with design capacity of 75,000 gallons per day to treat the influent from the new collection system mentioned above as well as wastewater flows from the existing Deer Creek nursing home. The new wastewater treatment plant will include equalization, nitrification-denitrification basins, MBR treatment, UV disinfection, odor control, and 500,000 gallons of reclaimed water storage.

2. Construction of a new reclaimed water system. System will include irrigation system for the Blue Hole Park recreational fields (approximately 12 acres). Reclaimed effluent from the wastewater treatment plant will be pumped to the adjacent fields in order to maintain grass and ornamental landscaping.

3. All components of the Work including, but not limited to, civil, mechanical, structural, electrical, and instrumentation components for the complete construction and placing into service of the specified and shown improvements.

EXHIBIT D
Geotechnical Data and Design Report

GEOTECHNICAL DATA AND DESIGN REPORT
WASTEWATER TREATMENT PLANT AND COLLECTION SYSTEM PROJECT
CITY OF WIMBERLEY
HAYS COUNTY, TEXAS

SUBMITTED TO
ALAN PLUMMER ASSOCIATES, INC.
6300 LA CALMA DRIVE, SUITE 400
AUSTIN, TEXAS 78752

BY
HVJ ASSOCIATES, INC.
SEPTEMBER 16, 2016

REPORT NO. AG 13 15260

HVJ ASSOCIATES

Houston
Austin
Dallas
San Antonio

4201 Freidrich Lane, Ste. 110
Austin, TX 78744-1045
512.447.9081 Ph
512.443.3442 Fax
www.hvj.com

September 16, 2016

Mr. Stephen Coonan, PE
Alan Plummer Associates, Inc.
6300 La Calma Drive, Suite 400
Austin, Texas 78752

Re: Wastewater Treatment Plant and Collection System Project
Geotechnical Design Report
Owner: City of Wimberley
HVJ Project No. AG 13 15260

Dear Stephen:

Submitted herein is the Geotechnical Data and Design Report for the above referenced project. This study was performed in accordance with our proposal number AG 13 15260 dated September 5, 2013.

It has been a pleasure to work for you on this project and we appreciate the opportunity to be of service. Please notify us if there are questions or if we may be of further assistance.

Sincerely,

HVJ ASSOCIATES, INC.
Texas Firm Registration No. F-000646

STATE OF TEXAS
ZACH LOOTENS
122315
LICENSED
PROFESSIONAL ENGINEER

9/16/2016

Zach Lootens, PE
Project Engineer – Geotechnical

Barry Miller, EIT, GIT
Staff Engineer

The seal appearing on this document was authorized by Zach Lootens, PE 122315 on September 16, 2016. Alterations of a sealed document without proper notification to the responsible engineer is an offense under the Texas Engineering Practice Act.

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I. EXECUTIVE SUMMARY

HVJ Associates, Inc. (HVJ) was retained by Alan Plummer Associates, Inc. to perform a geotechnical study for the Wimberley Wastewater Treatment Plant and Collection System project located in Hays County, Texas. The project includes installation of gravity sewer lines along with a lift station and force main to a new treatment plant. It is our understanding the proposed 6-inch/8-inch diameter wastewater gravity pipeline is approximately 12,430 ft in length, and the proposed 1.5-inch/6-inch force main is approximately 6,920 ft in length, and will be installed using open cut construction. A brief summary of the investigational findings and pertinent recommendations are as follows:

1. The invert depths of the proposed lines along the open cut segments range from 5 to 26 feet below existing grade. Trench excavation operations for this project will initially extend through surface materials in some locations (i.e. existing pavement section or fill) and then into the stiff to hard Fat Clay (CH) and Lean Clay with sand/gravel, and Clayey Sand (SC), Clayey Gravel (GC), and Limestone.

2. The pipes should be installed in a bedding envelope in accordance with City of San Marcos Standard Specifications Item 510s.

3. Trench backfill should conform to City of San Marcos Standard Specifications Item 510s.

4. Below is the bearing capacity in the various soil types encountered at this site.

Wastewater Line	Station Number	Approximate Bearing Depth (ft)	Soil Description	Allowable Bearing Pressure (psf)
A	1+00-10+00	15-20	Limestone	12,000
A	10+00-16+00	5-10	Loose to Dense Clayey Sand (SC)	5,000
A	16+00-31+91	10-15	Stiff to Hard Lean Clay (CL)	5,000
B	1+00-4+00	0-5	Stiff Lean Clay (CL)	4,000
B	4+00-10+50	5-10	Stiff to Hard Lean Clay (CL)	5,000
B	10+50-13+43	0-5	Limestone	10,000
C	1+00-8+63	5-10	Loose to Dense Clayey Sand (SC)	5,000
D	1+00-8+50 16+00-18+00	10-15	Loose to Dense Clayey Sand (SC)	5,000
D	11+00-16+00 18+00-26+49	0-5	Loose to Dense Clayey Sand (SC)	2,500
D	8+50-11+00	5-10	Loose to Dense Clayey Sand (SC)	5,000
E	1+00-4+00	10-15	Loose to Dense Clayey Sand (SC)	5,000
E	4+00-5+38	5-10	Loose to Dense Clayey Sand (SC)	5,000
F	1+00-3+63	5-10	Loose to Dense Clayey Sand (SC)	5,000

Wastewater Line	Station Number	Approximate Bearing Depth (ft)	Soil Description	Allowable Bearing Pressure (psf)
G	1+00-3+77	5-10	Loose to Dense Clayey Sand (SC)	5,000
G	3+77-4+22	0-5	Very Stiff Lean Clay (CL)	3,500
H	1+00-4+40	0-5	Very Stiff Lean Clay (CL)	3,500
I	1+00-3+00	0-5	Stiff to Hard Lean Clay (CL)	5,000
I	3+00-12+53	5-10	Loose to Dense Clayey Sand (SC)	5,000
J	1+00-2+00	5-10	Stiff Fat Clay (CH)	5,000
J	2+00-6+00	5-10	Limestone	10,000
J	6+00-8+00 12+00-14+00	10-15	Limestone	12,000
J	8+00-12+00	15-20	Limestone	12,000
J	14+00-15+55	5-10	Loose to Dense Clayey Sand (SC)	5,000
K	1+00-4+00	5-10	Loose to Dense Clayey Sand (SC)	5,000
K	4+00-9+92	0-5	Stiff Fat Clay (CH)	3,500
FM-A	1+00-10+00 23+50-41+50	5	Loose to Dense Clayey Sand (SC)	2,500
FM-A	10+00-23+50 41+50-58+90	5	Limestone	10,000
FM-B	1+00-10+30	5	Loose to Dense Clayey Sand (SC)	2,500

5. It is assumed that trench backfill will consist of the excavated soils. If borrow material is necessary, it is recommended that either Class A or Class B borrow material, as defined in City of San Marcos Standard Specification 130S.3 be used. Design lateral pressures may be calculated for each of the recommended backfill types using the following equivalent fluid weights:

Backfill Type	Assumed Moist Unit Weight, (pcf)	Equivalent Fluid Weight, (pcf)	
		Above Water Table	Below Water Table
Class A (< 15% fines)	120	60	91
Class B (PI < 20)	120	65	94
Excavated Soils	120	69	96

6. Trench excavation will extend through surface soils and limestone. Trenches through limestone may require an excavator with a hoe ram and potentially a rocksaw/trencher.

Please note that this executive summary does not fully relate our findings and opinions. Those findings and opinions are only presented though our full report.

1. INTRODUCTION

1.1 General

HVJ Associates, Inc. (HVJ) was retained by Alan Plummer Associates, Inc. to perform a geotechnical study for the Wimberley Wastewater Treatment Plant and Collection System project located in Hays County, Texas. The project includes installation of gravity sewer lines along with a lift station and force main to a new treatment plant. It is our understanding the proposed 6-inch/8-inch diameter wastewater gravity pipeline is approximately 12,430 ft in length, and the proposed 1.5-inch/6-inch force main is approximately 6,920 ft in length, and will be installed using open cut construction. The project limits are shown on the Site Vicinity Map, Plate 1.

1.2 Scope of Work

The primary objective of this study was to gather information on surface and subsurface conditions at certain locations within the area of the proposed project. This objective was accomplished by:

- Task 1: Exploratory Borings

  Drilling 20 borings to depths ranging from 10-30 feet for the gravity wastewater lines, lift station, and treatment plant.

- Task 2: Laboratory Testing

  Performing laboratory tests on select soil samples to determine the physical and engineering properties of the subsurface materials.

- Task 3: Engineering Analyses

  Performing engineering analyses to aid in the design of the wastewater treatment plant, lift station, and lines; and to provide pertinent geotechnical recommendations and construction considerations for the project.

Subsequent sections of this report contain descriptions of the field exploration, laboratory testing program, subsurface conditions, and design recommendations.

2 FIELD EXPLORATION

2.1 General

Subsurface conditions along the project alignment were evaluated by drilling and sampling a total of 20 borings, 3 to a termination depth of 10 feet, 10 to a termination depth of 15 feet, 6 to a termination depth of 20 feet, and one to a termination depth of 30 feet below existing grade.

Drilling operations for the field exploration program were performed between June 17 and June 21, 2016. The borings were advanced using a truck mounted drill rig equipped with dry auger drilling equipment as well as sampling equipment including rock coring. The boring locations are shown on

the Plan of Borings, Plates 3A-3B. The following Table 2-1, below, provides the boring information. WW-16 was planned but was not drilled due to right of entry access issues to the property.

Table 2-1 – Boring Information

Boring No.	Date Drilled	Termination Depth (ft)	Northing	Easting	Elevation (ft)
LS-1	6/21/2016	30	13910286	2256624	836
P-1	6/21/2016	15	13913668	2258627	918
P-2	6/21/2016	15	13913709	2258579	916
P-3	6/21/2016	15	13913732	2258595	915
WW-1	6/17/2016	20	13910851	2256372	861
WW-2	6/17/2016	20	13911546	2256293	877
WW-3	6/17/2016	15	13912491	2256480	880
WW-4	6/21/2016	15	13909657	2255720	830
WW-5	6/20/2016	15	13910534	2255914	856
WW-6	6/20/2016	15	13911158	2255218	867
WW-7	6/20/2016	10	13910536	2255292	865
WW-8	6/21/2016	10	13910804	2255053	861
WW-9	6/21/2016	20	13910957	2254551	853
WW-10	6/20/2016	15	13909552	2254797	839
WW-11	6/20/2016	15	13910127	2254792	851
WW-12	6/20/2016	10	13910408	2254593	855
WW-13	6/17/2016	20	13910680	2254366	854
WW-14	6/20/2016	20	13909753	2254360	841
WW-15	6/21/2016	15	13910168	2254411	848
WW-17	6/21/2016	20	13910480	2254087	846

Note: Borings were not professionally surveyed and were taken from handheld GPS device. Coordinates are based on the Texas State Plane Coordinate System, South Central Zone, NAD 83(93). Elevations are based on Google Earth 2016. Units: Survey Feet.

2.2 Sampling Methods

Fine grained, cohesive soils encountered were sampled using a 3-inch diameter thin-walled tube, which was pushed into the soil in general accordance with ASTM standard D 1587- *Thin Walled Tube Sampling of Soils.* The samples were extruded in the field and a calibrated pocket penetrometer was used to obtain an estimate of the unconfined compressive strength of the sample.

Standard Penetration Tests (SPTs) were conducted in cohesionless soils. The SPT's were performed in general accordance with ASTM D 1586 – *Penetration Test and Split-Barrel Sampling of Soils.* This procedure consisted of driving a standardized 1-5/8 inch diameter split-spoon sampler into undisturbed soil with a 140-pound hammer falling 30 inches. The split-spoon sampler was first seated 6 inches to penetrate any loose cuttings and was then driven an additional 12 inches with blows from the hammer. The number of hammer blows required to drive the sampler each 6-inch increment was recorded. The penetration resistance, or "N-value", is defined as the number of hammer blows required to drive the sampler the final 12 inches and was used in the field to estimate the consistency of the soil.

Continuous rock core samples were collected within rock materials. The coring method employed consisted of a conventional NX core barrel with an inside diameter of 2 inches and length of 5 feet and air was used as the drilling fluid to promote coring. Percent recovery (REC) and the Rock Quality Designation (RQD) were recorded for each 5 foot run. The REC value was obtained by dividing the total length of core recovered by the total length of the core run. The RQD value was obtained by dividing the total length of sound core pieces with a minimum length of 4 inches by the total length of the core run. The core samples were visually identified for rock type and features and properly documented on field logs, including REC and RQD values. The samples were then secured in boxes and transported to our laboratory for further examination and testing.

Classification and field test results for both the thin-walled tube and split-spoon samples were recorded onto field logs, which included a visual description in accordance with ASTM D 2488 – *Visual Description and Identification of Soils*. After field documentation and logging was complete, the individual soil samples were either wrapped in plastic or placed in sealed containers to prevent loss of moisture and were transported to our laboratory for further examination and testing.

2.3 Borehole Completion

The borings were backfilled with soil cuttings and bentonite chips to match the existing subgrade conditions. The pavement surface was backfilled with single lift of cold mix asphalt to match the existing grade where applicable.

3 FIELD AND LABORATORY TESTING

3.1 General

Soil samples transported to our laboratory were further examined and described and a preliminary soil classification was assigned to each soil sample based on ASTM D 2487 – *Classification of Soil for Engineering Purposes.*

Classification testing, which included moisture contents, Atterberg limits, and percent passing the No. 200 sieve, was subsequently conducted on select samples. In addition, unconfined compressive strength tests with wet and dry unit weight determinations were performed on select samples of soil and rock. All testing was performed in accordance with the relevant ASTM and TxDOT Standards as required. The results of these tests were used to confirm or modify the preliminary soil classifications.

The sampling information obtained in the field was used in conjunction with the laboratory examination and testing to generate final boring logs, provided in Plates 4-23. A Key of Terms and Symbols for the boring logs is provided on Plates 24A and 24B. The laboratory test results are provided on the borings logs as well as in the Laboratory Tests Results Summary, Appendix A.

3.2 Atterberg Limits

Select samples were tested to determine the Atterberg Limits of the selected samples in accordance with ASTM D 4318-10. The Atterberg Limit test is used to classify the soil using the Unified Soil Classification System (USCS). The Atterberg Limit test consists of two parts: a liquid limit test and a plastic limit test. The liquid limit equipment setup consists of a brass cup partially filled with soil,

grooved with a specialized grooving tool, and then dropped freely from a specified height to the rubber base below at a constant rate of 2 drops per second. The liquid limit test is performed on soil that has been sieved through the No. 40 sieve and brought to a moisture content that would close the ½-inch groove within 20 to 30 blows for two consecutive tests. The moisture content of the soil is then measured and recorded as the liquid limit. The second part of the test consists of rolling a remolded sample between the tips of the fingers and a glass plate until transverse cracks appear at a rolled diameter of 1/8-inch. The moisture content of the rolled sample is taken and recorded as the plastic limit.

3.3 Moisture Content

Moisture content testing was performed on select soil samples to determine the in situ state of moisture. Fresh samples are weighed before being placed in an oven with a controlled temperature of 230°F and dried back to a constant mass. Upon the drying and reweighing of the sample, the total mass of water lost was recorded. The ratio of the water lost to the dried mass is recorded as the moisture content. This test was performed in accordance with ASTM D 2216-10.

3.4 Percent Passing the No. 200 Sieve

In accordance with ASTM D 1140-00, a soil specimen is washed over a 75-μm (No. 200) sieve, removing silt, clay and other water soluble materials. The loss in mass resulting from the washing process is calculated as mass percent of the original sample and is reported as the percentage of material finer than a 75-μm (No. 200) sieve. The results are used in conjunction with the Atterberg Limits determination to classify the soil using the Unified Soil Classification System (USCS).

3.5 Unconfined Compressive Strength Testing

Select cohesive soil samples were tested for unconfined compressive strength in accordance with ASTM D 2166-06. The intact specimen is placed in a loading device and is subjected to a load producing an axial strain at a rate between ½% and 2% per minute. The load is applied until failure occurs at the maximum rate of strain. The maximum axial strain is then used to calculate the soil's unconfined compressive strength.

Select intact rock core samples were tested following procedure from ASTM D7012-10 to determine unconfined compressive strength. The sample is loaded until failure at a strain rate as constant as feasible. The unconfined compressive strength is taken as the compressive stress in the sample at failure.

3.6 Pocket Penetrometer Testing

A calibrated spring-loaded rod (1/4-inch diameter) is pushed into soil to a penetration of 6 mm and the gauge read for unconfined compressive strength (= twice the undrained shear strength) in tons per square foot (tsf). Penetration is limited to soils with unconfined compressive strength less than and equal to 4.5 tsf. Data are representative for soils with Plasticity Index (PI) greater than 12. Below this value, the angle of internal friction of granular particles increases strength to more than the measured value of the undrained shear strength.

4 SITE CHARACTERIZATION

4.1 General Geology

Wimberley, Texas is bounded by the Edwards Plateau to the west and the Gulf Coastal Plains to the east and southeast. These physiographic provinces are separated by the Balcones Fault Zone (BFZ), a belt of inactive faults, which trends generally southwest to northeast through central Texas. An existing fault is located on the western edge of the project site trending in a SW to NE direction. The project site is located west of the BFZ. Based on review of available geological information[1], and the field exploration program, the project alignment lies within an area characterized by Terrace Deposits (Qt) and Upper Glen Rose Formation (Kgru) as shown on the Geology Map, Plate 2.

Terrace Deposits (Qt) along streams consist of three or more levels which consist of gravel, sand, silt, and clay in various proportions with gravel more prominent in the older, higher terraces.

The Glen Rose Formation (Kgr) was formed from Lower Cretaceous deposits in shallow subtidal to supratidal environments. In the project area, the Glen Rose Limestone has been divided by a bed of *Corbula harveyi* that is up to 5 feet thick, hence the nomenclature Kgr(u) for the upper portion and Kgr(l) for the lower portion. The project area is located within the upper portion of the Glen Rose Limestone. The Glen Rose Limestone is composed of limestone, dolomite, and marl in alternating resistant and recessive beds. The limestone can be light gray to yellowish gray, aphanitic to fine-grained, hard to soft and marly. The dolomite tends to be yellowish brown, fine-grained and porous. The upper part is relatively thinner bedded, more dolomitic, and less fossiliferous than the lower part which is more massive. The thickness of the upper part is about 220 feet, while the lower part is about 160 feet. Locally the formation is known for the stair step topography, and the alternating hard/soft seams.

4.2 Stratigraphy

Our interpretation of soil and groundwater conditions at the project site is based on information obtained at the boring locations only. This information has been used as the basis for our conclusions and recommendations. Significant variations at areas not explored by the project borings may require reevaluation of our findings and conclusions. Subsurface soil and rock encountered at the project site are discussed below.

The general stratigraphy consists of terrace deposits overlying limestone. Thicker terrace deposits occur closer to Cypress Creek and taper off to the east, having little to no thickness at the site of the proposed treatment plant. The terrace deposits were encountered in most borings and extended to the termination depth of most borings located near the bend of Cypress Creek near downtown Wimberley. Terrace deposits were made up of very stiff to hard Lean Clay (CL) and Fat Clay (CH) with various amounts of sand and gravel, along with dense Clayey Sand (SC) and Clayey Gravel (GC). Some thin layers of fill were also identified across the project, but were typically less than 3 feet in thickness and were composed of similar soils to the terrace deposits. There was a large degree of variation in the degree of weathering and fracturing in the limestone across they site; however, this is typical since the properties of the resistant and recessive limestone beds in the Glen Rose limestone are very contrasting.

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[1] Geologic Atlas of Texas, Seguin Sheet (University of Texas Bureau of Economic Geology, 1974).

Detailed descriptions of the materials encountered in the borings are displayed on the final boring logs presented in Plates 4-23. A summary of the laboratory test statistics for each previously described layer is summarized below in Table 4-1.

Table 4-1: Laboratory Testing Statistics by Strata

Laboratory Test	Average	Maximum	Minimum	Std. Dev.	No. Tested
Terrace Deposits					
Moisture Content (%)	12.2	36.6	2.7	6.9	44
Liquid Limit (%)	35	84	14	15.3	35
Plasticity Index (%)	19	58	3	13.8	35
% Passing No. 200 Sieve	46	80	13	19.9	35
Wet Unit Weight (pcf)	123	136	113	6.6	9
Uniaxial Compressive Strength (tsf)	4.8	11.7	1.6	3.7	9
Glen Rose Formation					
Moisture Content (%)	8.0	10.5	6.1	1.3	18
Wet Unit Weight (pcf)	147	153	141	3.2	18
Uniaxial Compressive Strength (tsf)	121.5	204.6	47.4	38.4	18

5 FOUNDATION DESIGN CONSIDERATIONS – PLANT SITE

5.1 Introduction

The design plans are currently in production and upon completion, HVJ should review the plans to verify the recommendations. It is, however, understood that the proposed 500,000 gallon above-ground storage tank will have a concrete ring wall and the package plant will be shallow foundation, likely reinforced slab on grade.

Three borings were drilled where the proposed plant is to be located. P-2 and P-3 encountered limestone at the surface. P-1 encountered limestone at a depth of 3 feet. It is recommended that any overburden or topsoil be removed so the foundation may be place directly on the highly weathered to moderately weathered limestone. A mud-slab (thin layer of non-reinforced concrete) should be used to create a stable working platform for construction, and to prevent large moisture content changes within the subgrade.

5.2 Allowable Bearing Capacity and Reaction Modulus

A net allowable bearing capacity of 15,000 pounds per square foot can be used for the mat foundation design on moderately weathered or slightly weathered limestone. The mat foundation may be designed as a semi-flexible component. In this case, a subgrade reaction modulus (k) may be required for the structural design analysis. Based on the encountered subgrade material, a reaction modulus value of 300 pounds per cubic inch is recommended.

5.3 Settlement

No significant settlement (greater than 1-inch) is expected to occur after the placement and filling of the storage tank or package plant. The differential settlement of the proposed structure is also

expected to be within tolerable limits, so long as the topsoil is removed, and the entire structure is supported on bedrock.

6. DESIGN RECOMMENDATIONS

6.1 General

HVJ understands that the City of Wimberley uses the City of San Marcos Standard Specifications, which are the City of Austin Standard Specifications with some modifications. Thus, design recommendations will reference these modified standard specifications as "City of San Marcos Standard Specifications". Based on recent information provided by Alan Plummer Associates, Inc., the following lines planned for this project are listed in Table 6-1, Wastewater Line Details, below. A plan showing the locations of each line can be found in Appendix B.

Table 6-1: Wastewater Line Details

Line ID	Station (begin, end)	Invert Depth (ft)	Diameter (in)
A	1+00 to 31+08	11-26	8
B	1+00 to 13+43	6.5-14.5	6, 8
C	1+00 to 8+63	15-17	8
D	1+00 to 26+49	6-16	6, 8
E	1+00 to 5+38	5.5-13.5	8
F	1+00 to 3+63	6.5	6
G	1+00 to 4+22	5-6	6
H	1+00 to 4+40	5.5	6
I	1+00 to 12+53	6-10	6
J	1+00 to 15+55	5-17	6
K	1+00 to 9+92	6-9	6
FM-A	1+00 to 58+90	5-15	6
FM-B	1+00 to 10+30	5	6

Line details provided by Alan Plummer Associates, Inc., Wimberley Wastewater System; provided to HVJ on July 5, 2016.

6.2 Pipe Bedding

The pipes should be installed in a bedding envelope in accordance with City of San Marcos Standard Specifications Item 510s. Based on plans provided by Alan Plummer Associates, Inc., the wastewater lines will be PVC with 2" to 12" diameter. As per City of San Marcos Standard Specifications Item 510s, all pipes 2" to 12" in diameter shall have a bedding envelope consisting of ASTM C33 Size No. 67 material. The bedding envelope should extend the full trench width, to a depth of 6 inches below the pipe and rise at least 12 inches above the pipe. The bedding should be placed in lifts not exceeding 8 inches in loose thickness and compacted thoroughly to provide uniform support of the pipe barrel and to fill all voids around the pipe.

Item 510.3(14)c requires that the bedding material must be compatible with the materials in the trench bottom, walls, and backfill so that particle migration from, into, or through the bedding is minimized. Under the action of hydraulic gradient from groundwater flow, smaller particles may

migrate into coarse materials or voids. Based on the project borings, the pipes will lie in limestone, cohesive soil such as Fat Clay (CH), and Lean Clay (CL). It is our opinion that particle migration will not be a problem for all areas that encounter cohesive fat clay soil or limestone rock. For pipe bedding that will extend into Clayey Sand (SC) or Clayey Gravel (GC), which had 13 to 30% fines, or other cohesionless soil, it is recommend that water stops in conjunction with filter fabric, or flowable fill, be used to minimize the potential for particle migration. Borings that encountered these soils will be encountered are WW-2, WW-3, and WW-9. It should also be noted that where groundwater is present, sand alone is not permitted as bedding material as per Item 510.3(14)(c)(1).

6.3 Water Stops

Large changes in elevation allow migrating water to develop extreme head pressure in the pipe bedding material. Excessive head pressure accelerates particle migration and causes failure in asphalt and base due to large hydrostatic pressures. To help minimize the hydrostatic pressure and particle migration, HVJ recommends water stops be constructed in the trench. Water stops should be installed with elevation changes of 15 feet, when grades exceed 3%, or whenever sudden elevation changes occur. Unusual changes in soil stratigraphy such as sandy layers and highly fractured rock layers may warrant additional water stops. Water stops typically consist of a 24-in minimum section of concrete, bentonite clay, or controlled low strength concrete material. Water stops should extend a minimum of 12 inches above the pipe bedding and penetrate trench walls a minimum of 18 inches on all sides.

Controlled low strength concrete material when used around closely spaced valve boxes (500 feet or less) can limit the number of water stops necessary. The material must extend at least to each edge of the undisturbed soil. In addition, it must surround the entire manhole, meaning the material should be placed under and around the inlet and outlet. Wherever shallow groundwater near the invert depth is encountered, closely spaced water stops may be necessary to reduce hydrostatic head pressure.

6.4 Trench Backfill

Trench backfill should conform to City of San Marcos Standard Specifications Item 510s. HVJ would like to note that Item 510 is somewhat inconsistent in relation to the use of cohesive backfill soils with a plasticity index (PI) greater than 20. Item 510.2(25)c allows select trench material among other materials. Item 510.2(6) defines select backfill or borrow as a soil free of stone or rocks in excess of 8 inches with a plasticity index of less than 20, among other characteristics. This would prohibit material with a PI greater than 20 to be used as backfill and necessitate removal and replacement of the materials.

However, HVJ understands it is common practice to use the material excavated from the trench as backfill regardless of the plasticity index of the soil excavated from the trench. Item 510.3(25)d presents compaction requirements for swelling soil defined as soil with a PI greater than 20; therefore, the specification does provide for the use of such material to some extent. HVJ suggests that special provisions to Item 510 be provided to clarify this inconsistency. A special provision to Item 510.2(6) should be included to allow the use of soil with a PI greater than 20 as trench backfill so the specifications match standard practice. The trench backfill should be compacted to 95% of the maximum dry density in the areas below pavement or 95% of the maximum dry density at other areas, as determined by TxDOT Test Method Tex-114-E. Special emphasis should be placed upon

the need to obtain uniform density throughout the backfill material. In addition, no heavy equipment, which might damage the pipe, should be allowed over the pipe until sufficient cover has been placed and compacted. At existing pipe crossings, flowable fill (or Controlled Low Strength Material (CLSM) conforming to City of San Marcos Standard Specifications Item 402S) should be used for trench backfill or where utilizing compaction equipment is impractical.

HVJ also suggests that a special provision to Item 510.3(25)d requiring a loose lift thickness for higher PI soils (i.e. greater than 20) be limited to a maximum of 8 inches. We further recommend the moisture content at the time of compaction be between optimum and 2 percent over optimum, as determined by the referenced test method. This should provide for better compaction of higher plasticity backfill. In addition, the maximum dry density should be limited to 102% for materials with a PI over 20.

6.5 Manholes, Valve Boxes, and Lift Station

The following sections discuss bearing capacity, uplift, and lateral earth pressure design criteria for manholes, valve boxes, and the lift station, which will be constructed by open-cut excavation methods.

Bearing Capacity

Based on the plans provided by Alan Plummer Associates, Inc., some manholes along Wastewater Lines A, D, I, and J will be embedded in limestone while manholes along Wastewater Lines A, B, C, D, E, F, G, H, I, and K will be installed at depths varying from 4 to 18 feet below existing grade and the bearing strata for these structures will be Fat Clay (CH), Lean Clay (CL), or Clayey Sand (SC).

Allowable bearing capacities along the wastewater alignment assuming a safety factor of 3 are presented in the following Table 6-2. These design parameters are based on field and laboratory test data obtained from the boring locations at this site and at the approximate invert depth only. The lift station will be constructed at the end of Wastewater Line A at station 1+00, and will have an allowable bearing capacity of 12 ksf.

It is understood that the forced main lines will have a bearing depth of 5 feet below the surface and a depth of 15 feet where the line crosses the creek. As previously mentioned, soils decrease in thickness to the east. Borings indicate that the forced main line will be bearing in Clayey Sand (SC) at the location of WW-3 and will be in limestone near the treatment plant. Due to sparse subsurface data in the northeastern portion of the project area along the forced main line, it is unknown where the transition from soil to rock will occur and the stations in Table 6-2 for the forced main lines (FM-A and FM-B) are approximate locations. During construction, if the lines will be bearing in Clayey Sand (SC) or Lean Clay (CL) at a depth of 5 feet, a bearing capacity of 2,500 psf should be used. If the lines will be bearing on limestone, a bearing capacity of 10,000 psf may be used.

Table 6-2: Allowable Bearing Capacity

Wastewater Line	Station Number	Approximate Bearing Depth (ft)	Soil Description	Allowable Bearing Pressure (psf)
A	1+00-10+00	15-20	Limestone	12,000
A	10+00-16+00	5-10	Loose to Dense Clayey Sand (SC)	5,000
A	16+00-31+91	10-15	Stiff to Hard Lean Clay (CL)	5,000
B	1+00-4+00	0-5	Stiff Lean Clay (CL)	4,000
B	4+00-10+50	5-10	Stiff to Hard Lean Clay (CL)	5,000
B	10+50-13+43	0-5	Limestone	10,000
C	1+00-8+63	5-10	Loose to Dense Clayey Sand (SC)	5,000
D	1+00-8+50 16+00-18+00	10-15	Loose to Dense Clayey Sand (SC)	5,000
D	11+00-16+00 18+00-26+49	0-5	Loose to Dense Clayey Sand (SC)	2,500
D	8+50-11+00	5-10	Loose to Dense Clayey Sand (SC)	5,000
E	1+00-4+00	10-15	Loose to Dense Clayey Sand (SC)	5,000
E	4+00-5+38	5-10	Loose to Dense Clayey Sand (SC)	5,000
F	1+00-3+63	5-10	Loose to Dense Clayey Sand (SC)	5,000
G	1+00-3+77	5-10	Loose to Dense Clayey Sand (SC)	5,000
G	3+77-4+22	0-5	Very Stiff Lean Clay (CL)	3,500
H	1+00-4+40	0-5	Very Stiff Lean Clay (CL)	3,500
I	1+00-3+00	0-5	Stiff to Hard Lean Clay (CL)	5,000
I	3+00-12+53	5-10	Loose to Dense Clayey Sand (SC)	5,000
J	1+00-2+00	5-10	Stiff Fat Clay (CH)	5,000
J	2+00-6+00	5-10	Limestone	10,000
J	6+00-8+00 12+00-14+00	10-15	Limestone	12,000
J	8+00-12+00	15-20	Limestone	12,000
J	14+00-15+55	5-10	Loose to Dense Clayey Sand (SC)	5,000
K	1+00-4+00	5-10	Loose to Dense Clayey Sand (SC)	5,000
K	4+00-9+92	0-5	Stiff Fat Clay (CH)	3,500
FM-A	1+00-10+00 23+50-41+50	5	Loose to Dense Clayey Sand (SC)	2,500
FM-A	10+00-23+50 41+50-58+90	5	Limestone	10,000
FM-B	1+00-10+30	5	Loose to Dense Clayey Sand (SC)	2,500

Uplift

Groundwater was not encountered in any of the exploratory borings; however, groundwater levels can vary seasonally. In consideration of the field data and our experience, the manholes at times may be fully submerged or nearly fully submerged as a result of an elevated short term groundwater table or even possibly from the buildup of water within backfill materials around these structures. For design purposes, it is recommended to use a groundwater level consistent with the ground surface. Since buoyant uplift pressure is a function of the depth to groundwater, the largest uplift pressure will occur when the groundwater is at the ground surface.

HVJ recommends the manholes be designed to resist the buoyant uplift based on the dead weight of the structure, the weight of any soil backfilled above the structure, and the interface friction between the backfill material and the outside surface of the sides of the manhole. If the resisting forces are inadequate to resist uplift forces, a toe may be constructed into the soil at the base of the structure. Construction of a toe is appropriate when open-cut excavation methods are used. The toe may consist of a bottom slab that extends into adjacent backfill. The weight of the material above the extension can then be relied upon to resist the uplift forces. The unit weight of soils above and below the water table for a compacted backfill can be approximated as 120 and 58 pcf, respectively. Table 6-3, below, can be used to approximate the resisting force acting on the manhole from interface friction. The resisting force can be calculated by multiplying the friction values in the table by the surface area of the outside surface on the sides of the manhole or valve box. These values are applicable for Class A or Class B materials, as recommended in the Lateral Earth Pressures Section below.

Table 6-3: Uplift Resistance from Interface Friction

Depth Below Surface, ft	Uplift Resistance Friction*, psf
0-5	18
5-10	54
10-15	90
15-20	126

*Uplift resistance friction represents ultimate values. Approximate safety factors (generally at least 2.5) should be applied when utilizing this table.

Lateral Earth Pressures

The backfill will exert lateral pressures on the exterior walls of the manholes and valve boxes. The magnitude of the pressure distribution will depend on the type of backfill and the construction technique. If the construction method encompasses backfilling along the exterior walls of the underground structure, then the lateral earth pressures become a function of the type of backfill and its method of placement.

Utilizing highly plastic, expansive clay as backfill will produce the highest lateral earth pressures on the exterior walls of the structure. For this reason, it is advised to avoid using highly plastic clays, e.g. Fat Clay (CH), as backfill material. Instead, it is recommended that either Class A or Class B borrow material, as defined City of San Marcos Standard Specification 130S.3 be used. It is further

recommended that the Class A borrow contain less than 15% fines and the Class B material have a plastic index less than 20, and in both cases free of debris, vegetation, and clay lumps or balls greater than 4 inches in diameter.

Backfill materials should be placed in loose lifts not exceeding 8 inches and compacted to 95% of the maximum dry density as defined by Test Method Tex-113-E. Over-compaction of the backfill should be avoided to prevent an increase in lateral earth pressures on the walls of the structure. Compaction conducted within four feet of the structure should be performed with a manually propelled compactor (weighing less than 500 pounds) to reduce lateral pressure applied to the wall. Fill in this zone should be placed in six-inch loose lifts and compacted as described above.

The compacted backfill around the valve structures and manholes will impose at rest lateral earth pressures against the exterior walls of the structure. Design lateral pressures may be calculated for each of the recommended backfill types using the following equivalent fluid weights:

Table 6-4: Equivalent Fluid Density per Backfill Type

Backfill Type	Assumed Moist Unit Weight, (pcf)	Equivalent Fluid Weight, (pcf)	
		Above Water Table	Below Water Table
Class A (< 15% fines)	120	60	91
Class B (PI < 20)	120	65	94
Excavated Soils	120	69	96

The effects of traffic or general surcharge loads can be treated as an additional two feet of equivalent fluid extending above the top of the structure. The above equivalent fluid densities include backfill material both above and below the water table.

7. OTHER CONSIDERATIONS

7.1 Trench Excavation

Trench excavation operations for this project will initially extend through surface materials (i.e. existing pavement section or fill) and then into the stiff to hard Fat Clay (CH) with sand/gravel and Clayey Sand (SC), Clayey Gravel (GC) and Limestone. The contractor should be aware that trenches through limestone may require an excavator with a hoe ram and potentially a rocksaw/trencher.

It is recommended that project specifications state that excavation and trenching operations be performed in accordance with 29 CFR Part 1926, subpart P, as amended; including rules published in the Federal Register, Vol. 54, No. 209, dated October 31, 1989, at a minimum. In addition, the provisions of legislation enacted by the Texas legislature and conformance to City of San Marcos Standard Specifications Item No. 509S should be satisfied. If required for the excavation, all sloping and benching configurations, and shoring systems must be designed by a licensed Professional

Engineer. HVJ also recommends that this be stated in the specifications. Soil types for use with OSHA tables are presented in Table 7-1 below:

Table 7-1: Soil Types for use with OSHA Tables from 29CFR Part 1926

Boring No.	OSHA Soil Type			
	Depth of Trench (ft)			
	0-5	5-10	10-15	15-20
LS-1	B	A	A	Stable Rock
P-1	A	Stable Rock	Stable Rock	-
P-2	A	Stable Rock	Stable Rock	-
P-3	A	Stable Rock	Stable Rock	-
WW-1	A	A	Stable Rock	Stable Rock
WW-2	B	B	Stable Rock	Stable Rock
WW-3	B	B	Stable Rock	-
WW-4	B	B	B	-
WW-5	B	B	Stable Rock	-
WW-6	B	B	Stable Rock	-
WW-7	B	A	-	-
WW-8	B	A	-	-
WW-9	B	B	B	B
WW-10	B	B	B	-
WW-11	B	B	B	-
WW-12	B	B	-	-
WW-13	C	C	C	C
WW-14	A	A	B	B
WW-15	B	B	B	-
WW-17	A	B	B	B

It should also be mentioned that City of San Marcos Standard Specification 510.3(4) restricts the amount of trench opened in advance of the completed line and unfilled trench to 100 linear feet or one full block, whichever is less.

7.2 Water Control

Due to seasonal variations in groundwater level, a certain amount of groundwater may be expected to enter the trench excavations as well as precipitation and possible runoff. Trench subgrade that is allowed to become inundated will rapidly soften, potentially causing instability of the excavation or poor pipe/foundation support. Consequently, inundated subgrade materials may need to be removed and replaced with compacted fill.

To minimize the above concerns, it is recommended that the project specifications require the contractor to employ measures for controlling the amount of water that enters the excavation, as well as promptly remove any water that does enter the excavation. Based on the types of materials to be encountered during excavation, a pump and sump arrangement should be adequate to maintain dry conditions within the excavations.

8. DESIGN REVIEW

HVJ Associates, Inc. should review the design and construction plans and specifications prior to release to confirm the geotechnical recommendations presented herein have been properly interpreted. Our current scope of services does not include an allowance for such review.

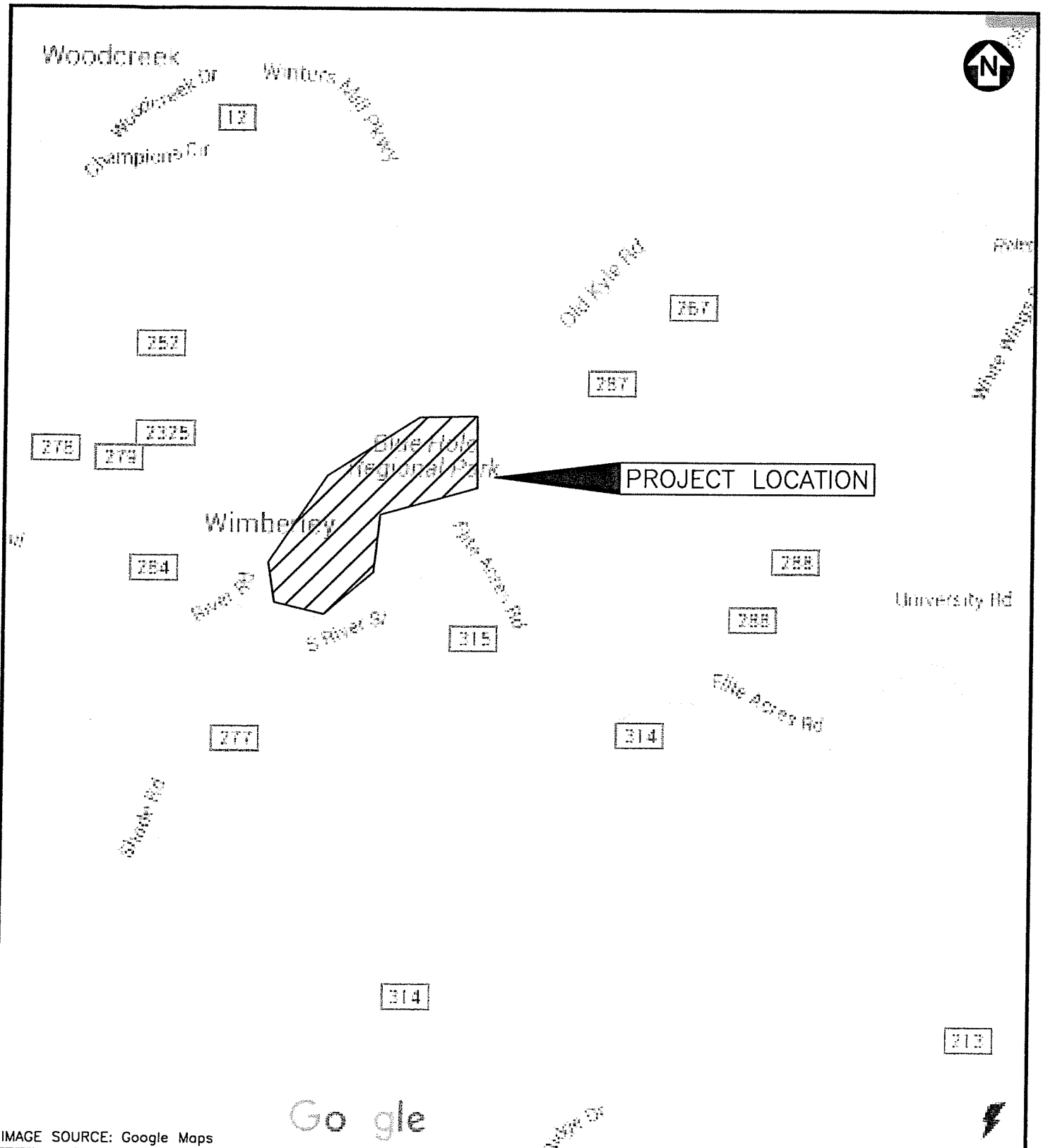
9. LIMITATIONS

This study was performed for the exclusive use of Alan Plummer Associates, Inc., and the City of Wimberley for use on the Wimberley Wastewater Line project in Hays County, Texas. HVJ Associates, Inc. has endeavored to comply with generally accepted geotechnical engineering practices common in the local area. HVJ Associates, Inc. makes no warranty, express or implied. The interpretations contained in this report are based on data obtained from the subsurface exploration, laboratory testing, the project information provided to us and our experience with similar subsurface and site conditions.

The methods used indicate subsurface conditions only at the specific location where samples were obtained, only at the time they were obtained, and only to the depths penetrated. Samples cannot be relied on to accurately reflect the strata variations that usually exist between sampling locations. Should any subsurface conditions other than those described in our boring logs be encountered, HVJ Associates should be immediately notified so that further investigation and supplemental information can be provided

Subsurface conditions at the site can differ significantly from those encountered in the borings due to the natural variation of geologic conditions, which may not have been detected by the field boring program. In the event that any changes in the nature, design, or location of the improvements are made, the interpretations and opinions in this report should not be considered valid until the changes are reviewed and the interpretations modified or verified in writing by HVJ Associates, Inc.

PLATES



MAP LOCATION

HVJ ASSOCIATES

SCALE: NTS		
DATE: 6/05/2016		
DRAWN BY: KC	PROJ. CHK: ZL	APPRV. BY: JS

SITE VICINITY MAP
WIMBERLEY WWTP AND LIFT STATION
WIMBERLEY, TEXAS

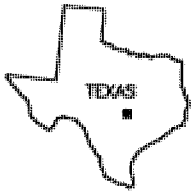
PROJECT NO.: AG 13 15260	FILENAME: VIC	PLATE 1

DATE: 6/1/2016 8:18:58 AM
FILE: P:\geo\Projects\2013\AG 13 15260 Wimberly WWTP, APA\CAD\VIC.dwg

IMAGE SOURCE: Geologic Map of the Austin Area, Texas

LEGEND

Qt Fluviatile Terrace Deposits
Kgru Glen Rose Formation (upper)
Ked Edwards Limestone



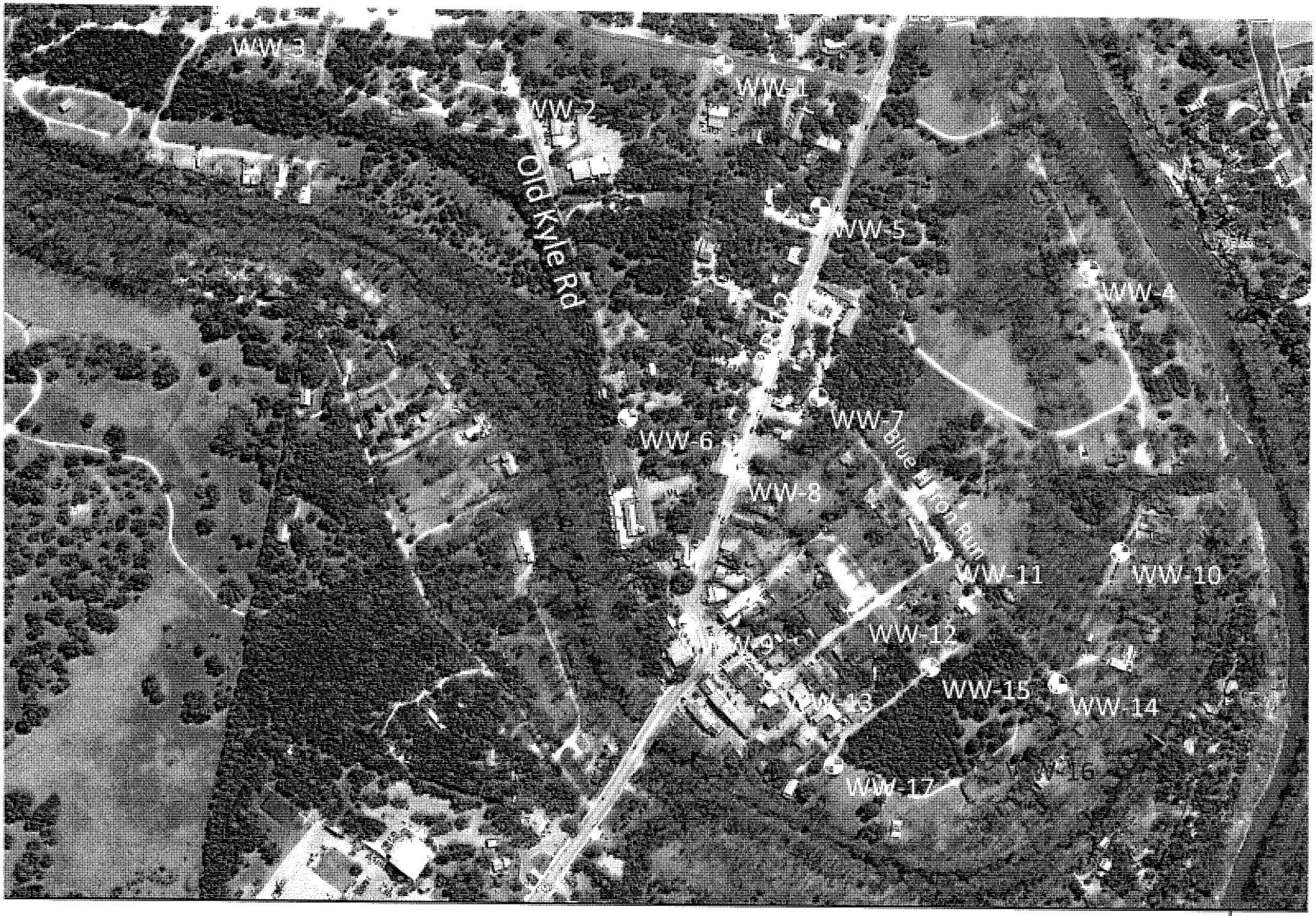
MAP LOCATION

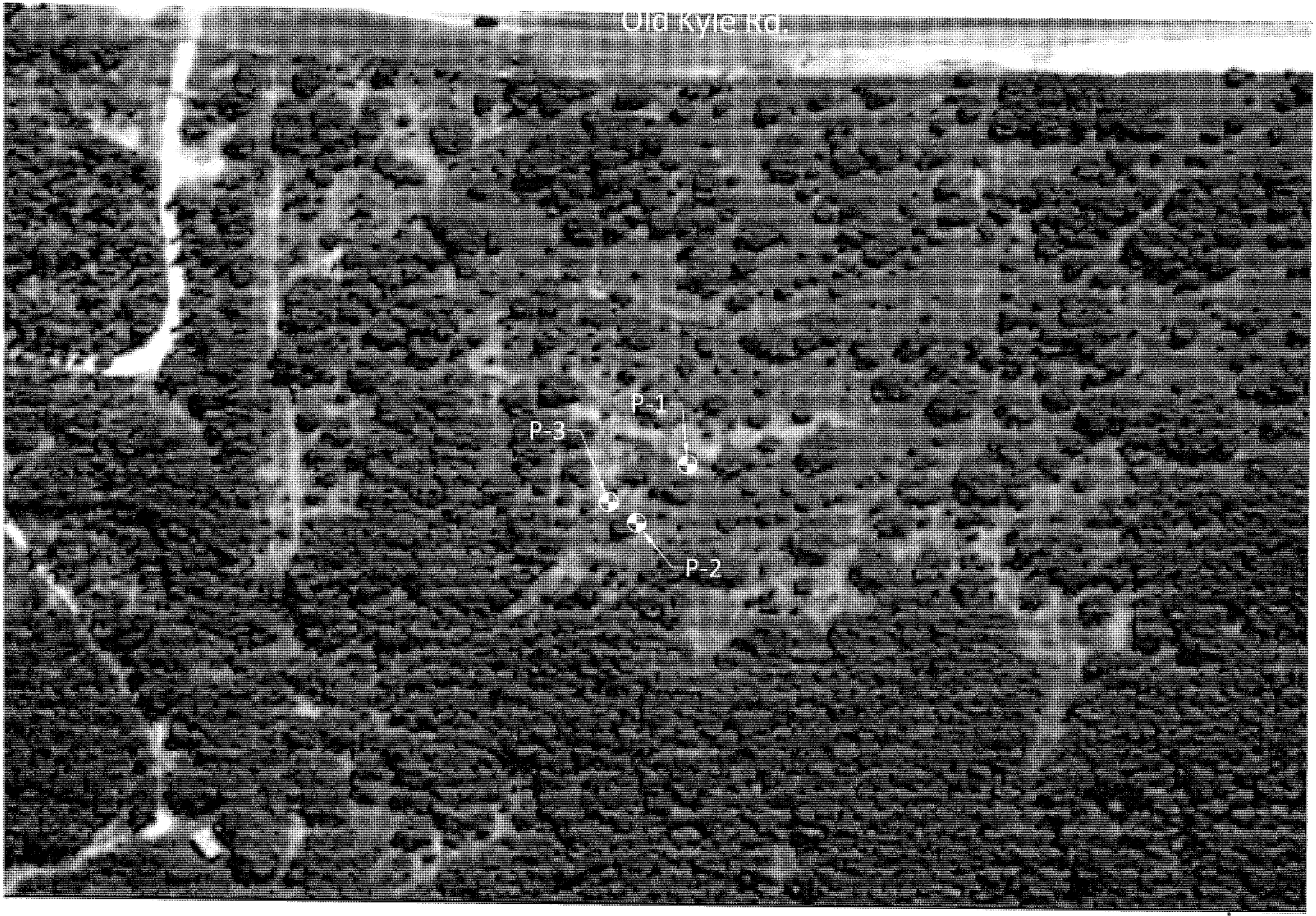
HMJ ASSOCIATES

SCALE: NTS		
DATE: 6/05/2016		
DRAWN BY: KC	PROJ. CHK: ZL	APPRV. BY: JS

GEOLOGY MAP
WIMBERLEY WWTP AND LIFT STATION
WIMBERLEY, TEXAS

PROJECT NO.:	FILENAME:	
AG 13 15260	GEO	PLATE 2


WW-3
WW-2
WW-1
Old Kyle Rd
WW-5
WW-4
WW-6
WW-7
WW-8
WW-11
WW-10
WW-12
WW-15
WW-14
WW-13
WW-16
WW-17


Old Kyle Rd.
P-1
P-3
P-2

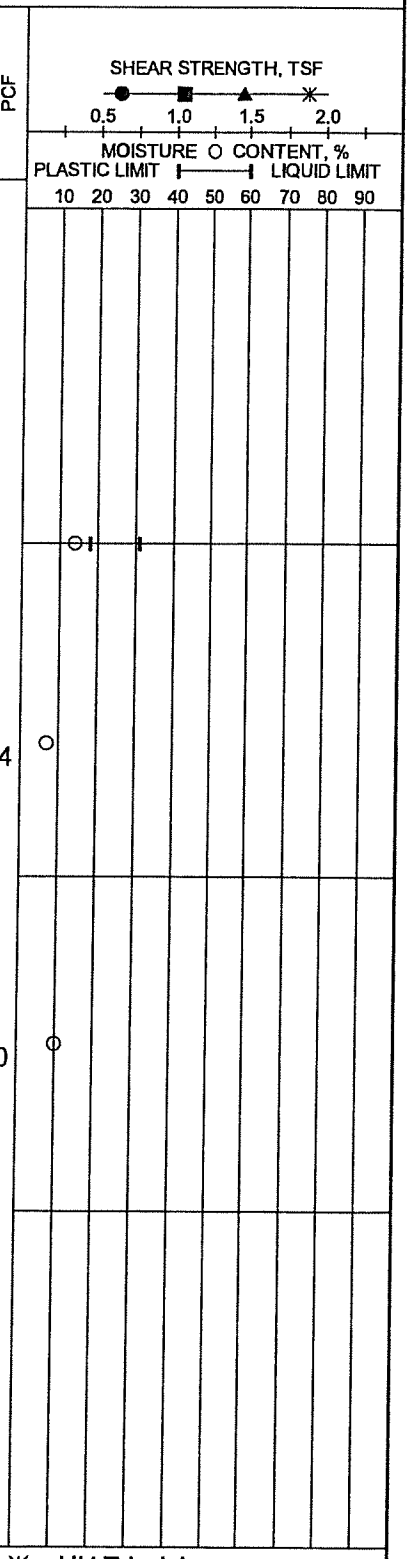
LOG OF BORING

Project: Wimberley Waste Water Treatment Plant
Boring No.: LS-1
Groundwater during drilling: NA
Groundwater after drilling: ---

Date: 6/21/2016
Northing: 13,910,287.6
Easting: 2,256,624.4

Project No.: AG 13 15260
Elevation: 837 feet
Station: --
Offset: --

ELEV. DEPTH, FEET	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	SOIL/ROCK CLASSIFICATION	% PASSING NO. 200 SIEVE	DRY DENSITY PCF
0		**6" ASPHALTIC CONCRETE**		
	8-4-4	Dark brown, very stiff to hard, **FAT CLAY WITH GRAVEL (CH)**, semi moist. [Terrace Deposits]		
835	PP = 4.5+ tsf			
	PP = 4.5+ tsf	Light brown, very stiff, **SANDY LEAN CLAY (CL)**, semi moist. [Terrace Deposits]		
5			50	
	50/2"	White to very light gray, low hardness to moderately hard, **LIMESTONE**, highly fractured, highly weathered, vuggy. [Upper Glen Rose Formation]		
830	RUN: 7-10' REC: 100% RQD: 11%	-unconfined compressive strength = 84 tsf		134
10	RUN: 10'-15' REC: 70% RQD: 33%			
825		-unconfined compressive strength = 52 tsf -vuggy, heavily fractured and weathered		130
15	RUN: 10'-15' REC: 98% RQD: 72%			
820		-light brown to tan, moderately fractured		
20		-gray, moderately fractured		



Shear Types: ● = Hand Penet. ■ = Torvane ▲ = Unconf. Comp. ✳ = UU Triaxial

See Plate 3 for boring location.

PLATE 4a

HVJ ASSOCIATES

LOG OF SOIL BORING AG 13 15260 BORING LOGS - COPY.GPJ HVJ.GDT 7/26/16

LOG OF BORING

Project: Wimberley Waste Water Treatment Plant
Boring No.: LS-1
Groundwater during drilling: NA
Groundwater after drilling: ---

Date: 6/21/2016
Northing: 13,910,287.6
Easting: 2,256,624.4

Project No.: AG 13 15260
Elevation: 837 feet
Station: --
Offset: --

ELEV. DEPTH, FEET	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	SOIL/ROCK CLASSIFICATION	% PASSING NO. 200 SIEVE	DRY DENSITY PCF	SHEAR STRENGTH, TSF (0.5, 1.0, 1.5, 2.0) / MOISTURE O CONTENT, % (PLASTIC LIMIT — LIQUID LIMIT) (10 20 30 40 50 60 70 80 90)
20	RUN: 20'-25' REC: 100% RQD: 85%	White to very light gray, low hardness to moderately hard, **LIMESTONE**, highly fractured, highly weathered, vuggy. [Upper Glen Rose Formation] [Continued...] -unconfined compressive strength = 110 tsf		130	
815		-unconfined compressive strength = 107 tsf -moderately fractured and vesicule at 23'		133	
25	RUN: 25'-30' REC: 100% RQD: 88%				
810		-unconfined compressive strength = 150 tsf		138	
30					
805					
35					
800					
40					

Shear Types: ● = Hand Penet. ■ = Torvane ▲ = Unconf. Comp. ✳ = UU Triaxial

See Plate 3 for boring location.

PLATE 4b

HVJ ASSOCIATES

LOG OF BORING

Project: Wimberley Waste Water Treatment Plant
Boring No.: P-1
Groundwater during drilling: NA
Groundwater after drilling: ---

Date: 6/21/2016
Northing: 13,913,667.7
Easting: 2,258,627.1

Project No.: AG 13 15260
Elevation: 919 feet
Station: --
Offset: --

ELEV. DEPTH, FEET	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	SOIL/ROCK CLASSIFICATION	% PASSING NO. 200 SIEVE	DRY DENSITY PCF	SHEAR STRENGTH, TSF (0.5, 1.0, 1.5, 2.0) / MOISTURE CONTENT, % (PLASTIC LIMIT — LIQUID LIMIT) (10 20 30 40 50 60 70 80 90)
0	13-50/1"	Light brown, very stiff, **SANDY LEAN CLAY (CL)**, calcareous and semi moist. [Residual]			
		White to light gray, moderately hard, **LIMESTONE**, completely weathered. [Upper Glen Rose Formation]			
	50/0"				
		Gray, hard, **LIMESTONE**, moderately fractured, moderately weathered. [Upper Glen Rose Formation]			
915 / 5	50/0"				
	RUN: 5'-10' REC: 100% RQD: 81%				
		-unconfined compressive strength = 103 tsf		143	○
910 / 10	RUN: 10'-15' REC: 95% RQD: 83%				
		-unconfined compressive strength = 163 tsf		136	○
905 / 15					
900 / 20					

Shear Types: ● = Hand Penet. ■ = Torvane ▲ = Unconf. Comp. ✳ = UU Triaxial

See Plate 3 for boring location.

PLATE 5

HVJ ASSOCIATES

LOG OF SOIL BORING AG 13 15260 BORING LOGS - COPY.GPJ HVJ.GDT 7/26/16

LOG OF BORING

Project: Wimberley Waste Water Treatment Plant
Boring No.: P-2
Groundwater during drilling: NA
Groundwater after drilling: ---

Date: 6/21/2016
Northing: 13,913,709.3
Easting: 2,258,578.7

Project No.: AG 13 15260
Elevation: 915 feet
Station: --
Offset: --

ELEV. DEPTH, FEET	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	SOIL/ROCK CLASSIFICATION	% PASSING NO. 200 SIEVE	DRY DENSITY PCF	SHEAR STRENGTH, TSF (0.5, 1.0, 1.5, 2.0) / MOISTURE CONTENT, % (PLASTIC LIMIT — LIQUID LIMIT) (10 20 30 40 50 60 70 80 90)
915 — 0	RUN: 2'-5' REC: 100% RQD: 44%	Light gray, low hardness to moderately hard, **LIMESTONE**, highly fractured, highly weathered. [Upper Glen Rose Formation]			
910 — 5	RUN: 5'-10' REC: 87% RQD: 51%	-moderately fractured and heavily weathered, clay seam at 6.2'			
		-unconfined compressive strength = 76 tsf		132	
		-gray, moderately fractured and weathered			
905 — 10	RUN: 10'-15' REC: 100% RQD: 85%				
		-unconfined compressive strength = 171 tsf		139	
900 — 15					
895 — 20					

Shear Types: ● = Hand Penet. ■ = Torvane ▲ = Unconf. Comp. ✳ = UU Triaxial

See Plate 3 for boring location.

PLATE 6

HVJ ASSOCIATES

LOG OF SOIL BORING AG 13 15260 BORING LOGS - COPY.GPJ HVJ.GDT 7/26/16

LOG OF BORING

Project: Wimberley Waste Water Treatment Plant
Boring No.: P-3
Groundwater during drilling: NA
Groundwater after drilling: ---

Date: 6/21/2016
Northing: 13,913,732.1
Easting: 2,258,595.3

Project No.: AG 13 15260
Elevation: 911 feet
Station: --
Offset: --

ELEV. DEPTH, FEET	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	SOIL/ROCK CLASSIFICATION	% PASSING NO. 200 SIEVE	DRY DENSITY PCF	SHEAR STRENGTH, TSF (0.5, 1.0, 1.5, 2.0) / MOISTURE CONTENT, % (PLASTIC LIMIT — LIQUID LIMIT) (10 20 30 40 50 60 70 80 90)
0		Light yellow to brown, low hardness to moderately hard, **LIMESTONE** moderately weathered. [Upper Glen Rose Formation]			
910	RUN: 2'-5' REC: 75% RQD: 22%	-unconfined compressive strength = 116 tsf		137	
		-heavily weathered, slightly vuggy			
5	RUN: 5'-10' REC: 80% RQD: 58%				
905		-unconfined compressive strength = 47 tsf		130	
		-gray to brown			
10	RUN: 10'-15' REC: 100% RQD: 93%				
900		-unconfined compressive strength = 129 tsf		139	
		-gray			
15					
895					
20					

Shear Types: ● = Hand Penet. ■ = Torvane ▲ = Unconf. Comp. ✳ = UU Triaxial

See Plate 3 for boring location.

PLATE 7

HVJ ASSOCIATES

LOG OF SOIL BORING AG 13 15260 BORING LOGS - COPY.GPJ HVJ.GDT 7/26/16

LOG OF BORING

Project: Wimberley Waste Water Treatment Plant
Boring No.: WW-1
Groundwater during drilling: NA
Groundwater after drilling: ---

Date: 6/17/2016
Northing: 13,910,851.3
Easting: 2,256,372.4

Project No.: AG 13 15260
Elevation: 861 feet
Station: --
Offset: --

ELEV. DEPTH, FEET	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	SOIL/ROCK CLASSIFICATION	% PASSING NO. 200 SIEVE	DRY DENSITY PCF	SHEAR STRENGTH, TSF (0.5, 1.0, 1.5, 2.0) / MOISTURE CONTENT, % (PLASTIC LIMIT — LIQUID LIMIT) (10 20 30 40 50 60 70 80 90)
0 / 860	PP=4.5+ tsf	Dark brown, very stiff, **LEAN CLAY WITH GRAVEL (CL)**, semi-moist. [Fill]			
	50/2"	Light tan, low hardness, **LIMESTONE**, completely weathered, highly fractured. [Upper Glen Rose Formation]			
		-some limestone fragments			
5	27-50/5"				
855	RUN:5.5-10' REC:100% RQD:20%	Gray, low hardness to moderately hard, **LIMESTONE** moderately weathered. [Upper Glen Rose Formation]			
		-fractured 5-10'			
		-unconfined compressive strength = 77 tsf		139	O
10	RUN:10-15' REC:93% RQD:90%				
850		-vuggy (10.5-12')			
15	RUN:15-20' REC:95% RQD:82%	-vuggy at 15.2'			
845		-unconfined compressive strength = 205 tsf		140	O
20					

Shear Types: ● = Hand Penet. ■ = Torvane ▲ = Unconf. Comp. ✳ = UU Triaxial

See Plate 3 for boring location.

PLATE 8

HVJ ASSOCIATES

LOG OF SOIL BORING AG 13 15260 BORING LOGS - COPY.GPJ HVJ.GDT 7/26/16

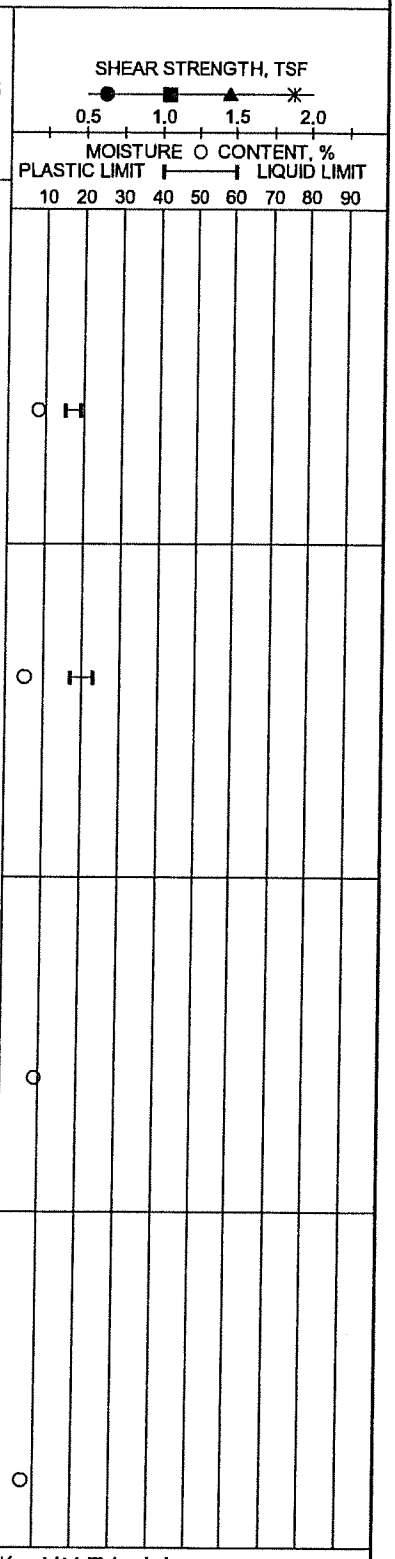
LOG OF BORING

Project: Wimberley Waste Water Treatment Plant
Boring No.: WW-2
Groundwater during drilling: NA
Groundwater after drilling: ---

Date: 6/17/2016
Northing: 13,911,546.1
Easting: 2,256,293.2

Project No.: AG 13 15260
Elevation: 877 feet
Station: --
Offset: --

ELEV. DEPTH, FEET	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	SOIL/ROCK CLASSIFICATION	% PASSING NO. 200 SIEVE	DRY DENSITY PCF
0	7-13-13	Dark brown, very stiff, **SANDY LEAN CLAY WTIH GRAVEL (CL)**, semi-moist. [Terrace Deposits]		
875	3-17-27	Light red to brown, dense, **CLAYEY SAND (SC)**, trace gravel, semi moist. [Terrace Deposits]	24	
5	17-50/5"	-calcareous inclusions 4.5-5.5'		
870	9-27-28		15	
	50/2"	-w/ limestone fragments 8.5-9.5'		
10	RUN:10-15' REC:100% RQD:82%	White to light brown, low hardness to moderately hard, **LIMESTONE**, moderately fractured, highly weathered. [Upper Glen Rose Formation]		
865		-unconfined compressive strength = 88 tsf		139
15	RUN:15-20' REC:82% RQD:72%	-gray 14-15'		
860		-vuggy 17.5-18'		
20		-unconfined compressive strength = 128 tsf		141



Shear Types: ● = Hand Penet. ■ = Torvane ▲ = Unconf. Comp. ✳ = UU Triaxial

See Plate 3 for boring location.

PLATE 9

HVJ ASSOCIATES

LOG OF SOIL BORING AG 13 15260 BORING LOGS - COPY.GPJ HVJ.GDT 7/26/16

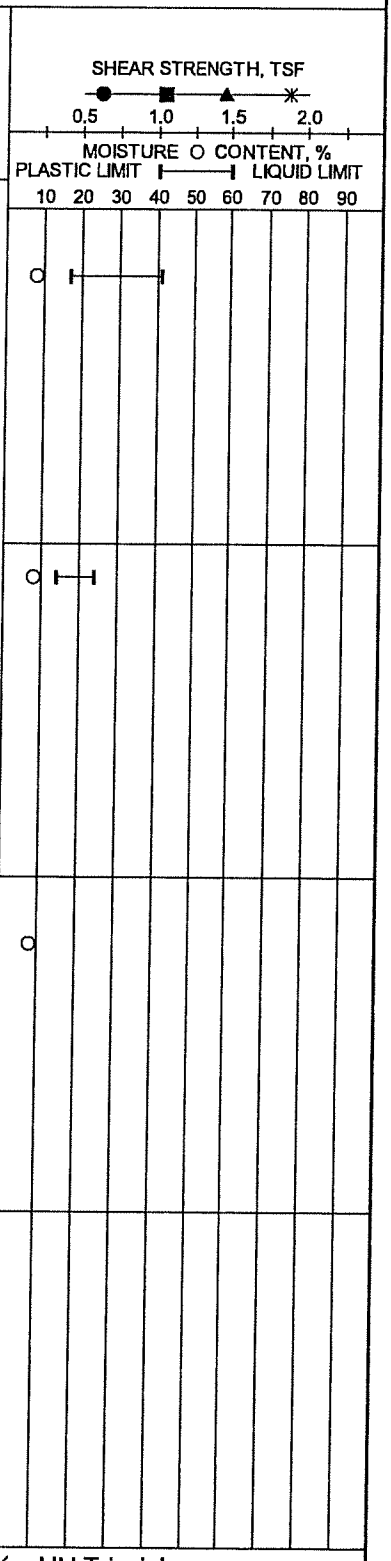
LOG OF BORING

Project: Wimberley Waste Water Treatment Plant
Boring No.: WW-3
Groundwater during drilling: NA
Groundwater after drilling: ---

Date: 6/17/2016
Northing: 13,912,491.0
Easting: 2,256,480.1

Project No.: AG 13 15260
Elevation: 880 feet
Station: --
Offset: --

ELEV. DEPTH, FEET	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	SOIL/ROCK CLASSIFICATION	% PASSING NO. 200 SIEVE	DRY DENSITY PCF
880 — 0	PP=4.5+ tsf; 23-50/3.5"	Dark brown, very stiff **CLAYEY GRAVEL (GC)**, semi-moist, with traces of sand and fragmented limestone. [Terrace Deposits]	42	
875 — 5	20-33-17; 10-11-12; 50/4"	Tannish brown, medium dense to dense, **CLAYEY SAND (SC)**, semi moist, trace limestone fragments. [Terrace Deposits] -void 8-9'	28	
870 — 10	RUN:10-15' REC:100% RQD:50%	Gray, moderately hard, **LIMESTONE**, moderately weathered, moderately fractured. [Upper Glen Rose Formation] -unconfined compressive strength = 131 tsf		138
865 — 15				
860 — 20				



Shear Types: ● = Hand Penet. ■ = Torvane ▲ = Unconf. Comp. ✳ = UU Triaxial

See Plate 3 for boring location.

PLATE 10

HVJ ASSOCIATES

LOG OF SOIL BORING AG 13 15260 BORING LOGS - COPY.GPJ HVJ.GDT 7/26/16

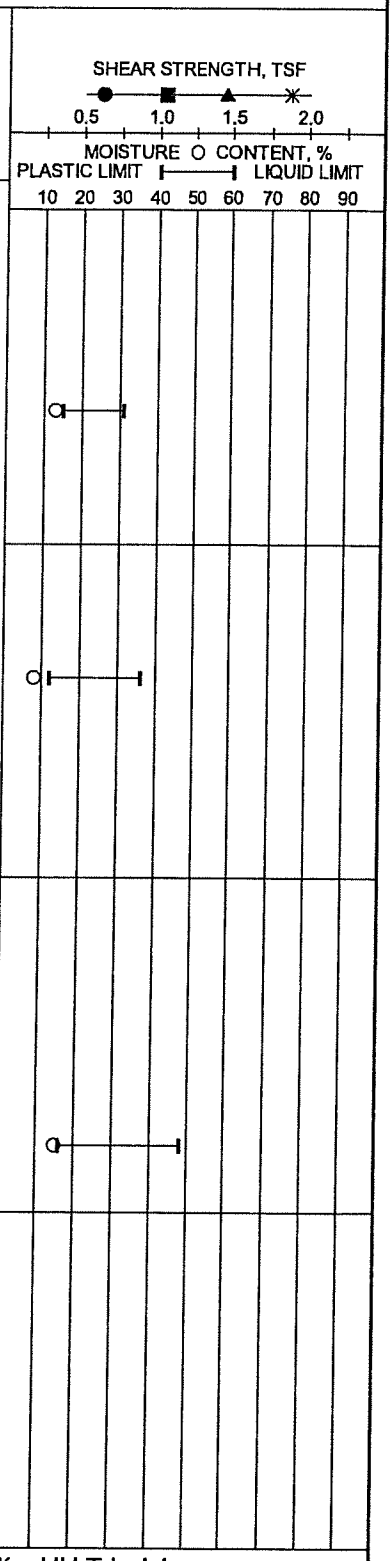
LOG OF BORING

Project: Wimberley Waste Water Treatment Plant
Boring No.: WW-4
Groundwater during drilling: NA
Groundwater after drilling: ---

Date: 6/21/2016
Northing: 13,909,657.1
Easting: 2,255,719.9

Project No.: AG 13 15260
Elevation: 833 feet
Station: --
Offset: --

ELEV. DEPTH, FEET	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	SOIL/ROCK CLASSIFICATION	% PASSING NO. 200 SIEVE	DRY DENSITY PCF
0		**5" ASPHALTIC CONCRETE.**		
		2" TAN FLEXBASE.		
	6-3-3	Dark brown,**SANDY LEAN CLAY (CL)**, semi moist, with trace gravel. [Terrace Deposits]		
830	5-5-5		56	
5	6-5-4	Brown, loose to medium dense, **CLAYEY SAND (SC)**, semi-moist to dry. [Terrace Deposits]		
	5-6-6	-w/ gravel 6.5-15'	32	
825	5-6-5	-no recovery		
10				
820	4-3-4		49	
15				
815				
20				



Shear Types: ● = Hand Penet. ■ = Torvane ▲ = Unconf. Comp. ✳ = UU Triaxial

See Plate 3 for boring location.

PLATE 11

HVJ ASSOCIATES

LOG OF SOIL BORING AG 13 15260 BORING LOGS - COPY.GPJ HVJ.GDT 7/26/16

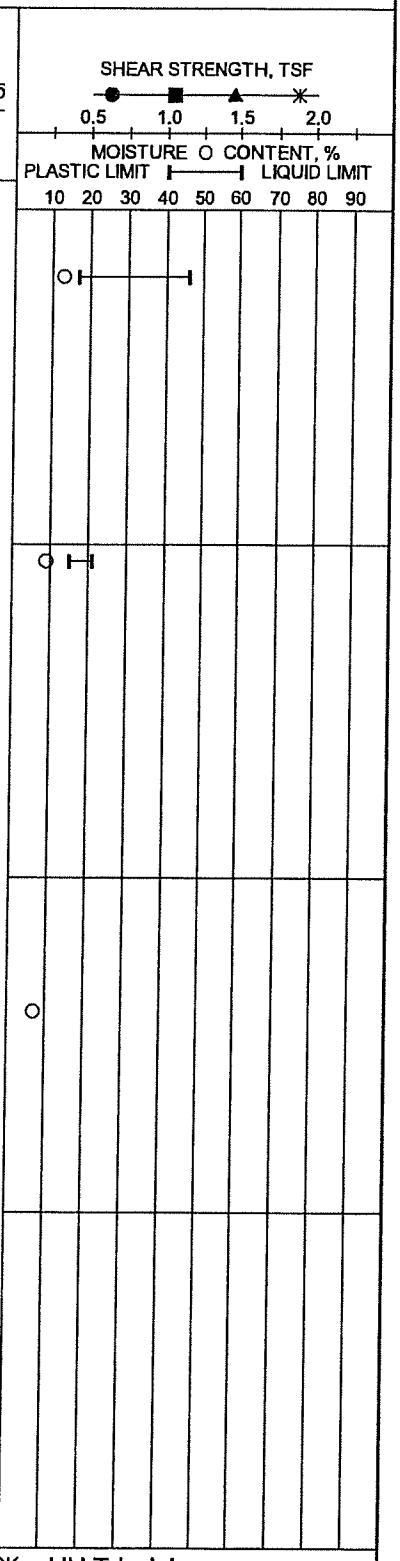
LOG OF BORING

Project: Wimberley Waste Water Treatment Plant
Boring No.: WW-5
Groundwater during drilling: NA
Groundwater after drilling: ---

Date: 6/20/2016
Northing: 13,910,533.7
Easting: 2,255,913.6

Project No.: AG 13 15260
Elevation: 855 feet
Station: --
Offset: --

ELEV. DEPTH, FEET	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	SOIL/ROCK CLASSIFICATION	% PASSING NO. 200 SIEVE	DRY DENSITY PCF
855 — 0	PP=4.5+ tsf PP=4.5+ tsf	Dark brown, hard, **LEAN CLAY (CL)**, semi-moist, w/ gravel. [Terrace Deposits]	63	
850 — 5	21-50/6" 40-50/3"	Yellowish brown, very dense, **CLAYEY SAND (SC)**, moist to semi-moist. [Terrace Deposits]	34	
	50/2"	Light brown to gray, low hardness, **LIMESTONE**, moderately weathered, moderatley fractured. [Upper Glen Rose Formation]		
845 — 10	RUN:10-15' REC:100% RQD:90%	-unconfined compressive strength = 98 tsf		140
840 — 15				
835 — 20				



Shear Types: ● = Hand Penet. ■ = Torvane ▲ = Unconf. Comp. ✳ = UU Triaxial

See Plate 3 for boring location.

PLATE 12

HVJ ASSOCIATES

LOG OF SOIL BORING AG 13 15260 BORING LOGS - COPY.GPJ HVJ.GDT 7/26/16

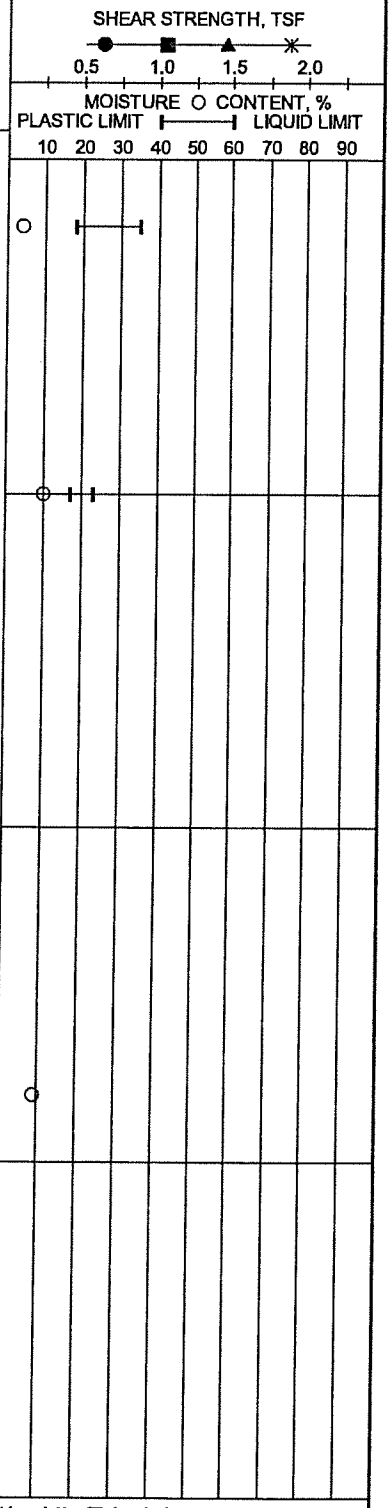
LOG OF BORING

Project: Wimberley Waste Water Treatment Plant
Boring No.: WW-6
Groundwater during drilling: NA
Groundwater after drilling: ---

Date: 6/20/2016
Northing: 13,911,158.0
Easting: 2,255,218.4

Project No.: AG 13 15260
Elevation: 871 feet
Station: --
Offset: --

ELEV. DEPTH, FEET	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	SOIL/ROCK CLASSIFICATION	% PASSING NO. 200 SIEVE	DRY DENSITY PCF
0 / 870	7-15-20; 50/0.5"	Light brown to reddish brown, dense, **CLAYEY GRAVEL (GC)**, moist, trace limestone fragments. [Fill]	32	
5 / 865	11-12-13; 50/3"; 50/0"	Light gray to brown, low hardness, **LIMESTONE**, highly weathered, highly fractured, interbedded with reddish brown gravelly clay seams. [Upper Glen Rose Formation]	33	
10 / 860	RUN:10-15' REC:97% RQD:60%	Light gray, moderately hard, **LIMESTONE**, highly weathered, highly fractured. [Upper Glen Rose Formation] -vuggy to vesicular 12-15' infilled with CWLS and trace reddish brown clay seams -unconfined compressive strength = 136 tsf		130
15 / 855				
20				



Shear Types: ● = Hand Penet. ■ = Torvane ▲ = Unconf. Comp. ✳ = UU Triaxial

See Plate 3 for boring location.

PLATE 13

HVJ ASSOCIATES

LOG OF SOIL BORING AG 13 15260 BORING LOGS - COPY.GPJ HVJ.GDT 7/26/16

LOG OF BORING

Project: Wimberley Waste Water Treatment Plant
Boring No.: WW-7
Groundwater during drilling: NA
Groundwater reading: ---

Date: 6/20/2016
Northing: 13,910,535.8
Easting: 2,255,292.4

Project No.: AG 13 15260
Elevation: 865 feet
Station: --
Offset: --

ELEV. DEPTH, FEET	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	SOIL/ROCK CLASSIFICATION	% PASSING NO. 200 SIEVE	DRY DENSITY PCF	SHEAR STRENGTH, TSF (0.5, 1.0, 1.5, 2.0) / MOISTURE CONTENT, % (PLASTIC LIMIT – LIQUID LIMIT) (10 20 30 40 50 60 70 80 90)
865 — 0	28-50/5"	Light brown, hard, **LEAN CLAY (CL)**, dry, with gravel. [Completely Weathered Limestone]	26		
	50/1"	White to tannish gray, low hardness to moderately hard, **LIMESTONE**, highly weathered, highly fractured, vuggy to vesicular with yellowish brown clay infill. [Upper Glen Rose Formation]			
860 — 5	50/2" RUN:5-10' REC:82% RQD:45%				
		-unconfined compressive strength = 152 tsf		133	
855 — 10					
850 — 15					
845 — 20					

Shear Types: ● = Hand Penet. ■ = Torvane ▲ = Unconf. Comp. ✳ = UU Triaxial

See Plate 3 for boring location.

PLATE 14

HVJ ASSOCIATES

LOG OF SOIL BORING AG 13 15260 BORING LOGS - COPY.GPJ HVJ.GDT 7/26/16

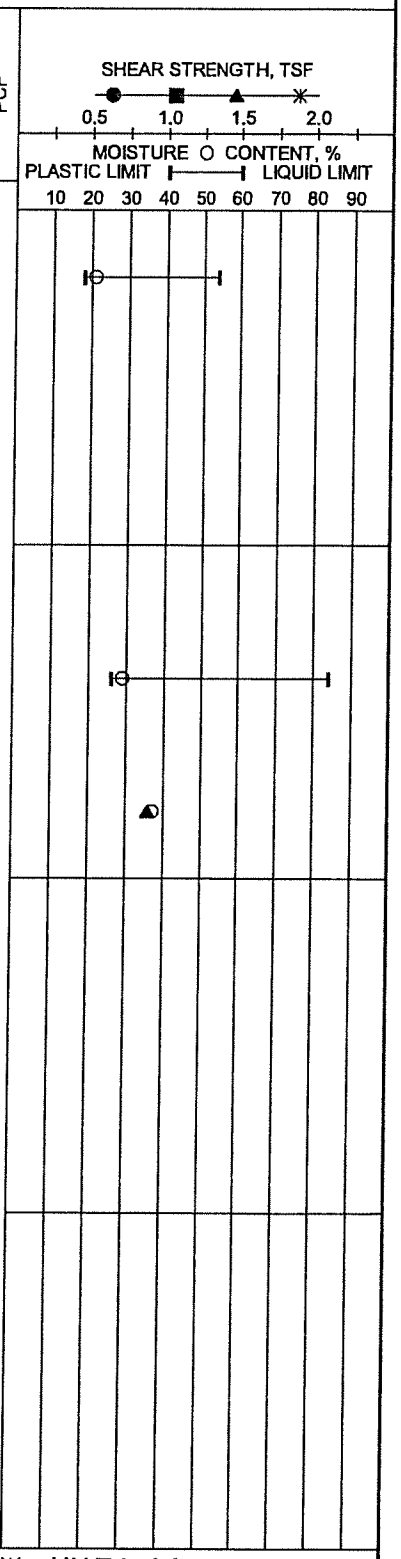
LOG OF BORING

Project: Wimberley Waste Water Treatment Plant
Boring No.: WW-8
Groundwater during drilling: NA
Groundwater after drilling: ---

Date: 6/21/2016
Northing: 13,910,804.2
Easting: 2,255,053.0

Project No.: AG 13 15260
Elevation: 860 feet
Station: --
Offset: --

ELEV. DEPTH, FEET	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	SOIL/ROCK CLASSIFICATION	% PASSING NO. 200 SIEVE	DRY DENSITY PCF
860 — 0	PP=3.5 tsf	**2" ASPHALTIC CONCRETE.** **6" DARK BROWN GRAVELLY CLAY BASE.** Brown, very stiff to hard, **FAT CLAY WITH SAND (CH)**, semi-moist, with trace gravel. [Terrace Deposits]	71	
	50/4"	Light tan, loose to medium dense, **CLAYEY SAND (SC)**, semi-moist, with fragmented limestone seams. [Terrace Deposits] -slight hydrocarbon odor 2.5-3'		
855 — 5	18-4-3			
	PP=2.0 tsf	Reddish brown, stiff, **GRAVELLY FAT CLAY (CH)**, moist. [Terrace Deposits]	62	
	PP=2.75 tsf			83
850 — 10				
845 — 15				
840 — 20				



Shear Types: ● = Hand Penet. ■ = Torvane ▲ = Unconf. Comp. ✳ = UU Triaxial

See Plate 3 for boring location.

PLATE 15

HVJ ASSOCIATES

LOG OF SOIL BORING AG 13 15260 BORING LOGS - COPY.GPJ HVJ.GDT 7/26/16

LOG OF BORING

Project: Wimberley Waste Water Treatment Plant
Boring No.: WW-9
Groundwater during drilling: NA
Groundwater after drilling: ---

Date: 6/21/2016
Northing: 13,910,956.9
Easting: 2,254,550.6

Project No.: AG 13 15260
Elevation: 853 feet
Station: --
Offset: --

ELEV. DEPTH, FEET	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	SOIL/ROCK CLASSIFICATION	% PASSING NO. 200 SIEVE	DRY DENSITY PCF
0	11-4-4	**3" ASPHALTIC CONCRETE**		
		2" TAN FLEXBASE.		
		Reddish brown to brown, stiff, **LEAN CLAY WITH GRAVEL (CL)**, semi moist to dry. [Fill]		
	PP=4.5+ tsf			
850		-calcareous inclusion		
		-trace gravel		
	PP=4.5+ tsf	Tan, loose to dense, **CLAYEY SAND (SC)**, semi moist with trace of gravel. [Terrace Deposits]		
5			43	110
	50/3.5"			
845				
	6-4-4			
10				
840	PP=2.5 tsf			
15				
835				
	28-20-28		13	
20				

SHEAR STRENGTH, TSF: ● ■ ▲ ✳ 0.5 1.0 1.5 2.0

MOISTURE O CONTENT, % — PLASTIC LIMIT ⊢—⊣ LIQUID LIMIT: 10 20 30 40 50 60 70 80 90

Shear Types: ● = Hand Penet. ■ = Torvane ▲ = Unconf. Comp. ✳ = UU Triaxial

See Plate 3 for boring location.

PLATE 16

HVJ ASSOCIATES

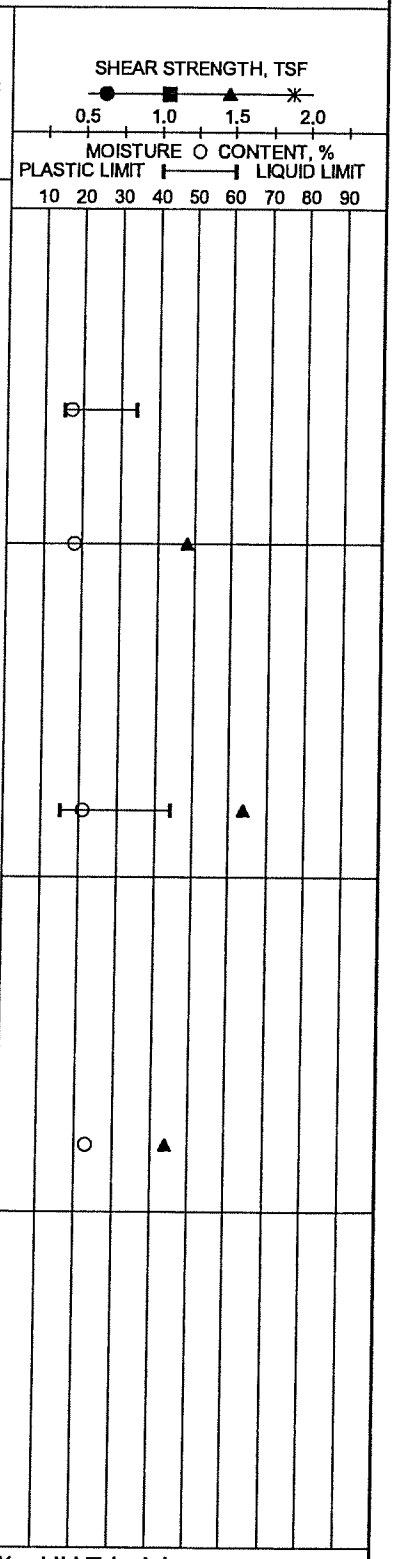
LOG OF BORING

Project: Wimberley Waste Water Treatment Plant
Boring No.: WW-10
Groundwater during drilling: NA
Groundwater after drilling: ---

Date: 6/20/2016
Northing: 13,909,552.3
Easting: 2,254,797.0

Project No.: AG 13 15260
Elevation: 839 feet
Station: --
Offset: --

ELEV. DEPTH, FEET	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	SOIL/ROCK CLASSIFICATION	% PASSING NO. 200 SIEVE	DRY DENSITY PCF
0	11-5-5	**3" ASPHALTIC CONCRETE.** **3" TAN FLEXBASE.** Brown to light brown, stiff, **SANDY FAT CLAY (CH)**, semi-moist, with gravel. [Terrace Deposits]		
	PP=4.0 tsf	Brown, very stiff to hard, **SANDY LEAN CLAY (CL)**, moist. [Terrace Deposits]	63	
835 / 5	PP=4.5+ tsf			102
	PP=4.0 tsf			
	PP=3.0 tsf	Brown, stiff to very stiff, **LEAN CLAY WITH SAND (CL)**, moist. [Terrace Deposits]	76	103
830 / 10				
	PP=2.5 tsf			99
825 / 15				
820 / 20				



Shear Types: ● = Hand Penet. ■ = Torvane ▲ = Unconf. Comp. ✳ = UU Triaxial

See Plate 3 for boring location.

PLATE 17

HVJ ASSOCIATES

LOG OF SOIL BORING AG 13 15260 BORING LOGS - COPY.GPJ HVJ.GDT 7/26/16

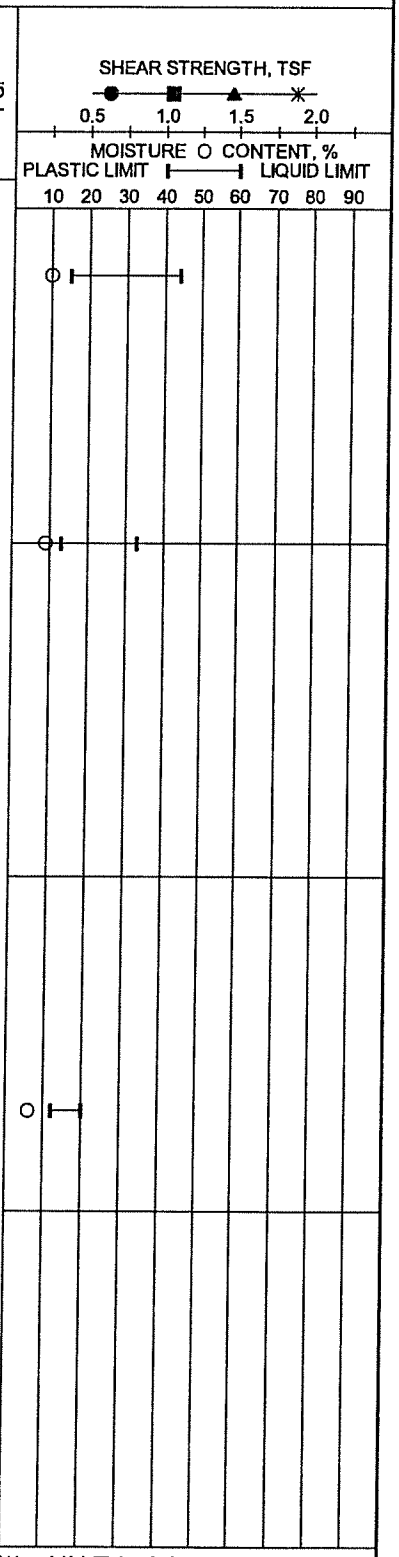
LOG OF BORING

Project: Wimberley Waste Water Treatment Plant
Boring No.: WW-11
Groundwater during drilling: NA
Groundwater after drilling: ---

Date: 6/20/2016
Northing: 13,910,126.6
Easting: 2,254,792.4

Project No.: AG 13 15260
Elevation: 851 feet
Station: --
Offset: --

ELEV. DEPTH, FEET	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	SOIL/ROCK CLASSIFICATION	% PASSING NO. 200 SIEVE	DRY DENSITY PCF
0		**5" ASPHALTIC CONCRETE.**		
		11" TAN FLEXBASE.		
850	9-7-7	Reddish brown, stiff to very stiff, **LEAN CLAY WITH SAND (CL)**, semi-moist. [Terrace Deposits]	59	
	9-11-12	-gravelly from 2.5-5'		
5	12-15-16		78	
845	50/5"	Light tan, very stiff to hard, **SANDY LEAN CLAY (CL)**, dry, with trace limestone fragments. [Terrace Deposits]		
	12-19-28			
10				
840		-soft from 11-12'		
	50/6"		57	
15				
835				
20				



Shear Types: ● = Hand Penet. ■ = Torvane ▲ = Unconf. Comp. ✳ = UU Triaxial

See Plate 3 for boring location.

PLATE 18

HVJ ASSOCIATES

LOG OF SOIL BORING AG 13 15260 BORING LOGS - COPY.GPJ HVJ.GDT 7/26/16

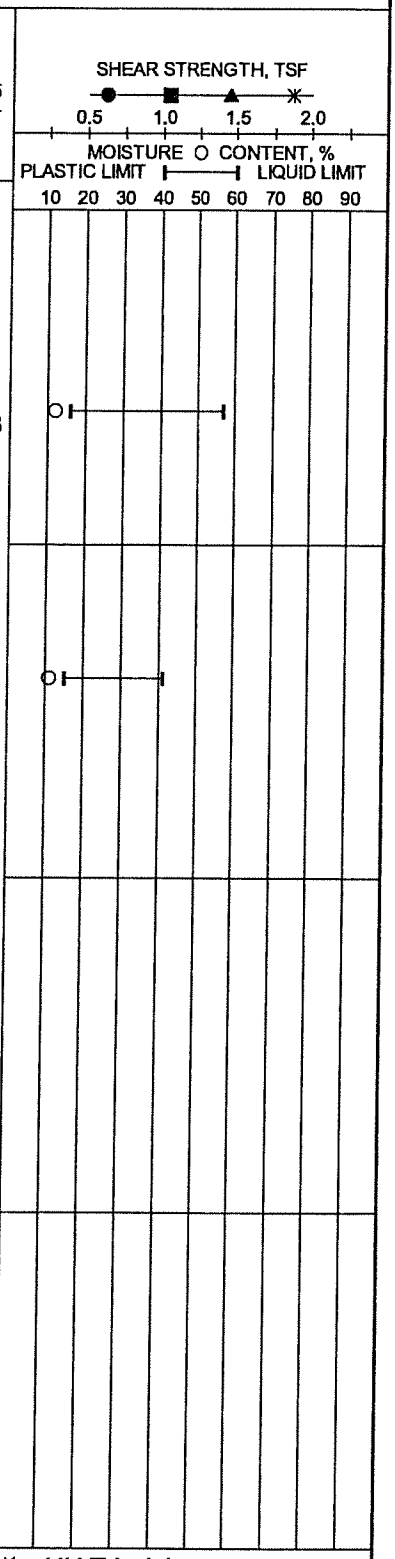
LOG OF BORING

Project: Wimberley Waste Water Treatment Plant
Boring No.: WW-12
Groundwater during drilling: NA
Groundwater after drilling: ---

Date: 6/20/2016
Northing: 13,910,407.9
Easting: 2,254,592.9

Project No.: AG 13 15260
Elevation: 855 feet
Station: --
Offset: --

ELEV. DEPTH, FEET	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	SOIL/ROCK CLASSIFICATION	% PASSING NO. 200 SIEVE	DRY DENSITY PCF
855 — 0	11-8-8	Light brown, stiff, **CLAYEY GRAVEL (GC)**, semi-moist. [Fill]		
	PP=4.5+ tsf	Dark brown, hard, **GRAVELLY FAT CLAY (CH)**, moist. [Terrace Deposits]		
		-unconfined compressive strength = 9.2 tsf	62	123
850 — 5	9-15-16	Reddish brown, very stiff, **GRAVELLY LEAN CLAY (CL)**, semi-moist. [Terrace Deposits]		
	12-17-19		69	
	28-50/3"	Tan to gray, low hardness, **LIMESTONE**, highly weathered, highly fractured. [Upper Glen Rose Formation]		
845 — 10				
840 — 15				
835 — 20				



Shear Types: ● = Hand Penet. ■ = Torvane ▲ = Unconf. Comp. ✳ = UU Triaxial

See Plate 3 for boring location.

PLATE 19

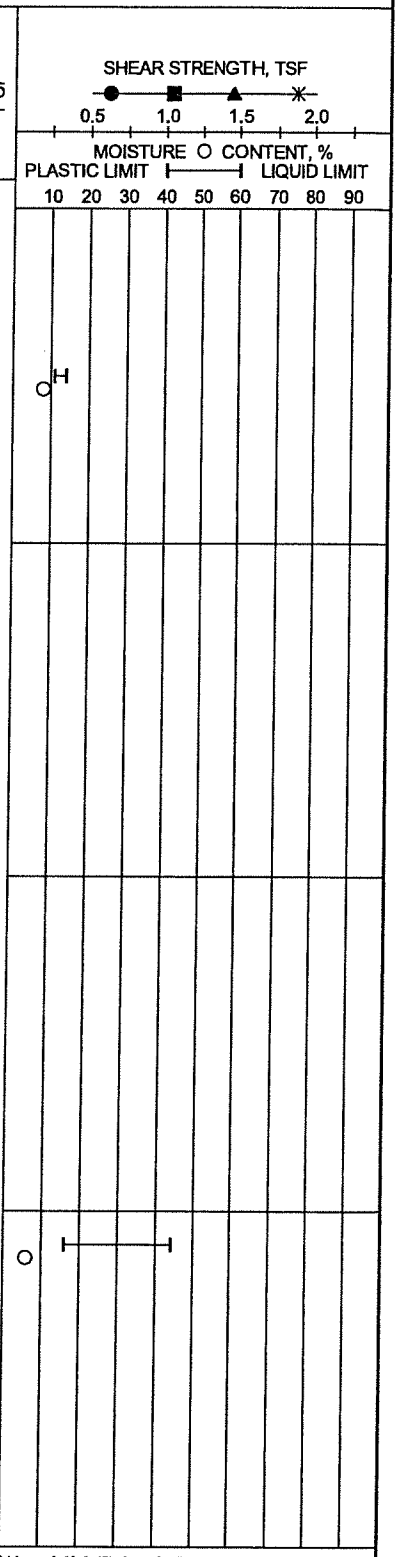
HVJ ASSOCIATES

LOG OF SOIL BORING AG 13 15260 BORING LOGS - COPY.GPJ HVJ.GDT 7/26/16

LOG OF BORING

Project: Wimberley Waste Water Treatment Plant
Project No.: AG 13 15260
Boring No.: WW-13
Date: 6/17/2016
Elevation: 854 feet
Groundwater during drilling: NA
Northing: 13,910,680.2
Station: --
Groundwater reading: ---
Easting: 2,254,365.6
Offset: --

ELEV. DEPTH, FEET	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	SOIL/ROCK CLASSIFICATION	% PASSING NO. 200 SIEVE	DRY DENSITY PCF
0		**6" ASPHALTIC CONCRETE**		
	PP=4.5+ tsf	Dark brown, very stiff **SILTY GRAVEL (GM)**, semi moist. [Fill]		
	PP=4.5+ tsf		24	
850	RUN:3-5' REC:46% RQD:0%	Tan, **WELL GRADED GRAVEL (GW)**, with large limestone cobbles, cemented sands and gravels. [Fill]		
5	RUN:5-10' REC:10% RQD:0%			
		Tan, dense to very dense, **CLAYEY SAND (SC)**, with gravel and potential cobbles. [Terrace Deposits]		
845				
10	RUN:10-15' REC:0% RQD:0%			
		-no recovery 10-15'		
840				
15	9-23-23			
	25-35-50/3"		16	
		Tan to gray, low hardness, **LIMESTONE**, highly weathered. [Upper Glen Rose Formation]		
835	50/2"			
20				



Shear Types: ● = Hand Penet. ■ = Torvane ▲ = Unconf. Comp. ✳ = UU Triaxial

See Plate 3 for boring location.

PLATE 20

HVJ ASSOCIATES

LOG OF SOIL BORING AG 13 15260 BORING LOGS - COPY.GPJ HVJ.GDT 7/26/16

LOG OF BORING

Project: Wimberley Waste Water Treatment Plant
Boring No.: WW-14
Groundwater during drilling: NA
Groundwater after drilling: ---

Date: 6/20/2016
Northing: 13,909,752.6
Easting: 2,254,360.4

Project No.: AG 13 15260
Elevation: 841 feet
Station: --
Offset: --

ELEV. DEPTH, FEET	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	SOIL/ROCK CLASSIFICATION	% PASSING NO. 200 SIEVE	DRY DENSITY PCF
0		**2" ASPHALTIC CONCRETE.**		
		4" TAN FLEXBASE.		
840	16-7-7	Dark brown to brown, very stiff to hard, **GRAVELLY LEAN CLAY (CL)**, semi-moist,. [Terrace Deposits]		
	PP=4.5+ tsf			
		-unconfined compressive strength = 11.7 tsf	65	111
	PP=4.5+ tsf	-calcareous inclusions 4-6'		
5				
835	PP=4.5+ tsf			
	PP=4.5+ tsf	-no gravel, slightly calcareous 8-10'		
		unconfined compressive strength = 7.5 tsf	70	108
10				
830				
	PP=4.5+ tsf	Tannish brown, dense, **CLAYEY SAND (SC)**, moist. [Terrace Deposits]		
15	PP=3.5 tsf			
825				
	PP=2.5 tsf			
			33	
20				

SHEAR STRENGTH, TSF: ● 0.5 ■ 1.0 ▲ 1.5 ✳ 2.0

MOISTURE O CONTENT, %
PLASTIC LIMIT ⊢—⊣ LIQUID LIMIT
10 20 30 40 50 60 70 80 90

Shear Types: ● = Hand Penet. ■ = Torvane ▲ = Unconf. Comp. ✳ = UU Triaxial

See Plate 3 for boring location.

PLATE 21

HVJ ASSOCIATES

LOG OF BORING

Project: Wimberley Waste Water Treatment Plant
Boring No.: WW-15
Groundwater during drilling: NA
Groundwater after drilling: ---

Date: 6/21/2016
Northing: 13,910,168.0
Easting: 2,254,410.9

Project No.: AG 13 15260
Elevation: 849 feet
Station: --
Offset: --

ELEV. DEPTH, FEET	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	SOIL/ROCK CLASSIFICATION	% PASSING NO. 200 SIEVE	DRY DENSITY PCF
0	5-7-4	Brown, stiff to very stiff, **FAT CLAY WITH GRAVEL (CH)**, semi-moist, with trace sand. [Fill]		
845 / 5	18-50/3"	Light brown to yellowish brown, very dense, **CLAYEY SAND (SC)**, dry, trace gravel. [Terrace Deposits]		
		Light brown, low hardness, **LIMESTONE**, completely weathered, semi-moist. [Upper Glen Rose Formation]	47	
840 / 10	50/4.5"			
	50/3.5"			
	RUN:10-15' REC:5% RQD:0%	Light brown, low hardness, **LIMESTONE**, highly weathered, highly fractured. [Upper Glen Rose Formation]		
835 / 15				
830 / 20				

SHEAR STRENGTH, TSF
● 0.5 ■ 1.0 ▲ 1.5 ✳ 2.0

MOISTURE O CONTENT, %
PLASTIC LIMIT ⊢—⊣ LIQUID LIMIT
10 20 30 40 50 60 70 80 90

Shear Types: ● = Hand Penet. ■ = Torvane ▲ = Unconf. Comp. ✳ = UU Triaxial

See Plate 3 for boring location.

PLATE 22

HVJ ASSOCIATES

LOG OF SOIL BORING AG 13 15260 BORING LOGS - COPY.GPJ HVJ.GDT 7/26/16

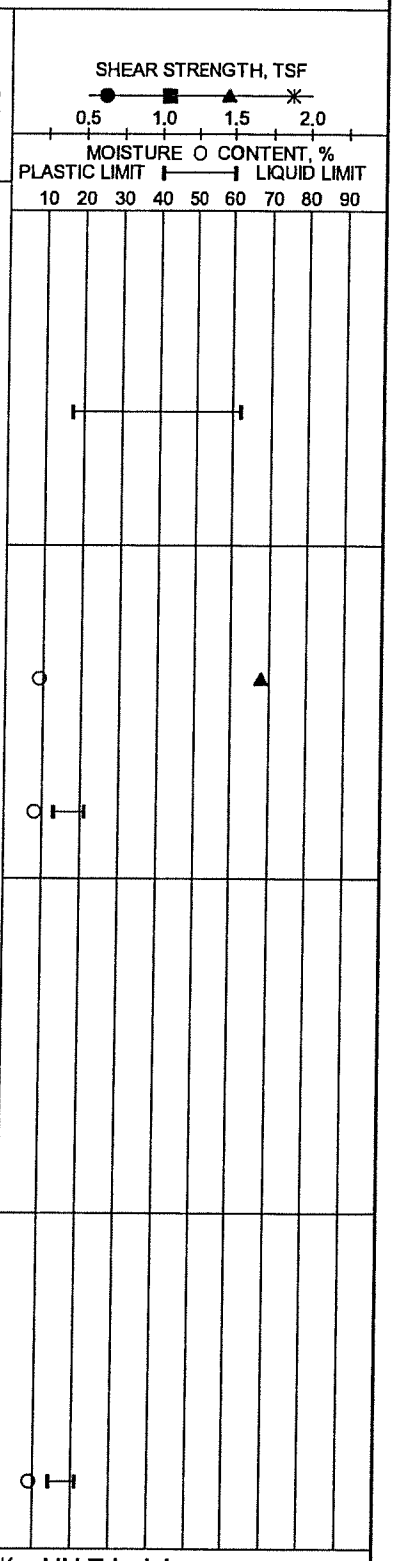
LOG OF BORING

Project: Wimberley Waste Water Treatment Plant
Boring No.: WW-17
Groundwater during drilling: NA
Groundwater after drilling: ---

Date: 6/21/2016
Northing: 13,910,480.4
Easting: 2,254,087.1

Project No.: AG 13 15260
Elevation: 847 feet
Station: --
Offset: --

ELEV. DEPTH, FEET	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	SOIL/ROCK CLASSIFICATION	% PASSING NO. 200 SIEVE	DRY DENSITY PCF
0	PP = 4.5+	Dark brown, very stiff, **FAT CLAY (CH)**, semi moist, trace gravel. [Terrace Deposits]		
845	PP = 4.5+	-some organic		
	PP = 4.5+	Reddish brown, very stiff, **LEAN CLAY WITH GRAVEL (CL)**, semi moist to dry, with calcareous inclusions. [Terrace Deposits]		
5				
	PP = 4.5+			
840				108
	PP = 4.5+	Tan to brown, medium dense to dense, **CLAYEY SAND (SC)**, semi moist. [Terrace Deposits]		
			38	
10				
835				
	17-16-17	-trace gravel		
15	PP = 2 tsf			
830				
	PP = 2.5 tsf		35	
20				



Shear Types: ● = Hand Penet. ■ = Torvane ▲ = Unconf. Comp. ✳ = UU Triaxial

See Plate 3 for boring location.

PLATE 23

HVJ ASSOCIATES

LOG OF SOIL BORING AG 13 15260 BORING LOGS - COPY.GPJ HVJ.GDT 7/26/16

SOIL SYMBOLS

Soil Types

Clay, Silt, Sand, Fill

Modifiers

Clayey, Silty, Sandy Clay, Cemented

Construction Materials

Asphaltic Concrete, Stabilized Base, Fill or Debris, Base

SAMPLER TYPES

- Thin Walled Shelby Tube
- No Recovery
- Split Barrel
- Auger
- THD Cone Penetration Test
- Jar Sample

WATER LEVEL SYMBOLS

- Groundwater level determined during drilling operations
- Groundwater level after drilling in open borehole or piezometer

SOIL GRAIN SIZE

Classification	Particle Size	Particle Size or Sieve No. (U.S. Standard)
Clay	< 0.002 mm	< 0.002 mm
Silt	0.002 - 0.075 mm	0.002 mm - #200 sieve
Sand	0.075 - 4.75 mm	#200 sieve - #4 sieve
Gravel	4.75 - 75 mm	#4 sieve - 3 in.
Cobble	75 - 200 mm	3 in. - 8 in.
Boulder	> 200 mm	> 8 in.

DENSITY OF COHESIONLESS SOILS

Descriptive Term	Penetration Resistance "N" * Blows/Foot
Very Loose	0 - 4
Loose	4 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	> 50

CONSISTENCY OF COHESIVE SOILS

Consistency	Undrained Shear Strength (tsf)
Very Soft	0 - 0.125
Soft	0.125 - 0.25
Firm	0.25 - 0.5
Stiff	0.5 - 1.0
Very Stiff	1.0 - 2.0
Hard	> 2.0

PENETRATION RESISTANCE

3/6	Blows required to penetrate each of three consecutive 6-inch increments per ASTM D-1586 *
50/4"	If more than 50 blows are required, driving is discontinued and penetration at 50 blows is noted
0/18"	Sampler penetrated full depth under weight of drill rods and hammer

* The N value is taken as the blows required to penetrate the final 12 inches

TERMS DESCRIBING SOIL STRUCTURE

Slickensided	Fracture planes appear polished or glossy, sometimes striated
Fissured	Breaks along definite planes of fracture with little resistance to fracturing
Inclusion	Small pockets of different soils, such as small lenses of sand scattered through a mass of clay
Parting	Inclusion less than 1/4 inch thick extending through the sample
Seam	Inclusion 1/4 inch to 3 inches thick extending through the sample
Layer	Inclusion greater than 3 inches thick extending through the sample
Laminated	Soil sample composed of alternating partings of different soil type
Stratified	Soil sample composed of alternating seams or layers of different soil type
Intermixed	Soil sample composed of pockets of different soil type and laminated or stratified structure is not evident
Calcareous	Having appreciable quantities of calcium carbonate
Ferrous	Having appreciable quantities of iron
Nodule	A small mass of irregular shape

HVJ ASSOCIATES

PROJECT NO.: AG 13 15260

DRAWING NO.: PLATE 24A

KEY TO TERMS AND SYMBOLS USED ON BORING LOGS FOR SOIL

DATE: 1/1/2016 3:30:14 PM
FILE: P:\geo\Projects\2013\AG 13 15260 Wimberly WWTP, APA\CAD\SOIL_ROCK.dwg

ROCK TYPES

- Limestone
- Shale
- Sandstone
- Highly Weathered Limestone
- Weathered Shale
- Weathered Sandstone
- Weathered Limestone
- Dolomite
- Granite

SAMPLER TYPES

- Thin-Walled Tube
- Rock Core
- Standard Penetration Test
- Auger
- THD Cone Penetration Test
- Bag Sample

SOLUTION AND VOID CONDITIONS

Void	Interstice; a general term for pore space or other openings in rock.
Cavities	Small solutional concavities.
Vuggy	Containing small cavities, usually lined with a mineral of different composition from that of the surrounding rock.
Vesicular	Containing numerous small, unlined cavities, formed by expansion of gas bubbles or steam during solidification of the rock.
Porous	Containing pores, interstices, or other openings which may or may not interconnect.
Cavernous	Containing cavities or caverns, sometimes quite large. Most frequent in limestones and dolomites.

HARDNESS

Friable	Crumbles under hand pressure
Low Hardness	Can be carved with a knife, or UCS less than 100 tsf
Moderately Hard	Can be scratched easily with a knife, or UCS between 100 and 250 tsf
Hard	Can be scratched rarely with a knife, or UCS greater than 250 tsf
Very Hard	Cannot be scratched with a knife

WEATHERING GRADES OF ROCKMASS (1)

Slightly	Discoloration indicates weathering of rock material and discontinuity surfaces.
Moderately	Less than half of the rock material is decomposed or disintegrated to a soil.
Highly	More than half of the rock material is decomposed or disintegrated to a soil.
Completely	All rock material is decomposed and/or disintegrated into soil. The original mass structure is still largely intact.
Residual Soil	All rock material is converted to soil. The mass structure and material fabric are destroyed.

DISCONTINUITY DESCRIPTION

Quantity of Discontinuities per Length

D - number of discontinuities per length

Dip of Discontinuity: measured relative to a plane normal to the core axis

H - High Angle, 60-90 degrees
M - Medium Angle, 30-60 degrees
L - Low Angle, 0-30 degrees

Surface Shape of Discontinuity

P - Planar
U - Undulating

Aperture (inches)

Unless otherwise noted, all discontinuities noted were tight

Weathering

UW - Unweathered; surface in its natural state without visible decomposition or discoloration
SW - Slightly weathered; surface is slightly discolored with no visible decomposition
W - Weathered; surface is completely discolored with zone of decomposed rock

Roughness of Surface

SLK - Slickensided; surface has smooth, glassy finish with visual evidence of striations
S - Smooth; surface appears smooth and feels so to the touch
SR - Slightly Rough; asperities on the discontinuity surfaces are distinguishable and can be felt
R - Rough; some ridges and side-angle steps are evident; asperities are clearly visible, and discontinuity surface feels very abrasive
VR - Very Rough; near vertical steps and ridges occur on the discontinuity surface

REFERENCES:

(1) British Standard (1981) Code of Practice for Site Investigation, BS 5930.

(2) The Bridge Div., Tx. Highway Dept. Foundation Exploration & Design Manual, 2nd Division, revised June, 1974.

BEDDING THICKNESS (2)

Very Thick	>4'
Thick	2'-4'
Thin	2"-2'
Very Thin	1/2"-2"
Laminated	0.08"-1/2"
Thinly Laminated	<0.08"

Information on each boring log is a compilation of subsurface conditions and soil and rock classifications obtained from the field as well as from laboratory testing of samples. Strata have been interpreted by commonly accepted procedures. The stratum lines on the logs may be transitional and approximate in nature. Water level measurements refer only to those observed at the times and places indicated, and may vary with time, geologic condition or construction activity.

HVJ ASSOCIATES

PROJECT NO.: AG 13 15260

DRAWING NO.: PLATE 24B

KEY TO TERMS AND SYMBOLS USED ON BORING LOGS FOR ROCK

DATE: 1/17/2013 3:33:49 PM
FILE: P:\geo\Projects\2013\AG 13 15260 Wimberly WWTP, APA\CAD\SOIL_ROCK.dwg

APPENDIX A
LABORATORY TEST RESULTS SUMMARY

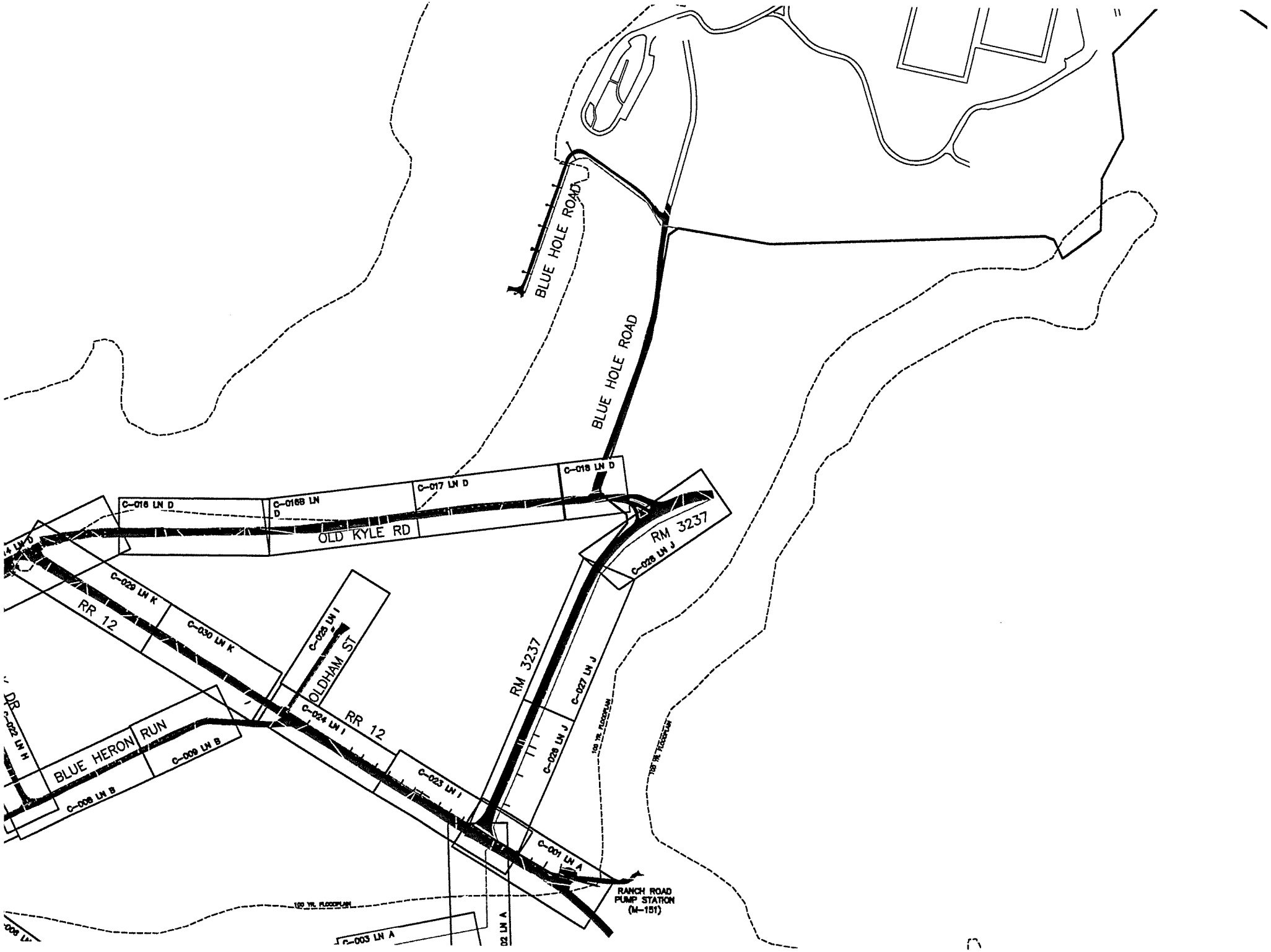
LABORATORY TEST RESULTS SUMMARY
Project Name: Wimberly WWTP
Project Number: AG 13 15260

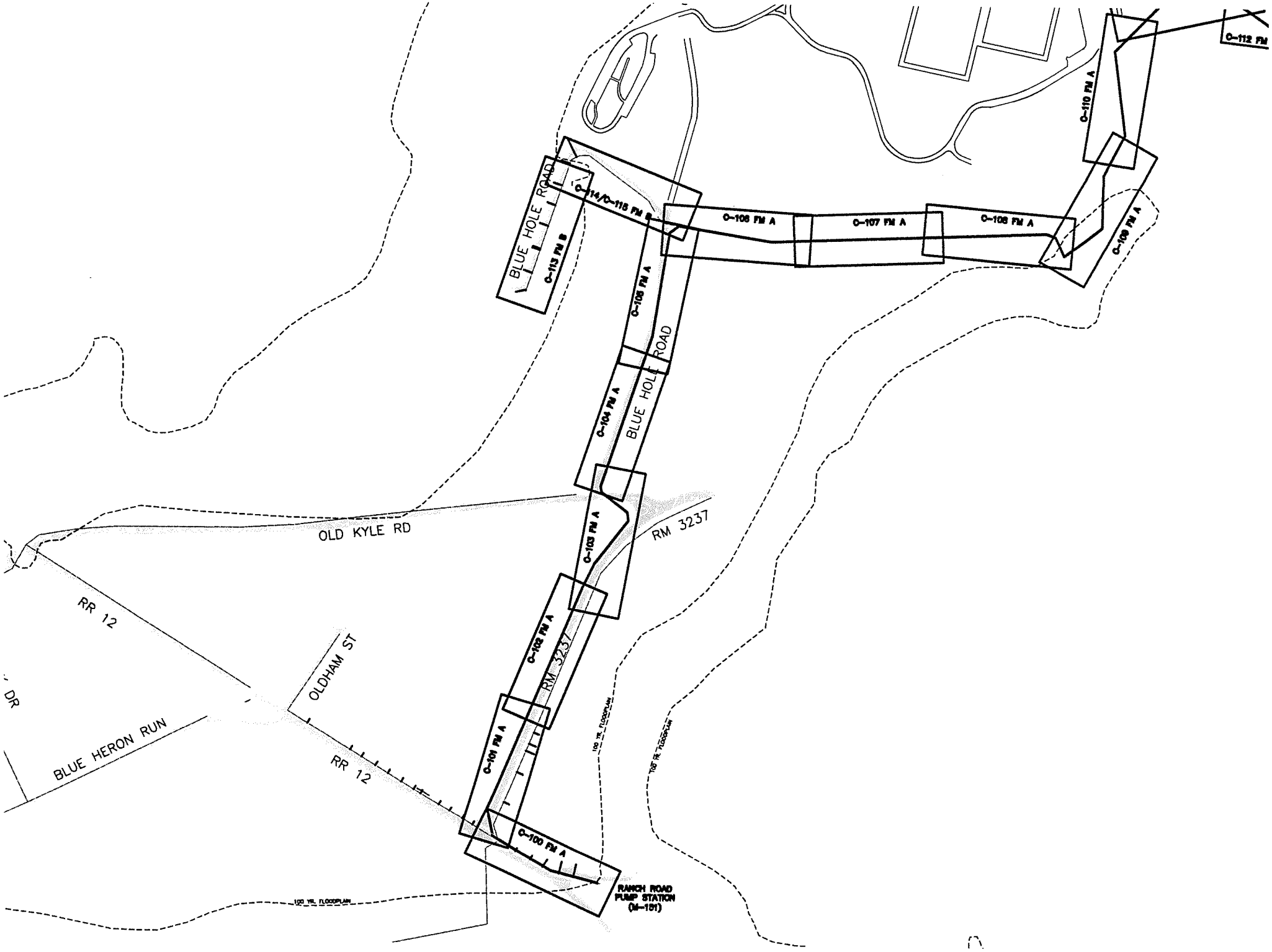
Boring Number	Depth (ft)	% Passing No. 200 Sieve	Liquid Limit (%)	Plasticity Index (%)	Moisture Content (%)	Wet Unit Weight (pcf)	Dry Unit Weight (pcf)	Unconfined Compressive Strength (tsf)
LS-1	4-6	50	31	13	14.0			
	7-10				7.4	144	134	83.9
	10-15				9.9	143	130	52.4
	20-25				10.4	144	130	110.3
	21.5-23.5				8.2	144	133	107.0
	25-30				7.0	148	138	150.0
P-1	5-10				7.1	153	143	103.2
	10-15				7.9	147	137	163.1
P-2	0-2	17	21	5	2.7			
	2-4	80			15			
	5-10				9.1	144	132	76.4
	11.5-12.5				8.1	150	139	170.7
P-3	0-2	31	21	4	6.4			
	2-5				8.0	148	137	116.0
	5-10				10.5	144	131	47.4
	10-15				6.1	148	139	129.4
WW-1	6.5-7.3				6.6	148	139	77.0
	15.3-16				6.5	149	140	204.6
WW-2	2.5-4	24	19	4	7.5			
	6.5-8	15	23	6	4.7			
	12.5-13.2				9.4	152	139	88.3
	18-20				6.9	151	141	128.0
WW-3	0-2	42	41	24	7.7			
	4.5-6	28	24	10	7.5			
	10-11.5				8	149	138	130.5
WW-4	2.5-4	56	31	16	13.4			
	6.5-8	32	36	24	7.8			
	13.5-15	49	48	32	15.4			
WW-5	0-2	63	46	29	12.7			
	4.5-5.5	34	21	6	8.7			
	11.7-13				6.6	149	140	97.8
WW-6	0-1.5	32	35	17	4			
	4.5-6	33	23	6	10.3			
	13-15				8.7	141	130	135.8

LABORATORY TEST RESULTS SUMMARY
Project Name: Wimberly WWTP
Project Number: AG 13 15260

Boring Number	Depth (ft)	% Passing No. 200 Sieve	Liquid Limit (%)	Plasticity Index (%)	Moisture Content (%)	Wet Unit Weight (pcf)	Dry Unit Weight (pcf)	Unconfined Compressive Strength (tsf)
WW-7	0-1.0	26	26	9	5.5			
	8.5-10				9.2	145	133	151.6
WW-8	0.2-1.5	71	54	36	20.9			
	6-8	62	84	58	29.1			
	8-10				36.6	113	82	1.8
WW-9	4-6	43	40	25	13.4			
	4-6				16.8	128	109	1.6
	18.5	13	16	3	3.9			
WW-10	2-4	63	34	19	17.3			
	4-6				18.2	120	102	2.4
	8-10	76	44	29	21.1			
	8-10				20.8	124	103	3.1
	13-15				23.2	122	99	2.2
WW-11	0.5-2	59	44	29	9.6			
	4.5-6	78	33	20	9.1			
	13-14	57	20	8	5.9			
WW-12	2-4	62	57	41	12.2			
	2-4				10.4	136	123	9.2
	6.5-8	69	41	26	10.8			
WW-13	2-3	24	14	3	7.9			
	15-16.5	16	44	28	6.3			
WW-14	2-4	65	48	33	14.0			
	2-4				14.3	127	111	11.7
	8-10	70	45	30	14.4			
	8-10				14.5	124	109	7.5
	18-20	33	21	9	14.0			
WW-15	4-5	47	24	10	4.9			
WW-17	2-4		62	45				
	6-8				8.9	118	108	3.4
	8-10	38	21	8	7.5			
	18-20	35	21	7	8.8			

APPENDIX B
LOCATIONS OF PROPOSED WASTEWATER LINES


BLUE HOLE ROAD
BLUE HOLE ROAD
C-018 LN D
C-017 LN D
C-016B LN D
C-016 LN D
OLD KYLE RD
RM 3237
C-026 LN J
C-029 LN K
C-030 LN K
RR 12
C-025 LN I
OLDHAM ST
C-024 LN I
RR 12
RM 3237
C-027 LN J
C-028 LN J
C-023 LN I
100 YR FLOODPLAIN
100 YR FLOODPLAIN
BLUE HERON RUN
C-009 LN B
C-008 LN B
C-001 LN A
RANCH ROAD
PUMP STATION
(M-151)
100 YR FLOODPLAIN
C-003 LN A


C-112 FM
C-110 FM A
C-109 FM A
C-108 FM A
C-107 FM A
C-106 FM A
C-114/C-115 FM B
C-113 FM B
BLUE HOLE ROAD
C-105 FM A
C-104 FM A
BLUE HOLE ROAD
C-103 FM A
RM 3237
C-102 FM A
RM 3237
C-101 FM A
C-100 FM A
RANCH ROAD
PUMP STATION
(M-191)
100 YR. FLOODPLAIN
100 YR. FLOODPLAIN
100 YR. FLOODPLAIN
OLD KYLE RD
RR 12
OLDHAM ST
RR 12
BLUE HERON RUN
DR

CITY OF WIMBERLEY
WASTEWATER TREATMENT PLANT PROJECT

TECHNICAL SPECIFICATIONS
TABLE OF CONTENTS

Document Number	Version	Title
Division 1 – General Requirements		
01001	07/07/11	General Construction Requirements
01005	01/20/17	Contract Warranties
01010	03/01/05	Construction Sequence Requirements
01035	01/20/17	Contract Modification procedures and Supplementary Conditions
01039	01/20/17	Internet-Based Construction Management
01050	09/05/03	Grades, Lines, and Levels
01230	12/05/16	Alternates
01300	10/01/14	Submittals
01301	01/20/17	Project Documentation
01302	10/01/16	Supplier's Submittals
01410	01/20/05	Testing Laboratory Services
01420	01/20/17	References
01500	01/20/05	Temporary Facilities
01600	10/01/16	Product Requirements
01640	10/01/16	Manufacturers' Services
01700	10/01/16	Execution Requirements
01730	09/05/03	Operation and Maintenance Manuals
01782	01/20/17	Operation and Maintenance Data
01810	10/01/16	Equipment Testing and Facility Startup
01820	10/01/16	Demonstration and Training
01999	03/09/16	Modifications to Standard Specifications
Division 2 – Site Construction		
02001	01/20/17	Materials
02260	01/20/17	Excavation Support Protection
02300	01/20/17	Earthwork
02320	10/01/16	Excavation, Trenching, and Backfill
02810	07/07/11	Irrigation Systems
Division 3 – Concrete		
03300	10/01/16	Concrete, Cast-in-Place
03600	10/01/16	Grout, Non-Shrink
Division 5 – Site Construction Metals		
05501	10/01/16	Anchor Bolts, Expansion Anchors, and Inserts
Division 9 – Finishes		
09910	10/01/16	Painting and Protective Coating
Division 10 – Specialties		
10432	01/20/17	Safety Signs
10952	01/20/17	Identification, Stenciling, and Tagging
Division 11 – Equipment		
11005	11/30/16	Common Motor Requirements (1)
11009	11/30/16	Common Requirements for Control Panels (1)
11016	10/01/16	Common Requirements – Pumps
11074	07/12/12	Pumps, End Suction Centrifugal
11120	07/13/12	Fine Screening System, Rotary
11264	09/12/16	Biological Tower, Odor Control System

Specification sections listed on this page were prepared by STEPHEN J. COONAN, P.E. (65516), except where noted:
(1) PATRICK N. MOSELEY, P.E. (72794)

11390	07/06/16	Package MBR Treatment Plant

Division 13 – Special Construction

13120	11/30/16	Precast Concrete Building
13221	09/01/16	Steel Storage Tank, Bolted

Division 15 – Mechanical

15010	01/20/17	Basic Mechanical Requirements
15015	10/01/16	Piping System, Basic Materials
15060	01/20/17	Piping System, Hangers, and Supports
15070	01/20/17	Field Testing and Disinfection of Pipelines
15099	01/20/17	Pressure Gauges and Thermometers
15100	10/01/16	Valves, Basic Requirements and Miscellaneous
15103	10/01/16	Valves, Plug
15104	10/01/16	Valves, Check
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15415	09/01/16	Emergency Plumbing Fixtures

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16020	12/06/16	Utilities (1)
16045	12/06/16	Electrical System Analysis and Study (1)
16060	12/06/16	Grounding and Bonding (1)
16073	01/20/17	Hangers and Supports for Electrical Systems (1)
16075	12/06/16	Electrical Identification (1)
16120	12/06/16	Low Voltage Electrical Power Conductors and Cables (1)
16130	01/20/17	Raceways and Boxes (1)
16135	01/20/17	Underground Ducts and Manholes (1)
16139	12/06/16	Cable Trays (1)
16140	12/06/16	Wiring Devices (1)
16231	01/20/17	Package Engine Generators (1)
16269	01/20/17	Variable Frequency Drives (1)
16400	12/06/16	Electrical Control Devices (1)
16410	12/06/16	Enclosed Switches and Circuit Breakers (1)
16415	12/06/16	Transfer Switches (1)
16420	01/20/17	Enclosed Controllers (1)
16441	01/20/17	Switchboards (1)
16442	01/20/17	Panelboards (1)
16443	12/06/16	Motor Control Centers (1)
16461	12/06/16	Low Voltage Transformers (1)
16670	12/06/16	Lightning Protection (1)

City Standard Technical Specifications

SERIES 200 – SUBGRADE AND BASE CONSTRUCTION

210S	02/24/10	Flexible Base

SERIES 300 – STREET SURFACE COURSES

301S	08/20/07	Asphalts, Oils and Emulsions
340S	09/26/12	Hot Mix Asphaltic Concrete

SERIES 400 – CONCRETE STRUCTURES AND MISCELLANEOUS CONCRETE

402S	11/13/07	Controlled Low Strength Material

SERIES 500 – PIPE AND APPURTENANCES

505S	02/24/10	Concrete Encasement and Encasement Pipe
509S	02/24/10	Excavation Safety Systems
510S	09/26/12	Pipe
511S	02/24/10	Water Valves

Specification sections listed on this page were prepared by STEPHEN J. COONAN, P.E. (65516), except where noted:
(1) PATRICK N. MOSELEY, P.E. (72794)

SPECIFICATIONS PREPARED BY ALAN PLUMMER ASSOCIATES, INC.
Patrick N. Moseley, P.E.

DIVISION 11 – EQUIPMENT

11005	11/30/16	Common Motor Requirements (1)
11009	11/30/16	Common Requirements for Control Panels (1)

DIVISION 16 – ELECTRICAL

16010	01/20/17	Electrical General Provisions (1)
16020	12/06/16	Utilities (1)
16045	12/06/16	Electrical System Analysis and Study (1)
16060	12/06/16	Grounding and Bonding (1)
16073	01/20/17	Hangers and Supports for Electrical Systems (1)
16075	12/06/16	Electrical Identification (1)
16120	12/06/16	Low Voltage Electrical Power Conductors and Cables (1)
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16442	01/20/17	Panelboards (1)
16443	12/06/16	Motor Control Centers (1)
16461	12/06/16	Low Voltage Transformers (1)
16670	12/06/16	Lightning Protection (1)

STATE OF TEXAS
PATRICK N. MOSELEY
72794
LICENSED
PROFESSIONAL ENGINEER

1/25/17

Patrick N. Moseley, PE
Alan Plummer Associate, Inc.
Firm No. F-13

Specification sections listed on this page were prepared by STEPHEN J. COONAN, P.E. (65516), except where noted:
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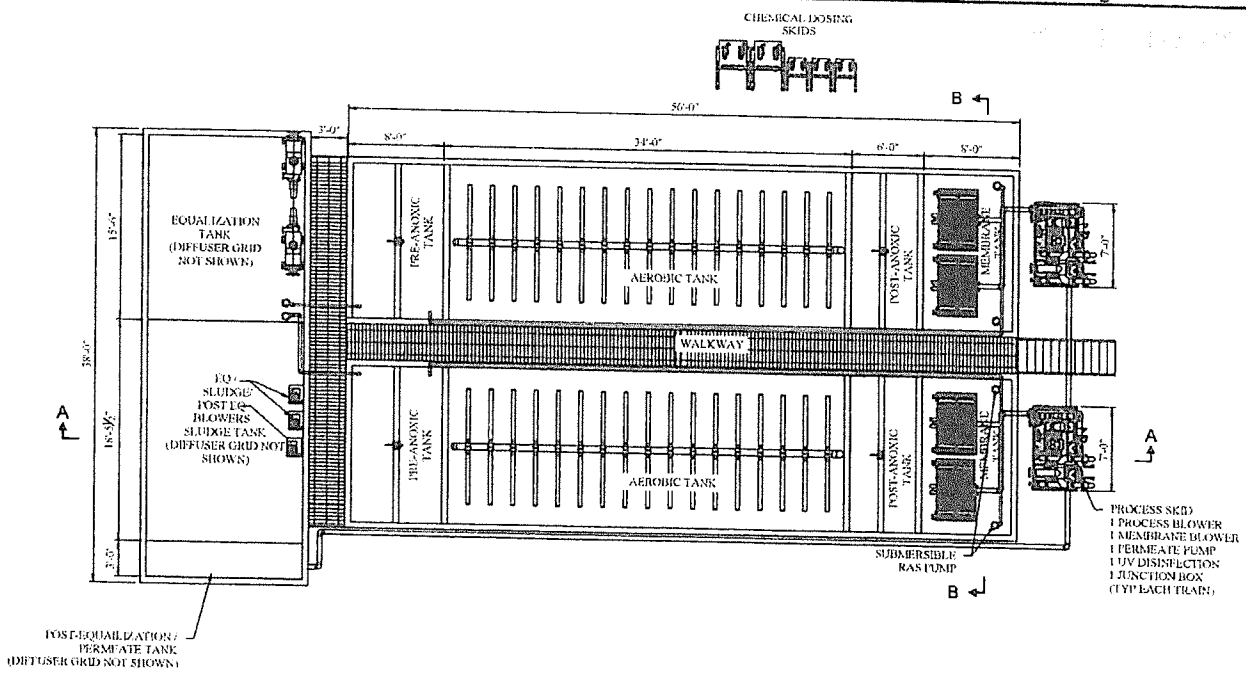
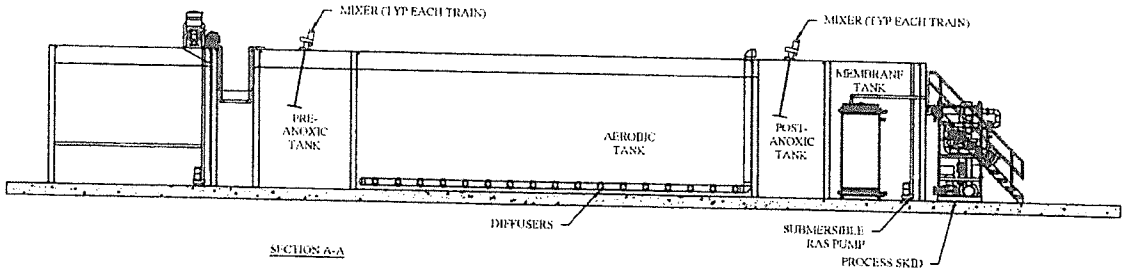
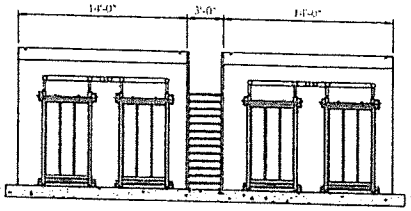
APPENDIX A – GENERAL ARRANGEMENT DRAWINGS





SECTION A-A



SECTION B-B

NOTE:
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DRAWING REVISION

REV	DATE	REVISION DESCRIPTION	DRAWN	CHKD	ENG	APPVD
A	09/11/2015	PRELIMINARY	B.W.	A.M.	A.M.	A.M.

h2o innovation
innovation in water du sous & partage

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DO NOT SCALE PRINTS

WIMBERLEY PACKAGE PANT MBR

75,000 GPD

TITLE: GENERAL ARRANGEMENT

SCALE: N.T.S.

DRAWING NUMBER: U-15057-B01-0001

SHEET: 1 of 1

REVISION: A

APPENDIX B – PROCESS DESIGN CALCULATIONS

WASTEWATER PROCESS SUMMARY

Prepared by:	A MOORE	Sheet No.	1 of 1
Date:	28-Mar-17	Rev. No.	1
Description:	Biological Design	Date:	07-Apr-17
Doc No.	U-15057	Checked by:	F KENT
Project Name:	Wimberley MBR	Date:	07-Apr-17

Basis: Using wastewater characteristics and design flows to size the biological reactor

Assumptions

F:M Ratio is an assumed value used for calculating the required biomass and bioreactor volume

Summary of Design Flows

Average Daily Flow	284	m^3/d
	75,000	gal/d
Maximum Daily Flow	568	m^3/d
	150,000	gal/d
Water Quality		
COD	760	mg/L
BOD_5	380	mg/L
TSS	400	mg/L
TKN	60	mg/L
NH_3	45	mg/L
TP	8	mg/L
pH	7.3	
Alkalinity	60	mg/L
Design Temperature	15	°C
% of TSS that is Inert	15%	
BOD Loading (Eq.1)	107.9	kg/d
	237.8	lbs/d
TKN Loading (Eq.1)	17.0	kg/d
	37.6	lbs/d
F:M Ratio	0.05	gBOD/gTSS/d
Required Biomass (Eq.2)	2158	kg
	4,757	lbs
Operating MLSS	8.6	g/L

$$Loading = QS_o\left(\frac{1kg}{1000g}\right) \qquad \text{Eq. 1}$$

Where
S_o = BOD or TKN (g/m^3)

$$Required\ Biomass = \frac{BOD\ Loading}{F/M\ Ratio} \qquad \text{Eq. 2}$$

$$Volume = \frac{Required\ Biomass}{MLSS} \qquad \text{Eq. 3}$$

$$HRT = \frac{Volume}{ADF} \qquad \text{Eq. 4}$$

Bioreactor Design

Required Volume (Eq.3)	251	m^3
	66,202	gal
Hydraulic Retention Time (HRT) (Eq.4)	21	hr
Number of Treatment Trains	2	
Dimensions		
Length	34.0	ft
Width	13.0	ft
Depth	10.0	ft
Material	CS	

Comments

H_2O Innovation, Inc.
5500 North Service Road, Suite 207 - Burlington, ON L7L 6W6 – Canada
Tel: 289-813-5533 Fax: 418.688.9259
www.h2oinnovation.com info@h2oinnovation.com

WASTEWATER PROCESS SUMMARY

Prepared by:	A MOORE	Sheet No.	[illegible]
Date:	23-Mar-17	Rev. No.	[illegible]
Description:	Aeration Requirements	Date.	23-Mar-17
Doc No.	U-15067	Checked by:	[illegible]
Project Name:	Wimbledon MBR	Date.	[illegible]

Basis: Bioreactor aeration requirements based on the wastewater loading and predicted oxygen uptake rate

Assumptions		
AOTE fine bubble	%	0.12
AOTE coarse bubble	%	0.02
Air Density	kg/m³	1.2
Percent of Air that is O_2	%	23%

Aeration Requirements		
BOD loading	108	kg/d
	238	lbs/d
TKN loading	17	kg/d
	38	lbs/d
NO_3 in effluent	17	kg/d
	38	lbs/d
Nitrogen in Biomass	0	kg/d
MBR Airflow rate (Eq.1)	360	cfm
Actual O_2 Transfer (AOTR) (Eq. 2)	134	kg/d
	295	lbs/d
Bioreactor Airflow (Eq.3)	4,149	m³/d
	102	cfm
Predicted Oxygen Uptake Rate (OUR) (Eq.4)	22	mg O_2/hr/L

$$MBR\ Airflow\ Rate = Flowrate/Module \times Number of\ Modules/Train \times Number\ of\ Trains \qquad Eq.1$$

$$AOTR = SF\left(BOD\ Loading \times 1.25 + TKN\ Loading \times 4.57 - 2.87\left(TKN\ Loading - NO_{3_{effluent}} - N_{biomass}\right) - \frac{MBR\ Flowrate\ (\rho_{air})\left(\frac{0.232kg\ O_2}{1kg\ air}\right)\left(\frac{1440min}{1day}\right)(AOTE_{coarse})}{\left(\frac{35.31ft^3}{1m^3}\right)}\right) \qquad Eq.2$$

$$Air\ flowrate(m^3/d) = \frac{AOTR}{\left[(AOTE_{fine})(\rho_{air})\left(\frac{0.23kg\ O_2}{1kg\ air}\right)\right]} \qquad Eq.3$$

$$OUR(mg\ O_2/L/hr) = \frac{AOTR\left(\frac{1d}{24hr}\right)\left(\frac{1000g}{1kg}\right)\left(\frac{1000mg}{1g}\right)}{V\left(\frac{1000L}{1m^3}\right)} \qquad Eq.4$$

Comments

H_2O Innovation, Inc.
5500 North Service Road, Suite 207 - Burlington, ON L7L 6W6 – Canada
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WASTEWATER PROCESS SUMMARY

Prepared by:	A MOORE	Sheet No.	[illegible]
Date:	23-Mar-17	Rev. No.	1
Description:	Anoxic Tank Design	Date:	23-Mar-17
Doc No.	U-15057	Checked by:	[illegible]
Project Name:	Wimbledey MBR	Date:	[illegible]

Basis: Sizing a pre-anoxic and post-anoxic zone for nitrogen removal based on the time required for denitrification

Assumptions		
Conc. in RAS Line, NO_3-N_{RAS}	mg/L	10
RAS Ratio, R	--	4.0
Alkalinity used for Nitrification	g $CaCO_3$/g NH_4-N	7.14
Alkalinity produced for Denitrification	g $CaCO_3$/g NO_3-N	3.57
Oxygen supplied by Nitrate	g O_2/g NO_3-N	2.86
Final Estimate NO_X	mg/L	59.5
Heterotrophic Yield, Y_H	g VSS/ g BOD	0.4
Endogeneous Decay Rate, k_d	g VSS/g VSS·d	0.080
SRT	d	36

Anoxic Tank Volume Design		
Average Daily Flow (ADF)	284	m^3/d
	75,000	gal/d
Anoxic HRT	8	hr
Anoxic Volume, V_{anox} (Eq.1)	111	m^3
	29,302	gal
% of Total Process Volume	44.3%	
Safety Factor	1.25	
Biological Check		
Anoxic Biomass Concentration, X_b	6,458	mg VSS/L
F/M_b Design Anoxic (Eq.3)	0.24	gBOD/gVSS/d
Specific Denitrification Rate, SDNR	0.02	g NO_3-N/g MLVSS·d
NO_3-N flow to Anoxic Tank (Eq.4)	1,136	m^3/d
	11	kg/d
	25	lbs/d
Check Nitrate Design Capacity, NO_r (Eq.5)	14.3	kg/d
	31.6	lbs/d
Excess NO_3-N Removal Capacity	26%	
Oxygen Check		
Oxygen Credit (Eq.6)	2.1	kg/hr
	4.6	lbs/hr
Net Oxygen Required	3.5	kg/hr
	7.7	lbs/hr
Alkalinity Check		
Alkalinity Produced (Eq.7)	177	mg/L as $CaCO_3$
Alkalinity Used (Eq.8)	425	mg/L as $CaCO_3$
Alkalinity needed to maintain pH	70	mg/L as $CaCO_3$
Alkalinity to be added (Eq.9)	258	mg/L as $CaCO_3$
	73	kg/d as $CaCO_3$

$$Volume = ADF \times \frac{Anoxic\ HRT}{24\ hr/d} \qquad \text{Eq. 1}$$

$$\frac{F}{M_b} = \frac{QS_o}{V_{anox}X_b} \qquad \text{Eq. 2}$$

$$NO_3 - N\ Flow = (ADF \times RAS\ Ratio) \qquad \text{Eq. 3}$$

$$NO_r = V_{anox} \times SDNR \times X_b \qquad \text{Eq. 4}$$

$$Oxygen\ Credit = \left(\frac{2.86g\ O_2}{g\ NO_3 - N}\right)(NO_X - NO_3N_{RAS}) \times ADF \times \frac{1kg}{1000g} \qquad \text{Eq. 5}$$

$$Alkalinity_{produced} = 3.57\left(\frac{g\ CaCO_3}{g\ NO_3 - N}\right)(NO_X - NO_3N_{RAS}) \qquad \text{Eq. 6}$$

$$Alkalinity_{used} = 7.14\left(\frac{g\ CaCO_3}{g\ NH_4 - N}\right)(NO_X) \qquad \text{Eq. 7}$$

$$Alkalinity_{To\ be\ added} = Alk_{for\ pH} - Alk_{in} + Alk_{used} - Alk_{produced} \qquad \text{Eq. 8}$$

Comments

Typically the amount of residual alkalinity required to maintain pH near neutral point (pH~7) is between 70-80 mg $CaCO_3$ based on equilibrium relationships.

SDNR is derived from standard relationship with anoxic F/M ratio and the influent assumed to be 50% readily biodegradeable.

Anoxic volume is allocated for both pre-anoxic and post-anoxic processes.

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WASTEWATER PROCESS SUMMARY

Prepared by:	A MOORE	Sheet No.	[illegible]
Date:	28-Mar-17	Rev. No.	[illegible]
Description:	Membrane Design Chemical Cleaning Summary	Date:	[illegible]
Doc No.	[illegible]	Checked by:	[illegible]
Project Name:	Wilmington MBR	Date	[illegible]

Basis: Membrane module design and chemical cleaning summary

Average Daily Flow (ADF)	284	m^3/d
	75,000	gal/d
Maximum Daily Flow (MDF)	568	m^3/d
	150,000	gal/d
Peak Hour Flow (PHF)	1,136	m^3/d
	300,000	gal/d
Design Flux		
Instantaneous Flux at ADF (Eq.2)	4.4	$gal/ft^2 \cdot d$
Net Flux at ADF (Eq.1)	3.9	$gal/ft^2 \cdot d$
Instantaneous Flux at MDF (Eq.2)	8.9	$gal/ft^2 \cdot d$
Net Flux at MDF (Eq.1)	7.7	$gal/ft^2 \cdot d$
Instantaneous Flux at PHF (Eq.2)	17.7	$gal/ft^2 \cdot d$
Net Flux at PHF (Eq.1)	15.5	$gal/ft^2 \cdot d$
Instantaneous/Net Ratio (Eq.3)	1.1	
Module Selected	HSM500	
Installed Surface Area per Module (Eq.4)	4,842	ft^2
Number of Modules	4	
Number of Trains	2	
Number of Modules per Train	2	
N-1 Design Flux		
Instantaneous Flux at ADF (Eq.2)	8.9	$gal/ft^2 \cdot d$
Net Flux at ADF (Eq.5)	7.7	$gal/ft^2 \cdot d$

Assumptions

2 L/m^2 membrane area for Hydranautics (300-500 mg/L for CEB)

2 L/m^2 membrane area for Hydranautics (3000-5000 mg/L for CIP)

	Concentration	Specific Gravity
NaOCl	10.3%	1.17
Citric Acid	50.0%	1.24

$$Net\ Flux = \frac{Flowrate}{Total\ Membrane\ Area} \quad Eq.1$$

$$Instantaneous\ Flux = Net\ Flux \times Instantaneous\ Net\ Ratio \quad Eq.2$$

$$Instantaneous\ Net\ ratio = \frac{(Permeation\ Cycle + Relax\ Cycle)}{Permeation} \quad Eq.3$$

$$Installed\ Surface\ Area\ per\ Module = Number\ of\ Elements \times Installed\ Membrane\ Area\ per\ Element \quad Eq.4$$

$$(N-1)\ Net\ Flux = \frac{Flowrate}{(Number\ of\ Trains - 1) \times Number\ of\ Modules\ per\ Train \times Installed\ Membrane\ Surface\ Area\ per\ Module} \quad Eq.5$$

Chemical Cleaning Summary	Target Concentration (mg/L)	Elements/ Train	ft^2/Element	kg/Clean (Eq.6)	gal Solution/Clean (Eq.7)	Cleans per year	# Trains	gal/yr (Eq.8)
CEB (NaOCl)	300	40	269	1.3	1.3	48	2	479
CIP (NaOCl)	3,000	40	269	13.2	13.2	4	2	399
CIP (Citric Acid)	3,000	40	269	13.2	2.6	1	2	19

$$\frac{lbs}{Clean} = Target\ Concentration \times 2L \times \frac{Elements}{Train} \times \frac{ft^2}{Element} \times \frac{1kg}{1000000mg} \times \frac{2.205lbs}{1kg} \quad Eq.6$$

$$\frac{gal\ Product}{Clean} = \frac{lbs/Clean}{Concentration \times Specific\ Gravity} \quad Eq.7$$

$$\frac{gal}{year} = \frac{gal\ Product}{Clean} \times Cleans\ per\ year \times Number\ of\ Trains \quad Eq.8$$

Comments

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	WASTEWATER PROCESS SUMMARY	Sheet No.	5 of 7
		Rev. No.	1
Prepared by: A MOORE	**Description:** Sludge Production	Date:	23-Mar-17
Date: 23-Mar-17	**Doc No.** U-15057 **Project Name:** Wimberley MBR	Checked by:	F KENT
		Date:	24-Mar-17

Basis: Sludge production estimation based on yield and wastewater characteristics

Sludge Production based on Wastewater Characteristics

Flowrate	284	m^3/d
	75,000	gal/d
COD	760	mg/L
BOD	380	mg/L
TKN	60	mg/L
sCOD	608	mg/L
sBOD	304	mg/L
BOD_e (S)	1	mg/L
bCOD (Eq.1)	608	mg/L
nbCOD	152	mg/L
$sCOD_e$	122	mg/L
TSS	400	mg/L
VSS	340	mg/L
nbVSS (Eq.2)	68	mg/L
iTSS (Eq.3)	60	mg/L
S_{NH_4}	0.5	mg/L
DO	2	mg/L
Heterotrophic Yield, Y_H	0.4	g VSS/g bCOD
Temperature	15	°C
Final Estimate NO_X	59	mg/L
Selected SRT	36	d

Coefficients Adjusted for Temperature

$\mu_{m\,H,T°C}$	4.28	g VSS/g VSS·d
$k_{d\,H,T°C}$	0.10	g VSS/g VSS·d
μ_{AOB}	0.11	g VSS/g VSS·d
$\mu_{m,\,AOB\,T°C}$	0.64	g VSS/g VSS·d
$k_{d,\,AOB\,T°C}$	0.15	g VSS/g VSS·d

Sludge Production Summary

Sludge Production, $P_{X,bio\,VSS}$ (Eq.4)	29	kg VSS/d
	64	lbs VSS/d
Sludge Production (Including nbVSS) $P_{X\,VSS}$ (Eq.5)	48	kg VSS/d
	106	lbs VSS/d
Total Sludge Production, $P_{X,TSS}$ (Eq.6)	70	kg TSS/d
	155	lbs TSS/d
Estimated Wasting Rate (Eq.7)	8	m^3/d
	2,159	gal/d

$$bCOD = 1.6 \times BOD \qquad \text{Eq. 1}$$

$$nbVSS = \left(1 - \frac{\left(\frac{bCOD}{BOD}\right)(BOD - sBOD)}{(COD - sCOD)}\right) \times VSS \qquad \text{Eq. 2}$$

$$iTSS = TSS - VSS \qquad \text{Eq. 3}$$

$$P_{X,bio\,VSS} = \underbrace{\frac{QY(S_O - S)}{1 + (k_d)SRT}}_{\text{BOD Loading and Biomass Yield}} + \underbrace{\frac{(f_d)(k_d)QY(S_O - S)SRT}{1 + (k_d)SRT}}_{\text{Cell Debris}} + \underbrace{\frac{QY_n(NO_X)}{1 + (k_{dn})SRT}}_{\text{Nitrification}} \left({}^{kgVSS}/_{d}\right) \qquad \text{Eq. 4}$$

$$P_{X,VSS} = P_{X,bio\,VSS} + Q(nbVSS)\left({}^{kg\,VSS}/_{d}\right) \qquad \text{Eq. 5}$$

$$P_{X,TSS} = \frac{P_{X,bio}}{0.85} + Q(nbVSS) + Q(TSS - VSS)\left({}^{kg\,TSS}/_{d}\right) \qquad \text{Eq. 6}$$

$$Wastage\ Rate = \frac{P_{X,TSS}}{MLSS} \qquad \text{Eq. 7}$$

Assumptions

Wastewater Characterisitics	Units	Value
Portion that is Soluble COD	%	80%
Portion that is Soluble BOD	%	80%
Max Hetero. Growth Rate, μ_m	g VSS/g VSS·d	6
Hetero. Decay Rate, k_d	g VSS/g VSS·d	0.12
Half Saturation Coefficient, K_s	g bCOD/m^3	8
Fraction as cell debris, f_d	Unitless	0.15
θ Value, μ_{max} COD Oxidation	Unitless	1.07
θ Value, k_d COD Oxidation	Unitless	1.04
Nitrifying Yield, Y_n	g VSS/g NH_4-N	0.15
Nitrifying Decay Rate, k_{dn}	g VSS/g VSS·d	0.17
Max Nit. Growth Rate μ_m, NH_4	g VSS/g VSS·d	0.9
Half Sat. Coefficient, K_{NH_4}	g VSS/g VSS·d	0.5
Half Sat. Coefficient, K_{O2}		0.5
θ Value, μ_{max} NH_4 Oxidation	Unitless	1.072
θ Value, k_d NH_4 Oxidation	Unitless	1.029

Comments

Sludge production from cell debris and nitrification are neglible. Only sludge production from the BOD loading and biomass yield portion is taken into account.

Overall sludge production ($P_{X,TSS}$) incorporates an iterative calculation process not shown here.

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WASTEWATER PROCESS SUMMARY

Sheet No.	6 of 7		
Rev. No.	1		
Date:	23-Mar-17		
Checked by:	F KENT		
Date:	[illegible]		

Prepared by: A MOORE

Date: 23-Mar-17

Description: Equalization Tank Design

Doc No. U-15057

Project Name: Wimberley MBR

Basis: EQ tank sizing and aeration requirements

Sizing Criteria	Value	Units
Average Daily Flow	284	m^3/d
	75,000	gal/d
Maximum Daily Flow (MDF)	568	m^3/d
	150,000	gal/d
Peak Hourly Flow (PHF)	1,136	m^3/d
	300,000	gal/d
Duration that Peak Flow Occurs	2.4	hr
Equalization Tank Sizing		
Required EQ Volume (Eq.1)	57	m^3
	15,000	gal
Number of EQ tanks	1	
Dimensions		
Width	13.0	ft
Depth	10.0	ft
Length (Eq.2)	15.4	ft
Aeration Requirements		
Total Volume of EQ Tanks	57	m^3
	2,005	ft^3
Total Required Aeration (Eq 3)	70	cfm
Required Aeration per Tank (Eq.4)	70	cfm

$$Required\ EQ\ Volume\ (PHF) = \frac{(PHF - MDF)}{24\ hr/d} \times Duration\ of\ Peak\ Flow\ (hrs) \qquad \text{Eq. 1}$$

$$EQ\ Tank\ Length = \frac{Total\ EQ\ Volume}{EQ\ Width \times EQ\ Depth \times Number\ of\ EQ\ Tanks} \qquad \text{Eq. 2}$$

$$Total\ Required\ Aeration = EQ\ Tank\ Volume(ft^3) \times \frac{35cfm}{1000ft^3} \qquad \text{Eq. 3}$$

$$Required\ Aeration = \frac{Total\ Required\ Aeration}{Number\ of\ EQ\ Tanks} \qquad \text{Eq. 4}$$

Assumptions

Comments

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WASTEWATER PROCESS SUMMARY

Prepared by:	A MOORE	Description: Equipment Power Consumption	
Date:	23-Mar-17	Doc No. U-15057	Project Name: Wimsatley MBR

Sheet No.	[illegible]
Rev No	[illegible]
Date:	[illegible]
Checked by:	[illegible]
Date:	[illegible]

Basis: Summary of process equipment and estimated power consumption

Assumptions		
Energy Cost	$/kWh	0.1
VFD Efficency (η_{VFD})		0.97
Motor Efficency (η_m)		0.9
Equipment Efficency (η_e)		0.65-0.99

Process Equipment	Qty Installed	Qty In Operation	Connected Load per Unit (HP)	Total Connected Load (HP)	Total Connected Load (kW)	Operating Load per Unit (kW)	Total Operating Load (kW)	Hours in Operation/d	Total kWh/d	kWh/yr
Screening	2	2	0.5	1	0.4	0.4	0.8	24.0	18.1	6,601
EQ Pump (VFD)	2	2	2	4	0.2	0.2	0.3	24.0	7.5	2,724
EQ Blower	1	1	5.5	5.5	2.1	2.1	2.1	24.0	50.8	18,556
Pre-Anoxic Mixer	2	2	0.5	1	0.4	0.4	0.8	24.0	18.1	6,601
Process Blower (VFD)	2	2	15	30	5.9	5.9	11.8	24.0	283.3	103,410
Post-Anoxic Mixer	2	2	0.5	1	0.4	0.4	0.8	24.0	18.1	6,601
Membrane Air Scour Blower (VFD)	2	2	10	20	5.9	5.9	11.8	24.0	283.3	103,410
Permeate Pump (VFD)	2	2	3	6	0.01	0.01	0.02	21.0	0.5	178
RAS Pump (VFD)	4	4	2	8	0.7	0.7	2.8	24.0	66.8	24,389
Non-Potable Utility Pump	2	1	0.5	1	0.1	0.1	0.1	1.0	0.1	24
Sludge Blower	1	1	5.5	5.5	2.8	2.8	2.8	12.0	33.8	12,351
UV	2	2	0	0	0.3	0.3	0.6	24.0	14.4	5,256

TOTAL OPERATING LOAD	35	kW
TOTAL kWh/d	795	kWh/d
TOTAL kWh/yr	290,100	kWh/yr
TOTAL YEARLY COST	$29,010	$/yr

Comments

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APPENDIX C – BIOWIN SUMMARY

BioWin Report

Project details

Project name: MBR for BNR Project ref.: BW5.2

Plant name: Wimberley User name: AM

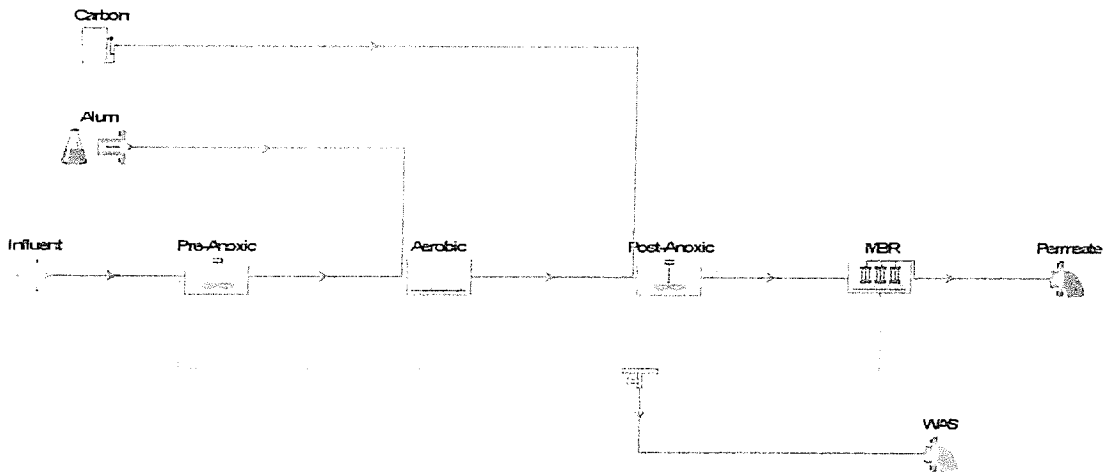
Created: 10/04/2017 Saved: 10/04/2017

Steady state solution

Target SRT: 35.00 days SRT: 35.10 days

Temperature: 15.0°C

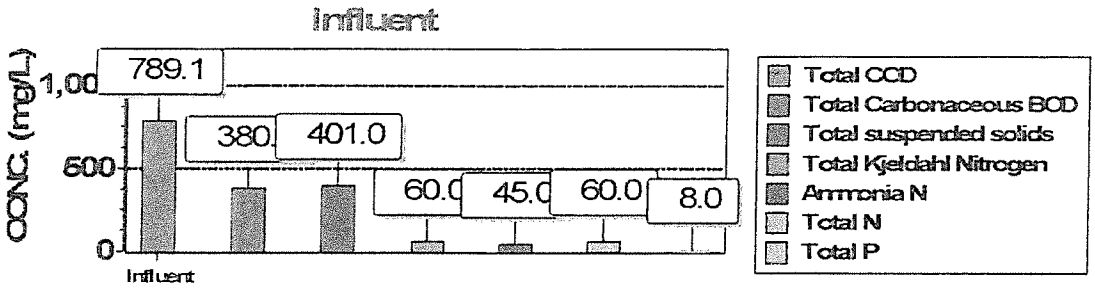
Flowsheet



Water Quality Summary

Parameter	Influent (mg/L)	Effluent (mg/L)
Flow	75,000 GPD	
COD	789	40.7
BOD	380	0.9
TSS	400	0.0
TKN	60	2.3
Ammonia N	45	0.1
TN	60	5.0
TP	8	0.04

Album page - Water Quality



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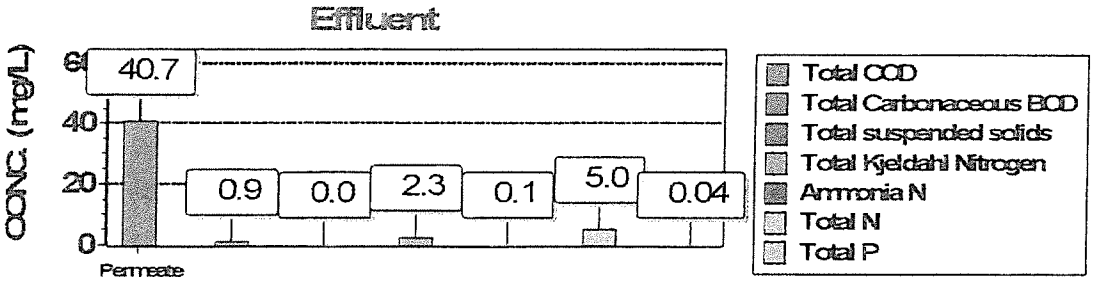

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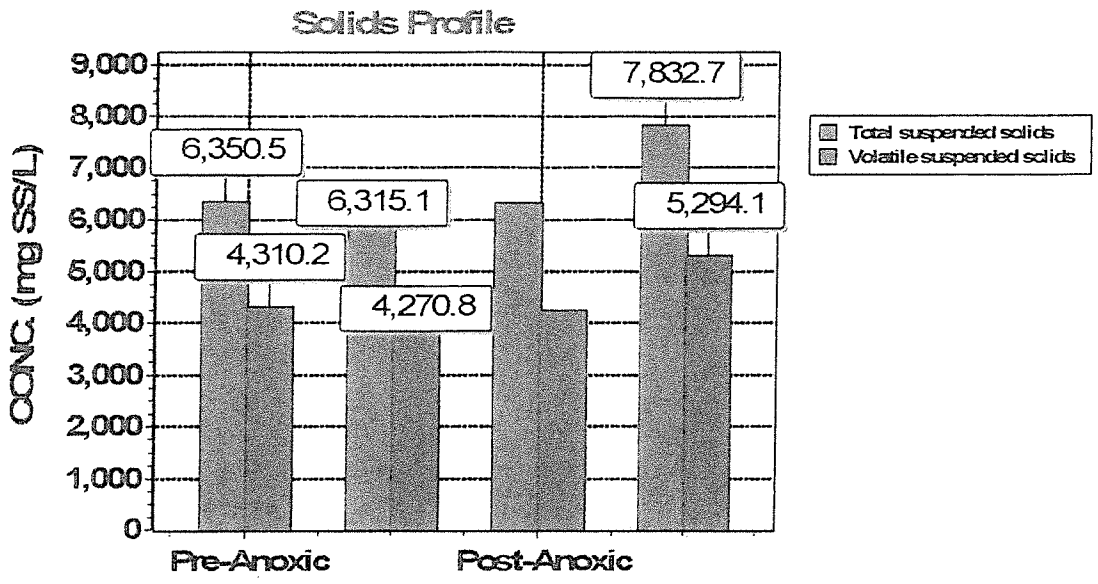

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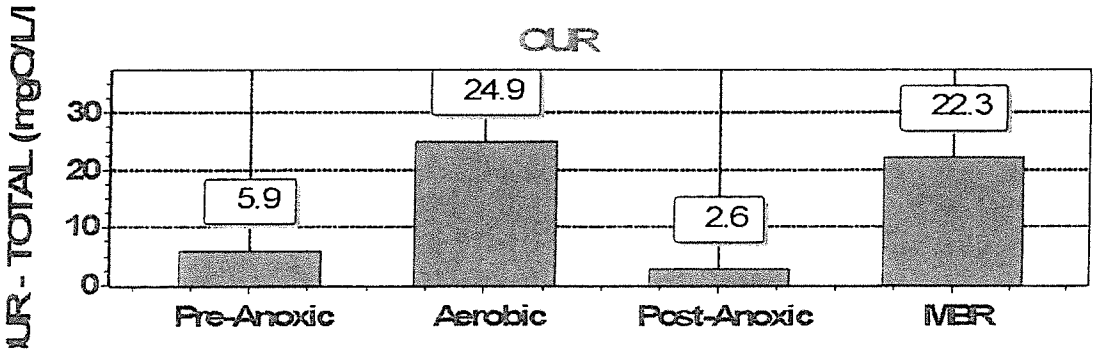

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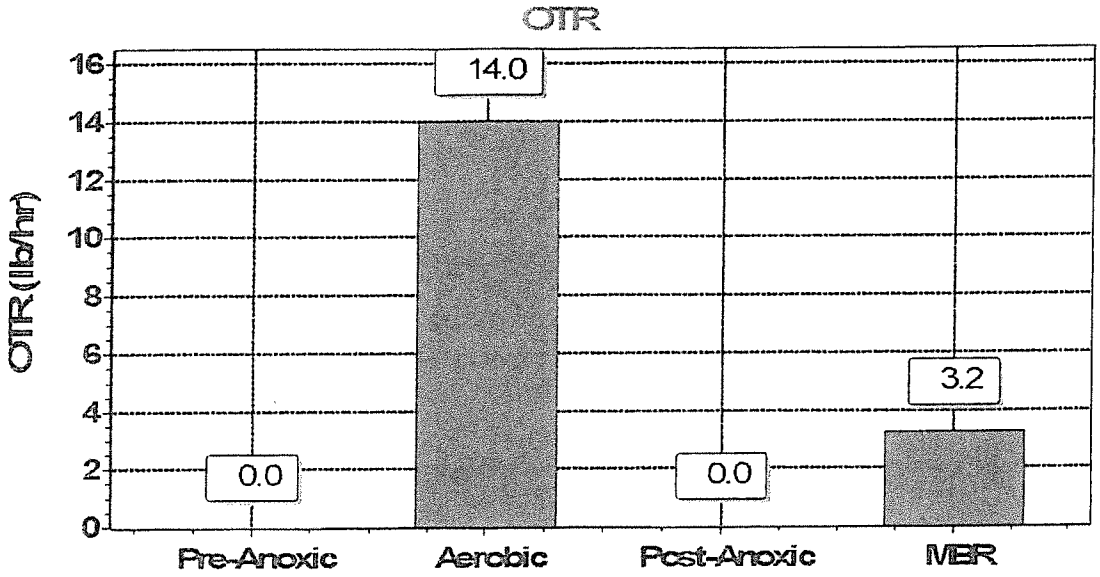

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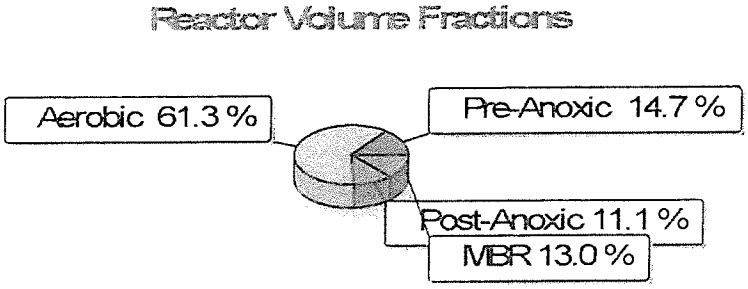

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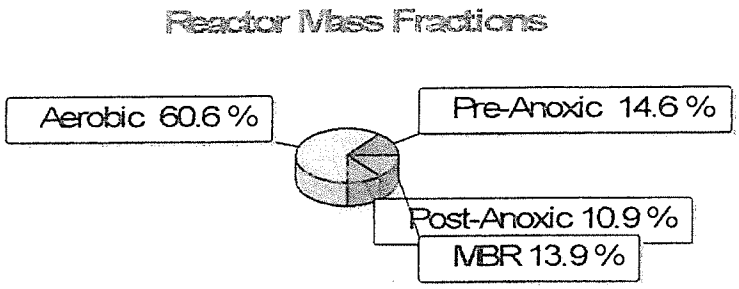
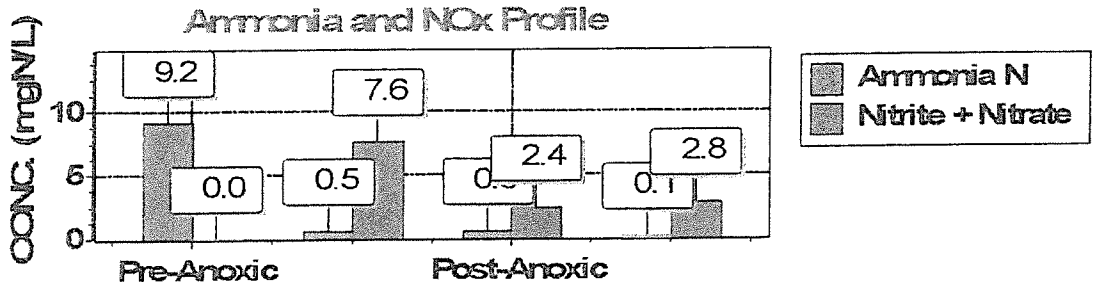
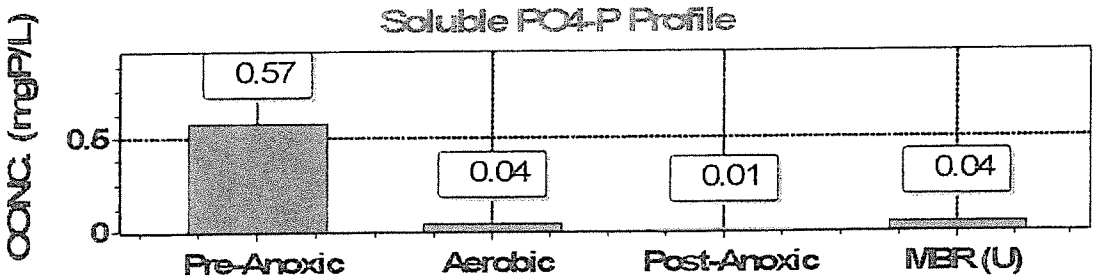


Album page - N and P profiles



Album page - N and P profiles