CONTRACT DOCUMENTS
FOR

Water Tower Altitude Valves

MARCH 2013

ST. JOHN THE BAPTIST PARISH, LOUISIANA

STATE OF LOUISIANA
OSCAR J. BONNEAUX, JR.
REG. NO. 18859
REGISTERED PROFESSIONAL ENGINEER IN CIVIL & ENVIRONMENTAL ENGINEERING

6/3/13

EES PROJECT NO. 1304

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ADMINISTRATIVE SECTION

ADVERTISEMENT FOR BIDS

St. John the Baptist Parish Council (herein referred to as the "Owner")

Sealed bids shall be received by the Owner for the construction of the project described as follows:

Water Tower Altitude Valves

This WORK includes furnishing all labor, materials and equipment for the installation of the altitude valves and associated piping and supports.

Bids shall be addressed to the St. John the Baptist Parish Council and delivered to the receptionist at the Parish President's Office in the Percy Hebert Building, 1801 West Airline Hwy., LaPlace, LA not later than 2:45 o'clock P. M. on Tuesday, July 23, 2013. **Bid envelope shall be marked "Sealed Bid – Water Tower Altitude Valves".** Any bids received after the specified time and date will not be considered. The sealed bids will be publicly opened and read aloud at 3:00 o'clock P. M. that same date in the St. John the Baptist Parish Joel S. McTopy Council Chambers located at 1801 West Airline Hwy. LaPlace, LA.

The Information for Bidders, Form of Bid Proposal, Form of Contract, Plans, Specifications and Forms of Bid Bond, Performance Bond, insurance and other contract documents may be examined at the Office of Environmental Engineering Services, Inc., 610 Belle Terre Blvd., Laplace, LA 70068, Phone (985) 653-0185. Copies may be obtained at that office upon payment of $175 which constitutes the cost of reproduction and handling. Details may be viewed and electronic bids are being accepted @ www.centralbidding.com. Bid documents are also available for viewing on www.sjbparish.com.

The Owner reserves the right to accept or reject any and all bids and to waive any irregularities or informalities incidental thereto, and to accept any bid, which the Owner feels, serves their best interest. Such action will be in accordance with Title 38 of the Louisiana Revised Statues.

Bids shall be received from Bidders only on the Bid Form in the Bidding Documents which is issued to him in his name, as provided in the Louisiana Revised Statutes R.S. 37:2162(b). A single bid shall be submitted for all portions of the Contract Work.

Each Bidder must deposit with his/her bid, security in the amount equal to five percent (5%) of the total bid in the form of a certified check, cashier's check or bid bond.

All bidders must show proof that he/she is licensed in the State of Louisiana under the classification of "Municipal and Public Works Construction". ***Contractor's license number must appear on the face of the sealed envelope containing the bid.***

St. John the Baptist Parish Council, being a government agency, is exempt from all sales tax. The vendor awarded the contract will be provided documentation to support their tax free purchases for this project. Therefore, ***the amount you bid should contain no sales tax.***

The successful bidder will be required to furnish a Performance and Payment Bond written by a company licensed to do business in Louisiana, in the amount equal to one hundred percent (100%) of the contract price. Certificates of Insurance will also be required as specified in the bid package.

No bidder may withdraw his/her bid within forty-five (45) days after the actual date of opening thereof.

The Contractor shall begin mobilization and procurement of necessary materials within ten (10) working days of the receipt of the Notice to Proceed.

Any person with disabilities requiring Special Accommodation must contact The St. John the Baptist Parish Council Office at (985) 652-9569 no later than seven (7) days prior to bid opening. Participation by minority and female owned business, as well as businesses located in this Parish is encouraged.

Equal Opportunity in Employment: All qualified applicants will receive consideration for employment without regard for race, color, religion, sex, or national origin. Bidders on this work will be required to comply with the President's Executive Order No. 11246, as amended. The requirements for bidders and contractors under this order are explained in the specifications.

A pre-bid conference will be held at 10:00 AM on July 9, 2013, at the St. John the Baptist Parish Council Chambers located at 1801 W. Airline Hwy, Laplace, LA 70068. All interested parties are invited to attend.

ST. JOHN THE BAPTIST PARISH COUNCIL

Publish:
June 19, 2013
June 26, 2013
July 3, 2013

INSTRUCTIONS TO BIDDERS

1. DEFINED TERMS

Terms used in these Instructions to Bidders that are defined in the Standard General Conditions of the Construction Contract (No. 1910-8, 1996 Edition) have the meanings assigned to them in the General Conditions.

Certain additional terms used in these Instructions to Bidders have the meanings indicated below which are applicable to both the singular and plural thereof.

1.1 Bidder - one who submits a Bid directly to Owner, as distinct from a sub-bidder, who submits a Bid to a Bidder.

1.2 Issuing Office - the office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered.

1.3 Successful Bidder - the lowest, qualified, responsible and responsive Bidder to whom Owner (on the basis of Owner's evaluation as hereinafter provided) makes an award.

2. COPIES OF BIDDING DOCUMENTS

2.1 Complete sets of the Bidding Documents in the number and for the deposit sum, if any, stated in the Advertisement may be obtained from the Engineer. The deposit will be refunded to each document holder of record who returns a complete set of Bidding Documents in good condition within ten (10) days after opening of Bids. No refunds will be made to non-bidders or sub-bidders.

2.2 Complete sets of bidding Documents must be used in preparing Bids; neither Owner nor Engineer assume 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 on the Work and do not confer a license or grant for any other use.

3. QUALIFICATIONS OF BIDDERS

To demonstrate qualifications to perform the Work, each Bidder must be prepared to submit within five days of Owner's request written evidence, such as financial data, previous experience, present commitments and other such data as may be called for below (or in the Supplementary Instructions). Each Bid must contain evidence of Bidder's qualification to do business in the state where the Project is located or convenient to obtain such qualification prior to award of the Contract.

4. EXAMINATION OF CONTRACT DOCUMENTS AND SITE

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

4.1.1 To examine thoroughly the Contract Documents and other related data identified in the Bidding Documents (including "technical data" referred to below);

4.1.2 To visit the site to become familiar with and satisfy Bidder as to the general, local and site conditions that may affect cost, progress, performance or furnishing of the Work;

4.1.3 To consider federal, state and local Laws and Regulations that may affect cost, progress, performance or furnishing of the Work;

4.1.4 To study and carefully correlate Bidder's knowledge and observations with the Contract Documents and such other related data; and

4.1.5 To promptly notify Engineer of all conflicts, errors, ambiguities or discrepancies, which Bidder has discovered in or between the Contract Documents and such other, related documents.

4.2 Reference is made to the Supplementary Conditions for identification of:

4.2.1 The reports of explorations and tests of subsurface conditions at or contiguous to the site which have been utilized by Engineer in preparation of the Contract Documents. Bidder may rely upon the general accuracy of the "technical data" contained in such reports but not upon other data, interpretations, opinions or information contained in such reports or otherwise relating to the subsurface conditions at the site, nor upon the completeness thereof for the purposes of bidding or construction.

4.2.2 Those drawings of physical conditions in or relating to existing surface and subsurface structures (except Underground Facilities) which are at or contiguous to the site that have been utilized by Engineer in preparation of the Contract Documents. Bidder may rely upon the general accuracy of the "technical data" contained in such drawings but not upon other data, interpretations, opinions or information shown or indicated in such drawings or otherwise relating to such structures, nor upon the completeness thereof for the purposes of bidding or construction.

Copies of such reports and drawings will be made available by Owner to any Bidder upon request. Those reports and drawings are not part of the Contract Documents, but the "technical data" contained therein upon which Bidder is entitled to rely as provided in Paragraphs 4.02 of the General Conditions has been identified and established in the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion drawn from any "technical data" or any such data, interpretations, opinions, or information.

4.3 Information and data shown or indicated in the Contract 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 or others, and Owner does not assume responsibility for the accuracy or completeness thereof unless it is expressly provided otherwise in the Supplementary Conditions.

4.4 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 Contract Documents due to differing or unanticipated conditions appear in Paragraphs 4.02, 4.03 and 4.04 of the General Conditions.

4.5 Before submitting a Bid, each Bidder will be responsible to obtain such additional or supplementary examinations, investigations, explorations, tests studies and data concerning conditions (surface, subsurface and underground facilities) at or contiguous to the site or otherwise which may affect cost, progress, performance or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences or procedures of construction to employed by Bidder and safety precautions and programs incident thereto or which Bidder deems necessary to determine its Bid for performing and furnishing of the Work in accordance with the time, price, and other terms and conditions of the Contract Documents.

4.6 On request, Owner will provide each Bidder access to the site to conduct such examinations, investigations, explorations, tests and studies, as each Bidder deems necessary for submission of a Bid. Bidder must fill all holes, clean up and restore the site to its former condition upon completion of such explorations, investigations, tests and studies.

4.7 Reference is made to the Supplementary Conditions for the identification of the general nature of 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 for which a Bid is to be submitted. On request, Owner will provide to each Bidder for examination access to or copies of Contract Documents (other than portions thereof related to price) for such Work.

4.8 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 Contract Documents and such means, methods, techniques, sequences or procedures of construction (if any) that may be shown or indicated or expressly required by the Contract Documents, that Bidder has given Engineer written notice of all conflicts, errors, ambiguities and discrepancies that Bidder has discovered in the Contract Documents and the written resolutions thereof by Engineer is acceptable to Bidder, and that the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

4.9 The provisions of I-4.2 through 4.8, inclusive, do not apply to Asbestos, Polychlorinated biphenyls (PCB's), Petroleum, Hazardous Waste or Radioactive Material covered by Paragraph 4.06 of the General Conditions.

5. AVAILABILITY OF LANDS FOR WORK, ETC.

The lands upon which the Work is to be performed, rights-of-way and easements for access thereto and other lands designated for use by Contractor in performing the Work are identified in the Contract Documents. All additional lands and access thereto required for temporary construction facilities or storage of materials and equipment are to be incorporated in the Work are to be obtained and paid for by Contractor. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by Owner unless otherwise provided in the Contract Documents.

6. INTERPRETATIONS AND ADDENDA

6.1 All addendums will be issued electronically via the Internet. All bidders must provide the Engineer an e-mail address when plans and specifications are issued. When the addendum is completed and issued, the Engineer will e-mail copies to all plan holders. The addendum will be a PDF file readable via Adobe Acrobat Reader, the latest version thereof. If the bidder does not have Adobe Acrobat Reader, the program can be downloaded free from the Internet at www.adobe.com. After the Engineer Emails all plan holders, a formal notification will be faxed to the plan holder's office notifying the plan holders that the Addenda has been posted to the Internet. Once the Addenda has been posted, the addenda can be downloaded from the website at www.eesinc.net. Hard copies will be mailed in accordance with Public Bid Law. However, consider the receipt of the fax notice of posting the addenda to the web as your official notice of the issuance of an addendum.

6.2 The time and date of the issuance of the fax notification shall constitute the official notification to comply with state law with regards to issuance of the addendum.

6.3 All questions about the meaning or intent of the Bidding Documents are to be directed to Engineer. Interpretation 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 ten days prior to the date for opening of Bids may not be answered. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

6.4 Addenda may also be issued to modify the Bidding Documents as deemed advisable by Owner or Engineer.

7. BID SECURITY

7.1 Each Bid must be accompanied by Bid security made payable to Owner in an amount of five percent of the Bidders maximum Bid price and in the form of a certified or bank check or a Bid Bond (on form attached, if a form is prescribed) issued by a surety meeting the requirements of Paragraph 5.01 of the General Conditions.

7.2 The Bid security of the Successful Bidder will be retained until such Bidder has executed the Agreement and 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 Agreement and furnishes the required contract security within fifteen 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 the seventh day after the Effective date of the Agreement or the thirty-sixth day after the Bid opening, whereupon Bid security furnished by such Bidders will be returned. Bid security with Bids which are not competitive will be returned within seven days after the Bid opening.

8. CONTRACT TIME

The numbers of days within which, or the dates by which, the Work is to be substantially completed and also completed and ready for final payment (the term "Contract Times" is defined in paragraph 1.01(A) 14 of the General Conditions) are set forth in the Agreement (or incorporated therein by reference to the attached Bid Form).

9. LIQUIDATED DAMAGES

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

10. SUBSTITUTE OR "OR-EQUAL" ITEMS

The Contract, if awarded, will be on the basis of materials and equipment described in the Drawings or specified in the Specifications without consideration of possible substitute or "or-equal" items. Whenever it is indicated in the Drawings or specified in the Specifications 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. The procedure for submission of any such application by Contractor and consideration by Engineer is set forth in paragraph 6.05 of the General Conditions and are supplemented in the General Requirements.

For pre-approved equipment or material, submission of alternate equipment or material is required fifteen (15) calendar days before the Bid Opening. Refer to General Requirements for additional information on pre-approved alternates. Any materials or equipment requiring pre-approval by the Engineer and not approval by addendum or listed in the Technical Specifications will not be accepted on this project.

11. SUBCONTRACTORS, SUPPLIERS AND OWNERS

11.1 If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers and other persons and organization (including those who are to furnish the principal items of material and equipment) to be submitted to Owner in advance of the specified date prior to the Effective Date of the Agreement, apparent Successful Bidder, and any other Bidder so requested, shall within five days after the Bid opening submit to Owner a list of all such Subcontractors, Suppliers and other persons and organization proposed for those portions of the Work for which such identification is required. An experience statement shall accompany such list with pertinent information regarding similar projects and other evidence of qualification for each Subcontractor, Supplier, person or organization if requested by Owner. An Owner or Engineer who after due investigation has reasonable objection to any proposed Subcontractor, Supplier, other person or organization, may before the Notice of Award is given request the apparent Successful Bidder to submit an acceptable substitute without an increase in Bid price.

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, and other persons and organizations. The declining to make requested substitutions will not constitutes grounds for sacrificing the Bid security of any Bidder. Any Subcontractor, Supplier, other person or organization listed and to whom Owner or Engineer does not make 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.

11.2 In contracts where the Contract Price is on the basis of Cost-Of-The-Work Plus a Fee, the apparent Successful Bidder, prior to the Notice of Award shall identify in writing to Owner those portions of the Work that such Bidder proposed to subcontract and after the Notice of Award may only subcontract other portions of the Work with Owner's written consent.

11.3 No Contractor shall be required to employ any Subcontractor, Supplier, other person or organization against which Contractor has reasonable objection.

12. BID FORM

12.1 The Bid Form is included with the Bidding Documents; additional copies may be obtained from Engineer.

12.2 All blanks on the Bid Form must be completed by printing in black ink or by typewriter.

12.3 Bids by corporations must be executed in the corporate name by the president or a vice-president (or other corporate officer accompanied by evidence of authority to sign) and the corporate seal must be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation must be shown below the signature.

12.4 Bids by partnerships must be executed in the partnership name and signed by a partner, whose title must appear under the signature and the official address of the partnership must be shown below the signature.

12.5 All names must be typed or printed in black ink below the signature.

12.6 The Bid shall contain an acknowledgement of receipt of all Addenda (the numbers of which must be filled in on the Bid Form).

12.7 The address and telephone number for communications regarding the Bid must be shown.

12.8 Evidence of authority to conduct business as an out-of-state corporation in the state where the Work is to be performed shall be provided in accordance with Paragraph 3 above. State contractor license number, if any, must also be shown.

13. SUBMISSION OF BIDS

Bids shall be submitted at the time and place indicated in the Advertisement for Bid and shall be enclosed in an opaque sealed envelope, marked with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted) and name and address of the Bidder and accompanied by the Bid security and other required documents. If the Bid is sent through the mail or other delivery system the sealed envelope shall be enclosed in a separate envelope with the notation "BID ENCLOSED" on the face of it.

Each prospective Bidder is furnished one copy of the Bidding Documents with one separate unbound copy each of the Bid Form and the Bid Bond. The Bidder may retain the Bidding Documents. The unbound copy of the Bid Form (Section 00300) is to be completed and submitted with the Bid Bond (Section 00360) with the attached Power of Attorney. To be submitted with the bid are as follows:

Louisiana Uniform Public Work Bid Form
Bid Bond with Power of Attorney

Within 10 days after the Bid, the low Bidder will be required to submit the following and documents listed within these specifications, Federal or State Agency requirements, and/or as called for by the Engineer.

Corporate Resolution
Affidavit
Certificate as to Corporate Principal
Bid Qualifications

14. MODIFICATION AND WITHDRAWAL OF BIDS

14.1 Bids 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 at any time prior to the opening of Bids.

14.2 If within forty-eight hours after Bids are opened, the Bidder because of “patently obvious, unintentional and substantial mechanical, clerical, or mathematical errors, or errors of unintentional omission of a substantial of work, labor, materials or services…” may withdraw its Bid and the Bid Security will be returned but only if done by affidavit within 48 hours of bid opening. Thereafter, that Bidder will be disqualified from further bidding on the Work to be provided under the Contract Documents.

15. OPENING OF BIDS

Bids will be opened and (unless obviously non-responsive) read aloud publicly at the place where Bids are to be submitted. 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.

16. BIDS TO REMAIN SUBJECT TO ACCEPTANCE

All Bids will remain subject to acceptance for forty-five days after the day of the Bid opening, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to that date.

17. AWARD OF CONTRACT

17.1 Owner reserves the right to reject any and all Bids, including without limitation the rights to reject any or all nonconforming, non-responsive, unbalanced or conditional Bids and to reject the Bid of any Bidder if Owner believes that it would not be in the best interest to the Project to make an award to that Bidder, whether because the Bid is not responsive or the Bidder is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by Owner. 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. 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.

17.2 In evaluating Bids, Owner will consider the qualifications of the Bidders, 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.

17.3 Owner may consider the qualifications and experience of Subcontractors, Suppliers, and other persons and organizations proposed for those portions of the Work as to which the identity of Subcontractors, Suppliers, and other persons and organizations must be submitted as provided in the Supplementary Conditions. Owner also may consider the operating costs, maintenance requirements, performance data and guarantees of major items of materials and equipment proposed for incorporation in the Work when such data is required to be submitted prior to the Notice of Award.

17.4 Owner may conduct such investigations as Owner deems necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications and financial ability of Bidders, proposed Subcontractors, Suppliers, and other persons and organizations to perform and furnish the Work in accordance with the Contract Documents to Owner's satisfaction within the prescribed time.

17.5 If the contract is to be awarded, it will be awarded to the lowest Bidder whose evaluation by Owner indicates to Owner that the award will be in the best interests of the Project.

17.6 If the contract is to be awarded, Owner will give the Successful Bidder a Notice of Award within forty-five days after the day of the Bid opening.

18. CONTRACT SECURITY

Paragraph 5.01 of the General Conditions and the Supplementary Conditions set forth Owner's requirements as to performance and payment bonds. When the Successful Bidder delivers the executed Agreement to Owner, it must be accompanied by the required Performance and Payment Bonds.

19. SIGNING OF AGREEMENT

When Owner gives a Notice of Award to the Successful Bidder, it will be accompanied by the required number of unsigned counterparts of the Agreement with all other written Contract Documents attached. Within fifteen days thereafter Contractor shall sign and deliver the required number of counterparts of the Agreement and attached documents to Owner with the required bonds. Within ten days thereafter Owner shall deliver one fully signed counterpart to Contractor. Each counterpart is to be accompanied by a complete set of the drawings with appropriate identification.

20. PRE-BID CONFERENCE

Refer to the Advertisement for Bids for pre-bid conference. If no information is provided in the advertisement, a pre-bid conference will not be held.

21. PRE-BID ORAL DISCUSSIONS

During the pre-bid period, many items are discussed as it relates to this Project. Only items addressed in written addendum will be binding. Oral interpretation of the plans and specifications will be without legal effect and may only represent the Owner or Engineer's interpretation of the Contract Documents. If a Bidder wishes to have a clarification binding, the Bidder should make a formal request to have the clarification stated in the Addendum. Refer to paragraph I 6 for "Interpretation and Addenda".

22. SALES AND USE TAXES

The Contractor shall be exempt from Sales and Use Tax provided the Contractor complies with all provisions of R.S. 47:301 (8) and all regulations and rules promulgated by the Department of Revenue for Contractor to qualify for exclusion from Sales and Use Tax. Failure by Contractor to comply with these provisions including the execution of all documentation required by these Statues and the Department of Revenue shall result in the Contractor being responsible for all sales and use taxes.

23. RETAINAGE

Provisions concerning retainage and Contractor's rights to deposit securities in lieu of retainage are set forth in the Agreement.

24. CONTRACTOR'S LICENSING LAW

Federal regulations for procurement under assistance Agreements prohibit the employment of state or local laws, ordinances, regulations or procedures that give local or in-state Bidders or proposers preference over other Bidders or proposers. Contractors that do not possess a Louisiana Contractors License may Bid on this Project by placing the following statement on the Bid envelope "This Bid is submitted in accordance with Louisiana R.S. 37-2157.D".

Any successful Bidder who does not have a Louisiana Contractor's License must submit an application for a license complete and in its entirety and pay the fee prior to commencement of Work, and must comply with any additional requirements of the Louisiana State Licensing Board for Contractors.

25. HOLD HARMLESS

To the fullest extent permitted by law, Company/Consultant shall indemnify, hold harmless, and defend the Parish Council and all of its Agents and Employees, from and against all claims, damages, losses and expenses, including but not limited to attorney's fees, arising out of or resulting from performance of the work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the work itself) including loss of use resulting therefrom, but only to the extent caused in whole or in part by negligent acts or omissions of Company.

26. NON-ASSIGNABILITY

No Company/Consultant shall assign any interest in this contract by assignment, transfer, or novation, without prior written consent of the Parish. This provision shall not be construed to prohibit the contractor from assigning his bank, trust company, or other financial institution any money due or to become due from approved contracts without such prior written consent. Notice of any such assignment or transfer shall be furnished promptly to the Parish.

27. EXCLUSIONS

Pursuant to Louisiana Revised Statute 38:2227, Company must certify that he has not been convicted of, or has not entered into a plea of guilty or nolo contendere to public bribery, corrupt influencing, extortion, money laundering or their equivalent Federal crimes. Consultant must further certify that he has not been convicted of, or has not entered into a plea of guilty or nolo contendere to theft, identify theft, theft of a business record, false accounting, issuing worthless checks, bank fraud, forgery, contractors' misapplication of payments, malfeasance in office, or their equivalent Federal crimes within the five (5) years prior to submitting the proposal.

28. DISCLOSURE

Company/Consultant must disclose whether it provides services or pays commissions to any employee or elected official of St. John the Baptist Parish. If so, company must disclose to whom services are provided and/or commissions are paid. Both positive and negative responses must be submitted.

29. E-VERIFY PROGRAM

Pursuant to Louisiana Revised Statute 38:2212.10, contractor must certify that it and each individual, firm or corporation associated with it and engaged in the physical performance of services in the State of Louisiana, under a contract with St. John the Baptist Parish has registered with, is participating in, and shall continue to participate in a federal work authorization program designated as such under the Illegal Immigration Reform and Immigrant Responsibility Act of 1996, as amended, which is operated by the United States Department of Homeland Security, known as the "E-Verify" program. Contractor must verify the legal status of all existing and new employees in the State of Louisiana by attesting herein that each is a citizen of the United States or legal aliens as defined by now effective immigration laws of the United States of America.

END OF SECTION

BIDDING FORMS

LOUISIANA UNIFORM PUBLIC WORK BID FORM

TO: **St. John the Baptist Parish**
1801 West Airline Highway
LaPlace, LA 70068

BID FOR: **Water Tower Altitude Valves**
EES Project No. 1304

The undersigned bidder hereby declares and represents that she/he; a) has carefully examined and understands the Bidding Documents, b) has not received, relied on, or based his bid on any verbal instructions contrary to the Bidding Documents or any addenda, c) has personally inspected and is familiar with the project site, and hereby proposes to provide all labor, materials, tools, appliances and facilities as required to perform, in a workmanlike manner, all work and services for the construction and completion of the referenced project, all in strict accordance with the Bidding Documents prepared by: **Environmental Engineering Services, Inc., LaPlace, LA.**

Bidders must acknowledge all addenda. The Bidder acknowledges receipt of the following **ADDENDA:**
(Enter the number the Designer has assigned to each of the addenda that the Bidder is acknowledging)**:**

Addendum No. ____ Addendum Date: _____ **Addendum No. ____ Addendum Date: _____**
Addendum No. ____ Addendum Date: _____ **Addendum No. ____ Addendum Date: _____**
Addendum No. ____ Addendum Date: _____ **Addendum No. ____ Addendum Date: _____**

TOTAL BASE BID: For all work required by the Bidding Documents, the lump sum of:

_____

_____Dollars ($ _____)
(price in words) (price in numbers)

ALTERNATE NO. 1: None.

NAME OF BIDDER: _____

ADDRESS OF BIDDER: _____

_____

TELEPHONE NUMBER AND E-MAIL ADDRESS: _____

LOUISIANA CONTRACTOR'S LICENSE NUMBER: _____

NAME OF AUTHORIZED SIGNATORY OF BIDDER: _____

TITLE OF AUTHORIZED SIGNATORY OF BIDDER: _____

SIGNATURE OF AUTHORIZED SIGNATORY OF BIDDER **: _____

DATE: _____

* The Unit Price Form shall be used if the contract includes unit prices. Otherwise it is not required and need not be included with the form. The number of unit prices that may be included is not limited and additional sheets may be included if needed.
** If someone other than a corporate officer signs for the Bidder/Contractor, a copy of a corporate resolution or other signature authorization shall be required for submission of bid. Failure to include a copy of the appropriate signature authorization, if required, may result in the rejection of the bid unless bidder has complied with La. R.S. 38:2212(A)(1)(c) or RS 38:2212(O) .

BID SECURITY in the form of a bid bond, certified check or cashier's check as prescribed by LA RS 38:2218.A is attached to and made a part of this bid.

BID BOND

BIDDER (Name and Address)

_____

_____

_____

SURETY (Name and Address of Principal Place of Business)

_____

_____

_____

OWNER (Name and Address)

St. John the Baptist Parish

1801 West Airline Highway

LaPlace, Louisiana 70068

BID

BID DUE DATE:_____

PROJECT (Brief Description including Location) Water Tower Altitude Valves

St. John the Baptist Parish, Louisiana

BOND

BOND NUMBER:_____

DATE: (Not later than Bid Due Date):_____

PENAL SUM:_____

IN WITNESS WHEREOF, 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**
_____ (SEAL)	_____ (SEAL)
Bidder's Name and Corporate Seal	Surety's Name and Corporate Seal
By:_____	By:_____
Signature and Title	Signature and Title (Attach Power of Attorney)
Attest:_____	Attest:_____
Signature and Title	Signature and Title

==========

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Note: 1) Above addresses are to be used for giving required notice.

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

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EJCDC NO. 1910.28-C (1990 Edition)

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assign to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond.

2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents and Contract 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 and Contract Documents, or
   3.2 All bids are rejected by Owner, or
   3.3 Owner fails to issue a notice of award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by paragraph 5 hereof).

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

5. Surety waives notice of and any 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 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. Notice 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 State 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 for at length. If any provision of any applicable statute, then the provision of said statue 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.

END OF SECTION

BID QUALIFICATIONS

This attachment shall be submitted by Low Bidder before Contract is awarded.

I. CONTRACTORS EXPERIENCE

The Contractor's five (5) most recent comparable type projects are as follows:

Project	Engineer	Owner	Contract Amount
1.			
2.			
3.			
4.			
5.			

II. PROPOSED SUBCONTRACTORS

The following is a list of proposed Contractor's who will work on this Project:

Name of Subcontractor	Type of Work	Address
1.		
2.		
3.		
4.		
5.		

III. MATERIAL

The following is a list of manufacturers of major equipment or supplies upon which this bid is based:

Component	Manufacturer and Trade Name
1. Altitude Valve	
2. Check Valve	
3.	
4.	
5.	

END OF SECTION

CONTRACT FORMS

EJCDC
STANDARD FORM OF AGREEMENT
BETWEEN OWNER AND CONTRACTOR
ON THE BASIS OF A STIPULATED PRICE

THIS AGREEMENT is dated as of the _____ day of _____ in the year 20___ by and between St. John the Baptist Parish (hereinafter called OWNER) and _____ (hereinafter called CONTRACTOR).

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

Article 1 - WORK

CONTRACTOR shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

Water Tower Altitude Valves

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

Water Tower Altitude Valves
EES Project No. 1304

Article 2 - ENGINEER

The Project has been designed by: Environmental Engineering Services, Inc.
610 Belle Terre Boulevard, LaPlace, Louisiana 70068

who is hereinafter called ENGINEER and who is to act as OWNER's representative, assume all duties and responsibilities and have the rights and authority assigned to ENGINEER in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents.

Article 3 - CONTRACT TIMES

3.1 The Work will be substantially completed within 180 days after the date when the Contract Times commence to run 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 225 days after the date when the Contract Times commence to run.

3.2 Liquidated Damages - OWNER and CONTRACTOR recognize that time is of the essence of this Agreement and that OWNER will suffer financial loss if the Work is not completed within the times specified in paragraph 3.1 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. They also recognize the delays, expense and difficulties involved in proving the actual loss suffered by OWNER if the Work is not completed on time. Accordingly, instead of requiring such proof, OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty) CONTRACTOR shall pay OWNER Five Hundred Dollars ($500.00) for each day that expires after the time specified in paragraph 3.1 for Substantial Completion until the Work is substantially complete. After Substantial Completion, if CONTRACTOR shall neglect, refuse, or fail to complete the remaining Work within time specified in paragraph 3.1 for completion and readiness for final payment or any proper extension thereof granted by OWNER, CONTRACTOR shall pay OWNER

Two Hundred Fifty Dollars ($250.00) for each day that expires after the time specified in paragraph 3.1 for completion and readiness for final payment.

Article 4 - CONTRACT PRICE

OWNER shall pay CONTRACTOR for completion of the Work in accordance with the Contract Documents an amount in current funds equal to the sum of the amounts determined pursuant to paragraph 4.1 below:

4.1 for all Work, a Lump Sum of:

_____

_____ ($_____)

(Price in Words) (Price in number)

All specific cash allowances are included in the above price and have been computed in accordance with paragraph 11.02 of the General Conditions.

Article 5 - PAYMENT PROCEDURES

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.

5.1 Progress payments; Retainage - OWNER shall make progress payments on account of the Contract Price on the basis of CONTRACTOR's Applications for Payment as recommended by ENGINEER, on or about the 25th day of each month during construction as provided in paragraphs 5.1.1 and 5.1.2 below. All such payments will be measured by the schedule of values established in paragraph 2.07 of the General Conditions (and in 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.

5.1.1 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 shall determine, or OWNER may withhold, in accordance with paragraph 14.02 of the General Conditions:

__% of Work completed (with the balance being retainage). If Work has been 50% completed as determined by Engineer, and if the character and progress of the Work have been satisfactory to Owner and Engineer, Owner, on recommendation of Engineer, may determine that as long as the character and progress of the Work remain satisfactory to them, there will be no additional retainage on account of Work completed, in which case of the remaining progress payments prior to Substantial Completion will be in an amount equal to 100% of the Work completed.

__% (with balance being retainage) of materials and equipment not incorporated in the Work (but delivered, suitably stored and accompanied by documentation satisfactory to Owner as provided in paragraph 14.02 of the General Conditions).

5.1.2 Upon Substantial Completion, in an amount sufficient to increase total payments to Contractor to ___% of the Contract Price (with the balance being retainage), less such amounts as Engineer shall determine, or Owner may withhold, in accordance with paragraph 14.02 of the General Conditions.

5.2 Final Payment - 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 6 - INTEREST

No interest will be paid on this Project.

Article 7 - CONTRACTOR'S REPRESENTATIVE

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

7.1 CONTRACTOR has examined and carefully studied the Contract Documents (including the Addenda listed in article 8) and the other related data identified in the Bidding Documents including "technical data".

7.2 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, performance or furnishings of the Work.

7.3 CONTRACTOR is familiar with and is satisfied as to all federal, state and local laws and regulations that may affect cost, progress, performance and furnishing of the Work.

7.4 CONTRACTOR 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 the Supplementary Conditions as provided in paragraph 4.02 of the General Conditions. CONTRACTOR accepts the determination set forth in paragraph SC-4.02 of the Supplementary Conditions of the extent of the "technical data" contained in such reports and drawings upon which CONTRACTOR is entitled to rely as provided in paragraph 4.02 of the General Conditions. CONTRACTOR acknowledges that such reports and drawings are not Contract Documents and may not be complete for CONTRACTOR's purposes. CONTRACTOR acknowledges that OWNER and ENGINEER do not assume responsibility for the accuracy or completeness of information and data shown or indicated in the Contract Documents with respect to Underground Facilities at or contiguous to the site. CONTRACTOR has obtained and carefully studied (or assumes responsibility for having done so) all such additional supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and underground facilities) at or contiguous to the site or otherwise which may affect cost, progress, performance, or finishing of the Work or which relate to any aspect of the means, methods, techniques, sequences and procedures of construction to be employed by CONTRACTOR and safety precautions and programs incident thereto. CONTRACTOR does not consider that any additional examinations, investigations, explorations, tests, studies or data are necessary for the performance and furnishing of the Work at the Contract Price, within the Contract Times and in accordance with the other terms and conditions of the Contract Documents.

7.5 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.

7.6 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, explorations, tests, studies and data with the Contract Documents.

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

Article 8 - CONTRACT DOCUMENTS

The Contract Documents, which comprise the entire agreement between OWNER and CONTRACTOR concerning the Work, consist of the following:

8.1 This Agreement (pages 00500-1 to 00500-6, inclusive).
8.2 Construction Performance Bond, pages 00510-1 to 00510-2 and Construction Payment Bond, pages 00520-1 to 00520-2
8.3 Corporate Resolution, page 00530-1 and Affidavit, pages 00540-1 to 00540-2.
8.4 Hold Harmless Agreement, page 00550-1.
8.5 Notice to Proceed, page 00610-1.
8.6 General Conditions (Blue pages) ___ to ___.
8.7 Supplementary Pages (Pink Pages) ____ to____.
8.8 Specifications bearing the title Water Tower Altitude Valves and consisting of ___ divisions and ___ pages, as listed in the table of contents thereof.
8.9 Drawings consisting of a cover sheet and sheets numbered ____ to ___, inclusive with each sheet bearing the following general title:
_____
8.10 Addenda Numbers __ to __, inclusive.
8.11 CONTRACTOR'S Bid (Copy) ___ to ___, inclusive, marked Exhibit ___.
8.12 Documentation submitted by CONTRACTOR prior to Notice of Award (Pages ___ to ___, inclusive).
8.13 The following which may be delivered or issued after the Effective Date of the Agreement and are not attached hereto: All written amendments and other documents amending, modifying or supplementing the Contract Documents pursuant to paragraphs 3.04 of the General Conditions.

The documents listed in paragraphs 8.2 et seq. above are attached to this Agreement (except as expressly noted otherwise above).

There are no Contract Documents other than those listed above in this Article 8. The Contract Documents may only be amended, modified, or supplemented as provided in paragraph 3.04 of the General Conditions.

Article 9 - MISCELLANEOUS

9.1 Terms used in this Agreement, which are defined in Article 1 of the General Conditions, will have the meanings indicated in the General Conditions.

9.2 No assignment by a party hereto of any rights under or interests in the Contract Documents 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 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.

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

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

9.5 OTHER PROVISIONS

(State other intentions in this space)

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

This Agreement will be effective on _____, 20__
(which is the Effective date of the Agreement).

OWNER	CONTRACTOR
St. John the Baptist Parish	_____
By: _____ Natalie Robottom, Parish President	By: _____
(CORPORATE SEAL)	(CORPORATE SEAL)
Attest _____	Attest _____
Address for giving notices 1801 West Airline Highway LaPlace, LA 70068	Address for giving notices _____ _____
(If OWNER is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of Agreement).	License No. _____ Agent for service of Process: _____ (If CONTRACTOR is a corporation, attach evidence of authority to sign).

END OF SECTION

CONSTRUCTION PERFORMANCE BOND

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

CONTRACTOR (Name and Address)

SURETY (Name and Principal Place of Business)

OWNER (Name and Address)

St. John the Baptist Parish
1801 West Airline Highway
LaPlace, Louisiana 70068

CONSTRUCTION CONTRACT
Date:
Amount:
Description (Name and Location): Water Tower Altitude Valves

BOND
Date: (Not Earlier than Construction Contract Date)
Amount:
Modifications to this Bond Form:

CONTRACTOR AS PRINCIPAL
Company: (Corp. Seal)

Signature:_____
Name and Title:

SURETY
Company: (Corp. Seal)

Signature:_____
Name and Title:

(Space is provided below for signatures of additional parties, if required.)

CONTRACTOR AS PRINCIPAL
Company: (Corp. Seal)

Signature:_____
Name and Title:

SURETY
Company: (Corp. Seal)

Signature:_____
Name and Title:

EJCDC No. 1910-28A (1984 Edition)
Prepared through the joint efforts of The Surety Association of American, Engineers' Joint Contract Documents Committee, The Associated General Contractors of America, and the American Institute of Architects.

1. The Contractor and the Surety, jointly and severally bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

2. If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except to participate in conferences as provided in Subparagraph 3.1.

3. If there is no Owner Default, the Surety's obligation under this Bond shall arise after:

3.1 The Owner has notified the Contractor and the Surety at its address described in Paragraph 10 below, that the Owner is considering declaring a Contractor Default and has requested and attempted to arrange a conference with the Contractor and the Surety to be held not later than fifteen days after receipt of such notice to discuss methods of performing the Construction Contract. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default; and

3.2 The Owner has declared a Contractor Default and formally terminated the Contractor's right to complete the contract. Such Contractor Default shall not be declared earlier than twenty days after the Contractor and the Surety have received notice as provided in Subparagraph 3.1; and

3.3 The Owner has agreed to pay the Balance of the Contract Price to the Surety in accordance with the terms of the Construction Contract or to a contractor selected to perform the Construction Contract in accordance with the terms of the contract with the Owner.

4. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

4.1 Arrange for the Contractor, with consent of the Owner, to perform and complete the Construction Contract; or

4.2 Undertake to perform and complete the Construction Contract itself, through its agents or through independent contractors; or

4.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and the Contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 6 in excess of the Balance of the Contract Price incurred by the Owner resulting from the Contractor's default; or

4.4 Waive its right to perform and complete, arrange for completion, or obtain a new Contractor and with reasonable promptness under the circumstances:

1. After investigation, determine the amount for which it may be liable to the Owner and as soon as practicable after the amount is determined, tender payment therefore to the Owner; or

2. Deny liability in whole or in part and notify the Owner citing reasons therefore.

5. If the Surety does not proceed as provided in Paragraph 4 with reasonable promptness, the Surety shall be deemed to be in default on this Bond fifteen days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Subparagraph 4.4, and the Owner refuses the payment tendered or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

6. After the Owner has terminated the Contractor's right to complete the Construction Contract, and if the Surety elects to act under Subparagraph 4.1, 4.2 or 4.3 above, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. To the limit of the amount of this Bond, but subject to commitment by the Owner of the Balance of the Contract Price to mitigation of costs and damages on the Construction Contract, the Surety is obligated without duplication for:

6.1 The responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

6.2 Additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 4; and

6.3 Liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

7. The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, or successors.

8. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

9. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after Contractor Default or within two years after Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

10. Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the signature page.

11. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted here from and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

12. Definitions.

12.1 Balance of the Contract Price: The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

12.2 Construction Contract: The agreement between the Owner and the Contractor identified on the signature page, including all Contract Documents and changes thereto.

12.3 Contractor Default: Failure of the Contractor, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Construction Contract.

12.4 Owner Default: Failure of the Owner, which has neither been remedied nor waived, to pay the Contractor as required by the Construction Contract or to perform and complete or comply with the other terms thereof.

FOR INFORMATION ONLY-Name, Address, and Telephone	
AGENT OR BROKER:	OWNERS' REPRESENTATIVE (Architect, Engineer, or other party): Environmental Engineering Services, Inc. 610 Belle Terre Boulevard, LaPlace, Louisiana 70068 (985) 653-0185

CONSTRUCTION PAYMENT BOND

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

CONTRACTOR (Name and Address)

SURETY (Name and Principal Place of Business)

OWNER (Name and Address)

St. John the Baptist Parish
1801 West Airline Highway
LaPlace, Louisiana 70068

CONSTRUCTION CONTRACT
Date:
Amount:
Description (Name and Location): Water Tower Altitude Valves

BOND
Date: (Not Earlier than Construction Contract Date)
Amount:
Modifications to this Bond Form:

CONTRACTOR AS PRINCIPAL
Company: (Corp. Seal)

Signature:_____
Name and Title:

SURETY
Company: (Corp. Seal)

Signature:_____
Name and Title:

(Space is provided below for signatures of additional parties, if required.)

CONTRACTOR AS PRINCIPAL
Company: (Corp. Seal)

Signature:_____
Name and Title:

SURETY
Company: (Corp. Seal)

Signature:_____
Name and Title:

EJCDC No. 1910-28A (1984 Edition)
Prepared through the joint efforts of The Surety Association of America, Engineers' Joint Contract Documents Committee, The Associated General Contractors of America, and the American Institute of Architects, American Subcontractors Association, and the Associated Specialty Contractors.
Reprinted 10/90

1. The Contractor and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference.

2. With respect to the Owner, this obligation shall be null and void if the Contractor:

2.1 Promptly makes payment, directly or indirectly, for all sums due Claimants, and

2.2 Defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity whose claim, demand, lien or suit is for payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, provided the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 12) of any claims, demands, liens or suits and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety, and provided there is no Owner Default.

3. With respect to Claimants, this obligation shall be null and void if the Contractor promptly makes payment, directly or indirectly, for all sums due.

4. The Surety shall have no obligation to Claimants under this Bond until:

4.1 Claimants who are employed by or have a direct contract with the Contractor have given notice to the Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to the Owner, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim.

4.2 Claimants who do not have a direct contract with the Contractor:

1. Have furnished written notice to the Contractor and sent a copy, or notice thereof, to the Owner within 90 days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials were furnished or supplied or for whom the labor was done or performed: and

2. Have either received a rejection in whole or in part from the Contractor, or not received within 30 days of furnishing the above notice any communication from the Contractor by which the Contractor has indicated the claim will be paid directly or indirectly; and

3. Not having been paid within the above 30 days, have sent a written notice to the Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to the Owner, stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to the Contractor.

5. If a notice required by Paragraph 4 is given by the Owner to the Contractor or to the Surety, which is sufficient compliance.

6. When the Claimant has satisfied the conditions of Paragraph 4, the Surety shall promptly and at the Surety's expense take the following actions:

6.1 Send an answer to the Claimant, with a copy to the Owner, within 45 days after receipt of the claim, stating the amounts that are undisputed and that basis for challenging any amounts that are disputed.

6.2 Pay or arrange for payment of any undisputed amounts.

7. The Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

8. Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any under any Construction Performance Bond.

By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and the Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

9. The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.

10. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

11. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the location in which the work or part of the work is located of after the expiration of one year form the date (1) on which the Claimant gave the notice required by Subparagraph 4.1 or Clause 4.2(iii) or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12. Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the signature page. Actual receipt of notice by Surety, the Owner or the Contractor, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.

13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in the Bond conflicting with said statutory or legal requirement shall be deemed deleted here from and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is, that this Bond shall be construed as a statutory bond and not as a common law bond.

14. Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor shall promptly furnish a copy of this Bond or shall permit a copy to be made.

15. Definitions:

15.1 Claimant: An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms "labor, material or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

15.2 Construction Contract: The agreement between the Owner and the Contractor identified on the signature page, including all Contract Documents and changes thereto.

15.3 Owner Default: Failure of the Owner, which has neither been remedied nor waived, to pay the Contractor as required by the Construction Contract or to perform and complete or comply with the other terms thereof.

FOR INFORMATION ONLY-Name, Address, and Telephone	
AGENT OR BROKER:	OWNERS' REPRESENTATIVE (Architect, Engineer, or other party): Environmental Engineering Services, Inc. 610 Belle Terre Boulevard, LaPlace, Louisiana 70068 (985) 653-0185

CORPORATE RESOLUTION

A meeting of the Board of Directors of _____ a corporation organized under the laws of the State of _____ and domiciled _____ _____ was held this ___ day of _____, 20__ and was attended by a quorum of the members of the Board of Directors.

The following resolution was offered, duly seconded and, after discussion, was unanimously adopted by said quorum:

BE IT RESOLVED, that _____ is hereby authorized to submit bid proposals and execute agreements on behalf of this corporation with the Parish of _____ for the construction of public improvements for the Parish of _____ and/or any City within the Parish of _____.

BE IT FURTHER RESOLVED, that said authorization and appointment shall remain in full force and effect, unless revoked by resolution of this Board of Directors and that said revocation will not take effect until the purchasing agency of the Parish of _____, shall have been furnished a copy of said resolution, duly certified.

I, _____ hereby certify that I am the Secretary of _____ a corporation created under the laws of the State of Louisiana domiciled in _____; that the foregoing is a true and exact copy of a resolution adopted by a quorum of the Board of Directors of said corporation at a meeting legally called and held on the _____day of _____ 20__, as said resolution appears of record in the Official minutes of the Board of Directors in my possession this _____ day of _____ 20__.

_____

Secretary

END OF SECTION

Hold Harmless

To the fullest extent permitted by law, Company/Consultant shall indemnify, hold harmless, and defend the Parish Council and all of its Agents and Employees, from and against all claims, damages, losses and expenses, including but not limited to attorney's fees, arising out of or resulting from performance of the work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the work itself) including loss of use resulting therefrom, but only to the extent caused in whole or in part by negligent acts or omissions of Company.

Non-assign Ability

No Company/Consultant shall assign any interest in this contract by assignment, transfer, or novation, without prior written consent of the Parish. This provision shall not be construed to prohibit the contractor from assigning his bank, trust company, or other financial institution any money due or to become due from approved contracts without such prior written consent. Notice of any such assignment or transfer shall be furnished promptly to the Parish.

Exclusions

Pursuant to Louisiana Revised Statute 38:2227, Company must certify that he has not been convicted of, or has not entered into a plea of guilty or nolo contendere to public bribery, corrupt influencing, extortion, money laundering or their equivalent Federal crimes. Consultant must further certify that he has not been convicted of, or has not entered into a plea of guilty or nolo contendere to theft, identify theft, theft of a business record, false accounting, issuing worthless checks, bank fraud, forgery, contractors' misapplication of payments, malfeasance in office, or their equivalent Federal crimes within the five (5) years prior to submitting the proposal.

Disclosure

Company/Consultant must disclose whether it provides services or pays commissions to any employee or elected official of St. John the Baptist Parish. If so, company must disclose to whom services are provided and/or commissions are paid. Both positive and negative responses must be submitted.

E-Verify Program

Pursuant to Louisiana Revised Statute 38:2212.10, contractor must certify that it and each individual, firm or corporation associated with it and engaged in the physical performance of services in the State of Louisiana, under a contract with St. John the Baptist Parish has registered with, is participating in, and shall continue to participate in a federal work authorization program designated as such under the Illegal Immigration Reform and Immigrant Responsibility Act of 1996, as amended, which is operated by the United States Department of Homeland Security, known as the "E-Verify" program. Contractor must verify the legal status of all existing and new employees in the State of Louisiana by attesting herein that each is a citizen of the United States or legal aliens as defined by now effective immigration laws of the United States of America.

E-VERIFY AFFIDAVIT

STATE OF LOUISIANA

PARISH OF _____

BEFORE ME, the undersigned Notary Public PERSONALLY CAME AND APPEARED,

I, _____, the owner/authorized representative of

_____
Company/Individual/Legal Entity Name

who hereby personally and as the authorized representative of the above identified legal person executes this affidavit, as the undersigned Contractor verification of its current and future compliance with L.S.A. R.S. 38:2212.10, stating affirmatively that it and each individual, firm or corporation associated with it and engaged in the physical performance of services in the State of Louisiana, under a contract with St. John the Baptist Parish has registered with, is participating in, and shall continue to participate in a federal work authorization program designated as such under the Illegal Immigration Reform and Immigrant Responsibility Act of 1996, as amended, which is operated by the United States Department of Homeland Security, known as the "E-Verify" program. The Contractor hereby verifies the legal status of all existing and new employees in the State of Louisiana by attesting herein that each is a citizen of the United States or legal aliens as defined by now effective immigration laws of the United States of America.

Contractor shall not assign this Contract or any monies due or to become due hereunder, or subcontract any part of the Work without the prior written consent of St. John the Baptist Parish.

Contractor verifies that Contractor will collect an affidavit in this form from any approved subcontractor and forward a copy to: St. John the Baptist Parish, 1801 West Airline Hwy, LaPlace, Louisiana 70068, no later than five business days of contracting with its subcontractor; however, in no instance shall the affidavit be received after commencement of work by the subcontractor.

_____
Signature of Authorized Signatory

_____
Date E-Verify ID Assigned

_____
Printed Name of Signatory

_____
E-Verify ID

_____
Title of Authorized Signatory

SUBSCRIBED AND SWORN BEFORE ME ON THIS THE DAY OF_____ , 20_____

_____
Notary Signature

Printed Notary Name: _____

Notary/Bar Roll Number: _____

My Commission is For/Expires: _____

PAST CRIMINAL CONVICTIONS OF BIDDERS ATTESTATION (LA. R.S. 38:2227)

STATE OF LOUISIANA

PARISH OF _____

BEFORE ME, the undersigned Notary Public PERSONALLY CAME AND APPEARED,

I, _____, (Appearer) the owner/authorized representative of

_____
Company / Individual / Legal Entity Name

Appearer, as a Bidder on the herein named Project, does hereby attest that:

A. No sole proprietor or individual partner, incorporator, director, manager, officer, organizer, or member who has a minimum of a ten percent (10%) ownership in the bidding entity named herein, including any silent or dormant owner or manager, has been convicted of, or has entered a plea of guilty or nolo contendere to, any of the following state crimes or equivalent federal crimes:

(a) Public bribery (R.S. 14:118)
(b) Corrupt influencing (R.S. 14:120)
(c) Extortion (R.S. 14:66)
(d) Money laundering (R.S. 14:230)

B. For five years prior to the project bid date, no sole proprietor or individual partner, incorporator, director, manager, officer, organizer, or member who has a minimum of a ten percent (10%) ownership in the bidding entity named herein, including any silent or dormant owner or manager, has been convicted of, or has entered a plea of guilty or nolo contendere to any of the following state crimes or equivalent federal crimes, during the solicitation or execution of a contract or bid awarded pursuant to the provisions of Chapter 10 of Title 38 of the Louisiana Revised Statutes:

(a) Theft (R.S. 14:67)
(b) Identity Theft (R.S. 14:67.16)
(c) Theft of a business record (R.S. 14:67.20)
(d) False accounting (R.S. 14:70)
(e) Contractor's misapplication of payments (R.S. 14:202)
(f) Bank fraud (R.S. 14:71.1)
(g) Forgery (R.S. 14:72)
(h) Issuing worthless checks (R.S.14:71)
(i) Malfeasance in office (R.S. 14:134)

_____
Name of Bidder

_____
Signature of Authorized Signatory of Bidder

_____
Project Name/Number

_____
Title of Authorized Signatory

SUBSCRIBED AND SWORN BEFORE ME ON THIS _____ DAY OF_____, 20_____.

_____
Notary Signature

Printed Notary Name: _____

Notary/Bar Roll Number: _____

My Commission is For/Expires: _____

SAINT JOHN THE BAPTIST PARISH
NON-SOLICITATION AND UNEMPLOYMENT AFFIDAVIT
(Pursuant to La. R.S. 38:2224 and La. R.S. 23:1726(B))

STATE OF _____

PARISH/COUNTY OF_____

Before me, the undersigned authority, came and appeared,

I, _____, the owner/authorized representative of

_____
Company/Individual/Legal Entity Name

who, being first duly sworn, deposed and state that I personally and as an authorized representative of the above identified legal person executes this continuing affidavit stating that neither the above named Contractor nor a person acting on its behalf, either directly or indirectly, employed, paid, nor promised <u>any</u> gift, consideration or commission to any person or legal entity to procure or assist in procuring this public contract, other than persons regularly employed by Contractor whose services were in the regular course of their duties for Contractor in connection with the construction, alteration or demolition of a public building or project.

The above named Contractor, if awarded, continually affirms that no part of the contract price received by Contractor was paid or will be paid to any person, corporation, firm, association, or other organization for soliciting the contract, other than the payment of their normal compensation to persons regularly employed by the affiant whose services were in the regular course of their duties for Contractor.

The above named Contractor hereby attests and certifies that it does not have any unpaid assessment or penalty levied against it regarding unemployment compensation and currently does and will continue to properly classify each employee.

Contractor verifies that Contractor will collect an affidavit in this form from any approved subcontractor and forward a copy to: Saint John the Baptist Parish, 1801 West Airline Hwy, LaPlace, Louisiana 70068, no later than five business days after contracting with its subcontractor; however, in no instance shall the affidavit be received after commencement of work by the subcontractor.

_____ Signature of Authorized Signatory _____ Printed Name of Signatory _____ Title of Authorized Signatory _____ Project Name/Number	SUBSCRIBED AND SWORN BEFORE ME ON THIS _____ DAY OF _____20___. _____ Notary Signature Printed Notary Name: _____ Notary/Bar Roll Number: _____ My Commission is for/expires on: _____

BOND CERTIFICATE AS TO CORPORATE PRINCIPAL

I, _____, certify that I am the Secretary of the Corporation named as Principal in the within Bond; that_____, who signed the said bond on behalf of the Principal was then_____ of said Corporation; that I know his signature, and his signature thereto is genuine; and that said bond was duly signed, sealed, and attested to for and in behalf of said corporation by authorizing of this governing body.

_____
(Corporate Seal)

_____
(Title)

Power-of-Attorney for person signing, for
Surety Company must be attached to Bond.

END OF SECTION

INSURANCE REQUIREMENTS

St. John the Baptist Parish Council

1801 West Airline Highway, LaPlace, LA 70068

Contractor shall obtain, pay for and keep in force, at its own expense, minimum insurance effective in all localities where contractor may perform the work hereunder, with such carriers as shall be acceptable to Council:

A. Statutory Workman's Compensation covering all state and local requirements and Employer's Liability Insurance covering all persons employed by Contractor in connection with this agreement.

The limits for "A" above shall be not less than:

1. Employers liability limits of $1,000,000/$1,000,000/$1,000,000.
2. Some contracts may require USL&H or maritime coverage. This should be checked out with Insurance Dept. /Legal Dept.
3. No excluded classes of owners/officers or employees shall be allowed on Council's premises.

WAIVER OF SUBROGATION in favor of St. John the Baptist Parish Council shall be indicated on certificate.

B. Commercial General Liability, including:

1. Contractual liability assumed by this agreement
2. Owners and Contractor's Protective Liability (if Contractor is a General Contractor) may be required.
3. Personal and advertising liability
4. Completed operations
5. Medical payments

The limits for "B" above shall not be less than:

1. $1,000,000 each occurrence limit
2. $2,000,000 general aggregate limit
3. $1,000,000 products/completed operations aggregate limit
4. $1,000,000 personal and advertising injury limit
5. $50,000 fire damage limit
6. $5,000 medical expense limit (desirable but not mandatory)

St. John the Baptist Parish Council will be NAMED as additional insured and WAIVER OF SUBROGATION in favor of St. John the Baptist Parish Council shall be indicated on certificate. Some contracts may require Protection and Indemnity coverage. This should be checked out with Insurance Dept. /Legal Dept.

C. Comprehensive Automobile Liability covering all owned, hired, and other non-owned vehicles of the Contractor.

The limits for "C" above shall not be less than:
1. $1,000,000 CSL

St. John the Baptist Parish Council will be NAMED as additional insured and WAIVER OF SUBROGATION in favor of St. John the Baptist Parish Council shall be included on certificate.

D. Professional Liability Insurance covering the Wrongful Acts of those professional firms and individuals performing services for SJBP.

Certain classifications of service providers will be required to provide evidence of Professional Liability Insurance. Examples of these providers include but are not limited to: Professional Engineers, Architects, Land Surveyors, Attorneys, and IT Consultants.

The limits for "D" above shall not be less than:
1. $1,000,000 CSL

WAIVER OF SUBROGATION in favor of St. John the Baptist Parish Council shall be included on the Certificate.

OTHER SPECIFIC COVERAGE RELATED TO THE TASK BEING PERFORMED MAY BE REQUIRED, i.e. Builders Risk, Installation Floater.

All required insurance certificates shall be submitted to the Director of Purchasing & Procurement prior to commencement of work. Vendor shall maintain insurance in full force and effect during the entire period of performance of work. All policies must have a thirty (30) day non-cancellation clause giving the Parish thirty (30) days prior written notice in the event a policy is changed or canceled.

CERTIFICATES

A W-9 form is to be furnished prior to work being issued.

When applicable, a current St. John the Baptist Parish Occupational License is to be maintained. Yearly, a copy of such license shall be provided to the Director of Purchasing.

WHEN APPLICABLE, A CURRENT LOUISIANA STATE CONTRACTOR'S LICENSE SHOULD BE FURNISHED.

HOLD HARMLESS AGREEMENT

OWNER: ST. JOHN THE BAPTIST PARISH
1801 West Airline Highway
LaPlace, Louisiana 70068

ENGINEER: ENVIRONMENTAL ENGINEERING SERVICES, INC.
610 Belle Terre Boulevard
LaPlace, Louisiana 70068

The Contractor shall indemnify and hold harmless the Owner and the Engineers and their agents and employees from and against all claims, damages, losses and expenses including attorney's fees arising out of or resulting from the performance of the work, provided that any such claim, damage, loss or expense: (a) 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 there from: and (b) is caused in whole or in part by any negligent act or omission of the Contractor, and subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not is caused in part by a party indemnified hereunder.

In any and all claims against the Owner or the Engineers, or any of their agents or employees by any employee of the Contractor, and subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may liable, the indemnification obligation under this Agreement shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any subcontractor under Workmen's Compensation acts, disability benefit acts or other employee benefit acts.

The obligations of the Contractor under this Agreement shall not extend to the liability of the Engineers, their agents or employees arising out of: (1) the preparation or approval of maps, drawings, opinions, reports, surveys, Change Orders, designs or specifications: or (2) the giving of or the failure to give directions or instructions by the Engineers, their agents or employees provided such giving or failure to give its primary cause of the injury or damage.

CONTRACTOR: _____

By: _____

WITNESSES:

_____

_____

END OF SECTION

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

CERTIFICATION OF BIDDER REGARDING EQUAL EMPLOYMENT OPPORTUNITY

INSTRUCTIONS

This certification is required pursuant to Executive Order 11246 (30 F.R. 12319-25). The implementing rules and regulations provide that any bidder or prospective contractor, or any of their proposed subcontractors, shall state as an initial part of the bid or negotiations of the contract whether it has participated in any previous contract or subcontract subject to the equal opportunity clause; and, if so, whether it has filed all compliance reports due under applicable instructions.

Where the certification indicates that the bidder has not filed a compliance report due under applicable instructions, such bidder shall be required to submit a compliance report within seven calendar days after bid opening. No contract shall be awarded unless such report is submitted.

CERTIFICATION BY BIDDER

NAME AND ADDRESS OF BIDDER *(Include ZIP code)*

1. Bidder has participated in a previous contract or subcontract subject to the Equal Opportunity Clause.

   ☐ Yes ☐ No

2. Compliance reports were required to be filed in connection with such contract or subcontract.

   ☐ Yes ☐ No

3. Bidder has filed all compliance reports due under applicable instructions, including SF-100.

   ☐ Yes ☐ No ☐ None Required

4. Have you ever been or are you being considered for sanction due to violation of Executive Order 11246, as amended?

   ☐ Yes ☐ No

NAME AND TITLE OF SIGNER *(Please type)*

SIGNATURE	DATE

Replaces Form HUD-4238.CD-1, which is Obsolete

HUD-950.1 (11-78)

CERTIFICATION OF BIDDER REGARDING SECTION 3
AND SEGREGATED FACILITIES

	Water Tower Altitude Valves EES Project No. 1304
Name of Prime Contractor	Project Name and Number

The undersigned hereby certifies that:

(a) Section 3 provisions are included in the Contract.

(b) A written Section 3 Plan was prepared and submitted as part of the bid proceedings (if bid equals or exceeds $100,000).

(c) Tables A and B were prepared and submitted as part of the bid proceedings.

(d) No segregated facilities will be maintained as required by Title VI of the Civil Rights Act of 1964.

Name & Title of Signer (Print or Type)

Signature	Date

CONTRACTOR

Section 3 Plan Format

_____ agrees to implement the following specific affirmative action steps directed at increasing the utilization of lower income residents and businesses within St. John the Baptist Parish.

A. To ascertain from the locality's LCDBG program official the exact boundaries of the Section 3 covered project area and where advantageous, seek the assistance of local officials in preparing and implementing the affirmative action plan.

B. To attempt to recruit from within the Town the necessary number of lower income resident through: local advertising media, signs placed at the proposed site for the project, and community organizations and public or private institutions operating within or serving the project area such as Service Employment and Redevelopment (SER), Opportunities Industrialization Center (OIC), Urban League, Concentrated Employment Program, Hometown Plan, or the U.S. Employment Service.

C. To maintain a list of all lower income residents who have applied either on their own of on referral from any source, and to employ such persons, if otherwise eligible and if a vacancy exists.

D. *To insert this Section 3 Plan in all bid documents, and to require all bidders on subcontracts to submit a Section 3 Plan including utilization goals and the specific steps planned to accomplish these goals.

E. *To ensure that subcontracts, which are typically let on a negotiated rather than a bid basis, in areas other than Section 3 covered project areas, are also let on a negotiated basis whenever feasible, if let in a Section 3 covered project area.

F. To formally contact unions, subcontractors, and trade associations to secure their cooperation for this program.

G. To ensure that all appropriate project area business concerns are notified of pending subcontractual opportunities.

H. To maintain records including copies of correspondence, memoranda, etc., which document that all of the above affirmative action steps have been taken.

**Loans, grants, contracts, and subsidies for less than $100,000 will be exempt.*

I. To appoint or recruit an executive official of the company or agency as Equal Opportunity Officer to coordinate the implementation of this Section 3 Plan.

J. To list on Table A information related to subcontracts to be awarded.

K. To list on Table B all projected workforce needs for all phases of this project by occupation, trade, skill level, and number of positions.

As officers and representatives of _____, we the undersigned have read and fully agree to this Section 3 Plan, and become a party to the full implementation of this program.

_____
Signature

_____ _____
Title Date

_____
Signature

_____ _____
Title Date

TABLE A

PROPOSED SUBCONTRACTS BREAKDOWN

FOR THE PERIOD COVERING _____ 20__ through _____ 20__

(Duration of the CDBG-Assisted Project)

COLUMN 1	COLUMN 2	COLUMN 3	COLUMN 4	COLUMN 5
TYPE OF CONTRACT (BUSINESS OR PROFESSION)	TOTAL NUMBER OF CONTRACTS	TOTAL APPROXIMATE DOLLAR AMOUNT	ESTIMATED NUMBER OF CONTRACTS TO PROJECT AREA BUSINESSES*	ESTIMATED DOLLAR AMOUNT TO PROJECT AREA BUSINESSES*

* The Project Area is coextensive within St. John the Baptist Parish's boundaries.

_____
Company

Water Tower Altitude Valves
Project Name

EES Project No. 1304
Project Number

_____
EEO Officer (Signature)

_____
Date

TABLE B

ESTIMATED PROJECT WORKFORCE BREAKDOWN

COLUMN 1	COLUMN 2	COLUMN 3	COLUMN 4	COLUMN 5
Job Category	**Total Estimated Positions**	**No. Positions Currently Occupied By Permanent Employees**	**No. Positions Not Currently Occupied**	**No. Positions To Be Filled w/LIPAR***
Officers/Supervisors				
Professionals				
Technicians				
Housing Sales/Rental Mgmt.				
Office Clerical				
Service Workers				
Others				

TRADE:

Journeymen				
Apprentices				
Maximum No. Trainees				
Others				

TRADE:

Journeymen				
Apprentices				
Maximum No. Trainees				
Others				

* Lower Income Project Area Residents. Individuals residing within St. John the Baptist Parish whose family income does not exceed 80% of the median income in the State.

_____

Company

CERTIFICATION BY PROPOSED SUBCONTRACTOR REGARDING EQUAL EMPLOYMENT OPPORTUNITY

NAME OF PRIME CONTRACTOR	PROJECT NUMBER **EES Project No. 1304**

INSTRUCTIONS

This certification is required pursuant to Executive Order 11246 (30 F.R. 12319-25). The implementing rules and regulations provide that any bidder or prospective contractor, or any of their proposed subcontractors, shall state as an initial part of the bid or negotiations of the contract whether it has participated in any previous contract or subcontract subject to the equal opportunity clause; and, if so, whether it has filed all compliance reports due under applicable instructions.

Where the certification indicates that the subcontractor has not filed a compliance report due under applicable instructions, such subcontractor shall be required to submit a compliance report before the owner approves the subcontract or permits work to begin under the subcontract.

SUBCONTRACTOR'S CERTIFICATION

NAME AND ADDRESS OF SUBCONTRACTOR *(Include ZIP code)*

1. Bidder has participated in a previous contract or subcontract subject to the Equal Opportunity Clause.

   ☐ Yes ☐ No

2. Compliance reports were required to be filed in connection with such contract or subcontract.

   ☐ Yes ☐ No

3. Bidder has filed all compliance reports due under applicable instructions, including SF-100.

   ☐ Yes ☐ No ☐ None Required

4. Have you ever been or are you being considered for sanction due to violation of Executive Order 11246, as amended?

   ☐ Yes ☐ No

NAME AND TITLE OF SIGNER *(Please type)*

SIGNATURE	DATE

CERTIFICATION OF PROPOSED SUBCONTRACTOR REGARDING SECTION 3 AND SEGREGATED FACILITIES

	Water Tower Altitude Valves EES Project No. 1304
Name of Subcontractor	Project Name and Number

The undersigned hereby certifies that:

(a) Section 3 provisions are included in the Contract.

(b) A written Section 3 Plan was prepared and submitted as part of the bid proceedings (if bid equals or exceeds $100,000).

(c) Tables A and B were prepared and submitted as part of the bid proceedings (if bid equals or exceeds $100,000).

(d) No segregated facilities will be maintained as required by Title VI of the Civil Rights Act of 1964.

Name & Title of Signer (Print or Type)

Signature	Date

CERTIFICATE OF OWNER'S ATTORNEY

I, the undersigned, _____, the duly authorized and acting legal representative of _____ do hereby certify as follows:

I have examined the attached contract(s) and surety bonds and the manner of execution thereof, and I am of the opinion that each of the aforesaid agreements have been duly executed by the proper parties thereto acting through their duly authorized representatives; that said representatives have full power and authority to execute said agreements on behalf of the respective parties named thereon; and that the foregoing agreements constitute valid and legally binding obligations upon the parties executing the same in accordance with terms, conditions and provisions thereof.

_____
SIGNATURE

_____
TYPE OR PRINT NAME

DATE _____

NOTICE OF AWARD

Dated: _____

TO: _____ (Bidder)

ADDRESS: _____

_____

PROJECT: Water Tower Altitude Valves
(Insert name of Contract as it appears in the Bidding Documents)

CONTRACT NO.: EES No. 1304

CONTRACT FOR: Water Tower Altitude Valves

You are notified that your Bid dated _____ for the above Contract has been considered. You are the apparent Successful Bidder and have been awarded a contract for:

Water Tower Altitude Valves
(Indicate total Work, alternates or sections or Work awarded)

The Contract Price of your Contract is _____
_____ Dollars ($ _____)

___ Copies of each of the proposed Construction Contracts accompany this Notice of Award.

___ sets of the Drawings will be delivered separate or otherwise made available to you immediately.

You must comply with the following conditions precedent within fifteen (15) days of the date of this Notice of Award, that is by:

_____, 20__

1. You must deliver to the Owner ____ fully executed counterparts of the Agreement including all the Contract Documents. This includes the triplicate sets of Drawings. Each of the Contract Documents must bear your signature on cover and all signatory lines within the Agreement.

2. You must deliver with the executed Agreement the Contract Security (Bonds) as specified in the Instructions to Bidders (paragraph 18,) General Conditions (paragraph 5.01) and Supplementary Conditions (paragraph SC-5.01).

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3. (List Other Conditions Precedents):

Insurance Requirements

Failure to comply with these conditions within the time specified will entitle OWNER to consider your bid in default, to annul this Notice of Award and to declare your Bid Security forfeited.

Within ten (10) days after you comply with the above conditions, OWNER will return to you one (1) fully signed counterpart of the Agreement with the Contract Documents attached.

St. John the Baptist Parish

By:_____
Natalie Robottom

Parish President
(TITLE)

ACCEPTANCE OF AWARD

_____
(CONTRACTOR)

By:_____
(AUTHORIZED SIGNATURE)

_____
(TITLE)

_____
(DATE)

END OF SECTION

NOTICE TO PROCEED

Dated: _____

TO: _____ (Contractor)

ADDRESS: _____

_____

PROJECT: Water Tower Altitude Valves

CONTRACT NO.: EES Project No. 1304

CONTRACT FOR: Water Tower Altitude Valves
(Insert name of Contract as it appears in the Bidding Documents)

You are notified that the Contract Times under the above contract will commence to run on _____, 20__. By that date, you are to start performing your obligations under the Contract Documents. In accordance with Article 3 of the Agreement, the dates of Substantial Completion and completion and readiness for Final Payment are:

_____, 20 and _____, 20 .

Before you may start any Work at the site, paragraph 2.05 of the General Conditions provides that you and OWNER must each deliver to the other (with copies to ENGINEER and other identified additional insurers) certificates of insurance which each is required to purchase and maintain in accordance with the Contract Documents.

Also before you may start any Work at the site, you must:
Notify OWNER and ENGINEER of start date.
Insurance in accordance with General & Supplementary Conditions

St. John the Baptist Parish
(OWNER)

By: _____
Natalie Robottom

Parish President
(TITLE)

ACCEPTANCE OF AWARD

_____
(CONTRACTOR)

By: _____
(AUTHORIZED SIGNATURE)

_____
(TITLE)

_____
(DATE)

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APPLICATION FOR PAYMENT NO.:_____

To:____St. John the Baptist Parish_____ (Owner)
Contract For:___Water Tower Altitude Valves_____
Owner's Contract No.:_____ Engineers Project No.:___1304_____
For Work accomplished through the date of_____

Item	CONTRACTOR'S Schedule of Values			Work Completed	
	Unit Price	Quantity	Amount	Quantity	Amount
_____			$ _____		$ _____
Total			$		$
(Original Contract)					
C.O. No. 1					
C.O. No. 2					

Accompanying Documents
_____
_____
_____
_____

GROSS AMOUNT DUE	$_____
LESS_____% RETAINAGE	$_____
AMOUNT DUE TO DATE	$_____
LESS PREVIOUS PAYMENT	$_____
AMOUNT DUE THIS APPLICATION	**$_____**

CONTRACTOR'S Certification:
The undersigned CONTRACTOR certifies that: (1) all previous progress payments received from OWNER on account of Work done under the Contract referred to above have been applied to discharge in full all obligations of CONTRACTOR incurred in connection with Work covered by prior Applications for Payment numbered ___ through ___ inclusive; (2) title to all Work, materials and equipment incorporated in said Work or otherwise listed in or covered by this Application for Payment will pass to OWNER at time of payment free and clear of all liens, claims, security interest and encumbrances (except such as are covered by Bond acceptable to OWNER indemnifying OWNER against any such lien, claim, security interest or encumbrance); and (3) all Work covered by this Application for Payment is in accordance with the Contract Documents and not defective as that term is defined in the Contract Documents.

Dated _____, 20__ _____
CONTRACTOR

By: _____
(Authorized Signature)

Payment of the above AMOUNT DUE THIS APPLICATION is recommended.

Dated _____, 20__ ENVIRONMENTAL ENGINEERING SERVICES, INC.
ENGINEER

By: _____
(Authorized Signature)

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APPLICATION FOR PAYMENT

INSTRUCTIONS

A. GENERAL INFORMATION

This standard form is intended to guide only. Many projects require a much more extensive form with space for numerous items, descriptions of Change Orders, identification of variable quantity adjustments, summary of materials and equipment stored at the site and other information. It is expected that a separate form will be developed by Engineer (See next sheet) or Contractor at the time Contractor's Schedule of Values is finalized. Note also that the format for retainage must be changed if the Agreement permits (or the Law provides), and Contractor elects, the deposit of securities in lieu of retainage. Refer to Article 14 of the General Conditions for provisions concerning payments to Contractor.

B. COMPLETING THE FORM

The Schedule of Values, submitted and approved as provided in paragraphs 2.6.3 and 2.9 of the General Conditions should be copied in the space indicated on the Application For Payment Form. Note that the cost of materials and equipment is often listed separately from the cost of their installation. All Change Orders affecting the Contract Price should be identified and include such supplemental Schedules of Values as required for progress payments.

The form is suitable for use in the Final Application for Payment as well as for Progress Payments; however, the required accompanying documentation is usually more extensive for final payment. All accompanying documentation should be identified in the space provided on the form.

C. ENGINEER'S REVIEW

Engineer must review all Applications for Payment with care to avoid recommending any payments not yet earned by Contractor. All accompanying documentation of legal nature, such as lien waivers, should be reviewed by Owner's attorney, the Engineer should so advise Owner.

END OF SECTION

PAYMENT NO.:_____

ENGINEER'S
RECOMMENDATION FOR PAYMENT

OWNER'S Project No.: _____ ENGINEER'S Project No.: 1304

PROJECT: Water Tower Altitude Valves

CONTRACTOR: _____

Contract For: Water Tower Altitude Valves Contract Date: _____

Application Date: _____

For Period Ending: _____ Contractor's Application Requested Amount: $_____

To:

Attached hereto is the CONTRACTOR's Application for Payment for Work accomplished under the Contract through the date indicated above. The Application meets the requirements of the Contract Documents and includes the CONTRACTOR's Certificate stating that all previous payments to him under the Contract have been applied by him to discharge in full all of his obligations in connection with the Work covered by all prior Applications for Payments.

In accordance with the Contract the undersigned recommends payment to the Contractor of the amount due as shown below.

ENVIRONMENTAL ENGINEERING SERVICES, INC.
Engineer

Dated: _____ By: _____
Authorized Signature

STATEMENT OF WORK

CONTRACT PRICE:

Original Contract	$_____	Work to Date:	$_____
Net Change Orders	$_____	Amount Retained:	$_____
Current Contract Price	$_____	Subtotal	$_____
Work to be Done	$_____	Previous Payments Recommended	$_____
		Amount Due this Payment	**$_____**

CONTRACT TIME*:

	CALENDAR DAYS Substantial/Final Completion
CONTRACT TIME (including all change orders)	_____
CONTRACT TIME ELAPSED	_____
CONTRACT TIME REMAINING	_____

*Effective date as of Engineer's Signature

CC: CONTRACTOR
FILE

END OF SECTION

CHANGE ORDER

(Instructions on next sheet) NO._____

PROJECT: Water Tower Altitude Valves

DATE OF ISSUANCE:_____ EFFECTIVE DATE:_____

OWNER: St. John the Baptist Parish OWNER'S Contract No.:_____

ENGINEER: Environmental Engineering Services, Inc. ENGINEER'S Project No.: 1304

CONTRACTOR:_____

You are directed to make the following changes in the Contract Documents:

Description:

Reason for Change Order:

Attachments (List documents supporting changes):

CHANGE IN CONTRACT PRICE:	CHANGE IN CONTRACT TIMES:
Original Contract Price	Original Contract Times Substantial Completion:_____ Ready for Final Payment: _____
Net changes from previous Change Orders No. ____ to No. ____	Net changes from previous Change Orders No. ____ to No.____ Days _____
Contract Price prior to this Change Order	Contract Times prior to this Change Order Substantial Completion:_____ Ready for Final Payment:_____
Net Increase (Decrease) of this Change Order	Net Increase (Decrease) of this Change Order Days _____
Contract Price with all approved Change Orders	Contract Times with all approved Change Orders Substantial Completion:_____ Ready for Final Payment:_____

RECOMMENDED:	APPROVED:	ACCEPTED:
ENVIRONMENTAL ENGINEERING SERVICES, INC.		**ST. JOHN THE BAPTIST PARISH**
By:_____	By:_____	By:_____
Engineer (Authorized Signature)	Contractor (Authorized Signature)	Owner (Natalie Robottom, Parish President)
Date:_____	Date:_____	Date:_____

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A. GENERAL INFORMATION

This document was developed to provide a uniform format for handling contract changes that affect Contract Price or Contract Times. Changes that have been initiated by a Work Change Directive must be incorporated into a subsequent Change Order if they affect Contract Price or Times.

Changes that affect Contract Price or Contract Times should be promptly covered by a Change Order. The practice of accumulating change order items to reduce the administrative burden may lead to unnecessary disputes.

If Milestones have been listed any effect of a Change Order thereon should be addressed.

For supplemental instructions and minor changes not involving a change in the Contract Price or Contract Times, a Field Order may be used.

B. COMPLETING THE CHANGE ORDER FORM

Engineer initiates the form, including a description of the changes involved and attachments based upon documents and proposals submitted by Contractor, or requests from Owner or both.

Once Engineer has completed and signed the form, all copies should be sent to Contractor for approval. After approval by Contractor, all copies should be sent to Owner for approval. Engineer should make distribution of executed copies after approval by Owner.

If a change only applies to Contract Price or to Contract Times, cross out the part of the tabulation that does not apply.

END OF SECTION

WORK CHANGE DIRECTIVE

(Instructions on next sheet) NO. _____

PROJECT: Water Tower Altitude Valves

DATE OF ISSUANCE: _____ EFFECTIVE DATE: _____

OWNER: St. John the Baptist Parish OWNER'S Contract No.: _____

ENGINEER: Environmental Engineering Services, Inc. ENGINEER'S Project No.: 1304

CONTRACTOR: _____

You are directed to proceed promptly with the following change(s):

Description:

Purpose of Work Change Directive:

Attachments: (List documents supporting change)

If a claim is made that the above change(s) have affected the Contract Price or Contract Times any claim for a change order based thereon will involve one or more of the following methods of determining the effect of the change(s).

Method of determining change in Contract Price:
Unit Prices
Other _____
Lump Sum

Estimated increase (decrease in Contract Price:
$_____

If the change involves an increase, the estimated amount is not be exceeded without further authorization.

Method of determining change in Contract Times:
Contractor's Records
Other _____
Engineer's Records

Estimated increase (decrease) in Contract Times:
Substantial Completion: _____ days;
Ready for Final Payment: _____days.
If the change involves an increase, the estimated times are not to be exceeded with further authorization.

RECOMMENDED:

ENVIRONMENTAL ENGINEERING SERVICES, INC.
ENGINEER

By: _____
(Authorized Signature)

AUTHORIZED:

ST. JOHN THE BAPTIST PARISH
OWNER

By: _____
Natalie Robottom, Parish President

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WORK CHANGE DIRECTIVE

INSTRUCTIONS

A. GENERAL INFORMATION

This document was developed for use in situations involving changes in the Work, which, if not processed expeditiously, might delay the Project. These changes are often initiated in the field and may affect the Contract Price or the Contract Times. This is not a Change Order, but only a directive to proceed with Work that may be included in a subsequent Change Order.

For supplemental instructions and minor changes not involving a possible change in the Contract Price or the Contract Times a Field Order may be used.

B. COMPLETING THE WORK CHANGE DIRECTIVE FORM

Engineer initiates the form, including a description of the items involved and attachments.

Based on conversations between Engineer and Contractor, Engineer completes the following:

> METHOD OF DETERMINING CHANGE, IF ANY, IN CONTRACT PRICE: Mark the method to be used in determining the final cost of Work involved and the estimated net effect on the Contract Price. If the change involves an increase in the Contract Price and the estimated amount is approached before the additional or changed Work is completed, another Work Change Directive must be issued to change the estimated price or Contractor may stop the change Work when the estimated price is reached. If the Work Change Directive is not likely to change the Contract Price, the space for estimated increase (decrease) should be marked "Not Applicable".
>
> METHOD OF DETERMINING CHANGE, IF ANY IN CONTRACT TIMES: Mark the method to be used in determining the change in Contract Times and the estimated increase or decrease in Contract Times. If the change involves an increase in the Contract Times and the estimated times are approached before the additional or changed Work is completed, another Work Change Directive must be issued to change the times or Contractor may stop the changed Work when the estimated times are reached. If the Work change Directive is not likely to change the Contract Times, the space for the estimated increase (decrease) should be marked "Not Applicable".

Once Engineer has completed and signed the form, all copies should be sent to Owner for authorization because Engineer alone does not have authority to authorize changes in Price or Times. Once authorized by Owner, a copy should be sent by Engineer to Contractor. Price and Times may only be changed by Change Order signed by Owner and Contractor with Engineer's recommendation.

Once the Work covered by this directive is completed or final cost and times are determined, Contractor should submit documentation for inclusion in a Change Order.

THIS IS A DIRECTIVE TO PROCEED WITH A CHANGE THAT MAY AFFECT THE CONTRACT PRICE OR THE CONTRACT TIMES, A CHANGE ORDER, IF ANY, SHOULD BE CONSIDERED PROMPTLY.

END OF SECTION

CERTIFICATE OF SUBSTANTIAL COMPLETION

DATE OF ISSUANCE: _____

PROJECT: Water Tower Altitude Valves

OWNER: St. John the Baptist Parish OWNER'S Contract No.: _____

ENGINEER: Environmental Engineering Services, Inc. ENGINEER'S Project No.: 1304

CONTRACTOR: _____

This Certificate of Substantial Completion applies to Work under the Contract Documents or to the following specified parts thereof:

TO: St. John the Baptist Parish
Owner

And TO: _____
Contractor

The Work to which this Certificate applies has been inspected by authorized representatives of OWNER, CONTRACTOR and ENGINEER, and that Work is hereby declared to be substantially complete in accordance with the Contract Documents on

_____
DATE OF SUBSTANTIAL COMPLETION

A tentative list of items to be completed or corrected is attached hereto. This list may not be all-inclusive, and the failure to include an item in it does not alter the responsibility of CONTRACTOR to complete all the Work in accordance with the Contract Documents. The items in the tentative list shall be completed or corrected by CONTRACTOR within 45 days of the above date of Substantial Completion.

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The responsibilities between OWNER and CONTRACTOR for security, operation, safety, maintenance, heat, utilities, insurance and warranties shall be as follows:

RESPONSIBILITIES:

OWNER: As outlined in the Contract Documents

CONTRACTOR: As outlined in the Contract Documents

The following documents are attached to and made a part of this Certificate:

This certificate does not constitute an acceptance of Work not in accordance with the Contract Documents nor is it a release of CONTRACTOR's obligation to complete the Work in accordance with the Contract Documents.

Executed by **ENGINEER** on _____, 20__

ENVIRONMENTAL ENGINEERING SERVICES, INC.
ENGINEER

BY:_____
Authorized Signature

CONTRACTOR accepts this Certificate of Substantial Completion on _____, 20__

_____
CONTRACTOR

BY:_____
Authorized Signature

OWNER accepts this Certificate of Substantial Completion on _____, 20__

ST. JOHN THE BAPTIST PARISH
OWNER

BY:_____
Natalie Robottom, Parish President

END OF SECTION

CONTRACT CONDITIONS

GENERAL CONDITIONS

STANDARD
GENERAL CONDITONS
OF THE
CONSTRUCTION CONTRACT

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END OF SECTION

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GENERAL CONDITIONS

ARTICLE **1** – DEFINITIONS AND TERMINOLOGY

1.01 Defined Terms

A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial or all 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 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. O nly printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other CONTRACTOR's 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.A 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. The General Requirements pertain to all sections 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 in connection with the Work.

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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.

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. *Related Entity*– An officer, director, partner, employee, agent, consultant, or subcontractor.

37. *Resident Project Representative*– The authorized representative of ENGINEER who may be assigned to the Site or any part thereof.

38. *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.

39. *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.

40. *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.

41. *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.

42. *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.

43. *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.

44. *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.

45. *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.

46. *Successful Bidder*– The Bidder submitting a responsive Bid to whom OWNER makes an award.

47. *Supplementary Conditions*– That part of the Contract Documents, which amends or supplements these General Conditions.

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

49. *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.

50. *Unit Price Work*– Work to be paid for on the basis of unit prices.

51. *Work*– The entire completed 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.

52. *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 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 following words or terms are not defined but, when used in the Bidding Requirements or Contract Documents, have the following 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 requirements of and information in the Contract Documents and conformance with the design concept of the completed Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective 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*

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, which have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

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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

A. 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.

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 its timely review:

1. a preliminary Progress Schedule; indicating the times (number 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

A. Before any Work at the 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.

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 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 may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be provided whether or not specifically called for at no additional cost to OWNER.

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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, or ENGINEER, or any of, their Related Entities, 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.

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 may discover 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 any provision of any Law or Regulation applicable to the performance of the Work or of any standard, specification, manual or code, or of any instruction of any Supplier, 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 6.16A) 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 knew or reasonably should have known 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, code, or instruction (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;

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 or other individual or entity performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR, 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 ENGINEER's Consultant, including electronic media editions; or

2. reuse any of 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 adaption by ENGINEER.

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

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3.06 Electronic Data

A. Copies of data furnished by OWNER or ENGINEER to CONTRACTOR or 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.

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 of explorations and tests of subsurface conditions at or contiguous to the Site that ENGINEER has used in preparing the Contract Documents; and

2. those drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) that ENGINEER has used in preparing the Contract Documents.

B. *Limited Reliance by CONTRACTOR on Technical Data Authorized:* CONTRACTOR may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data", CONTRACTOR may not rely upon or make any claim against OWNER or ENGINEER, or any of their Related Entities 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.

4.03 Differing Subsurface of Physical Conditions

A. *Notice*: If CONTRACTOR believes that any subsurface of physical condition at or contiguous to the Site 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

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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 in respect of 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

c. CONTRACTOR failed to give the written notice within the time and 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 therefore as provided in Paragraph 10.05. However, OWNER, ENGINEER, and any of their Related Entities 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.

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; 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.

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 of 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

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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 therefore 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*: Reference is made to the Supplementary Conditions for the identification of those reports and drawings relating to a Hazardous Environmental Condition identified at the Site, if any, that have been utilized by the ENGINEER in the preparation of the Contract Documents.

B. *Limited Reliance by CONTRACTOR on Technical Data Authorized*: CONTRACTOR may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data", CONTRACTOR may not rely upon or make any claim against OWNER or ENGINEER, or any of their Related Entities 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 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 6.16A); 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.

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 to CONTRACTOR written notice: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resume 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 is agreed to be resumed by CONTRACTOR, either party may make a Claim therefore 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, ENGINEER, and the officers, directors, partners, employees, agents, other 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.

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H. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER and ENGINEER, and the officers, directors, 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 created by CONTRACTOR or by anyone for whom CONTRACTOR is responsible. N othing 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 are not intended to 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 CONTRACTOR's obligations under the Contract Documents. T hese bonds shall remain in effect at least 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. C ONTRACTOR 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 current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. A ll bonds signed by an agent must be accompanied by a certified copy of such agent's authority to act.

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.

5.03 Certificates of Insurance

A. CONTRACTOR shall deliver to OWNER, with copies to each additional insured 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 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.

5.04 CONTRACTOR's Liability Insurance

A. CONTRACTOR shall purchase and maintain such liability and other 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;

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.

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B. The policies of insurance so 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, include as additional insureds (subject to any customary exclusion in respect of 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, 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 completed operations insurance;

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

5. 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);

6. 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

7. with respect to completed operations insurance, and any insurance coverage written on a cl aims-made basis, remain in effect for at least two years after final payment.

a. 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.

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, CONTACTOR, Subcontractors, ENGINEER, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, 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 an additional insured;

2. be written on a Builder's Risk "all-risk" or open peril or special causes of loss policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, false work, 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 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 additional insured to whom a certificate of insurance has been issued.

B. OWNER 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 OWNER, CONTRACTOR, Subcontractors, ENGINEER, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, 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 an insured or additional insured.

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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 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 additional insured 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 Paragraph 5.06, OWNER shall, if possible, include such insurance, and the cost thereof will be charged to CONTRACTOR by appropriate Change Order. P rior 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, ENGINEER, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, 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 additional insureds thereunder. OWNER and CONTRACTOR waive all rights against each other and their respective officers, directors, 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, ENGINEER, and all other individuals or entities identified in the Supplementary Conditions to be listed as insured or additional insureds (and the officers, directors, partners, employees, agents, consultants and subcontractors of each 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, ENGINEER, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them for:

1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to OWNER's property or the Work caused by, arising out of, or resulting from fire or other peril 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, ENGINEER, and the officers, directors, 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 insureds, 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. I f 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. I f such objection were 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. O WNER 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

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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 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 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 thereto who shall not be replaced without written notice to OWNER and ENGINEER except under extraordinary circumstances. The superintendent will be CONTRACTOR's representative at the Site and shall have authority to act on behalf of CONTRACTOR. All communications given to or received from the superintendent shall be binding on CONTRACTOR.

6.02 Labor; Working Hours

A. CONTRACTOR shall provide competent, suitably qualified personnel to survey, 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 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 General Requirements, 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.

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 specifically called for 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.

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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. U nless 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. F or 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 name if:

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

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

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

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

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 that the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. R equests for review of proposed substitute items of material or equipment will not be accepted by ENGINEER from anyone other than CONTRACTOR.

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

d. CONTRACTOR shall first make written application to ENGINEER for review of a proposed substitute item of material or equipment that CONTRACTOR seeks to furnish or use. T he 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 or not 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 work on the Project) to adapt the design to the proposed substitute item; and

c) whether of not 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;

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 shown or indicated in and expressly required by the Contract Documents, CONTRACTOR may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by ENGINEER. C ONTRACTOR 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

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Documents. The requirements for review by ENGINEER will be similar to that 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 either a Change Order for a substitute of an approved Shop Drawing for "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 substitute proposed or submitted by CONTRACTOR pursuant to Paragraphs 6.05.A.2 and 6.05.B. Whether or not ENGINEER approves a substitute item so proposed or submitted by CONTRACTOR, CONTRACTOR shall reimburse OWNER for the charges of ENGINEER for evaluating each such proposed substitute. CONTRACTOR shall also reimburse OWNER for the 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 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 or Written Amendment signed. No acceptance by OWNER of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver 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 it 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 an additional insured 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 Conditions to be listed as insureds or additional insureds (and the officers, directors, 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

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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, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, and the officers, directors, partners, employees or 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. O WNER 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 providing permanent service to the Work.

6.09 Laws and Regulations

A. CONTRACTOR shall give all notices and 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 primary responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve CONTRACTOR of CONTRACTOR's obligations under Paragraph 3.03.

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 may 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 therefore 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 area 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, 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 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

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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 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. 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 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. 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).

D. 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 in 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.

6.17 Shop Drawings and Samples

A. CONTRACTOR shall submit Shop Drawings and Samples to ENGINEER for review and approval in accordance with the acceptable 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.

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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:* CONTRACTOR shall also submit Samples to ENGINEER for review and approval in accordance with the acceptable schedule of Shop Drawings and Sample submittals.

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 determined and verified:

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

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

c. all information relative to CONTRACTOR's responsibilities for means, methods, techniques, sequences, and procedures of construction and safety precautions and programs incident thereto; and

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

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

3. With each submittal, CONTRACTOR shall give ENGINEER specific written notice of such 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 Drawing's or Sample Submittal; and, in addition, by a specific notation made on each Shop Drawing and 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. E NGINEER'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 p articular 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. T he 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 notification 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 Related Entities 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, ENGINEER, and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of CONTRACTOR, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable.

B. In any and all claims against OWNER or ENGINEER or any of their respective consultants, agents, officers, directors, partners, or employees 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, partners, employees, agents, consultants and subcontractors of each and any of them 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 express in the Contract Documents. ENGINEER's review and

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approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose state in Paragraph 6.17.D.1.

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 by OWNER's employees, or via 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 therefore as provided in Paragraph 10.05.

B. CONTRACTOR shall afford each other contractor who is a party to such a direct contract and each utility owner and OWNER, if OWNER is performing the other work with OWNER's employees proper and safe access to the Site, a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and shall 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 their work and will only cut or alter their 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;

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 and 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 actions or inactions.

C. CONTRACTOR shall be liable to OWNER and any other contractor for the reasonable direct delay and disruption costs incurred by such other contractor as a result of CONTRACTOR's 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 promptly when they are due as provided in Paragraphs 14.02.C and 14.07.C.

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8.05 Lands and Easements; Reports and Tests

A. OWNER's duties in respect of 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 in or relating to existing surface or subsurface structures at or contiguous to the Site that have been utilized by ENGINEER in preparing the Contract Documents.

8.06 Insurance

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

ARTICLE 9 – 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 and will not be changed without written consent of OWNER and ENGINEER.

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 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

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promptly. If OWNER and 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 disapprove or 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.

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 Article 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 binging 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, 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 9.10 shall also apply to, Resident Project Representative, if any, and assistants, if any.

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10.01 Authorized Changes in the Work

A. Without invalidating the Agreement 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 Written Amendment, a Change Order, or a Work Change Directive. U pon 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 therefore 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 case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.B.

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 notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times) is required by the provisions of any bond to be given to a surety, the giving of any such notice will be CONTRACTOR's responsibility. T he 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 Time 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 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 s o. 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.

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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 include only the following items, and shall not include any of the costs itemized in Paragraph 11.01.B.

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 limitations superintendents, foremen, and other personnel employed full time at the Site. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, worker's compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by OWNER.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Supplier's 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, imposed by Laws and Regulations.

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

f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by CONTRACTOR in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 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

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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, expressage, 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 and 11.01.B.

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.

D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determine 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 f orm 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 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 costs, overhead, profit, and other expenses contemplated for the allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

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.

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:

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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 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 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 Paragraph 12.01.C.2.a 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.C2.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 of any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

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 therefore 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

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Times, or both. C ONTRACTOR'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 the Related Entities of each of them 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 Contact 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

A. Prompt notice of all defective Work of which OWNER or ENGINEER has actual knowledge will be given to CONTRACTOR. All defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 Access to Work

A. 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, inspecting, and testing. CONTRACTOR shall provide them proper and safe conditions for such access and advise them of CONTRACTOR's Site safety procedures and programs so that they may comply therewith as applicable.

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 said 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, it must, if requested by ENGINEER, be uncovered 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.

C. If it is found that such 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,

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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 therefore 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 therefore 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 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 Laws or Regulations or by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, 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:

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 such 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 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 therefore as provided in

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Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by CONTRACTOR to OWNER.

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 and 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 and remedial action, OWNER may exclude CONTRACTOR from all or part of the Site, take possession of all or part of the Work and suspend CONTRACTOR's services related thereto, take possession of CONTRACTOR's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which OWNER has paid CONTRACTOR but which are stored elsewhere. CONTRACTOR shall allow OWNER, OWNER's representatives, agents and employees, OWNER's other contractors, and 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 therefore 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 for each progress payment (but not more often than once a month), CONTRACTOR shall submit to ENGINEER for review an Application for Payment filled out and signed by CONTRACTOR covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that OWNER has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance 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 on the Site 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, to the results

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of any subsequent tests called for in the Contract Documents, to a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and to any other qualifications stated in the recommendation); and

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

3. By recommending any such payment ENGINEER will not thereby be deemed to have represented that:

a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to ENGINEER in the Contract Documents; or

b. that there may not be other matters or issues between the parties that might entitle CONTRACTOR to be paid additionally by OWNER or entitle OWNER to withhold payment to CONTRACTOR.

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 referred to 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 Written Amendment or 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.

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 must 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 corrects to OWNER's satisfaction the reasons for such action.

3. 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.

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.

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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 prepare and deliver to OWNER a tentative certificate of Substantial Completion, which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. OWNER shall have seven days after receipt of the tentative certificate during which to make written objection to ENGINEER as to any provisions of the 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 COTRACTOR 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, but OWNER shall allow CONTRACTOR reasonable access to 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 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 will certify to OWNER and ENGINEER that such part of the Work is substantially complete and request ENGINEER to issue a certificate of Substantial Completion 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 therefore. 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.

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,

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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.7;

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 or OWNER's property might in any way be responsible have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, CONTRACTOR may furnish a Bond or other collateral satisfactory to OWNER to indemnify OWNER against any Lien.

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 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*

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 writing which are still unsettled.

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 allowed an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if CONTRACTOR makes a Claim therefore as provided in Paragraph 10.05.

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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 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, 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 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, elect to terminate the Contract. In such case, CONTRACTOR shall be paid (without duplication of any items):

1. for completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

2. for expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;

3. for 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. for 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.

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

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to act on an Application for Payment within 30 days after it is submitted, or OWNER has failed for 30 da ys 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. T he 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. T he 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. T he 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 their intent to submit the Claim to a court of competent jurisdiction.

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. I f 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.

END OF SECTION

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SUPPLEMENTARY CONDITIONS

SUPPLEMENTARY CONDITIONS

GENERAL

These Supplementary Conditions amend or supplement the standard General Conditions of the Construction Contract NSPE/ACEC/ASCE/CSI Publication No. 1910-8, 2002 Edition and other provisions of the Contract Documents as indicated below. All provisions, which are not so amended or supplemented, remain in full force and effect. These Supplementary Conditions are arranged in the same order as the paragraphs in the 2002 Edition of the General Conditions, and the paragraphs bear comparable numbers to those in the General Conditions but with the prefix "SC". Refer to the paragraph number of the General Conditions for the indicated change or amendment.

All applicable Local, State and Federal laws shall take precedence or any provision stated in the Contract Documents. Contractor shall be responsible to (1) determine which laws are applicable, (2) fully understand the intent of the laws, and (3) comply fully with all provisions of the said laws.

SC-1.01 DEFINED TERMS

A. The terms used in these Supplementary Conditions, which are defined in the standard General Conditions of the construction contract (No. 1910-8, 2002 Edition) have the meanings assigned to them in the General Conditions.

B. **Add** the following language to the end of the first sentence of paragraph 19 of the General Conditions:

"The Engineer for this Project is:
Environmental Engineering Services
610 Belle Terre Boulevard
LaPlace, LA 70068"

C. Add the term "Engineer's consultants" in paragraph 19, the following persons, firms, or corporations having a contract with Engineer to furnish services as the Engineer's independent professional associates or consultant with respect to the Project shall include:

"**1**. Structural Engineers
None

2. Electrical Engineers
None

3. Geotechnical Engineers
None"

D. **Add** the following language at the end of the first sentence of paragraph 29:

"The Owner for this Project is:
St. John the Baptist Parish
1801 W. Airline Highway
LaPlace, LA 70068"

SC-2.02 COPIES OF DOCUMENTS

Amend the first sentence of paragraph 2.02 of the General Conditions by striking out "ten copies" and replacing it with "three copies" and so amended paragraph 2.02 remains in effect.

SC-2.03 COMMENCEMENT OF CONTRACT TIMES; NOTICE TO PROCEED

Delete paragraph 2.03.A. of the General Conditions in its entirety and insert the following:

> "A. The Contract Times will commence to run on the date indicated in the Notice to Proceed (Form, Sheet 00610-1)."

SC-2.06 PRECONSTRUCTION CONFERENCE

A. **Add** the following phrase after the word "held" and before the word "to" in the first sentence of paragraph 2.06 of the General Conditions:

> "at the Engineer's discretion"

B. In the first sentence **delete** the word "will" and **replace** it with the word "may" in the first sentence of paragraph 2.06 of the General Conditions.

C. **Add** the following sentence after the last sentence of paragraph 2.06:

> "If a pre-construction conference is warranted, the Engineer will set the date which is agreeable to the Owner and Contractor. Attendance by persons representing the Owner, Engineer, Contractor and Resident Project Representative is mandatory."

SC-2.07 INITIAL ACCEPTANCE OF SCHEDULE

Delete the word "will" and **replace** it with the word "may" in the first sentence of paragraph 2.07 of the General Conditions.

SC-4.01 AVAILABILITY OF LANDS

Change the first sentence in paragraph 4.01.A. to read as follows:

> "A. Owner shall furnish the site, including all permanent right-of-ways, and/or easements, temporary construction right-of-ways, and/or easements, and access to all properties both ingress and egress for which work is required." *Owner shall…*

SC-4.02 SUBSURFACE AND PHYSICAL CONDITIONS

In the preparation of Drawings and Specifications, Engineer or Engineer's consultant may have relied upon reports of exploration and test of subsurface conditions at the site of the Work. If reports are prepared for this Project, they are included in the Appendix of these Specifications.

SC-4.04 UNDERGROUND FACILITIES

Add the following to paragraph 4.04 of the General Conditions:

> "C. Damage to an Underground Facility by the Contractor shall be the responsibility of the contractor whether the underground facility was shown or not shown in the drawings or Contract Documents."

SC-4.06 HAZARDOUS ENVIRONMENTAL CONDITION AT SITE

In the preparation of Drawings and Specifications, Engineer or Engineer's consultant may have relied upon reports related to Hazardous Environmental Conditions identified at the site. If reports are prepared for this Project or provide to the Engineer by the Owner or other agencies, they are included in the Appendix of these Specifications.

SC-5.01 PERFORMANCE, PAYMENT, AND OTHER BONDS

Add the following language after the last sentence of paragraph 5.01 of the General Conditions:

> "D. All bonds must be countersigned by a resident agent of the State in which the project is done."

SC-5.03 CERTIFICATES OF INSURANCE

Add two (2) new paragraphs to paragraph 5.03 after the last sentence in paragraph 5.03.A.

> "C. Contractor shall deliver to Owner, with copies of each additional insured 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 in accordance with paragraph 5.04.
>
> D. All insurance coverage called for under this agreement shall be primary."

SC-5.04 CONTRACTOR'S LIABILITY INSURANCE

A. **Delete** paragraph 5.04.A.1 of the General Conditions in its entirety and **insert** the following in its place:

> "1. Claims under workers compensation, disability benefits and other similar employee benefits acts, which said policies shall provide for a Written Waiver of Subrogation in favor of Owner;"

B. **Delete** paragraph 5.04.B.7 of the General Conditions in its entirety and **insert** the following in its place:

> "7. With respect to completed operations insurance and all other insurance policies, coverage shall be written on an "occurrence" basis, remain in effect for at least two years after final payment (and CONTRACTOR shall furnish OWNER and each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued evidence satisfactory to OWNER and any such additional insured of continuation of such insurance at final payment and one year thereafter)."

SC-5.05 OWNER'S LIABILITY INSURANCE

Delete paragraph 5.05 of the General Condition in its entirety and **insert** the following in its place:

> "A. In addition to the insurance required to be provided by the Contractor under paragraph 5.04, the Contractor shall purchase and maintain a Protective Liability coverage. This coverage shall be made in the Owner's name with the Engineer and Engineer's Consultants named as additionally insured. Limits of coverage shall be as specified in paragraph 5.04."

SC-5.06 PROPERTY INSURANCE

A. **Delete** Paragraph 5.06.A. of the General Conditions in its entirety and **insert** the following in its place:

"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 such deductible amounts as may be provided in these Supplementary Conditions or required by Laws and R egulations). This insurance shall:

1.) include the interests of Owner, Contractor, Subcontractors, Engineer, or Engineer's Consultants and any other persons or entities identified in the Supplementary Conditions, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured;

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

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 in transit for incorporation in the Work or 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.) be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor and Engineer with thirty (30) days written notice to each other additional insured to whom a certificate of insurance has been issued.

6.) allow for partial utilization of work by Owner; and

7.) include testing and start-up."

B. **Change** the first word of paragraph 5.06.B. to read from "Owner" to "Contractor". The Contractor shall be responsible for this coverage.

C. **Amend** paragraphs 5.06.B.,C.,D., 5.07 & 5.08 of the General Conditions to provide as amended above in paragraph SC-5.06 that property insurance shall be provided by the CONTRACTOR rather than the OWNER and consequently the duties, rights, and notices between the CONTRACTOR and the OWNER are hereby reverse.

D. **Delete** paragraph 5.06.E. in its entirety.

SC-5.11 SUMMARY INSURANCE REQUIREMENTS

Add a new paragraph (5.11) to Article 5 – Bonds and Insurance immediately after the last sentence of paragraph 5.10 of the General Conditions:

"5.11 Summary Insurance Requirements

A. A summary of the CONTRACTOR'S required insurance types, coverage, and limits of liability shall be as specified in the attached table entitled, "Summary Insurance Requirements." At the end of the Supplementary Conditions. This listing is a minimum requirement in addition to those limits shown in Section 00542."

SC-6.03 SERVICE, MATERIALS, AND EQUIPMENT

Add the following sentence to paragraph 6.03.A.:

"Refer to the Technical Section of these Specifications for conditions where power, water, sewer, gas, telephone or other utilities as provided by the Owner will be offered to the Contractor."

SC-6.06 CONCERNING SUB-CONTRACTORS, SUPPLIERS, AND OTHERS

Add the following sub-paragraph to paragraph 6.06 of the General Conditions:

"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 Applications for Payment on account of the particular subcontractor's suppliers', other persons' or other organization's Work."

SC-6.09 LAWS AND REGULATIONS

Add the following sub-paragraph to paragraph 6.09 of the General Conditions:

"D. When projects are being funded by the Environmental Protection Agency (EPA), the Farmer's Home Administration (FmHA), the Housing and Urban Development Agency (HUD) or other Federal or State Agencies, applicable Laws and Regulations required by the granting and/or lending agency applies. A ny forms or regulations required of the Contractor by the agency whether listed in these Contract Documents or not shall be Contractor's responsibility to complete and/or comply."

SC-6.11 USE OF SITE AND OTHER AREAS

Add the following sentence after the first sentence of paragraph 6.11.A.1. of the General Conditions:

... or other methods or equipment. "The Contractor shall be bound by the terms and conditions of any permit, right-of-way or easement obtained by the Owner for the Work. A copy of permits, right-of-ways, and/or easements may be obtained from the Owner prior to the start of the Work." *Contractor shall assume full responsibility ...*

SC-6.13 SAFETY & PROTECTION

Add the following subparagraph to paragraph 6.13 of the General Conditions:

"E. *Safety Standards and Accident Prevention*

With respect to all work performed under this contract, the Contractor shall:

1. Comply with the safety standards provisions of applicable laws, building and construction codes and the "Manual of accident Prevention in Construction" published by the Associated General Contractors of America, the requirements of the Occupational Safety and Health Act of 1970 (Public Law 91-596), and the requirements of Title 29 of the Code of Federal Regulations, Section 1518 as published in the "Federal Register," Volume 36, No. 75, Saturday, April 17, 1971.

2. Exercise every precaution at all times for the prevention of accidents and the protection of persons (including employees) and property.

3. Maintain at his/her office or other well known place at the job site, all articles necessary for giving first aid to the injured, and shall make standing arrangements for the immediate removal to a hospital or a doctor's care of persons (including employees), who may be injured on the job site. In no case shall employees be permitted to work at a job site before the employer has made a standing arrangement for removal of injured persons to a hospital or a doctor's care."

SC-7.01 RELATED WORK AT SITE

Add a new paragraph immediately after paragraph 7.01 of the General Conditions, which is to read as follows:

"D. Should Contractor cause damage to the work or property of any separate contractor at the site, or should any claim arising out of Contractor's performance of the Work at the site be made by any separate contractor against Contractor, Owner, Engineer, Engineer's consultants, the construction coordinator or any other person, Contractor shall promptly attempt to settle with such other contractor by agreement, or to otherwise resolve the dispute by arbitration or at law. Contractor shall, to the fullest extent permitted by Laws and Regulations, indemnify and hold Owner, Engineer, Engineer's consultants, and the construction coordinator harmless from and against all claims, damages, losses and expenses (including, but not limited to, fees of engineers, architects, attorneys and other professionals and court and arbitration costs) arising directly, indirectly or consequently out of any action, legal or equitable, brought by any separate contractor against Owner, Engineer, Engineer's consultants or the construction coordinator tot he extent based on a claim arising out of Contractor's performance of the Work. Should a separate contractor cause damage to the Work or property of Contractor or should the performance of Work by any separate contractor at the site give rise to any other claim, Contractor shall not institute any action, legal or equitable, against Owner, Engineer, Engineer's consultants or the construction coordinator or permit any action against any of them to be maintained and continued in its name or for its benefit in any court or before any arbiter which seeks to impose liability on or to recover damages from Owner, Engineer, Engineer's consultants or the construction coordinator on account of any such damage or claim.

If Contractor is delayed at any time in performing or furnishing Work by any act or neglect of a separate contractor and Owner and Contractor are unable to agree as to the extent of any adjustment in Contract Times attributable thereto, Contractor may make a claim for

an extension of times in accordance with Article 12. An extension of the contract Times shall be Contractor's exclusive remedy with respect to Owner, Engineer, Engineer's consultant and construction coordinator for any delay, disruption, interference or hindrance caused by any separate contractor. This paragraph does not prevent recovery from Owner, Engineer, Engineer's consultant or construction coordinator for activities that are their respective responsibilities."

SC-9.03 PROJECT REPRESENTATIVE

After the second sentence in paragraph 9.03.A., **add** the following sentence:

…in Paragraph 9.09. "The suggested listing of duties, responsibilities, and limitation of authority of the Resident Project Representative shall be listed in Section 01420 Inspection Services." *If Owner…*

SC-11.01 LOST OF THE WORK

In paragraph 11.01.A.5.C., **add** the following after the last sentence:

"Equipment and machinery rental rates shall be based on the Rental Rate Bluebook for Construction Equipment (latest edition thereof) as published by Nielson/Dataquest or any other publication of similar nature approved by the Engineer. Contractor shall obtain written approval of rental rates prior to implementation."

SC-13.06 CORRECTION OR REMOVAL DEFECTIVE WORK

Add the following sentence after the last sentence in paragraph 13.06.A.:

…of work of others). "No additional contract time will be granted for correction or removal of defective work."

SC-14.02 PROGRESS PAYMENTS

A. **Add** the following phrase after the word "payment" and before the word "but" in the first sentence of paragraph 14.02.A.1. of the General Conditions:

"for non-Federally or non-State funded projects"

B. **Add** the following to paragraph 14.02.A. of the General Conditions:

"4. For Federally or State funded projects, the period for review and payment by the Owner shall be as follows:

Engineering Review	-	5 Days
Owner's Review	-	5 Days
Review and Approval by Agency	-	21 Days
Owner's Check Processed	-	1 Day
TOTAL		32 Days

It is the Owner's intent to receive payment from Federal or State programs prior to payment to the Contractor. In no case will the Contractor be paid monthly estimates until grant/loan monies have been received by the Owner. Interim financing should be figured accordingly.

5. When progress payments are made for material and equipment not incorporated in the Work but stored at the site, Owner shall not be obligated to accept from the Contractor any excess inventory of materials and equipment remaining at the end of the Project. All excess material and equipment shall revert to the Contractor upon completion of the Work and no funds shall be expended to the Contractor for this excess material and equipment not incorporated into the Project."

5.11 SUMMARY INSURANCE REQUIREMENTS (7)

TYPE	MIN.LIMITS OF COVERAGE[1] PER ACCIDENT/OCCURRENCE/AGGREGATE	PURCHASER	REMARKS
Workman's Compensation (Inc. Occupational Disease)	Set by State Law	General Contractor and Subcontractor	As applicable for those employees in hazardous occupations not covered by workman's compensation. Claims shall provide for a Written Waiver of Subrogation in favor of Owner.
Employer's Liability	$1,000,000 combined single limits	General Contractor and Subcontractor	
Comprehensive General Liability[2]	$1,000,000/$1,000,000/$1,000,000 with $1,000,000 umbrella	General Contractor and Subcontractor	
Vehicular Liability[3]			
Bodily Injury and Property Damage	$1,000,000 per accident combined single limit	General Contractor and Subcontractor	
Umbrella	$1,000,000	General Contractor and Subcontractor	
All Risk Property[4][5]	100% of completed value of insurable portions of the work including machinery & equipment.	General Contractor	Name the Owner, Engineer, Contractor, Subcontractor, as insured, as their interest may appear.
Flood Insurance[6]	100% of completed value to a maximum limit of $200,000 for walled and roofed structures costing $10,000 or more at wastewater treatment plants or pumping stations located in eligible communities.	General Contractor	Name the Owner, Contractor, Subcontractor, as insured, as their interest may appear.

(1) All insurance coverage called for under this agreement shall be primary. Greater limit may be required by State or approving authority, such as Railroad or State DOTD.

(2) All policies shall include coverage for personal injury, property damage, contractual liability, operations premises liability, Contractor's protective liability, and completed operations/products hazard. Coverage for underground piping contractors shall also include explosion, collapse and underground property damage (X-C-U). Care, custody, and control coverage is only required for contracts to modify existing plants or facilities.

(3) To include coverage for owned, hired and non-owned vehicles.

(4) Coverage not required on underground piping.

(5) All policies shall include coverage for fire, windstorm, hail, explosion, vehicle damage, falling aircraft, lighting, riot, smoke, vandalism, malicious mischief, and theft.

(6) Flood insurance not required for bridges, dams, piping and underground structures and for facilities not located in a flood plain.

(7) These limits are the minimum if not stated in Section 00542.

FEDERAL CONDITIONS

Wage Determination

The bidding documents include a Wage Determination for the project based on the current U.S. Department of Labor wage rates obtained from Wage Determinations Online (http://www.wdol.gov). The Wage Determination will be rechecked ten (10) days before the bid opening, and if it has been revised, the revised version will be issued to bidders as an addendum.

General Decision Number: LA130007 01/18/2013 LA7

Superseded General Decision Number: LA20120007

State: Louisiana

Construction Type: Heavy

Counties: Jefferson, Orleans, Plaquemines, St Bernard, St Charles, St James, St John the Baptist and St Tammany Counties in Louisiana.

HEAVY CONSTRUCTION PROJECTS (Includes flood control, water & sewer lines, and water wells. Also includes elevated storage tanks in all listed parishes except Plaquemines and St. James. Excludes industrial construction-chemical processing, power plants, and refineries.)

Modification Number	Publication Date
0	01/04/2013
1	01/18/2013

CARP0729-001 07/01/2012

	Rates	Fringes
MILLWRIGHT	$ 25.80	9.50

CARP1846-006 07/01/2012

	Rates	Fringes
CARPENTER (formbuilding/formsetting and Piledrivers)	$ 22.21	7.75

ELEC0130-005 12/01/2012

JEFFERSON, ORLEANS, PLAQUEMINES, ST. BERNARD, ST. CHARLES, ST. JAMES, AND ST. JOHN THE BAPTIST PARISHES

	Rates	Fringes
ELECTRICIAN (including low voltage wiring)	$ 28.50	9.24

ELEC1077-002 09/01/2012

ST. TAMMANY PARISH

Rates Fringes

ELECTRICIAN (including low
voltage wiring).....$ 22.50 7.17

ENGI0406-018 07/01/2009

Rates Fringes

OPERATOR: Power Equipment
Bulldozer.....$ 21.26 6.70
Mechanic.....$ 23.31 6.70

PLAS0567-003 07/01/2012

JEFFERSON, ORLEANS, PLAQUEMINES, ST. BERNARD, ST. CHARLES, ST. JOHN THE BAPTIST, and ST. TAMMANY PARISHES

Rates Fringes

Cement Mason/Concrete Finisher...$ 20.58 5.69

PLAS0812-003 06/01/2004

ST. JAMES PARISH

Rates Fringes

Cement Mason/Concrete Finisher...$ 21.85 0.00

PLUM0060-002 06/04/2012

JEFFERSON, ORLEANS, PLAQUEMINES, ST. BERNARD, ST. CHARLES, ST. JAMES (Southeastern Portion), ST. JOHN THE BAPTIST, and ST. TAMMANY PARISHES

Rates Fringes

Plumbers (excluding pipe
laying).....$ 26.88 10.42
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* PLUM0198-005 01/01/2013

ST. JAMES PARISH (Northwestern Portion)

Rates Fringes

PLUMBER (excluding pipe
laying).....$ 25.04 10.38

SULA2004-007 05/13/2004

Rates Fringes

CARPENTER (all other work).....$ 13.75 2.60

Laborers:
Common/Landscape.....$ 9.88 0.00
Fence.....$ 11.24 0.00
Flagger.....$ 8.58 0.00
Mason Tender.....$ 7.25 0.00
Pipelayer.....$ 9.84 0.00

PIPEFITTER (excluding
pipelaying).....$ 17.52 4.51

Power equipment operators:
Backhoe/Excavator.....$ 14.42 0.00
Crane.....$ 16.34 3.30
Dragline.....$ 16.50 0.00
Front End Loader.....$ 13.89 0.00
Oiler.....$ 10.03 0.00

Truck drivers:
Dump.....$ 11.01 0.00
Pickup.....$ 12.25 0.00

WELDERS - Receive rate prescribed for craft performing
operation to which welding is incidental.

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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 union or non-union.

Union Identifiers

An identifier enclosed in dotted lines beginning with
characters other than "SU" denotes that the union
classification and rate have found to be prevailing for that

classification. Example: PLUM0198-005 07/01/2011. The first four letters , PLUM, indicate the international union and the four-digit number, 0198, that follows 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. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rates.

0000/9999: weighted union wage rates will be published annually each January.

Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union majority rates, LA indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

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

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

Wage Rate Requirements Under FY 2010, 2011, & 2012 Appropriations

Preamble

With respect to the Clean Water and Safe Drinking Water State revolving Funds, EPA provides capitalization grants to each State which in turn provides subgrants or loans to eligible entities within the State. Typically, the subrecipients are municipal or other local governmental entities that manage the funds. For these types of recipients, the provisions set forth under Roman Numeral I, below, shall apply. Although EPA and the State remain responsible for ensuring subrecipients' compliance with the wage rate requirements set forth herein, those subrecipients shall have the primary responsibility to maintain payroll records as described in Section 3(ii)(A), below and for compliance as described in Section I-5.

Occasionally, the subrecipient may be a private for profit or not for profit entity. For these types of recipients, the provisions set forth in Roman Numeral II, below, shall apply. Although EPA and the State remain responsible for ensuring subrecipients' compliance with the wage rate requirements set forth herein, those subrecipients shall have the primary responsibility to maintain payroll records as described in Section II-3(ii)(A), below and for compliance as described in Section II-5.

I. Requirements For Subrecipients That Are Governmental Entities:

The following terms and conditions specify how recipients will assist EPA in meeting its Davis-Bacon (DB) responsibilities when DB applies to EPA awards of financial assistance under the FY 2010, 2011, and 2012 Full-Year Continuing Appropriations with respect to State recipients and subrecipients that are governmental entities. If a subrecipient has questions regarding when DB applies, obtaining the correct DB wage determinations, DB provisions, or compliance monitoring, it may contact the State recipient. If a State recipient needs guidance, the recipient may contact

Mr. Dannell Brown (214-665-7279 or Brown.Dannell@epamail.epa.gov)

for guidance. The recipient or subrecipient may also obtain additional guidance from DOL's web site at: http://www.dol.gov/esa/whd/recovery/

1. Applicability of the Davis- Bacon (DB) prevailing wage requirements.

   Under the FY 2010, 2011, & 2012 Full-Year Continuing Appropriations, 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 a State water pollution control revolving fund and to any construction project carried out in whole or in part by assistance made available by a drinking water treatment revolving loan fund. If a subrecipient encounters a unique situation at a site that presents uncertainties regarding DB applicability, the subrecipient must discuss the situation with the recipient State before authorizing work on that site.

2. Obtaining Wage Determinations.

(a) Subrecipients 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 subrecipient shall monitor www.wdol.gov weekly to ensure that the wage determination contained in the solicitation remains current. The subrecipients 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 subrecipients may request a finding from the State recipient that there is not a reasonable time to notify interested contractors of the modification of the wage determination. The State recipient will provide a report of its findings to the subrecipient.

(ii) If the subrecipient 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 State recipient, at the request of the subrecipient, obtains an extension of the 90 day period from DOL pursuant to 29 CFR 1.6(c)(3)(iv). The subrecipient 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 subrecipient 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 subrecipient shall insert the appropriate DOL wage determination from www.wdol.gov into the ordering instrument.

(c) Subrecipients 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 a subrecipient's contract after the award of a contract or the issuance of an ordering instrument if DOL determines that the subrecipient 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 subrecipient 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 subrecipient'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 Recipient shall insure that the subrecipient(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 § 5.1 or the FY 2010, 2011, and 2012 Full-Year Continuing Appropriations, 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 § 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.

Subrecipients may obtain wage determinations from the U.S. Department of Labor’s web site, www.dol.gov.

(ii)(A) The subrecipient(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 State award official 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 subrecipient(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 subrecipient (s) to the State award official. The State award official 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 State award official or will notify the State award official 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 subrecipient(s) do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the award official shall refer the request and the local wage determination, including the views of all interested parties and the recommendation of the State award official, 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 subrecipient(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 (Agency) 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 subrecipient, that is, the entity that receives the sub-grant or loan from the State capitalization grant recipient. Such documentation shall be available on request of the State recipient or EPA. As to each payroll copy received, the subrecipient shall provide written confirmation in a form satisfactory to the State 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/esa/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 subrecipient(s) for transmission to the State or EPA if requested by EPA , the State, 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 subrecipient(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 State, 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 Federal agency or State 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 Subrecipient(s), State, 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 subrecipient 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 subrecipient**,** 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 (b)(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 Subrecipient 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 Subrecipient shall insert in any such contract a clause providing hat 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 (write the name of agency) 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 subrecipient 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 subrecipient must use Standard Form 1445 (SF 1445) or equivalent documentation to memorialize the interviews. Copies of the SF 1445 are available from EPA on request.

(b) The subrecipient 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. At a minimum, the subrecipient should conduct interviews with a representative group of covered employees within two weeks of each contractor or subcontractor's submission of its initial weekly payroll data and two weeks prior to the estimated completion date for the contract or subcontract. Subrecipients must conduct more frequent interviews if the initial interviews or other information indicates that there is a risk that the contractor or subcontractor is not complying with DB . Subrecipients shall immediately conduct necessary interviews in response to an alleged violation of the prevailing wage requirements. All interviews shall be conducted in confidence.

(c) The subrecipient 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 subrecipient 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 subrecipient 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 . Subrecipients 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 subrecipient shall verify evidence of fringe benefit plans and payments thereunder by contractors and subcontractors who claim credit for fringe benefit contributions.

(d) The subrecipient shall periodically review contractors and subcontractors 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) Subrecipients must immediately report potential violations of the DB prevailing wage requirements to the EPA DB contact listed above and to the appropriate DOL Wage and Hour District Office listed at http://www.dol.gov/esa/contacts/whd/america2.htm.

II. Requirements under FY 2010, 2011, & 2012 Full-Year Continuing Appropriation Act For Subrecipients That Are Not Governmental Entities

The following terms and conditions specify how recipients will assist EPA in meeting its DB responsibilities when DB applies to EPA awards of financial assistance under the FY 2010, 2011, & 2012 Full-Year Continuing Appropriation Acts with respect to subrecipients that are not governmental entities. If a subrecipient has questions regarding when DB applies, obtaining the correct DB wage determinations, DB provisions, or compliance monitoring, it may contact the State recipient for guidance. If a State recipient needs guidance, the recipient may contact

Mr. Dannell Brown (214-665-7279 or Brown.Dannell@epamail.epa.gov)

for guidance. The recipient or subrecipient may also obtain additional guidance from DOL's web site at http://www.dol.gov/esa/whd/recovery/

Under these terms and conditions, the subrecipient must submit its proposed DB wage determinations to the State recipient for approval prior to including the wage determination in any solicitation, contract task orders, work assignments, or similar instruments to existing contractors.

1._ Applicability of the Davis- Bacon (DB) prevailing wage requirements.

Under the FY 2010, 2011, & 2012 Full-Year Continuing Appropriations, 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 a State water pollution control revolving fund and to any construction project carried out in whole or in part by assistance made available by a drinking water treatment revolving loan fund. If a subrecipient encounters a unique situation at a site that presents uncertainties regarding DB applicability, the subrecipient must discuss the situation with the recipient State before authorizing work on that site.

2. Obtaining Wage Determinations.

(a) Subrecipients must obtain proposed wage determinations for specific localities at www.wdol.gov. After the Subrecipient obtains its proposed wage determination, it must submit the wage determination to (insert contact information for State recipient DB point of contact for wage determination) 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 State recipient Award Official.

(b) Subrecipients 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 subrecipient shall monitor www.wdol.gov. on a weekly basis to ensure that the wage determination contained in the solicitation remains current. The subrecipients 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 subrecipients may request a finding from the State recipient that there is not a reasonable time to notify interested contractors of the modification of the wage determination. The State recipient will provide a report of its findings to the subrecipient.

(ii) If the subrecipient 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 State recipient, at the request of the subrecipient, obtains an extension of the 90 day period from DOL pursuant to 29 CFR 1.6(c)(3)(iv). The subrecipient 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 subrecipient 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 subecipient shall insert the appropriate DOL wage determination from www.wdol.gov into the ordering instrument.

(c) Subrecipients 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 a subrecipient's contract after the award of a contract or the issuance of an ordering instrument if DOL determines that the subrecipient 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 subecipient 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 subrecipient'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 Recipient shall insure that the subrecipient(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 § 5.1 or the FY 2010, 2011, & 2012 Full-Year Continuing Appropriations, 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 § 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.

Subrecipients may obtain wage determinations from the U.S. Department of Labor’s web site, www.dol.gov. .

(ii)(A) The subrecipient(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 State award official 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 subrecipient(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 subrecipient(s) to the State award official. The State award official will transmit the report, 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 State award official or will notify the State award official 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 and the subrecipient(s) do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the award official shall refer the request, and the local wage determination, including the views of all interested parties and the recommendation of the State award official, to the Administrator for determination. The request shall be sent to the EPA 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 subrecipient(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 (Agency) 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 subrecipient, that is, the entity that receives the sub-grant or loan from the State capitalization grant recipient. Such documentation shall be available on request of the State recipient or EPA. As to each payroll copy received, the subrecipient shall provide written confirmation in a form satisfactory to the State 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/esa/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 subrecipient(s) for transmission to the State or EPA if requested by EPA , the State, 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 subrecipient(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 State, 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 Federal agency or State 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 Subrecipient(s), State, 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 subrecipient 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 (b)(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 (b)(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 (b)(1) of this section.

(3) Withholding for unpaid wages and liquidated damages. The subrecipient 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 (b)(2) of this section.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (b)(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 (b)(1) through (4) of this section.

(c) 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 Subrecipient 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 Subrecipient 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 (write the name of agency) 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 subrecipient 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 subrecipient must use Standard Form 1445 (SF 1445) or equivalent documentation to memorialize the interviews. Copies of the SF 1445 are available from EPA on request.

(b) The subrecipient 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. At a minimum, the subrecipient should conduct interviews with a representative group of covered employees within two weeks of each contractor or subcontractor's submission of its initial weekly payroll data and two weeks prior to the estimated completion date for the contract or subcontract. Subrecipients must conduct more frequent interviews if the initial interviews or other information indicates that there is a risk that the contractor or subcontractor is not complying with DB. Subrecipients shall immediately conduct necessary interviews in response to an alleged violation of the prevailing wage requirements. All interviews shall be conducted in confidence.

(c). The subrecipient 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 subrecipient 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 subrecipient 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. Subrecipients 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 subrecipient shall verify evidence of fringe benefit plans and payments thereunder by contractors and subcontractors who claim credit for fringe benefit contributions.

(d). The subrecipient shall periodically review contractors and subcontractors 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) Subrecipients must immediately report potential violations of the DB prevailing wage requirements to the EPA DB contact listed above and to the appropriate DOL Wage and Hour District Office listed at http://www.dol.gov/esa/contacts/whd/america2.htm.

Drinking Water Revolving Loan Fund

DAVIS-BACON AND RELATED ACTS PAYROLL CERTIFICATION

LOUISIANA DEPARTMENT OF HEALTH AND HOSPITALS • OFFICE OF PUBLIC HEALTH

Davis-Bacon and Related Acts Payroll Certification

NOTE: This certification is required for all projects receiving funding from DWRLF that must comply with Davis-Bacon requirements as indicated in the loan closing documents. All Payment Requests seeking reimbursement for construction costs must include this certification.

Name of Water System: _____

Name of Project: _____ **DWRLF Project No.** _____

Contractor / Subcontractor: _____

Weekly Payroll Numbers and Dates Covered by this Certification:

Payroll No.: _____ From: _____ To: _____ Comments: _____

Payroll No.: _____ From: _____ To: _____ Comments: _____

Payroll No.: _____ From: _____ To: _____ Comments: _____

Payroll No.: _____ From: _____ To: _____ Comments: _____

Payroll No.: _____ From: _____ To: _____ Comments: _____

Payroll No.: _____ From: _____ To: _____ Comments: _____

Payroll No.: _____ From: _____ To: _____ Comments: _____

Interview Verifications:
Recipients must conduct a minimum of two interviews: the first within two weeks of initial payroll submission, and the second two weeks prior to the completion date of the contract or sub-contract. Additional interviews should be performed if problems are found during the initial interview and at other times when needed. An interview form (Standard Form 1445 or equivalent) must be completed with every interview and kept on file.

Initial Interview Date: _____ Interview Date: _____ Interview Date: _____
Interview Date: _____ Interview Date: _____ Final Interview Date: _____

CERTIFICATION

I certify to the best of my knowledge and belief that the above referenced project complies with the Davis-Bacon and Related Acts requirements as indicated in the loan closing documents and that all laborers and mechanics employed by contractors and subcontractors during the above referenced period were paid wages at rates not less than those listed on the prevailing wage rate contained in the contract documents and that all applicable provisions of the Davis-Bacon and Related Acts have been met.

Name of Certifying Official:	*Title of Person Certifying*:	
Signature:	*Phone Number*:	*Date Signed*:

Payrolls and basic records must be maintained by the contractor for three years from project completion.

DISADVANTAGED BUSINESS ENTERPRISE (DBE)

GOOD FAITH EFFORT REQUIREMENTS

LOUISIANA DEPARTMENT OF HEALTH AND HOSPITALS ● OFFICE OF PUBLIC HEALTH

To ensure that contracts provide employment and growth opportunities for disadvantaged businesses, the Federal Government requires that all procurement made with Federal funds follow six (6) "Good Faith Effort" steps to utilize Disadvantaged Business Enterprises(DBEs), which includes small(SBE), minority(MBE), women(WBE) and small businesses in rural areas(SBRA). For that reason, prime contractors are required to submit proof demonstrating that good faith efforts have been made to maximize participation with DBE subcontractors prior to award and during the life of the contract. The good faith efforts requirements under the Louisiana Department of Health and Hospitals (LDHH) - Office of Public Health (OPH) - Drinking Water Revolving Loan Fund (DWRLF) Program (40 CFR 35.3575.d) are contractual obligations that must be fulfilled.

THE SIX (6) GOOD FAITH EFFORTS

1. Inclusion of DBEs on solicitation lists.
2. Assure DBEs are solicited once they are identified
3. Where feasible, divide total requirements into smaller tasks to permit maximum DBE participation.
4. Where feasible, establish delivery schedules that will encourage DBE participation.
5. Encourage use of the services of the U.S. Department of Commerce's Minority Business Development Agency (MBDA) and the U.S. Small Business Administration to identify DBEs.
6. Require that each party to a subgrant, subagreement, or contract award take the affirmative steps outlined here.

Performing the above six efforts represents "good faith" efforts to attract and utilize DBEs, primarily through race/gender neutral outreach, recruitment and other activities. The objective is to expand the pool of bidders to include these types of businesses, not to use race or ethnicity in the actual decision - in other words, to level the playing field for these types of businesses. All efforts must be documented.

GOALS

In order to track and measure the DBE participation in Federally Funded Programs, as is the DWRLF Program, goals have been designated that the programs are expected to meet. Currently, the DWRLF Program is required to track the participation of all DBEs. However, at this time, goals have only been set and reporting is only required for MBE and WBE participation. Also, the participation goals where DBEs should be utilized have been divided into four categories. The existing DBE goals for the DWRLF Program are as follows:

CURRENT GOALS*	SUPPLIES	EQUIPMENT	SERVICES	CONTRUCTION
MBE	2.0 %	2.0 %	6.0 %	3.0 %
WBE	3.0 %	2.0 %	4.0 %	1.0 %

** Current Goals are based on the SFY 2003 goals. Note that the goals are subject to change each fiscal year.*

DOCUMENTATION OF GOOD FAITH EFFORTS

All contractors are required to document their efforts in following the six (6) Good Faith Efforts. The list of minimum documentation to be submitted is as follows:

1. DBE COMPLIANCE AGREEMENT (Form DBE1)
2. DBE CONTRACTOR DATA (Form DBE2)

This form identifies the contractor and all subcontractors to be USED on this contract. Also copies of all contracts and/or purchase agreements with subcontractors must be attached.

3. DBE SUBCONTRACTOR CONTACT LOG (DBE3)
   This form logs all contact with DBEs. Also copies of letters or faxes sent to DBEs for solicitation purposes must be attached.
4. DBE SUBCONTRACTOR BIDS LIST (DBE4)
   This form identifies all DBE proposals that were received by the contractor and whether the proposals were accepted or rejected.
5. DBE LETTER OF INTENT (DBE5)
   This form must be used in lieu of a formal contract agreement between the prime contractor and any DBE subcontractors or sub-subcontractors.

Note that the contractor shall keep all such records as are necessary for the DWRLF to determine compliance with the DBE contract obligations. The required forms listed above document only the minimum information required by the program. The minimum information is designed to illustrate the contractor's demonstrated efforts made to negotiate in good faith with interested DBEs for specific items of work. The contractor's records shall include the following:

1. Names, addresses and telephone numbers of all DBEs contacted and DBEs to be used.
2. The dates of initial contact and whether initial solicitations of interest were followed-up personally, by mail, or by phone to determine the DBEs interest.
3. A description of the information provided to DBEs regarding the nature of the work, the plans and specifications and estimated quantities for portions of the work to be performed.
4. A statement of why additional agreements with DBEs were not reached.
5. Documentation of each rejected DBE and the reasons for rejection.
6. All other efforts to obtain services of DBEs.

For those DBEs used for the project, the contractor's records shall include, in addition to the information listed above, the following:

1. Copies of subcontracts.
2. The type of work being performed.
3. Documentation such as canceled checks and paid invoices verifying payment for work, services, and procurement.
4. Documentation of correspondence, verbal contacts, telephone calls.

For additional good faith efforts please see the "ADDITIONAL EFFORTS" section below.

When requested, the contractor shall submit information regarding DBEs in such form, manner and content as prescribed by DWRLF. The DWRLF reserves the right to investigate, monitor and/or review actions, statements and documents submitted by any contractor, subcontractor, or DBE.

STEP 1: BIDDER / CONTRACTOR EFFORTS PRIOR TO CONSTRUCTION

Bidders are required to make good faith efforts to contract with DBE firms for each category of work identified above which will be performed by a subcontractor. These efforts must be made and the appropriate forms must be submitted to the DWRLF in order for the contractor to qualify and be authorized to receive construction payments.

***CONTACTING DBEs**:* The contractor shall provide notice to a reasonable number of DBEs interested in participation in the contract as a subcontractor, regular dealer, manufacturer, or consultant for specific items of work. Any DBE may be contacted. However, in order to determine if a potential DBE qualifies under this program, please review the "CERTIFICATION" section of this document.

The DWRLF DBE Program Coordinator may be able to assist in providing a basic list of DBE contractors specializing in the categories of work identified in the above section "GOALS". The DWRLF DBE Coordinator may be reached at (225) 342-8355. Additional DBE Information may be obtained from the agencies listed below:

LA Department of Transportation and Development - Compliance Programs Section
Office Telephone: (225) 379-1382
Database Website: www.dotd.state.la.us/cgi-bin/construction.cgi

LA Department of Environmental Quality
Wastewater SRF Program DBE Coordinator Telephone: (225) 219-3824

Office of Small Business Administration (SBA)
Office Telephone: (504) 589-2847
PRO-Net Database Website: http://dsbs.sba.gov/dsbs/dsp_dsbs.cfm

U.S.Department Of Commerce – Minority Business Development Agency
Database Website: www.mbda.gov

U.S. EPA – Suggested Resources For Identifying Small, Minority, And Women-Owned Businesses
Website: www.epa.gov/sadqfzsu/sressbus.htm

The DWRLF Program strongly encourages the utilization of these agencies listed above. If any are used, regardless of whether or not a DBE firm was found, a copy of all documented efforts should be submitted, especially printouts of any DBE lists.

WHEN TO CONTACT DBEs: Depending upon bid conditions, notification should be provided with sufficient time to allow the DBEs to participate effectively. Note that the required DBE documentation must be provided to the DWRLF DBE Program Coordinator before construction payments will be authorized by the DWRLF.

HOW TO CONTACT DBEs: DBEs may be contacted by letter or fax to advise of potential subcontracting opportunities. A follow-up telephone call must be made to determine if a proposal will be submitted or if additional information is required by the DBE. A follow-up telephone call is not necessary if a response is made after the first contact by fax or letter (It is recommended that letters be sent certified mail). Note that blanket advertising in trade journals, newspapers or in other media is not alone considered sufficient effort.

What information must be provided to the DBE: The fax or letter must include project information about plans, specifications, timing and other requirements, sufficient to permit the DBE firm to have an equal opportunity to compete for work as a subcontractor.

INFORMATION FOR LDHH-OPH-DWRLF: The following DBE compliance documents must be submitted and approved by DWRLF before construction payments will be authorized by the DWRLF:

1. DBE SUBCONTRACTOR CONTACT LOG (DBE3)
   This form logs all contact with DBEs. Also copies of letters or faxes sent to DBEs for solicitation purposes by the contractor must be attached.
2. DBE SUBCONTRACTOR BIDS LIST (DBE4)
   This form identifies all DBE proposals that were received by the contractor and whether the proposals were accepted or rejected.

   IMPORTANT NOTE: It is the decision of the consultant engineer and/or the water system as to whether the above listed documentation (the two forms DBE3 and DBE4) will be a matter of bidder responsibility or a matter of bid responsiveness. Generally, the documentation is a matter of bidder responsibility and it will be treated as such unless it clearly and unequivocally states in the bid documents that failure to meet the DBE requirements will cause the bid to be rejected as non-responsive. In deciding to make these requirements matters of responsiveness, extreme care must be exercised in drafting the invitations for bid and all bid solicitation documents. If there is any ambiguity in these documents concerning whether a bid failing to comply with the requirements will be automatically rejected as non-responsive, then the requirement will be considered to be a matter of responsibility which can be cured by the bidder after the bid opening. Consequently, where there is such ambiguity in the bid solicitation documents, a nonconforming bid must not be rejected as non-responsive.
3. DBE COMPLIANCE AGREEMENT (DBE1)
4. DBE CONTRACTOR DATA (DBE2) – with attachments, either
   a copy of the signed contract with each MBE/WBE, OR
   a signed purchase agreement
   and/or signed DBE LETTER OF INTENT (DBE5) for each MBE/WBE

Also note that failure to submit these documents shall make the successful bidder ineligible to be authorized by the DWRLF to receive construction payments. The DWRLF Project Engineer shall have the right to seek clarification or additional information to assure good faith effort compliance.

STEP 2: CONTRACTOR EFFORTS DURING CONSTRUCTION

***Addition/Replacement of Subcontractors**:*
If any subcontractor is added or replaced after the contract award or at any time during the life of the project, the contractor shall make good faith efforts to contract with a DBE for the work to be performed by that subcontractor. Documentation of these efforts is required as stated above and must be submitted to the DWRLF Project Engineer for approval. The following document must be revised and submitted for approval:

1. DBE SUBCONTRACTOR CONTACT LOG (DBE3) - ***REVISED***
   This form logs all contact with DBEs. Also copies of letters or faxes sent to DBEs for solicitation purposes by the contractor must be attached.
2. DBE SUBCONTRACTOR BIDS LIST (DBE4) - ***REVISED***
   This form identifies all DBE proposals that were received by the contractor and whether the proposals were accepted or rejected.
3. DBE CONTRACTOR DATA (DBE2) – ***REVISED*** - with attachments, either
   a. a copy of the *signed* contract with each MBE/WBE, **OR**
   b. a *signed* purchase agreement and/or *signed* DBE LETTER OF INTENT (DBE5) for each MBE/WBE

ADDITIONAL EFFORTS

Good faith efforts include personal contacts, follow-ups and earnest negotiations with DBEs. The DWRLF will consider, at a minimum, the required documentation above as relevant efforts. However, the contractor shall keep all such records as are necessary for the DWRLF to determine compliance with the DBE contract obligations. The DWRLF reserves the right to investigate, monitor and/or review actions, statements and documents submitted by any contractor, subcontractor, or DBE. Therefore, the following list provides additional efforts to assist in carrying out the six Good Faith Effort outreach and recruitment activities. This listing is not exclusive or exhaustive and other factors and types of efforts may be relevant.

- Perform an analysis to identify portions of work that can be divided and afford maximum participation by qualified subcontractors and supplier DBEs.
- Scrutinize the elements of the total project to develop economically feasible units of work that are within the bonding range of DBEs.
- Consider lead times and develop realistic delivery schedules, which may provide for greater DBE participation.
- Provide DBE trade organizations with summaries of solicitations.
- Effectively utilize the services of available community organizations; contractor's groups; local, state and federal business assistance offices such as the Small Business Administration, Minority Business Development Agency, US EPA, Office of Small and Disadvantaged Business Utilization (OSDBU), the Department of Transportation; and other organizations to assist in identifying DBEs for potential work opportunities on your projects.
- Maintain and update a listing of qualified DBEs that can be solicited for supplies, construction, equipment and/or services. Provide listings to all interested parties who request copies of the bidding or proposing documents.
- Advertise in general circulation, trade publications, State agency publications, DBE-focused media, etc., concerning contracting and subcontracting opportunities on your projects. Maintain a list of DBE-focused publications that may be utilized to solicit MBEs and WBEs.
- Conduct meetings, conferences and follow-ups with DBEs to inform these groups of opportunities to provide supplies, services, equipment, and construction or to walk the job-site.
- Conduct pre-bid, pre-solicitation and post-award conferences to ensure that consultants, suppliers, and builders solicit DBEs.
- Maintain copies of all bids and quotations received from DBE subcontractors and an explanation of why they were not used for company records.
- Assisting DBEs in obtaining bonding, insurance, or lines of credit required by the recipient or contractor.

DBE CERTIFICATION

The DWRLF Program does not certify DBEs and certified DBEs are not required at this time. However, DWRLF will accept any DBE as genuine that meets the following criteria:

a. Certified by the Small Business Administration, or
b. Certified by a Federal or another State Agency (such as LDOTD), or
c. Be an independent business concern, which is at least 51 percent owned and controlled by minority group member(s) for MBE(s) or women WBE(s) who are citizens of the United States.
    1. A minority group member is an individual who is a *Black American*, *Hispanic American* (with origins from Puerto Rico, Mexico, Cuba, South or Central America), *Native American* (American Indian, Eskimo, Aleut, native Hawaiian), or *Asian-Pacific American* (with origins from Japan, China, the Philippines, Vietnam, Korea, Samoa, Guam, the U.S. Trust territories of the Pacific, Northern Marianas, Laos, Cambodia, Taiwan or the Indian subcontinent).
    2. The ownership must be real, substantial and continuing.
    3. The owner must have and exercise control over the business decisions.
    4. Must perform a useful business function according to custom and practice in the industry; or
d. Be a Historically Black College or University (HBCU).
e. In the case of Small Business Concerns (SBEs), any business entity, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria and size standards set forth in 13 CFR Part 121.
f. In the case of Small Business in a Rural Area (SBRA), any business entity meeting the definition of a small business (e), and is located and conducts its principle operations in a geographic area (County or parish) listed in the Small Business Administration's Listing of Non-Metropolitan Counties by State.

Additional information may be required to prove ownership and control if there is reasonable cause to believe that a firm doing business is not a legitimate DBE. Such information may include, but not be limited to:

- The certificate described above,
- Names and addresses of legal owners including race, gender, percentage of ownership, percentage of control and the date each owner became an owner of the firm,
- Financial, banking and credit information,
- Whether the firm has ever been denied certification as an MBE/WBE by SBA, a State, or Federal agency and, if so, when and by whom, and
- Other information demonstrating ownership and control.

Drinking Water Revolving Loan Fund Program • FORM DBE1

DBE COMPLIANCE AGREEMENT

Louisiana Department Of Health And Hospitals · Office Of Public Health

By signing this document, Successful bidder hereby certifies and understands that:

1. It has not discriminated against any DBE firms in awarding subcontracts for this project.
2. The good faith efforts requirements under the Drinking Water Revolving Loan Fund (40 CFR 35.3575.d) are contractual obligations that must be fulfilled whether or not listed on these forms.
3. Successful bidders must submit all required forms and attachments. Failure to provide any information may prevent authorizaton to award contract by DHH.
4. Additional documentation to verify or clarify good faith efforts must be provided upon request.
5. Replacement of a subcontractor before contract award or during performance without: (a) obtaining the prior written consent of DHH, and (b) subsequent good faith efforts in selection of a replacement, is prohibited and a breach of contract.
6. In the absence of a formal contractual agreement between the prime contractor and DBE subcontractors, Form DBE5 - the DBE Letter of Intent shall be submitted for each subcontractor.

And, Executes this Compliance Agreement as:

Loan Recipient: _____

Address: _____

Phone Number: _____ Fax Number: _____

By: _____ _____

Signature of Authorized Owner or Representative — Title — Date

Print Name: _____

Company Name: _____

Address: _____

Phone Number: _____ Fax Number: _____

By: _____ _____

Signature of Authorized Owner or Representative — Title — Date

Print Name: _____

P. O. Box 4489, Baton Rouge, LA 70821-4489 * Tel (225) 342-8355 * Fax (225) 342-7894

Drinking Water Revolving Loan Fund Program • FORM DBE2

DBE CONTRACTOR DATA

Louisiana Department Of Health And Hospitals · Office Of Public Health

Loan Recipient Name[1]: _____ Loan/PWSID # [2]: _____

Brief Contract Description [3]: _____ DHH Contract # [4]: _____

	DBE Prime/Sub Contractor Name / Address Telephone / Fax Numbers [5]	Contract Amount ($) [6]	Description and Category of Work [7]	Disadvantaged Business Enterprise (DBE) Status [8] (Check all that apply)	Federal Tax ID# [9]
1			Supplies Equipment Services Construction	Minority (MBE) Black Native American Hispanic Asian Woman (WBE) Small (SBE) Small Rural Area (SBRA)	
2			Supplies Equipment Services Construction	Minority (MBE) Black Native American Hispanic Asian Woman (WBE) Small (SBE) Small Rural Area (SBRA)	
3			Supplies Equipment Services Construction	Minority (MBE) Black Native American Hispanic Asian Woman (WBE) Small (SBE) Small Rural Area (SBRA)	
4			Supplies Equipment Services Construction	Minority (MBE) Black Native American Hispanic Asian Woman (WBE) Small (SBE) Small Rural Area (SBRA)	
5			Supplies Equipment Services Construction	Minority (MBE) Black Native American Hispanic Asian Woman (WBE) Small (SBE) Small Rural Area (SBRA)	

All written contract and/or purchase agreements with above contractors **MUST** be submitted with this form. If it is a purchase agreement only, or if there is no written agreement, then **Form DBE5** must be submitted.

Attach extra sheets as necessary for additional contractors and subcontractors.

* Indicate if the subcontractor is going to hire other subcontractors. If so, an additional sheet listing them is required.

I hereby certify that the above information is true and correct and that I will notify DHH, in writing, of any changes that occur prior to completion of the work.

Loan Recipient: _____ Date: _____
(Signature of Authorized Representative)

Prime Contractor: _____ Date: _____
(Signature of Authorized Representative)

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Drinking Water Revolving Loan Fund Program • FORM DBE2

INSTRUCTIONS FOR THE DBE CONTRACTOR DATA FORM

Louisiana Department Of Health And Hospitals · Office Of Public Health

This form **MUST** be submitted to DHH before the first payment request to the contractor will be processed.

All written contract and/or purchase agreements with above contractors MUST be submitted with this form. If it is a purchase agreement only, or if there is no written agreement, then Form DBE5 must be submitted.

Attach extra sheets as necessary for additional contractors and subcontractors. * Indicate if the subcontractor is going to hire other subcontractors. If so, an additional sheet listing them is required. Replacement, substitution or addition of DBE firms must be handled in conformance with the contract documents.

1. **LOAN RECIPIENT**: Indicate the name of the loan recipient as listed on the contractual documents.
2. **PROJECT-CONTRACT NUMBER**: Enter the project-contract number for this project as assigned by DHH. This number is usually the same as the PWSID for the water system with an additional -01 after, designating the first loan made to the system.
3. **BRIEF CONTRACT DESCRIPTION**: Briefly describe the work to be performed under the contract.
4. **DHH CONTRACT #**: Indicate the number given to this contract by DHH.
5. **DBE PRIME/ SUB CONTRACTOR NAME / ADDRESS / TELEPHONE / FAX NUMBERS**: List the names and all contact information of the DBE prime and DBE sub contractors expected to perform work during the construction of the project under the designated contract. * Also, indicate if the subcontractor is going to hire other DBE sub-subcontractors. If so, identify those sub-subcontractors and provide the same requested information.
6. **CONTRACT AMOUNT**: Indicate the dollar amount for the contract and each subcontract.
7. **DESCRIPTION AND CATEGORY OF WORK**: Describe the work to be performed by the contractor and each subcontractor. Then check the appropriate category of work to be performed.
8. **DBE STATUS**: Indicate the appropriate DBE status of the contractor and each subcontractor listed in Item 5. Note: Designations should be consistent with how firms were identified during solicitations. List all designations that apply.
9. **FEDERAL TAX ID #:** : Indicate the Federal Tax ID number of the contractor and each subcontractor.

Drinking Water Revolving Loan Fund Program • FORM DBE3

DBE SUBCONTRACTOR CONTACT LOG

Louisiana Department Of Health And Hospitals · Office Of Public Health

Bidder Name: _____ Project Name: _____

Bidders should record their contacts with potential DBE sbcontractors through the use of this log. Additional forms may be copied if needed.
* Indicate if a subcontractor is going to hire other subcontractors. If so, an additional sheet listing them is required.
** Bidders **MUST** attach copies of all faxes and/or letters sent to DBEs in order to solicit quotations.

	DBE Subcontractor Name / Address *	Telephone / Fax Number	DBE Status (Check all that apply)	Phone Contact				Contact Made?	Will Submit Quote?	Received Quote?	Notes
				Date of Fax / Letter **	Date of Call	Name of Person Placing Call	Name of Person Receiving Call				
1			Minority (MBE) Black Native American Hispanic Asian Woman (WBE) Small (SBE) Small Rural Area (SBRA)					Yes No	Yes No	Yes No	
2			Minority (MBE) Black Native American Hispanic Asian Woman (WBE) Small (SBE) Small Rural Area (SBRA)					Yes No	Yes No	Yes No	
3			Minority (MBE) Black Native American Hispanic Asian Woman (WBE) Small (SBE) Small Rural Area (SBRA)					Yes No	Yes No	Yes No	
4			Minority (MBE) Black Native American Hispanic Asian Woman (WBE) Small (SBE) Small Rural Area (SBRA)					Yes No	Yes No	Yes No	
5			Minority (MBE) Black Native American Hispanic Asian Woman (WBE) Small (SBE) Small Rural Area (SBRA)					Yes No	Yes No	Yes No	

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Drinking Water Revolving Loan Fund Program • FORM DBE4

DBE SUBCONTRACTOR BIDS LIST

Louisiana Department Of Health And Hospitals · Office Of Public Health

Bidder Name: _____ Project: _____

Please list below all bids received from DBE firms and provide the requested information.
* Indicate if the subcontractor is going to hire other subcontractors. If so, an additional sheet listing them is required.

	DBE Subcontractor Name *	Description and Category of Work	Bid Amount	Bid to be Used?	Reason for Rejection
1		▯ Supplies ▯ Equipment ▯ Services ▯ Construction		Yes No	
2		▯ Supplies ▯ Equipment ▯ Services ▯ Construction		Yes No	
3		▯ Supplies ▯ Equipment ▯ Services ▯ Construction		Yes No	
4		▯ Supplies ▯ Equipment ▯ Services ▯ Construction		Yes No	
5		▯ Supplies ▯ Equipment ▯ Services ▯ Construction		Yes No	
6		▯ Supplies ▯ Equipment ▯ Services ▯ Construction		Yes No	
7		▯ Supplies ▯ Equipment ▯ Services ▯ Construction		Yes No	

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Drinking Water Revolving Loan Fund Program • FORM DBE5

DBE LETTER OF INTENT

Louisiana Department Of Health And Hospitals · Office Of Public Health

To be used in lieu of a Contract Agreement between a Contractor and Disadvantaged Business Enterprise (DBE) firm.

Prime Contractor: _____

Address: _____

Phone Number: _____ Fax Number: _____

Subcontractor: _____

Address: _____

Phone Number: _____ Fax Number: _____

DBE Status (Check all that apply):

Minority (MBE) Black Native American Hispanic Asian
Woman (WBE) Small (SBE) Small Rural Area (SBRA)

Amount of Agreement: _____

Description of work to be performed under agreement with DBE firm:

_____

_____

_____

_____

_____

_____

_____

_____

Contractor intends to utilize the above named DBE firm for work and amount indicated above.

Contractor: _____ _____
Signature of Authorized Owner or Representative Title Date

Print Name: _____

DBE Firm: _____ _____
Signature of Authorized Owner or Representative Title Date

Print Name: _____

[Code of Federal Regulations]
[Title 29 Volume 1]
[Revised as of July 1, 2008]
From the U.S. Government Printing Office via GPO Access
[CITE: 29CFR5.5]

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TITLE 29--LABOR

PART 5_LABOR STANDARDS PROVISIONS APPLICABLE TO CONTRACTS COVERING FEDERALLY FINANCED AND ASSISTED CONSTRUCTION (ALSO LABOR STANDARDS

Subpart A – Davis-Bacon and Related Acts Provisions and Procedures

Sec. 5.5 Contract provisions and related matters.

(a) The Louisiana Department of Health and Hospitals requires the contracting officer to 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 public building or public work, or building or work 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 Sec. 5.1, the following clauses (or any modifications thereof to meet the particular needs of the agency, Provided, That such modifications are first approved by the Department of Labor):

(1) Minimum wages. (i) All laborers and mechanics employed or working upon the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), 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 Sec. 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.

(ii)(A) The contracting officer 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 contracting officer shall approve 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 contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer 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 contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt 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. St. John the Baptist Parish Government shall upon its own action or upon written request of 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 (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), all or part of the wages required by the contract, the Louisiana Department of Health and Hospitals 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 (or under the United States Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). 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 Louisiana Department of Health and Hospitals if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant, sponsor, or owner, as the case may be, for transmission to the Louisiana Department of Health and Hospitals. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under Sec. 5.5(a)(3)(i) of Regulations, 29 CFR part 5. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal Stock Number 029-005-00014-1), U.S. Government Printing Office, Washington, DC 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors.

(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 maintained under Sec. 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 Louisiana Department of Health and Hospitals 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 Louisiana Department of Health and Hospitals 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 Louisiana Department of Health and Hospitals may by appropriate instructions require, 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 the contracting agency, 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.

(b) Contract Work Hours and Safety Standards Act. The Assistant Secretary, or his duly authorized representative, of the Louisiana Department of Health and Hospitals shall cause or require the contracting officer to insert the following clauses set forth in paragraphs (b)(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 Sec. 5.5(a) or 4.6 of part 4 of this title. 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 (b)(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 (b)(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 (b)(1) of this section.

(3) Withholding for unpaid wages and liquidated damages. St. John the Baptist Parish Government shall upon its own action or upon written request of 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 (b)(2) of this section.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (b)(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 (b)(1)through (4) of this section.

(c) In addition to the clauses contained in paragraph (b), in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in Sec. 5.1, the Assistant Secretary, or his duly authorized representative, of the Louisiana Department of Health and Hospitals shall cause or require the contracting officer to 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 Assistant Secretary, or his duly authorized representative, of the Louisiana Department of Health and Hospitals shall cause or require the contracting officer to 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 Louisiana Department of Health and Hospitals and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

REQUIRED CLAUSES FOR CONTRACT DOCUMENTS

LOUISIANA DEPARTMENT OF HEALTH AND HOSPITALS ● OFFICE OF PUBLIC HEALTH

The following three clauses must be included verbatim in the bid/contract documents to satisfy the federal cross cutting laws. The complete verbatim statements may be found below.

I. Equal Opportunity Clause: 40 CFR PART 8, 1-7

II. Historical Preservation Clause: 36 CFR PART 800

III. Endangered Species Clause: Endangered Species Act Of 1973, As Amended

I. EQUAL OPPORTUNITY CLAUSE: 40 CFR PART 8.

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, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, 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 equal opportunity clause.

(2) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

(3) The contractor will send to each labor union or representative of workers with which he 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 worker's representative of the contractor's commitments under this equal opportunity clause, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(4) The contractor will comply with all provisions of Executive Order No. 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(5) 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.

(6) In the event of the contractors noncompliance with the equal opportunity clause of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, 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 September 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.

(7) The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) 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 the contracting agency may direct 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 by the contracting agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

II. HISTORICAL PRESERVATION CLAUSE: 36 CFR PART 800.

The contractor agrees that, should evidence of historical or archeological sites be discovered during construction, all work in the area will cease immediately and the owner will be informed of the discovery. The owner will, in turn, will promptly notify the Louisiana Department of Health and Hospitals - Office of Public Health - Drinking Water Revolving Loan Fund (LDHH-OPH-DWRLF) Program.

After consulting with the appropriate State and Federal agencies, the DWRLF Program will advise the owner of any protective measurers that may be required.

III. ENDANGERED SPECIES CLAUSE: ENDANGERED SPECIES ACT OF 1973, AS AMENDED

The contractor agrees that, should plants or animals belonging to either endangered or threatened species be discovered in the area of construction or adjacent areas, all work in that area will cease immediately, and the owner will be informed of the discovery. The owner will, in turn, will promptly notify the Louisiana Department of Health and Hospitals - Office of Public Health - Drinking Water Revolving Loan Fund (LDHH-OPH-DWRLF) Program.

After consulting with the appropriate State and Federal agencies, the DWRLF Program will advise the owner of any protective measurers that may be required.

The Contractor is required to comply with the following Presidential Executive Orders:
(1) 11625, 12138, and 12434 - Women's and Minority Business Enterprise;
(2) 12549 - Debarment and Suspension;
(3) 11246 - Equal Employment Opportunity, as amended by Executive Order 11375; and
(4) 13202 - Preservation of Open Competition, as amended by Executive Order 13208.

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www.archives.gov Monday, June 15, 2009

Executive Order 11246--Equal employment opportunity

Source: The provisions of Executive Order 11246 of Sept. 24, 1965, appear at 30 FR 12319, 12935, 3 CFR, 1964-1965 Comp., p. 339, unless otherwise noted.

Under and by virtue of the authority vested in me as President of the United States by the Constitution and statutes of the United States, it is ordered as follows:

Part I--Nondiscrimination in Government Employment

[Part I superseded by Executive Order 11478 of Aug. 8, 1969, 34 FR 12985, 3 CFR, 1966-1970 Comp., p. 803]

Part II--Nondiscrimination in Employment by Government Contractors and Subcontractors

Subpart A--Duties of the Secretary of Labor

Sec. 201. The Secretary of Labor shall be responsible for the administration and enforcement of Parts II and III of this Order. The Secretary shall adopt such rules and regulations and issue such orders as are deemed necessary and appropriate to achieve the purposes of Parts II and III of this Order.

[Sec. 201 amended by Executive Order 12086 of Oct. 5, 1978, 43 FR 46501, 3 CFR, 1978 Comp., p. 230]

Subpart B--Contractors' Agreements

Sec. 202. Except in contracts exempted in accordance with Section 204 of this Order, all Government contracting agencies shall include in every Government contract hereafter entered into the following provisions: "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, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex 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 advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex or national origin.

"(3) The contractor will send to each labor union or representative of workers with which he 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.

"(4) 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.

"(5) 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.

"(6) 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.
"(7) The contractor will include the provisions of paragraphs (1) through (7) 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."

[Sec. 202 amended by Executive Order 11375 of Oct. 13, 1967, 32 FR 14303, 3 CFR, 1966-1970 Comp., p. 684; Executive Order 12086 of Oct. 5, 1978, 43 FR 46501, 3 CFR, 1978 Comp., p. 230]

Sec. 203. (a) Each contractor having a contract containing the provisions prescribed in Section 202 shall file, and shall cause each of his subcontractors to file, Compliance Reports with the contracting agency or the Secretary of Labor as may be directed. Compliance Reports shall be filed within such times and shall contain such information as to the practices, policies, programs, and employment policies, programs, and employment statistics of the contractor and each subcontractor, and shall be in such form, as the Secretary of Labor may prescribe.
(b) Bidders or prospective contractors or subcontractors may be required to state whether they have participated in any previous contract subject

to the provisions of this Order, or any preceding similar Executive order, and in that event to submit, on behalf of themselves and their proposed subcontractors, Compliance Reports prior to or as an initial part of their bid or negotiation of a contract.

(c) Whenever the contractor or subcontractor has a collective bargaining agreement or other contract or understanding with a labor union or an agency referring workers or providing or supervising apprenticeship or training for such workers, the Compliance Report shall include such information as to such labor union's or agency's practices and policies affecting compliance as the Secretary of Labor may prescribe: *Provided,* That to the extent such information is within the exclusive possession of a labor union or an agency referring workers or providing or supervising apprenticeship or training and such labor union or agency shall refuse to furnish such information to the contractor, the contractor shall so certify to the Secretary of Labor as part of its Compliance Report and shall set forth what efforts he has made to obtain such information.

(d) The Secretary of Labor may direct that any bidder or prospective contractor or subcontractor shall submit, as part of his Compliance Report, a statement in writing, signed by an authorized officer or agent on behalf of any labor union or any agency referring workers or providing or supervising apprenticeship or other training, with which the bidder or prospective contractor deals, with supporting information, to the effect that the signer's practices and policies do not discriminate on the grounds of race, color, religion, sex or national origin, and that the signer either will affirmatively cooperate in the implementation of the policy and provisions of this order or that it consents and agrees that recruitment, employment, and the terms and conditions of employment under the proposed contract shall be in accordance with the purposes and provisions of the order. In the event that the union, or the agency shall refuse to execute such a statement, the Compliance Report shall so certify and set forth what efforts have been made to secure such a statement and such additional factual material as the Secretary of Labor may require.

[Sec. 203 amended by Executive Order 11375 of Oct. 13, 1967, 32 FR 14303, 3 CFR, 1966-1970 Comp., p. 684.; Executive Order 12086 of

Oct. 5, 1978, 43 FR 46501, 3 CFR, 1978 Comp., p. 230]

Sec. 204. The Secretary of Labor may, when he deems that special circumstances in the national interest so require, exempt a contracting agency from the requirement of including any or all of the provisions of Section 202 of this Order in any specific contract, subcontract, or purchase order. The Secretary of Labor may, by rule or regulation, also exempt certain classes of contracts, subcontracts, or purchase orders (1) whenever work is to be or has been performed outside the United States and no recruitment of workers within the limits of the United States is involved; (2) for standard commercial supplies or raw materials; (3) involving less than specified amounts of money or specified numbers of workers; or (4) to the extent that they involve subcontracts below a specified tier. The Secretary of Labor may also provide, by rule, regulation, or order, for the exemption of facilities of a contractor which are in all respects separate and distinct from activities of the contractor related to the performance of the contract: *Provided,* That such an exemption will not interfere with or impede the effectuation of the purposes of this Order: *And provided further,* That in the absence of such an exemption all facilities shall be covered by the provisions of this Order.

Subpart C--Powers and Duties of the Secretary of Labor and the Contracting Agencies

Sec. 205. The Secretary of Labor shall be responsible for securing compliance by all Government contractors and subcontractors with this Order and any implementing rules or regulations. All contracting agencies shall comply with the terms of this Order and any implementing rules, regulations, or orders of the Secretary of Labor. Contracting agencies shall cooperate with the Secretary of Labor and shall furnish such information and assistance as the Secretary may require.

[Sec. 205 amended by Executive Order 12086 of Oct. 5, 1978, 43 FR 46501, 3 CFR, 1978 Comp., p. 230]

Sec. 206. (a) The Secretary of Labor may investigate the employment

practices of any Government contractor or subcontractor to determine whether or not the contractual provisions specified in Section 202 of this Order have been violated. Such investigation shall be conducted in accordance with the procedures established by the Secretary of Labor.
(b) The Secretary of Labor may receive and investigate complaints by employees or prospective employees of a Government contractor or subcontractor which allege discrimination contrary to the contractual provisions specified in Section 202 of this Order.

[Sec. 206 amended by Executive Order 12086 of Oct. 5, 1978, 43 FR 46501, 3 CFR, 1978 Comp., p. 230]

Sec. 207. The Secretary of Labor shall use his best efforts, directly and through interested Federal, State, and local agencies, contractors, and all other available instrumentalities to cause any labor union engaged in work under Government contracts or any agency referring workers or providing or supervising apprenticeship or training for or in the course of such work to cooperate in the implementation of the purposes of this Order. The Secretary of Labor shall, in appropriate cases, notify the Equal Employment Opportunity Commission, the Department of Justice, or other appropriate Federal agencies whenever it has reason to believe that the practices of any such labor organization or agency violate Title VI or Title VII of the Civil Rights Act of 1964 or other provision of Federal law.

[Sec. 207 amended by Executive Order 12086 of Oct. 5, 1978, 43 FR 46501, 3 CFR, 1978 Comp., p. 230]

Sec. 208. (a) The Secretary of Labor, or any agency, officer, or employee in the executive branch of the Government designated by rule, regulation, or order of the Secretary, may hold such hearings, public or private, as the Secretary may deem advisable for compliance, enforcement, or educational purposes.
(b) The Secretary of Labor may hold, or cause to be held, hearings in accordance with Subsection (a) of this Section prior to imposing, ordering, or recommending the imposition of penalties and sanctions under this Order. No order for debarment of any contractor from further

Government contracts under Section 209(a)(6) shall be made without affording the contractor an opportunity for a hearing.

Subpart D--Sanctions and Penalties

Sec. 209. (a) In accordance with such rules, regulations, or orders as the Secretary of Labor may issue or adopt, the Secretary may:

(1) Publish, or cause to be published, the names of contractors or unions which it has concluded have complied or have failed to comply with the provisions of this Order or of the rules, regulations, and orders of the Secretary of Labor.

(2) Recommend to the Department of Justice that, in cases in which there is substantial or material violation or the threat of substantial or material violation of the contractual provisions set forth in Section 202 of this Order, appropriate proceedings be brought to enforce those provisions, including the enjoining, within the limitations of applicable law, of organizations, individuals, or groups who prevent directly or indirectly, or seek to prevent directly or indirectly, compliance with the provisions of this Order.

(3) Recommend to the Equal Employment Opportunity Commission or the Department of Justice that appropriate proceedings be instituted under Title VII of the Civil Rights Act of 1964.

(4) Recommend to the Department of Justice that criminal proceedings be brought for the furnishing of false information to any contracting agency or to the Secretary of Labor as the case may be.

(5) After consulting with the contracting agency, direct the contracting agency to cancel, terminate, suspend, or cause to be cancelled, terminated, or suspended, any contract, or any portion or portions thereof, for failure of the contractor or subcontractor to comply with equal employment opportunity provisions of the contract. Contracts may be cancelled, terminated, or suspended absolutely or continuance of contracts may be conditioned upon a program for future compliance approved by the Secretary of Labor.

(6) Provide that any contracting agency shall refrain from entering

into further contracts, or extensions or other modifications of existing contracts, with any noncomplying contractor, until such contractor has satisfied the Secretary of Labor that such contractor has established and will carry out personnel and employment policies in compliance with the provisions of this Order.

(b) Pursuant to rules and regulations prescribed by the Secretary of Labor, the Secretary shall make reasonable efforts, within a reasonable time limitation, to secure compliance with the contract provisions of this Order by methods of conference, conciliation, mediation, and persuasion before proceedings shall be instituted under subsection (a)(2) of this Section, or before a contract shall be cancelled or terminated in whole or in part under subsection (a)(5) of this Section.

[Sec. 209 amended by Executive Order 12086 of Oct. 5, 1978, 43 FR 46501, 3 CFR, 1978 Comp., p. 230]

Sec. 210. Whenever the Secretary of Labor makes a determination under Section 209, the Secretary shall promptly notify the appropriate agency. The agency shall take the action directed by the Secretary and shall report the results of the action it has taken to the Secretary of Labor within such time as the Secretary shall specify. If the contracting agency fails to take the action directed within thirty days, the Secretary may take the action directly.

[Sec. 210 amended by Executive Order 12086 of Oct. 5, 1978, 43 FR 46501, 3 CFR, 1978 Comp., p. 230]

Sec. 211. If the Secretary shall so direct, contracting agencies shall not enter into contracts with any bidder or prospective contractor unless the bidder or prospective contractor has satisfactorily complied with the provisions of this Order or submits a program for compliance acceptable to the Secretary of Labor.

[Sec. 211 amended by Executive Order 12086 of Oct. 5, 1978, 43 FR 46501, 3 CFR, 1978 Comp., p. 230]

Sec. 212. When a contract has been cancelled or terminated under Section 209(a)(5) or a contractor has been debarred from further

Government contracts under Section 209(a)(6) of this Order, because of noncompliance with the contract provisions specified in Section 202 of this Order, the Secretary of Labor shall promptly notify the Comptroller General of the United States.

[Sec. 212 amended by Executive Order 12086 of Oct. 5, 1978, 43 FR 46501, 3 CFR, 1978 Comp., p. 230]

Subpart E--Certificates of Merit

Sec. 213. The Secretary of Labor may provide for issuance of a United States Government Certificate of Merit to employers or labor unions, or other agencies which are or may hereafter be engaged in work under Government contracts, if the Secretary is satisfied that the personnel and employment practices of the employer, or that the personnel, training, apprenticeship, membership, grievance and representation, upgrading, and other practices and policies of the labor union or other agency conform to the purposes and provisions of this Order.

Sec. 214. Any Certificate of Merit may at any time be suspended or revoked by the Secretary of Labor if the holder thereof, in the judgment of the Secretary, has failed to comply with the provisions of this Order.

Sec. 215. The Secretary of Labor may provide for the exemption of any employer, labor union, or other agency from any reporting requirements imposed under or pursuant to this Order if such employer, labor union, or other agency has been awarded a Certificate of Merit which has not been suspended or revoked.

Part III--Nondiscrimination Provisions in Federally Assisted Construction Contracts

Sec. 301. Each executive department and agency which administers a program involving Federal financial assistance shall require as a condition for the approval of any grant, contract, loan, insurance, or guarantee thereunder, which may involve a construction contract, that the applicant for Federal assistance undertake and agree to incorporate, or cause to be incorporated, into all construction contracts paid for in

whole or in part with funds obtained from the Federal Government or borrowed on the credit of the Federal Government pursuant to such grant, contract, loan, insurance, or guarantee, or undertaken pursuant to any Federal program involving such grant, contract, loan, insurance, or guarantee, the provisions prescribed for Government contracts by Section 202 of this Order or such modification thereof, preserving in substance the contractor's obligations thereunder, as may be approved by the Secretary of Labor, together with such additional provisions as the Secretary deems appropriate to establish and protect the interest of the United States in the enforcement of those obligations. Each such applicant shall also undertake and agree (1) to assist and cooperate actively with the Secretary of Labor in obtaining the compliance of contractors and subcontractors with those contract provisions and with the rules, regulations and relevant orders of the Secretary, (2) to obtain and to furnish to the Secretary of Labor such information as the Secretary may require for the supervision of such compliance, (3) to carry out sanctions and penalties for violation of such obligations imposed upon contractors and subcontractors by the Secretary of Labor pursuant to Part II, Subpart D, of this Order, and (4) to refrain from entering into any contract subject to this Order, or extension or other modification of such a contract with a contractor debarred from Government contracts under Part II, Subpart D, of this Order.

[Sec. 301 amended by Executive Order 12086 of Oct. 5, 1978, 43 FR 46501, 3 CFR, 1978 Comp., p. 230]

Sec. 302. (a) "Construction contract" as used in this Order means any contract for the construction, rehabilitation, alteration, conversion, extension, or repair of buildings, highways, or other improvements to real property.
(b) The provisions of Part II of this Order shall apply to such construction contracts, and for purposes of such application the administering department or agency shall be considered the contracting agency referred to therein.
(c) The term "applicant" as used in this Order means an applicant for Federal assistance or, as determined by agency regulation, other

program participant, with respect to whom an application for any grant, contract, loan, insurance, or guarantee is not finally acted upon prior to the effective date of this Part, and it includes such an applicant after he becomes a recipient of such Federal assistance.

Sec. 303. (a) The Secretary of Labor shall be responsible for obtaining the compliance of such applicants with their undertakings under this Order. Each administering department and agency is directed to cooperate with the Secretary of Labor and to furnish the Secretary such information and assistance as the Secretary may require in the performance of the Secretary's functions under this Order.
(b) In the event an applicant fails and refuses to comply with the applicant's undertakings pursuant to this Order, the Secretary of Labor may, after consulting with the administering department or agency, take any or all of the following actions: (1) direct any administering department or agency to cancel, terminate, or suspend in whole or in part the agreement, contract or other arrangement with such applicant with respect to which the failure or refusal occurred; (2) direct any administering department or agency to refrain from extending any further assistance to the applicant under the program with respect to which the failure or refusal occurred until satisfactory assurance of future compliance has been received by the Secretary of Labor from such applicant; and (3) refer the case to the Department of Justice or the Equal Employment Opportunity Commission for appropriate law enforcement or other proceedings.
(c) In no case shall action be taken with respect to an applicant pursuant to clause (1) or (2) of subsection (b) without notice and opportunity for hearing.

[Sec. 303 amended by Executive Order 12086 of Oct. 5, 1978, 43 FR 46501, 3 CFR, 1978 Comp., p. 230]

Sec. 304. Any executive department or agency which imposes by rule, regulation, or order requirements of nondiscrimination in employment, other than requirements imposed pursuant to this Order, may delegate to the Secretary of Labor by agreement such responsibilities with respect

to compliance standards, reports, and procedures as would tend to bring the administration of such requirements into conformity with the administration of requirements imposed under this Order: *Provided,* That actions to effect compliance by recipients of Federal financial assistance with requirements imposed pursuant to Title VI of the Civil Rights Act of 1964 shall be taken in conformity with the procedures and limitations prescribed in Section 602 thereof and the regulations of the administering department or agency issued thereunder.

Part IV--Miscellaneous

Sec. 401. The Secretary of Labor may delegate to any officer, agency, or employee in the Executive branch of the Government, any function or duty of the Secretary under Parts II and III of this Order.

[Sec. 401 amended by Executive Order 12086 of Oct. 5, 1978, 43 FR 46501, 3 CFR, 1978 Comp., p. 230]

Sec. 402. The Secretary of Labor shall provide administrative support for the execution of the program known as the "Plans for Progress."

Sec. 403. (a) Executive Orders Nos. 10590 (January 19, 1955), 10722 (August 5, 1957), 10925 (March 6, 1961), 11114 (June 22, 1963), and 11162 (July 28, 1964), are hereby superseded and the President's Committee on Equal Employment Opportunity established by Executive Order No. 10925 is hereby abolished. All records and property in the custody of the Committee shall be transferred to the Office of Personnel Management and the Secretary of Labor, as appropriate.
(b) Nothing in this Order shall be deemed to relieve any person of any obligation assumed or imposed under or pursuant to any Executive Order superseded by this Order. All rules, regulations, orders, instructions, designations, and other directives issued by the President's Committee on Equal Employment Opportunity and those issued by the heads of various departments or agencies under or pursuant to any of the Executive orders superseded by this Order, shall, to the extent that they are not inconsistent with this Order, remain in full force and effect unless and until revoked or superseded by appropriate authority.

References in such directives to provisions of the superseded orders shall be deemed to be references to the comparable provisions of this Order.

[Sec. 403 amended by Executive Order 12107 of Dec. 28, 1978, 44 FR 1055, 3 CFR, 1978 Comp., p. 264]

Sec. 404. The General Services Administration shall take appropriate action to revise the standard Government contract forms to accord with the provisions of this Order and of the rules and regulations of the Secretary of Labor.

Sec. 405. This Order shall become effective thirty days after the date of this Order.

Page URL: http://www.archives.gov/federal-register/codification/executive-order/11246.html

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THE U.S. NATIONAL ARCHIVES & RECORDS ADMINISTRATION

www.archives.gov Monday, June 15, 2009

Executive Order 11625--Prescribing additional arrangements for developing and coordinating a national program for minority business enterprise

Source: The provisions of Executive Order 11625 of Oct. 13, 1971, appear at 36 FR 19967, 3 CFR, 1971-1975 Comp., p. 616, unless otherwise noted.

The opportunity for full participation in our free enterprise system by socially and economically disadvantaged persons is essential if we are to obtain social and economic justice for such persons and improve the functioning of our national economy.

The Office of Minority Business Enterprise, established in 1969, greatly facilitated the strengthening and expansion of our minority enterprise program. In order to take full advantage of resources and opportunities in the minority enterprise field, we now must build on this foundation. One important way of improving our efforts is by clarifying the authority of the Secretary of Commerce (a) to implement Federal policy in support of the minority business enterprise program; (b) provide additional technical and management assistance to disadvantaged businesses; (c) to assist in demonstration projects; and (d) to coordinate the participation of all Federal departments and agencies in an increased minority enterprise effort.

NOW, THEREFORE, by virtue of the authority vested in me as President of the United States, it is ordered as follows:

Section 1. *Functions of the Secretary of Commerce.* (a) The Secretary of Commerce (hereinafter referred to as "the Secretary") shall--

(1) Coordinate as consistent with law the plans, programs, and operations of the Federal Government which affect or may contribute to the establishment, preservation, and strengthening of minority business enterprise.

(2) Promote the mobilization of activities and resources of State and local governments, businesses and trade associations, universities, foundations, professional organizations, and volunteer and other groups towards the growth of minority business enterprises, and facilitate the coordination of the efforts of these groups with those of Federal departments and agencies.

(3) Establish a center for the development, collection, summarization, and dissemination of information that will be helpful to persons and organizations throughout the Nation in undertaking or promoting the establishment and successful operation of minority business enterprise.

(4) Within constraints of law and appropriations therefore, and according to his discretion, provide financial assistance to public and private organizations so that they may render technical and management assistance to minority business enterprises, and defray all or part of the costs of pilot or demonstration projects conducted by public or private agencies or organizations which are designed to overcome the special problems of minority business enterprises or otherwise to further the purposes of this order.

(b) The Secretary, as he deems necessary or appropriate to enable him to better fulfill the responsibilities vested in him by subsection (a), may--

(1) With the participation of other Federal departments and agencies as appropriate, develop comprehensive plans and specific program goals for the minority enterprise program; establish regular performance monitoring and reporting systems to assure that goals are being achieved; and evaluate the impact of Federal support in achieving the objectives established by this order.

(2) Require a coordinated review of all proposed Federal training and technical assistance activities in direct support of the minority enterprise program to assure consistency with program goals and to avoid duplication.

(3) Convene, for purposes of coordination, meetings of the heads of such departments and agencies, or their designees, whose programs and activities may affect or contribute to the purposes of this order.

(4) Convene business leaders, educators, and other representatives of the private sector who are engaged in assisting the development of minority business enterprise or who could contribute to its development, for the purpose of proposing, evaluating and coordinating governmental and private activities in furtherance of the objectives of this order.

(5) Confer with and advise officials of State and local governments.

(6) Provide the managerial and organizational framework through which joint or collaborative undertakings with Federal departments or agencies or private organizations can be planned and implemented.

(7) Recommend appropriate legislative or executive actions.

Sec. 2. [Revoked]

[Sec. 2 revoked by Executive Order 12007 of Aug. 22, 1977, 42 FR 42839, 3 CFR, 1977 Comp., p. 139]

Sec. 3. *Responsibilities of Other Federal Departments and Agencies.* (a) The head of each Federal department and agency, or a representative designated by him, when and in the manner so requested by the Secretary shall furnish information, assistance, and reports to, and shall otherwise cooperate with, the Secretary in the performance of his functions hereunder.

(b) The head of each Federal department or agency shall, when so requested by the Secretary, designate his Under Secretary or such other similar official to have primary and continuing responsibility for the participation and cooperation of that department or agency in matters concerning minority business enterprise.

(c) The officials designated under the preceding paragraph, when so requested, shall review and report to the Secretary upon the policies and programs of the minority business enterprise program, and shall keep the Secretary informed of all proposed budgets, plans and programs of his department or agency affecting minority business enterprise.

(d) The head of each Federal department or agency, or a representative designated by him, shall, to the extent provided under regulations issued

by the Secretary after consultation with the official designated in paragraph (b) above, report to the Secretary on any activity that falls within the scope of the minority business enterprise program as defined herein and in those regulations.
(e) Each Federal department or agency shall, within constraints of law and appropriations therefore, continue all current efforts to foster and promote minority business enterprises and to support the program herein set forth, and shall cooperate with the Secretary of Commerce in increasing the total Federal effort.

Sec. 4. *Reports.* The Secretary shall, not later than 120 days after the close of each fiscal year, submit to the President a full report of his activities hereunder during the previous fiscal year. Further, the Secretary shall, from time to time, submit to the President his recommendations for legislation or other action as he deems desirable to promote the purposes of this order. Each Federal department or agency shall report to the Secretary as hereinabove provided on a timely basis so that the Secretary may consider such reports for his report and recommendations to the President. Each Federal department or agency shall develop and implement systematic data collection processes which will provide to the Office of Minority Business Enterprise Information Center current data helpful in evaluating and promoting the efforts herein described.

Sec. 5. *Policies and Standards.* The Secretary may establish such policies, standards, definitions, criteria, and procedures to govern the implementation, interpretation, and application of this order, and generally perform such functions and take such steps as he may deem to be necessary or appropriate to achieve the purposes and carry out the provisions hereof.

Sec. 6. *Definitions.* For purposes of this order, the following definitions shall apply:
(a) "Minority business enterprise" means a business enterprise that is owned or controlled by one or more socially or economically disadvantaged persons. Such disadvantage may arise from cultural,

racial, chronic economic circumstances or background or other similar cause. Such persons include, but are not limited to, Negroes, Puerto Ricans, Spanish-speaking Americans, American Indians, Eskimos, and Aleuts.
(b) "State" means the States of the United States, the District of Columbia, the Commonwealth of Puerto Rico, the territories and possessions of the United States, and the Trust Territory of the Pacific Islands.

Sec. 7. *Construction.* Nothing in this order shall be construed as subjecting any function vested in, or assigned pursuant to law to, any Federal department or agency or head thereof to the authority of any other agency or office exclusively, or as abrogating or restricting any such function in any manner.

Sec. 8. *Prior Executive Order.* Executive Order No. 11458 of March 5, 1969, is hereby superseded.

Page URL: http://www.archives.gov/federal-register/codification/executive-order/11625.html

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THE U.S. NATIONAL ARCHIVES & RECORDS ADMINISTRATION
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Executive Order 12138--Creating a National Women's Business Enterprise Policy and prescribing arrangements for developing, coordinating and implementing a national program for women's business enterprise

Source: The provisions of Executive Order 12138 of May 18, 1979, appear at 44 FR 29637, 3 CFR, 1979 Comp., p. 393, unless otherwise noted.

In response to the findings of the Interagency Task Force on Women Business Owners and congressional findings that recognize:
1. the significant role which small business and women entrepreneurs can play in promoting full employment and balanced growth in our economy;
2. the many obstacles facing women entrepreneurs; and
3. the need to aid and stimulate women's business enterprise;

By the authority vested in me as President of the United States of America, in order to create a National Women's Business Enterprise Policy and to prescribe arrangements for developing, coordinating and implementing a national program for women's business enterprise, it is ordered as follows:

1-1. *Responsibilities of the Federal Departments and Agencies.*

1-101. Within the constraints of statutory authority and as otherwise permitted by law:

(a) Each department and agency of the Executive Branch shall take appropriate action to facilitate, preserve and strengthen women's business enterprise and to ensure full participation by women in the free enterprise system.

(b) Each department and agency shall take affirmative action in support of women's business enterprise in appropriate programs and activities including but not limited to:

(1) management, technical, financial, and procurement assistance,

(2) business-related education, training, counselling and information dissemination, and

(3) procurement.

(c) Each department or agency empowered to extend Federal financial assistance to any program or activity shall issue regulations requiring the recipient of such assistance to take appropriate affirmative action in support of women's business enterprise and to prohibit actions or policies which discriminate against women's business enterprise on the ground of sex. For purposes of this subsection, Federal financial assistance means assistance extended by way of grant, cooperative agreement, loan or contract other than a contract of insurance of guaranty. These regulations shall prescribe sanctions for noncompliance. Unless otherwise specified by law, no agency sanctions shall be applied until the agency or department concerned has advised the appropriate person or persons of the failure to comply with its regulations and has determined that compliance cannot be secured by voluntary means.

1-102. For purposes of this Order, affirmative action may include, but is not limited to, creating or supporting new programs responsive to the special needs of women's business enterprise, establishing incentives to promote business or business-related opportunities for women's business enterprise, collecting and disseminating information in support of women's business enterprise, and insuring to women's business enterprise knowledge of and ready access to business-related services and resources. If, in implementing this order, an agency undertakes to use or to require compliance with numerical set-asides, or similar measures, it shall state the purpose of such measure, and the measure shall be designed on the basis of pertinent factual findings of discrimination against women's business enterprise and the need for such measure.

1-103. In carrying out their responsibilities under Section 1-1, the departments and agencies shall consult the Department of Justice, and the Department of Justice shall provide legal guidance concerning these responsibilities.

1-2. *Establishment of the Interagency Committee on Women's Business Enterprise.*

1-201. To help insure that the actions ordered above are carried out in an effective manner, I hereby establish the Interagency Committee on Women's Business Enterprise (hereinafter called the Committee).

1-202. The Chairperson of the Committee (hereinafter called the Chairperson) shall be appointed by the President. The Chairperson shall be the presiding officer of the Committee and shall have such duties as prescribed in this Order or by the Committee in its rules of procedure. The Chairperson may also represent his or her department, agency or office on the Committee.

1-203. The Committee shall be composed of the Chairperson and other members appointed by the heads of departments and agencies from among high level policy-making officials. In making these appointments, the recommendations of the Chairperson shall be taken into consideration. The following departments and agencies and such other departments and agencies as the Chairperson shall select shall be members of the Committee: the Departments of Agriculture; Commerce; Defense; Energy; Health and Human Services; Housing and Urban Development; Interior; Justice; Labor; Transportation; Treasury; the Federal Trade Commission; General Services Administration; National Science Foundation; Office of Federal Procurement Policy; and the Small Business Administration. These members shall have a vote. Nonvoting members shall include the Executive Director of the Committee and at least one but no more than three representatives from the Executive Office of the President appointed by the President.

[Sec. 1-203 amended by Executive Order 12608 of Sept. 9, 1987, 52 FR 34617, 3 CFR, 1987 Comp., p. 245]

1-204. The Committee shall meet at least quarterly at the call of the Chairperson, and at such other times as may be determined to be useful according to the rules of procedure adopted by the Committee.

1-205. The Administrator of the Small Business Administration shall provide an Executive Director and adequate staff and administrative support for the Committee. The staff shall be located in the Office of the Chief Counsel for Advocacy of the Small Business Administration, or in such other office as may be established specifically to further the policies expressed herein. Nothing in this Section prohibits the use of other properly available funds and resources in support of the Committee.

1-3. *Functions of the Committee.* The Committee shall in a manner consistent with law:

1-301. Promote, coordinate and monitor the plans, programs and operations of the departments and agencies of the Executive Branch which may contribute to the establishment, preservation and strengthening of women's business enterprise. It may, as appropriate, develop comprehensive interagency plans and specific program goals for women's business enterprise with the cooperation of the departments and agencies.

1-302. Establish such policies, definitions, procedures and guidelines to govern the implementation, interpretation and application of this order, and generally perform such functions and take such steps as the Committee may deem to be necessary or appropriate to achieve the purposes and carry out the provisions hereof.

1-303. Promote the mobilization of activities and resources of State and local governments, business and trade associations, private industry, colleges and universities, foundations, professional organizations, and volunteer and other groups toward the growth of women's business enterprise, and facilitate the coordination of the efforts of these groups with those of the departments and agencies.

1-304. Make an annual assessment of the progress made in the Federal Government toward assisting women's business enterprise to enter the mainstream of business ownership and to provide recommendations for future actions to the President.

1-305. Convene and consult as necessary with persons inside and outside government to develop and promote new ideas concerning the development of women's business enterprise.

1-306. Consider the findings and recommendations of government and private sector investigations and studies of the problems of women entrepreneurs, and promote further research into such problems.

1-307. Design a comprehensive and innovative plan for a joint Federal and private sector effort to develop increased numbers of new women-owned businesses and larger and more successful women-owned businesses. The plan should set specific reasonable targets which can be achieved at reasonable and identifiable costs and should provide for the measurement of progress towards these targets at the end of two and five years. Related outcomes such as income and tax revenues generated, jobs created, new products and services introduced or new domestic or foreign markets created should also be projected and measured in relation to costs wherever possible. The Committee should submit the plan to the President for approval within six months of the effective date of this Order.

1-4. *Other Responsibilities of the Federal Departments and Agencies.*

1-401. The head of each department and agency shall designate a high level official to have the responsibility for the participation and cooperation of that department or agency in carrying out this Executive order. This person may be the same person who is the department or agency's representative to the Committee.

1-402. To the extent permitted by law, each department and agency upon request by the Chairperson shall furnish information, assistance and reports and otherwise cooperate with the Chairperson and the Committee in the performance of their functions hereunder. Each department or agency shall ensure that systematic data collection processes are capable of providing the Committee current data helpful in evaluating and promoting the efforts herein described.

1-403. The officials designated under Section 1-401, when so requested, shall review the policies and programs of the women's business enterprise program, and shall keep the Chairperson informed of proposed budget, plans and programs of their departments or agencies affecting women's business enterprise.

1-404. Each Federal department or agency, within constraints of law, shall continue current efforts to foster and promote women's business enterprise and to support the program herein set forth, and shall cooperate with the Chairperson and the Committee in increasing the total Federal effort.

1-5. *Reports.*

1-501. The Chairperson shall, promptly after the close of the fiscal year, submit to the President a full report of the activities of the Committee hereunder during the previous fiscal year. Further, the Chairperson shall, from time to time, submit to the President the Committee's recommendations for legislation or other action to promote the purposes of this Order.

1-502. Each Federal department and agency shall report to the Chairperson as hereinabove provided on a timely basis so that the Chairperson and the Committee can consider such reports for the Committee report to the President.

1-6. *Definitions.* For the purposes of this Order, the following definitions shall apply:

1-601. "Women-owned business" means a business that is at least 51 percent owned by a woman or women who also control and operate it. "Control" in this context means exercising the power to make policy decisions. "Operate" in this context means being actively involved in the day-to-day management.

1-602. "Women's business enterprise" means a woman-owned business or businesses or the efforts of a woman or women to establish, maintain

or develop such a business or businesses.

1-603. Nothing in subsections 1-601 or 1-602 of this Section (1-6) should be construed to prohibit the use of other definitions of a woman-owned business or women's business enterprise by departments and agencies of the Executive Branch where other definitions are deemed reasonable and useful for any purpose not inconsistent with the purpose of this Order. Wherever feasible, departments and agencies should use the definition of a woman-owned business in subsection 1-601 above for monitoring performance with respect to women's business enterprise in order to assure comparability of data throughout the Federal Government.

1-7. *Construction.* Nothing in this Order shall be construed as limiting the meaning or effect of any existing Executive order.

Page URL: http://www.archives.gov/federal-register/codification/executive-order/12138.html

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THE U.S. NATIONAL ARCHIVES & RECORDS ADMINISTRATION
www.archives.gov Monday, June 15, 2009

Executive Order 12432--Minority business enterprise development

Source: The provisions of Executive Order 12432 of July 14, 1983, appear at 48 FR 32551, 3 CFR, 1983 Comp., p. 198, unless otherwise noted.

By virtue of the authority vested in me as President by the Constitution and laws of the United States of America, including Section 205(a) of the Federal Property and Administrative Services Act of 1949 (40 U.S.C. 486 (a)), in order to provide guidance and oversight for programs for the development of minority business enterprise pursuant to my statement of December 17, 1982 concerning Minority Business Development; and to implement the commitment of the Federal government to the goal of encouraging greater economic opportunity for minority entrepreneurs, it is hereby ordered as follows:

Section 1. *Minority Business Development Plans.* (a) Minority business enterprise development plans shall be developed by each Federal agency having substantial procurement or grantmaking authority. Such agencies shall submit these plans to the Cabinet Council on Commerce and Trade on an annual basis.
(b) These annual plans shall establish minority enterprise development objectives for the participating agencies and methods for encouraging both prime contractors and grantees to utilize minority business enterprises. The plans shall, to the extent possible, build upon the programs administered by the Minority Business Development Agency and the Small Business Administration, including the goals established pursuant to Public Law 95-507.
(c) The Secretary of Commerce and the Administrator of the Small Business Administration, in consultation with the Cabinet Council on Commerce and Trade, shall establish uniform guidelines for all Federal agencies to be utilized in establishing the minority business programs set

forth in Section 2 of this Order.
(d) The participating agencies shall furnish an annual report regarding the implementation of their programs in such form as the Cabinet Council on Commerce and Trade may request, and at such time as the Secretary of Commerce shall designate.
(e) The Secretary of Commerce shall provide an annual report to the President, through the Cabinet Council on Commerce and Trade, on activities under this Order and agency implementation of minority business development programs.

Sec. 2. *Minority Business Development Responsibilities of Federal Agencies.* (a) To the extent permitted by law and consistent with its primary mission, each Federal agency which is required to develop a minority business development plan under Section 1 of this Order shall, to accomplish the objectives set forth in its plan, establish programs concerning provision of direct assistance, procurement assistance, and management and technical assistance to minority business enterprises.
(b) Each Federal agency shall, to the extent permitted by law and consistent with its primary mission, establish minority business development programs, consistent with Section 211 of Public Law 95-507, to develop and implement incentive techniques to encourage greater minority business subcontracting by Federal prime contractors.
(c) Each Federal agency shall encourage recipients of Federal grants and cooperative agreements to achieve a reasonable minority business participation in contracts let as a result of its grants and agreements. In cases where State and local governments are the recipients, such encouragement shall be consistent with principles of federalism.
(d) Each Federal agency shall provide the Cabinet Council on Commerce and Trade such information as it shall request from time to time concerning the agency's progress in implementing these programs.

Page URL: http://www.archives.gov/federal-register/codification/executive-order/12432.html

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THE U.S. NATIONAL ARCHIVES & RECORDS ADMINISTRATION

www.archives.gov Monday, June 15, 2009

Executive Order 12549--Debarment and suspension

Source: The provisions of Executive Order 12549 of Feb. 18, 1986, appear at 51 FR 6370, 3 CFR, 1986 Comp., p. 189, unless otherwise noted.

By the authority vested in me as President by the Constitution and laws of the United States of America, and in order to curb fraud, waste, and abuse in Federal programs, increase agency accountability, and ensure consistency among agency regulations concerning debarment and suspension of participants in Federal programs, it is hereby ordered that:

Section 1. (a) To the extent permitted by law and subject to the limitations in Section 1(c), Executive departments and agencies shall participate in a system for debarment and suspension from programs and activities involving Federal financial and nonfinancial assistance and benefits. Debarment or suspension of a participant in a program by one agency shall have government-wide effect.
(b) Activities covered by this Order include but are not limited to: grants, cooperative agreements, contracts of assistance, loans, and loan guarantees.
(c) This Order does not cover procurement programs and activities, direct Federal statutory entitlements or mandatory awards, direct awards to foreign governments or public international organizations, benefits to an individual as a personal entitlement, or Federal employment.

Sec. 2. To the extent permitted by law, Executive departments and agencies shall:
(a) Follow government-wide criteria and government-wide minimum due process procedures when they act to debar or suspend participants in affected programs.
(b) Send to the agency designated pursuant to Section 5 identifying information concerning debarred and suspended participants in affected

programs, participants who have agreed to exclusion from participation, and participants declared ineligible under applicable law, including Executive Orders. This information shall be included in the list to be maintained pursuant to Section 5.
(c) Not allow a party to participate in any affected program if any Executive department or agency has debarred, suspended, or otherwise excluded (to the extent specified in the exclusion agreement) that party from participation in an affected program. An agency may grant an exception permitting a debarred, suspended, or excluded party to participate in a particular transaction upon a written determination by the agency head or authorized designee stating the reason(s) for deviating from this Presidential policy. However, I intend that exceptions to this policy should be granted only infrequently.

Sec. 3. Executive departments and agencies shall issue regulations governing their implementation of this Order that shall be consistent with the guidelines issued under Section 6. Proposed regulations shall be submitted to the Office of Management and Budget for review within four months of the date of the guidelines issued under Section 6. The Director of the Office of Management and Budget may return for reconsideration proposed regulations that the Director believes are inconsistent with the guidelines. Final regulations shall be published within twelve months of the date of the guidelines.

Sec. 4. There is hereby constituted the Interagency Committee on Debarment and Suspension, which shall monitor implementation of this Order. The Committee shall consist of representatives of agencies designated by the Director of the Office of Management and Budget.

Sec. 5. The Director of the Office of Management and Budget shall designate a Federal agency to perform the following functions: maintain a current list of all individuals and organizations excluded from program participation under this Order, periodically distribute the list to Federal agencies, and study the feasibility of automating the list; coordinate with the lead agency responsible for government-wide debarment and suspension of contractors; chair the Interagency Committee established

by Section 4; and report periodically to the Director on implementation of this Order, with the first report due within two years of the date of the Order.

Sec. 6. The Director of the Office of Management and Budget is authorized to issue guidelines to Executive departments and agencies that govern which programs and activities are covered by this Order, prescribe government-wide criteria and government-wide minimum due process procedures, and set forth other related details for the effective administration of the guidelines.

Sec. 7. The Director of the Office of Management and Budget shall report to the President within three years of the date of this Order on Federal agency compliance with the Order, including the number of exceptions made under Section 2(c), and shall make recommendations as are appropriate further to curb fraud, waste, and abuse.

Page URL: http://www.archives.gov/federal-register/codification/executive-order/12549.html

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Presidential Documents

Executive Order 13202 of February 17, 2001

Preservation of Open Competition and Government Neutrality Towards Government Contractors' Labor Relations on Federal and Federally Funded Construction Projects

By the authority vested in me as President by the Constitution and laws of the United States of America, including the Federal Property and Administrative Services Act, 40 U.S.C. 471 *et seq.*, and in order to (1) promote and ensure open competition on Federal and federally funded or assisted construction projects; (2) maintain Government neutrality towards Government contractors' labor relations on Federal and federally funded or assisted construction projects; (3) reduce construction costs to the Federal Government and to the taxpayers; (4) expand job opportunities, especially for small and disadvantaged businesses; and (5) prevent discrimination against Government contractors or their employees based upon labor affiliation or lack thereof; thereby promoting the economical, nondiscriminatory, and efficient administration and completion of Federal and federally funded or assisted construction projects, it is hereby ordered that:

Section 1. To the extent permitted by law, any executive agency awarding any construction contract after the date of this order, or obligating funds pursuant to such a contract, shall ensure that neither the awarding Government authority nor any construction manager acting on behalf of the Government shall, in its bid specifications, project agreements, or other controlling documents:

(a) Require or prohibit bidders, offerors, contractors, or subcontractors to enter into or adhere to agreements with one or more labor organizations, on the same or other related construction project(s); or

(b) Otherwise discriminate against bidders, offerors, contractors, or subcontractors for becoming or refusing to become or remain signatories or otherwise to adhere to agreements with one or more labor organizations, on the same or other related construction project(s).

(c) Nothing in this section shall prohibit contractors or subcontractors from voluntarily entering into agreements described in subsection (a).

Sec. 2. Contracts awarded before the date of this order, and subcontracts awarded pursuant to such contracts, whenever awarded, shall not be governed by this order.

Sec. 3. To the extent permitted by law, any executive agency issuing grants, providing financial assistance, or entering into cooperative agreements for construction projects, shall ensure that neither the bid specifications, project agreements, nor other controlling documents for construction contracts awarded after the date of this order by recipients of grants or financial assistance or by parties to cooperative agreements, nor those of any construction manager acting on their behalf, shall contain any of the requirements or prohibitions set forth in section 1(a) or (b) of this order.

Sec. 4. In the event that an awarding authority, a recipient of grants or financial assistance, a party to a cooperative agreement, or a construction manager acting on behalf of the foregoing, performs in a manner contrary to the provisions of sections 1 or 3 of this order, the executive agency awarding the contract, grant, or assistance shall take such action, consistent with law and regulation, as the agency determines may be appropriate.

Sec. 5. (a) The head of an executive agency may exempt a particular project, contract, subcontract, grant, or cooperative agreement from the requirements of any or all of the provisions of sections 1 and 3 of this order, if the agency head finds that special circumstances require an exemption in order to avert an imminent threat to public health or safety or to serve the national security.

(b) A finding of "special circumstances" under section 5(a) may not be based on the possibility or presence of a labor dispute concerning the use of contractors or subcontractors who are nonsignatories to, or otherwise do not adhere to, agreements with one or more labor organizations, or concerning employees on the project who are not members of or affiliated with a labor organization.

Sec. 6. (a) The term "construction contract" as used in this order means any contract for the construction, rehabilitation, alteration, conversion, extension, or repair of buildings, highways, or other improvements to real property.

(b) The term "executive agency" as used in this order shall have the same meaning it has in 5 U.S.C. 105, excluding the General Accounting Office.

(c) The term "labor organization" as used in this order shall have the same meaning it has in 42 U.S.C. 2000e(d).

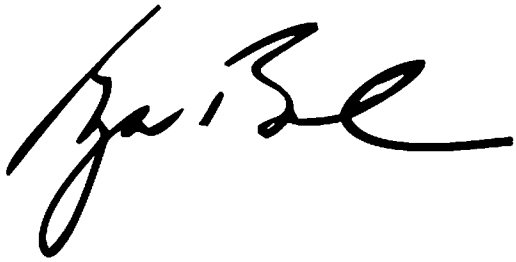
Sec. 7. With respect to Federal contracts, within 60 days of the issuance of this order, the Federal Acquisition Regulatory Council shall take whatever action is required to amend the Federal Acquisition Regulation in order to implement the provisions of this order.

Sec. 8. As it relates to project agreements, Executive Order 12836 of February 1, 1993, which, among other things, revoked Executive Order 12818 of October 23, 1992, is revoked.

Sec. 9. The Presidential Memorandum of June 5, 1997, entitled "Use of Project Labor Agreements for Federal Construction Projects" (the "Memorandum"), is also revoked.

Sec. 10. The heads of executive departments and agencies shall revoke expeditiously any orders, rules, regulations, guidelines, or policies implementing or enforcing the Memorandum or Executive Order 12836 of February 1, 1993, as it relates to project agreements, to the extent consistent with law.

Sec. 11. This order is intended only to improve the internal management of the executive branch and is not intended to, nor does it, create any right to administrative or judicial review, or any right, whether substantive or procedural, enforce able by any party against the United States, its agencies or instrumentalities, its officers or employees, or any other person.



THE WHITE HOUSE,
February 17, 2001

[FR Doc. 01–4622
Filed 02–21–01; 11:16 am]
Billing code 3195–01–P

Federal Register
Vol. 66, No. 70
Wednesday, April 11, 2001

Presidential Documents

Title 3—

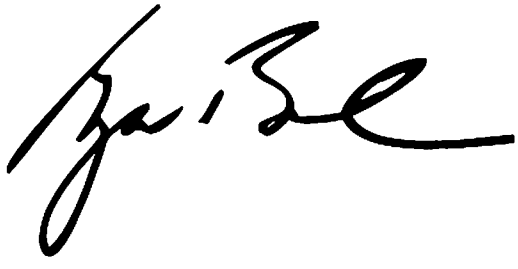
The President

Executive Order 13208 of April 6, 2001

Amendment to Executive Order 13202, Preservation of Open Competition and Government Neutrality Towards Government Contractors' Labor Relations on Federal and Federally Funded Construction Projects

By the authority vested in me as President by the Constitution and the laws of the United States of America, including the Federal Property and Administrative Services Act, 40 U.S.C. 471 *et seq.*, and in order to (1) promote and ensure open competition on Federal and federally funded or assisted construction projects; (2) maintain Government neutrality towards Government contractors' labor relations on Federal and federally funded or assisted construction projects; (3) reduce construction costs to the Federal Government and to the tax payers; (4) expand job opportunities, especially for small and disadvantaged businesses; (5) prevent discrimination against Government contractors or their employees based upon labor affiliation or lack thereof; and (6) prevent the inefficiency that may result from the disruption of a previously established contractual relationship in particular cases; thereby promoting the economical, nondiscriminatory, and efficient administration and completion of Federal and federally funded or assisted construction projects, it is hereby ordered that Executive Order 13202 of February 17, 2001, is amended by adding to section 5 of that order the following new subsection:

(c) The head of an executive agency, upon application of an awarding authority, a recipient of grants or financial assistance, a party to a cooperative agreement, or a construction manager acting on behalf of the foregoing, may exempt a particular project from the requirements of any or all of the provisions of sections 1 and 3 of this order, if the agency head finds: (i) that the awarding authority, recipient of grants or financial assistance, party to a cooperative agreement, or construction manager acting on behalf of the foregoing had issued or was a party to, as of the date of this order, bid specifications, project agreements, agreements with one or more labor organizations, or other controlling documents with respect to that particular project, which contained any of the requirements or prohibitions set forth in sections 1(a) or (b) of this order; and (ii) that one or more construction contracts subject to such requirements or prohibitions had been awarded as of the date of this order.



THE WHITE HOUSE,
April 6, 2001.

[FR Doc. 01–9086
Filed 4–10–01; 8:45 am]
Billing code 3195–01–P

FORM RF211 – EQUAL OPPORTUNITY EMPLOYMENT

PROSPECTIVE PRIME CONTRACTOR'S (BIDDER's) STATEMENT ABOUT EQUAL OPPORTUNITY CLAUSE

( ) I have participated in previous contract(s) or subcontract(s) subject to the equal opportunity clause under Executive Orders 11246 and 11375 or preceding Executive Orders 10925 and 11114. I have filed all reports due under the requirements contained in 40 CFR, Part C, 8.11.

( ) I have not participated in previous contract(s) subject to the equal opportunity clause under Executive Orders 11246 and 11375 or preceding Executive Orders 10925 and 11114.

I will obtain a similar statement from any proposed subcontractor(s), when appropriate.

_____

(PROJECT or WATER SYSTEM NAME)

_____

(Signature and Title of Prospective Prime or Sub Contractor's Representative)

_____

(Printed or typed Name and Title of Prospective Prime or Sub Contractor's Representative)

_____

_____

_____

(Name and address of Prospective Prime or Sub Contractor)

FORM RF212 – NONSEGREGATED FACILITIES

PROSPECTIVE PRIME CONTRACTOR'S (BIDDER) CERTIFICATION OF NONSEGREGATED FACILITIES

I hereby 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 locations 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.

_____

(Signature and Title of Prospective Prime Contractor's Representative)

_____

(Printed or Typed Name and Title of Prospective Prime Contractor's Representative)

_____

_____

_____

(Name and Address of Prospective Prime Contractor)

EPA

EPA Project Control Number

United States Environmental Protection Agency
Washington, DC 20460

Certification Regarding Debarment, Suspension, and Other Responsibility Matters

The prospective participant certifies to the best of its knowledge and belief that it and its principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency.

(b) Have not within a three year period preceding this proposal been convicted of or had a civil judgement rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and

(d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal. State. or local) terminated for cause or default.

I understand that a false statement on this certification may be grounds for rejection of this proposal or termination of the award. In addition, under 18 USC Sec. 1001, a false statement may result in a fine of up to $10,000 or imprisonment for up to 5 years, or both.

Typed Name & Title of Authorized Representative Date

Signature of Authorized Representative

☐ I am unable to certify to the above statements. My explanation is attached.

Instructions

Under Executive Order 12549, an individual or organization debarred or excluded from participation in Federal assistance or benefit programs may not receive any assistance award under a Federal program, or a subagreement thereunder for $25,000 or more.

Accordingly, each prospective recipient of an EPA grant, loan, or cooperative agreement and any contract or subagreement participant thereunder must complete the attached certification or provide an explanation why they cannot. For further details, see 40 CFR 32.510, Participants= responsibilities, in the attached regulation.

Where To Submit

The prospective EPA grant, loan, or cooperative agreement recipient must return the signed certification or explanation with its application to the appropriate EPA Headquarters or Regional office, as required in the application instructions.

A prospective prime contractor must submit a completed certification or explanation to the individual or organization awarding the contract.

Each prospective subcontractor must submit a completed certification or explanation to the prime contractor for the project.

How To Obtain Forms:

EPA includes the certification form, instructions, and a copy of its implementing regulation (40 CFR Part 32) in each application kit. Applicants may reproduce these materials as needed and provide them to their prospective prime contractor, who, in turn, may reproduce and provide them to prospective subcontractors.

Additional copies/assistance may be requested from:

Compliance Branch
Grants Administration Division (PM-216F)
U.S. Environmental Protection Agency
401 M Street SW
Washington, DC 20460
(Telephone: 202/475-8025)

OMB Control No: 2090-0030
Approved: 05/01/2008
Approval Expires: 01/31/2011

Environmental
Protection Agency

Disadvantaged Business Enterprise Program
DBE Subcontractor Participation Form

NAME OF SUBCONTRACTOR[1]	**PROJECT NAME**
ADDRESS	**CONTRACT NO.**
TELEPHONE NO.	EMAIL ADDRESS
PRIME CONTRACTOR NAME	

Please use the space below to report any concerns regarding the above EPA-funded project (e.g., reason for termination by prime contractor, late payment, etc.).

_____
_____
_____
_____
_____

CONTRACT ITEM NO.	ITEM OF WORK OR DESCRIPTION OF SERVICES RECEIVED FROM THE PRIME CONTRACTOR	AMOUNT SUBCONTRACTOR WAS PAID BY PRIME CONTRACTOR

_____ _____
Subcontractor Signature Title/Date

[1]Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

OMB Control No: 2090-0030
Approved: 05/01/2008
Approval Expires: 01/31/2011

Environmental
Protection Agency

Disadvantaged Business Enterprise Program
DBE Subcontractor Participation Form

The public reporting and recordkeeping burden for this collection of information is estimated to average fifteen (15) minutes. Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed EPA DBE Subcontractor Participation Form to this address.

OMB Control No: 2090-0030
Approved: 05/01/2008
Approval Expires: 01/31/2011

Environmental
Protection Agency

Disadvantaged Business Enterprise Program
DBE Subcontractor Performance Form

NAME OF SUBCONTRACTOR[1]	PROJECT NAME
ADDRESS	BID/PROPOSAL NO.
TELEPHONE NO.	E-MAIL ADDRESS
PRIME CONTRACTOR NAME	

CONTRACT ITEM NO.	ITEM OF WORK OR DESCRIPTION OF SERVICES BID TO PRIME	PRICE OF WORK SUBMITTED TO PRIME CONTRACTOR

Currently certified as an MBE or WBE under EPA's DBE Program? _____ Yes _____ No Signature of Prime Contractor Date Print Name Title _____

_____ Signature of Subcontractor Date

_____ _____ Print Name Title

[1]Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

OMB Control No: 2090-0030
Approved: 05/01/2008
Approval Expires: 01/31/2011

Environmental
Protection Agency

Disadvantaged Business Enterprise Program
DBE Subcontractor Performance Form

The public reporting and recordkeeping burden for this collection of information is estimated to average fifteen (15) minutes. Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed EPA DBE Subcontractor Performance Form to this address.

OMB Control No: 2090-0030
Approved: 05/01/2008
Approval Expires: 01/31/2011

Environmental
Protection Agency

Disadvantaged Business Enterprise Program
DBE Subcontractor Utilization Form

BID/PROPOSAL NO.	PROJECT NAME
NAME OF PRIME BIDDER/PROPOSER	E-MAIL ADDRESS
ADDRESS	
TELEPHONE NO.	FAX NO.

BID/PROPOSAL NO.	PROJECT NAME
NAME OF PRIME BIDDER/PROPOSER	E-MAIL ADDRESS
ADDRESS	
TELEPHONE NO.	FAX NO.

The following subcontractors[1] will be used on this project:

COMPANY NAME, ADDRESS, PHONE NUMBER, AND E-MAIL ADDRESS	TYPE OF WORK TO BE PERFORMED	ESTIMATED DOLLAR AMOUNT	CURRENTLY CERTIFIED AS AN MBE OR WBE?

I certify under penalty of perjury that the forgoing statements are true and correct. In the event of a replacement of a subcontractor, I will adhere to the replacement requirements set forth in 40 CFR Part 33 Section 33.302(c).

[1] Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

OMB Control No: 2090-0030
Approved: 05/01/2008
Approval Expires: 01/31/2011

Environmental
Protection Agency

Disadvantaged Business Enterprise Program
DBE Subcontractor Utilization Form

The public reporting and recordkeeping burden for this collection of information is estimated to average fifteen (15) minutes. Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed EPA DBE Subcontractor Utilization Form to this address.

Project Sign

The Contractor shall be required to create and conspicuously post the LDHH DWRLF outdoor “Project Sign” as described in the DWRLF’s “Branding Guidelines”.

DRINKING WATER
REVOLVING LOAN FUND
A PROGRAM OF THE DEPARTMENT OF HEALTH AND HOSPITALS

Branding Guidelines

2012

Prepared by Synergy Design Group, Inc. www.synergy-dg.com

The DWRLF Logo is a combined graphic, featuring both a stylized water drop/arrow, and a wordmark. These elements always appear together: the graphic must always appear in conjunction with the wordmark.

COLORS: the full-color DWRLF logo colors are PMS Process Blue and PMS 368M Green for the words "Revolving Loan Fund". If printing in process color, the Process Blue equivalent should be:

100% Cyan
10% Magenta
0% Yellow
10% Black

The PMS 368M equivalent is

57% Cyan
0% Magenta
100% Yellow
0% Black

The logo should never be printed in colors other than these, nor should the colors be reversed (No green graphic with blue type, for example). Avoid printing this graphic against any other color or pattern. It should always be printed against a white background only. If it is necessary to print the logo against color, a reversed-out (white only) version has been provided, but this should be used sparingly.

When printing in one color only, an all-blue logo option has been provided. The logo should not be printed in any other color.

When printing in black only, or for other single color applications – fax cover sheets, embroidery, etc, – an all all-black version has also been provided.

Process Blue

PMS 368M

One-color option

Black option

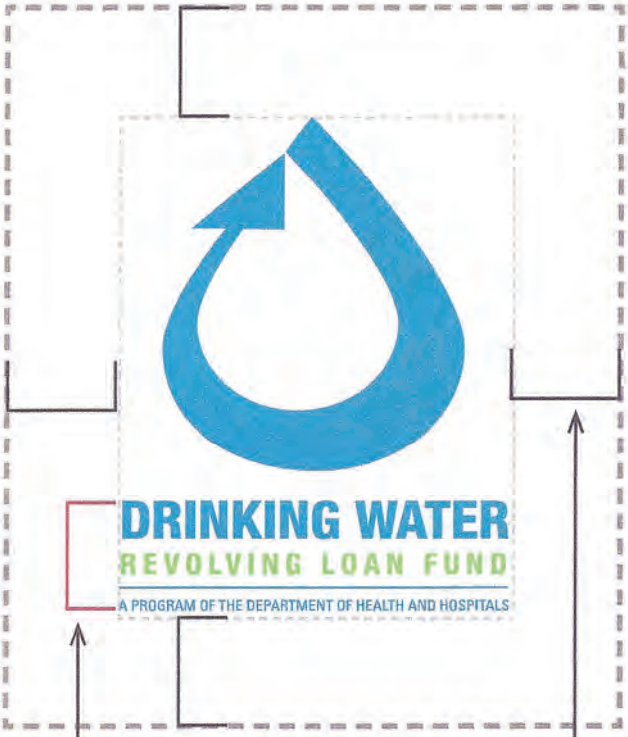
Reverse option against black

For applications where a horizontal solution is required, a horizontal logo / wordmark combination has been provided.

For small scale uses, such as imprinting on pencils, pen or other promotional items, a modified version of the logo has been provided. This small logo should not be used in any other setting and is not preferred.

Spacing:

A border, or runaround, of white space must always surround the logo. The space should be equivalent to the vertical height of the word mark, or the type beneath the graphic element. This measure, regardless of the reproduction size of the logo, must be applied to each side of the logo. No element, whether graphic or typographic, should encroach on this runaround.



Measure of runaround space, regardless of reproduction size

Same measure applied to each side of logo, indicating runaround — no element may come closer to the logo

Spacing Exceptions:

When appropriate, the logo may be used as part of a "label", identifying the nature of the product (see example at right). The title should be placed under the wordmark, at a leading consistent with the wordmark leading, and should not extend beyond the width of the logo. If the title is too long to fit within this space at a readable, size, it should be placed elsewhere, determined by design needs and other usage guidelines.

DRINKING WATER
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A PROGRAM OF THE DEPARTMENT OF HEALTH AND HOSPITALS
Application Materials

Watermark:

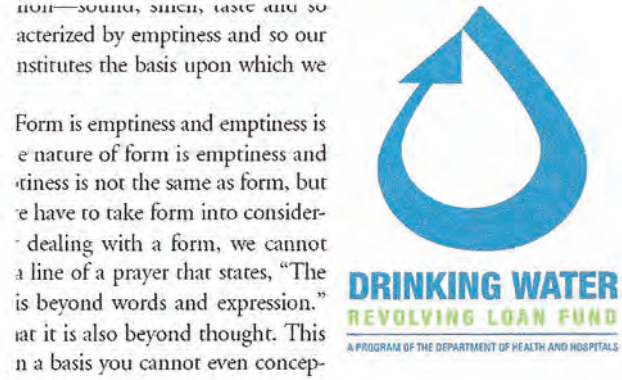
If the logo is used to watermark the pages of a document, the logo should be screened / opacity set at 15%. The size of the watermarked image will vary, depending on the kind of document, but should, in general, be centered on the page and have a height no less than 2/3 of the final printed page size.

Misuse:

Do NOT:

Print the logo in colors other than those specified:

Allow other elements beyond the specified runaround:



Stretch or otherwise distort the aspect ratio of the logo:

Rearrange the elements of the logo:

Fonts & Colors:

The typeface used in the wordmark is Helvetica LT Bold condensed. Display type, used in DWRLF printed material, is Seria Sans Bold.

For body copy, plain Helvetica is preferred, but any standard face may be used. Seria Sans should not be used for body copy.

HELVETICA LT BOLD CONDENSED

Seria Sans Bold.

Secondary colors: Recommended for solid color applications 9shirts, etc) and for general emphasis in choosing photographs, design palettes, etc.

PMS 655

PMS 357

PMS 146

PMS 103

PMS 656

PMS 421

Outdoor Project Sign:

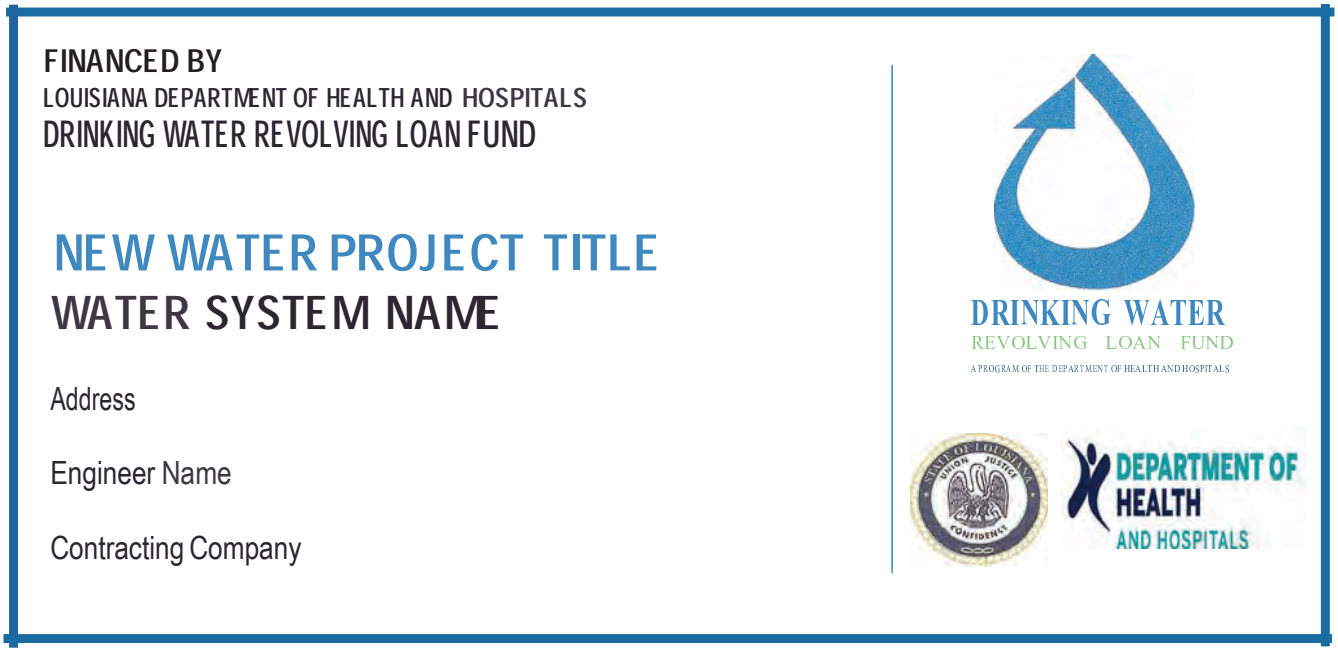
This is a 4' x 8' sign to be produced in outdoor rigid material, which can be plywood, metal, PVC or Coroplast, with a white background.

This sign is designed as a template to be filled out by the owners of individual water projects and displayed at the project site, with fonts common to Windows-based PCs (Arial Narrow Bold), colors and sizes specified in the file for ease of creation.

The sign is can also be re-created with information below: where the DWRLF logo is 18 x 23 inches, the State of Louisiana logo is 9.4 inches and the DHH logo is 7 x 9.6 inches. Please note that the blue used in the border, line and text is the blue in the DWRLF logo.

Fonts: when possible, the specified DWRLF display font, Helvetica LT condensed Bold (or any Helvetica Condensed bold) should be used, with the project name on Pantone Process Blue and all other type in black. Type sizes are specified in the illustration below.

The logos are available in Line Art form, with colors specified in the individual files, or high-resolution equivalents.



DRAWING DETAILS

SECTION 00850
DRAWING AND DETAILS

The following is a list of drawings on this project:

DRAWING NUMBER	DESCRIPTION
	Title
2	Index and General Notes
Walnut St. Water Tower	
3	Walnut St. Demolition
4	Walnut St. Water Tower Piping
Belle Terre Water Tower	
5	Belle Terre Water Tower Site Plan
6	Belle Terre Demolition
7	Belle Terre Water Tower Piping
Courthouse Water Tower	
8	Courthouse Water Tower Site Plan
9	Courthouse Demolition
10	Courthouse Water Tower Piping
Reserve Water Tower	
11	Reserve Water Tower Site
12	Reserve Demolition
13	Reserve Water Tower Piping
General	
14	Miscellaneous Water Details
15	Miscellaneous Water Details

TECHNICAL SECTION

DIVISION ONE

GENERAL REQUIREMENTS

1

TECHNICAL SECTION
DIVISION 01 - GENERAL REQUIREMENTS
SECTION 01010 - SUMMARY OF WORK

PART 1 - GENERAL

1.01 LOCATION OF WORK

All of the Work of this Contract is located in rights-of-way servitudes, or on property owned by the Owner.

1.02 WORK TO BE DONE

A. The Contractor shall furnish all labor, materials, equipment, tools, services and incidentals to complete all Work required by these Specifications and as shown on the drawings, all as prepared by Environmental Engineering Services, Inc.

B. The Contractor shall perform the Work complete, in place, and ready for continuous service, and shall include repairs, testing, permits, cleanup, replacements and restoration, including restoration of vegetative cover required as a result of damages caused during this construction.

C. All materials, equipment, skills, tools and labor which are reasonably and properly inferable and necessary for the proper completion of the Work in a substantial manner and in compliance with the requirements stated or implied by these Specifications or drawings shall be furnished and installed by the Contractor without additional compensation, whether specifically indicated in the Contract Documents or not.

D. The Contractor shall comply with all Federal, State, and Local codes, which are applicable to the proposed construction works.

1.03 GENERAL DESCRIPTION OF WORK TO BE PERFORMED

A. The Work included in the Contract shall be described in the Construction Contract.

B. All Work shall be done as described in the Specifications and as shown on the drawings, complete, tested and ready for operation.

1.04 WORK SEQUENCE

A. A sequence of construction must be developed so as to minimize the temporary loss of electrical power, water and gas to all buildings on all streets within and around the limits of the project. Driveways and pedestrian entrances to all buildings or residences must be provided and maintained at all times. No direct pay will be made for minimizing temporary loss of utilities and providing and maintaining driveways and entrances.

B. If the Owner is desirous of performing certain portions of the Project prior to other portions, the sequence of Work shall be performed in accordance with the Contract Documents and shall be stated in the drawings. The Contractor shall advise the Owner of any adverse effects the desired sequence of work may have on the successful completion or operation of the Project.

1.05 SCHEDULING OF WORK

A. Prior to commencement of work, a pre-construction conference shall be conducted and a proposed schedule of work and sequence of construction shall be submitted to the Engineer by the Contractor for approval. If the presence of a Project Engineer is required, the Contractor will be required to schedule work so that such personnel will not be required to be on duty on Sundays.

B. The Contractor shall cooperate fully with all utility forces of the Owner or forces of other public or private agencies engaged in the relocation, altering, or otherwise rearranging of any facilities which interfere with the progress of the Work, and shall schedule the work so as to minimize interference with said relocation, altering, or other rearranging of facilities.

C. The Contractor shall schedule and perform the Work in such a manner as to result in the least possible disruption to the public's use of roadways, driveways, and utilities. Utilities shall include but not be limited to water, sewage, drainage structures, ditches, and canals, gas, and telephone. The Contractor shall also deliver notice to property occupants (private and public) of all planned disruption to roadways, driveways, and utilities 72 hours in advance of the disruption.

D. After Work has begun on any portion or designated part of the Project, it shall be carried forward to its final completion. All Work shall conform to the provisions of the approved Contractor's schedule.

E. Prior to commencement of any phase of Work, the Contractor is required to notify the Engineer 24 hours in advance.

1.06 SPECIFICATIONS AND DRAWINGS

A. Specifications - The Technical Specifications consist of three parts: General, Products, and Execution. The General Section contains general requirements, which govern the Work. The Products and Execution sections modify and supplement these by detailed requirements of the Work and shall always govern whenever there appears to be a conflict.

B. Intent - All Work called for in the specifications applicable to the Contract but not shown on the drawings in their present form or vice versa shall be of like effect as if shown or mentioned in both. Work not specified in either the drawings or in the specifications but involved in carrying out their intent or in the complete and proper execution of the Work is required and shall be performed by the Contractor as though it were specifically delineated or described.

The apparent silence of the specifications as to any detail, or the apparent omission from them of a detailed description concerning any work to be done and materials to be furnished, shall be regarded as meaning that only the best general practice is to prevail and that only material and workmanship of the best quality is to be used, and interpretation of these Specification shall be made upon that basis.

C. Conflict between Drawings and Specifications - Where an obvious conflict exists between the drawings and specification, the Engineer shall decide which governs and the Contractor shall comply with the decision. Such decision shall not be grounds for additional payment to the Contractor, i.e., the Contractor shall include the price of the most expensive alternative in his bid.

1.07 CONTRACTOR'S RESPONSIBILITY CONCERNING DRAWINGS AND SPECIFICATIONS

A. All drawings, project specifications and addenda are mechanically reproduced. The Contractor is responsible for checking his sets of drawings and specifications to assure they are complete in number and all sheets are legible. The Engineer will replace any copies of sheets as necessary without additional charge to the Contractor when notified.

B. Contractor is responsible for compliance with all drawings, drawing revisions, specifications and addenda to specifications, whether or not the set(s) issued to the Contractor are complete and totally legible.

C. It shall be understood that the failure of the Contractor to review and verify his set(s) of drawings, drawing revisions, project specifications, and addenda for completeness and legibility which results in additional costs to the Contractor shall in no way increase the cost of the Project to the Owner or the Owner's Engineer after bids are received.

D. Contractor shall have present on the jobsite at all times a minimum of two (2) complete sets of construction drawings and specifications. One (1) set shall be used for record keeping for preparation of record drawings upon completion of Project.

1.08 RIGHTS OF LAND USAGE

A. Refer to Article 4 and 8.05 of the General Conditions. All permanent lands, rights-of- way, and easement for utility lines or access to the work, as indicated on the drawings, shall be furnished by the Owner. The location and limits of both permanent and temporary lands for the work, if not shown on the drawings, will be indicated in detailed survey plats, descriptions and titles. Copies of available documents will be furnished by the Owner upon request. Copies of permits issued to the Owner will be made available upon request. The Contractor shall keep his work within the limits of the lands for the work. Storage of the Contractor's material and equipment on privately owned lands which are outside the limits of land for the work or are inside the limits of lawful use of publicly owned lands shall only be done with written agreement between the property owner and the Contractor, subject to notification of the Engineer and the Owner by the Contractor.

B. The land available for the Contractor's use during the performance of the work is limited to the area defined by that area which is shown on the plans.

C. Nothing in this contract shall imply that the Contractor has exclusive use of roadways or public and/or private land employed to perform the Work.

D. In addition, areas of privately owned land may be made available through a right-of-way document executed by the property owner and the Owner for the Contractor's use subject to provisions of the right-of-way document. These areas and their use limitations are as follows:

1. The Contractor's use of this area shall be limited to the direct performance of the Work and shall not be used for storage of materials and/or equipment. Existing pavements, sidewalks, landscape and all miscellaneous items within the boundaries shall be removed as required to perform the work and be immediately restored to an equal or better condition upon successful completion of the work, all in accordance with the Contract Documents.

2. The Contractor is hereby made aware that the area is an active site and special measures will be required to maintain traffic and access to the property at all times. All Work in this area must be coordinated with the Owner and the Contractor shall minimize any disruption to the normal activities of the Owner.

E. All other land deemed necessary by the Contractor for the storage of materials and equipment and other facilities or required for the performance of the work shall be arranged for by the Contractor at no additional cost to the Owner.

1.09 RAIN DAYS

A. If requested the Contractor shall be granted time extensions for excessive rain days, beyond the reasonably anticipated days of adverse weather. This time extension must be requested monthly. The following are considered reasonably anticipated days of adverse weather on a monthly basis.

January	11	days	July	6	days
February	10	days	August	5	days
March	8	days	September	4	days
April	7	days	October	3	days
May	5	days	November	5	days
June	6	days	December	8	days

1.10 OWNER OCCUPANCY

Owner will have full access to and use of all existing Owner-owned facilities during the entire period of construction for the conduct of his normal operations. Cooperate with Engineer in all construction operations to minimize conflict and to facilitate Owner usage. A listing of the Owner's existing facilities in conjunction with this project may be shown in the drawings.

1.11 PARTIAL OWNER OCCUPANCY

The Contractor shall schedule his operations for completion of portions of the Work, as designated, for the Owner's occupancy prior to Substantial Completion of the entire Work. Refer to paragraph 1.04 Work Sequence for completion schedule.

1.12 OWNER FURNISHED ITEMS

Items to be furnished by the Owner on this Project shall be listed in the Supplementary Conditions. If no items are listed in the Supplementary Conditions, it is understood by all parties that materials and/or equipment furnished on this Project shall be by the Contractor.

PART 2 - PRODUCT - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

TECHNICAL SECTION
DIVISION 01 - GENERAL REQUIREMENTS
SECTION 01025 - MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.01 SCOPE

The scope of this Section defines the basis for which a Contractor will be paid for his work. Measurement and payment for all work shall be made either by (1) Lump Sum; and/or (2) Unit Prices.

1.02 LUMP SUM WORK

Prior to commencement of Work, the Contractor shall submit to the Engineer for review and approval, a schedule of values for all Work. The schedule of values shall include all quantities and prices of items aggregating the Contract Price and will subdivide the work into component parts in sufficient detail to serve as a basis for progress payments.

1.03 UNIT PRICE WORK

Work completed under a unit price contract shall be measured and payment made based on actual quantities installed, tested, and accepted at the unit price stated in the Contract.

A. Any items of work appearing in this measurement and payment section and which are not listed in the Bid Proposal, but are necessary for completion of the work in accordance with the Drawings and Specifications, shall be included in the cost of the other items listed and bid in the Proposal.

B. Further, any items of work not appearing in this Measurement and Payment Section and not listed in the Bid Proposal, including those items on the drawing which are labeled "No Direct Payment", but are necessary for completion of the Work in accordance with the Drawings and Specifications, shall also be included in the cost of the other items listed and bid in the Proposal.

C. Final payment shall only be made for items that are installed and are complete, tested, workable, and accepted. The measurement of unit price items for payment shall be only within the pay limits shown on the Drawings, listed in the Bid Proposal of the Specification, and/or authorized in writing by the Owner in an approved Change Order. Quantities measured for payment shall be in accordance with the foregoing qualification for only those amounts which conform to the original Contract Orders or Field Changes, but in no case will measurement be made for more work than was authorized in writing nor for more work than was actually installed and accepted.

1.04 MEASUREMENTS

Measurement of unit price and lump sum items will generally be by the standard inch-pounds system of units commonly used in the United States, which are defined by the U.S. National Bureau of Standards.

PART 2 - PRODUCT - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

TECHNICAL SECTION
DIVISION 01 - GENERAL REQUIREMENTS
SECTION 01030 - ALTERNATES/ALTERNATIVES

PART 1 - GENERAL

1.01 SCOPE

This Section identifies each alternate/alternative allowance on major equipment and/or material by the Engineer.

1.02 BIDDING REQUIREMENTS

A. In the bid form, the bidder shall identify the type of material or manufacturer of equipment proposed for this project in the blanks provided.

B. When required by these specifications, pre-qualifications of certain material and/or equipment will be required during the bidding phase of the project. A list of pre-qualified material and/or equipment shall be stated in paragraph III of the Bid Qualifications.

C. The pre-qualification process requires all data and information of material and/or equipment not listed in the technical specification but desiring consideration for this project be submitted to the Engineer, fifteen (15) working days prior to the receipt of bids. No submittals will be considered within fifteen (15) working days prior to the receipt of bids.

1.03 PRE-QUALIFIED MATERIAL AND/OR EQUIPMENT

A. If pre-qualified material and/or equipment are specified; only those items listed in the specification or addenda will be permitted to be incorporated into the Project.

B. Those items, which are not listed as pre-qualified materials and/or equipment in the Supplementary Conditions shall be submitted for consideration as product substitutions and options as required by Section 01600.

1.04 APPROVAL OF PRE-QUALIFIED MATERIAL AND/OR EQUIPMENT ALTERNATES/ALTERNATIVES

If an alternate material and/or equipment is approved by Addendum, the Contractor shall be responsible for providing design calculations and drawing revisions for alternate products which affect the existing design, specifications and drawings, including, but not limited to, hydraulics, structural, piping, and electrical. The Contractor shall pay for the cost of these revisions. The Engineer prior to incorporation into the Project shall approve all design changes.

PART 2 - PRODUCT - NOT USED
PART 3 - EXECUTION - NOT USED

END OF SECTION

TECHNICAL SECTION
DIVISION 01 - GENERAL REQUIREMENTS
SECTION 01035 - MODIFICATION PROCEDURES

PART 1 - GENERAL

1.01 REQUIREMENTS

A. Refer to Articles 10, 11 and 12 of the General Conditions with regards to changes in Contract Price and Contract Time.

B. Promptly implement Change Order procedures.

1. Provide full written data required to evaluate changes.
2. Maintain detailed records of work done on a time and material/force account basis.
3. Provide full documentation to Engineer on request.

C. Designate in writing the member of Contractor's organization:

1. Who is authorized to accept changes in the work?
2. Who is responsible for informing others in the Contractor's employ of the authorization of changes in the work?

D. Owner will designate in writing the person who is authorized to execute Change Orders.

1.02 DOCUMENTATION

A. Contractor may initiate a change by submitting a written notice to the Engineer containing:

1. Description of the proposed change.
2. Statement of the reason for making the change.
3. Statement of the effect on the Contract Price and the Contract Time.
4. Statement of the effect on the work of other Contractors.
5. Documentation supporting any change in Contract Price or Contract Time as appropriate and adequate for proper review by the Engineer.

B. If not required by any U.S. Government Agencies, Change Order form shall be E.J.C.D.C. Form No. 1910-8-B or the latest revision thereof. Change Order request shall be within thirty (30) days of the occurrence with the exception of inclement weather as outlined by other Sections of this Specification.

1.03 CONSTRUCTION CHANGE AUTHORIZATION

A. Change Orders will describe changes in the Work, both additions and deletions, with attachments of revised Contract Documents to define details of the change and will designate the method of determining any change in the Contract Sum and any change in Contract Time.

B. Change orders must have the Owner and Contractor's approvals. Change orders on projects funded in whole or in part by loans or grants from agencies of the U.S. Government must be approved by the respective agency prior to their incorporation into the Project.

1.04 DOCUMENTATION OF PROPOSALS AND CLAIMS

A. Contractor shall support proposed lump sum proposal pricing and each unit price, which has not previously been established with sufficient substantiating data to allow the Engineer to evaluate the pricing.

B. Contractor shall provide the following data to support proposed time and pricing of both lump sum proposals, unit pricing, and time and material proposals:

1. Labor required.
2. Equipment required.
3. Products required.
   - **a**. Recommended source of purchase and unit cost.
   - **b**. Quantities required.
4. Taxes, insurance and bonds.
5. Credit for work deleted from Contract, similarly documented.
6. Overhead and profit.
7. Justification for any change in Contract Time.

C. In addition, Contractor shall support each claim for work done on a time and material/force account basis with the following additional information:

1. Dates and times work was performed and by whom.
2. Time record, summary of hours worked, and hourly rates paid.
3. Receipts and invoices for:
   - **a**. Equipment used, listing dates and times of use.
   - **b**. Products used, listing quantities purchased.
   - **c**. Subcontractors used, showing the same data as above.

1.05 PREPARATION OF CHANGE ORDERS

A. Engineer will prepare each Change Order.

B. Form: E.J.C.D.C. No. 1910-8-B

C. Change Order will describe changes in the work, both additions and deletions, with attachments of revised Contract Documents to define details of the change.

D. Change Order will provide an accounting of the adjustment in the Contract Price and in the Contract Time.

1.06 LUMP SUM/FIXED PRICE CHANGE ORDER

A. Engineer initiates the form, including a description of the changes involved and attachments based upon documents and proposals submitted by Contractor or requests from Owner or both.

B. Once Engineer has completed and signed the form, all copies will be sent to Contractor for execution. The Contractor shall execute the change order documents and return it to the Engineer within seven (7) days. After execution by Contractor, all copies will be sent to the Owner for execution. Engineer will make distribution of executed copies.

1.07 UNIT PRICE CHANGE ORDERS

A. Content of Change Orders will be based on either:

1. Engineer's definition of the scope of the required changes.
2. Contractor's proposal for a change, as recommended by Engineer.
3. Survey of complete work.

B. The amounts of the unit prices to be:

1. Those stated in the Contract Bid Form.
2. Those mutually agreed upon between Owner and Contractor.

1.08 CORRELATION WITH CONTRACTOR'S SUBMITTALS

A. Contractor shall revise monthly the Schedule of Values and Application for Payment forms to record each Change Order as a separate item of work and to record the adjusted Contract Price.

B. Contractor shall revise monthly the Construction Schedule to reflect each change in Contract Time, to include sub schedules to show changes for other items of work affected by the changes.

C. Upon completion of work under a Change Order, the Contractor shall enter pertinent changes in Record Documents.

1.09 PROCEEDINGS WHEN CONTRACTOR DOES NOT EXECUTE THE CHANGE ORDERS

It is anticipated that at the time of submittal to the Contractor, negotiations will have been completed with all parties agreeing to the change(s) in the work, change in Contract Price, and change in Contract Time. In the event that no agreement can be reached and the Contractor fails to execute the Change Order within the specified time limit, the Owner may issue a Change Order without signature of the Contractor establishing a change to Contract Price or Contract Time in accordance with the provisions of Article 10 of the General Conditions. The Contractor will then be paid or assessed time on the basis of the Change Order for the change in work with the Contractor not relinquishing his rights to submit a claim in accordance with Articles 11 and 12 of the General Conditions.

PART 2 - PRODUCT - NOT USED
PART 3 - EXECUTION - NOT USED

END OF SECTION

TECHNICAL SECTION
DIVISION 01 - GENERAL REQUIREMENTS
SECTION 01041 - PROJECT COORDINATION

PART 1 - GENERAL

1.01 WORK PROGRESS

The Contractor shall furnish personnel and equipment which will be efficient, appropriate and large enough to secure a satisfactory quality of Work and a rate of progress which will insure the completion of the work within the time stipulated in the Contract. If at any time such personnel appear to the Engineer to be inefficient, inappropriate, or insufficient for performing the quality of work required or for producing the rate of progress aforesaid, he may order the Contractor to increase the efficiency, change the character or increase the personnel and equipment, and the Contractor shall conform to such order. Failure of the Engineer to give such order shall in no way relieve the Contractor of his obligations to perform the Work at the specified quality and rate of progress.

1.02 PRIVATE LAND

A. The Contractor shall be aware that his work will be performed adjacent to private property. The Contractor shall notify all property owners adjacent to and along the route of construction by means of either a printed circular or form letter of the general details of the construction. The letter shall also include names and telephones numbers for key project personnel so that property owners can report problems. These contact telephone numbers shall be given so that appropriate personnel can be contacted 24 hours a day, seven days a week.

B. The Contractor shall not enter or occupy private land outside the Owner's land, rights-of-way, or servitudes except by written permission of both the Owner and the Owner of the private land. Such permission shall be obtained by and at the expense of the Contractor and at no additional cost to the Owner.

C. Owners of adjacent private land shall be inconvenienced as little as possible by the construction Work. Where possible, the Contractor shall maintain access across or over the work to adjacent property. At locations where an adjacent property has more than one access point for vehicular traffic, such as paved or aggregate surfaced driveways, grassed ramps, gaps, etc., the Contractor shall schedule his work so that at least one access point is usable by the property owner, his associates, or his clientele in the case where the adjacent property is a business establishment.

1.03 WORK LOCATIONS

Structures and pipelines shall be located substantially as indicated on the drawings, but the Engineer reserves the right to make such modifications in locations as may be found desirable to avoid interference with existing structures or for other reasons. Where fittings are noted on the drawings, such notation is for the Contractor's convenience and does not relieve him from laying and jointing different or additional items where required.

1.04 OPEN EXCAVATIONS

A. All open excavations shall be adequately safeguarded by providing temporary barricades, caution signs, lights, and other means to prevent accidents to persons and damage to property. The Contractor shall, at his own expense, provide suitable and safe bridges and other crossings for accommodating travel by the public, Owner's and Engineer's personnel, and workmen. Bridges provided for access to private property during construction shall be removed when no longer required. If the excavation becomes a hazard, or if it excessively restricts traffic at any point, the Engineer may require special construction procedures such as limiting the length of open trench, prohibiting the stacking of excavated material in the street, and requiring that the excavations shall not remain open overnight.

B. The Contractor shall take precautions to prevent injury to the public due to open trenches. All trenches, excavated material, equipment, or other obstacles, which could be dangerous to the public, shall be barricaded and well lighted at all times when construction is not in progress.

1.05 TEST PITS

Test pits for the purpose of locating underground utilities or structures, which may interfere with installation of the Work shall be excavated in advance of the Work and backfilled by the Contractor. Test pits shall be backfilled immediately after their purpose has been satisfied and maintained in a manner satisfactory to the Engineer. The cost for such test pits, except as provided for in the Bid Form, shall be included in the cost of the work for which the test pits benefit. Backfill shall comply with the Specifications for backfill of pipe. The maximum number of test pits to be excavated shall be equivalent to two for each structure and one for each 200 lineal feet of pipeline.

1.06 MAINTENANCE OF TRAFFIC

A. Open pits, trenches, unpaved streets, debris, or other obstructions due to construction that will prevent the normal flow of traffic during an extended construction stoppage, for any reason, shall be minimized. In the event an extended construction stoppage is found to be necessary, Contractor shall provide for normal traffic flow during extended construction stoppage, regardless of the cause.

B. All excavated material shall be placed so that vehicular and pedestrian traffic may be maintained at all times. If the Contractor's operation causes traffic safety hazards, he shall repair the road surface, provide temporary roadways, erect wheel guards or fences, or take other measures for safety satisfactory to the Engineer. All excavations shall be covered, backfilled, or protected as directed by the Engineer, fully delineated at night when the Work is not in progress.

C. Detours around construction areas will be subject to the approval of the Owner and the Engineer. Where detours are permitted the Contractor shall provide all necessary barricades and signs as required to divert the flow of traffic. While traffic is detoured, the Contractor shall expedite construction operations. The periods when traffic may be detoured will be strictly controlled by the Owner.

1.07 CARE AND PROTECTION OF PROPERTY

A. The Contractor shall be responsible for the preservation of all public and private property, and shall use every precaution necessary to prevent damage thereto. If any direct or indirect damage is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work on the part of the Contractor, such property shall be restored by the Contractor, at his expense, to a condition similar or equal to that existing before the damage was done, or he shall make good the damage in another manner acceptable to the Engineer.

B. All sidewalks, which are disturbed by the Contractor’s operations, shall be restored to their original or better condition by the use of similar or comparable materials. All curbing shall be restored in a condition equal to the original construction and in accordance with the best modern practice.

C. Along the location of this Work, all fences, walks, brushes, trees, shrubbery, and other physical features shall be protected and restored in a thoroughly workmanlike

manner.

Fences and other features removed by the Contractor shall be replaced in the location indicated by the Engineer as soon as conditions permit. All grass areas beyond the limits of construction, which have been damaged by the Contractor, shall be re-graded and sodded.

D. Trees close to the Work shall be boxed or otherwise protected against injury. The Contractor shall trim all branches that are liable to damage because of his operations, but in no case shall any tree be cut or removed without prior notification of the Engineer. All injuries to bark, trunk, limbs and roots of trees shall be repaired by dressing, cutting, and painting according to approved methods, using only approved tools and materials.

E. The protection, removal, and replacement of existing physical features along the line of work shall be a part of the work under the Contract, and all costs in connection therewith shall be included in the unit and/or lump sum prices established under the items in the Proposal.

F. Where fences must be removed for construction purposes or access, they shall immediately be reconstructed or replaced. The Contractor shall provide adequate temporary fence and gates as necessary to contain or restrict domestic farm animals within their proper areas during the life of this Contract and shall provide reasonable safe and convenient means of access where and when required.

1.08 MAINTENANCE OF FLOW

The Contractor shall maintain the flow of sewers, drains, and watercourses interrupted during the progress of the Work, including complete pumped bypass systems where necessary. The Contractor shall immediately remove all offensive matter. T he entire procedure of maintaining existing flow shall be fully discussed with the Engineer well in advance of the interruption of any flow. All temporary works installed for flow maintenance shall be removed when the permanent work is finished and the areas cleaned and restored to good condition. Pavement removal and replacement, which, in the opinion of the Contractor, is necessitated by placement of temporary flow control facilities, shall be considered as an item for convenience to the Contractor. Such costs for pavement removal and replacement shall, therefore, be born by the Contractor at his own cost as required for other flow control measures. The intent of this

Specification is that pavement removal is limited to the least amount possible and the Contractor shall investigate alternative methods for flow control, which require the least amount of pavement removal.

1.09 CONNECTION TO WORK BY OTHERS

It is anticipated that pipeline construction by others may occur at the same time and in the same areas as work being done under this Contract. The Contractor will, therefore, conduct his operations as follows:

A. Sewer Lines:

1. If shown on the Drawings, sewers built by others may be connected to sewers and/or manholes constructed under this Contract.

2. If the sewers and/or manhole by others have already been constructed, the manholes and/or sewers under this Contract shall be built at the exact locations of the connection as actually exist in the field. The Contractor is responsible for pot holing the connection points in advance of constructing manholes and/or sewers under this Contract to ensure the proper alignment at the connection point.

3. If the sewers and/or manholes by others have not been constructed, the sewers shall be built at the exact locations of the connection as shown on the drawings and plugged.

B. Force Mains & Waterline:

1. Where shown on the drawings, force mains constructed under this Contract shall be connected to pipelines to be built by others. All connections at the Contract limits of force mains shall be terminated with a standard mechanical joint bell end and plugged with a standard mechanical joint plug.

2. If the force main or waterlines by others have already been constructed, the force mains built under this Contract will be connected to the force mains constructed by others by removing all necessary plugs and making the connection(s). The Contractor shall pothole connection points in advance of development of laying schedules for all pipe sizes of 16 inches and larger to ensure the proper alignment at the connection point. Upon completion of the tie-in connection(s), Contractor shall deliver all removed plugs to the Owner's facility.

3. If the force mains or waterlines have not been constructed by others, the force mains or waterlines under this Contract shall be laid to the required line and grade, terminated with a plug at the location of the connection indicated on the drawings, backfilled and marked with a stake.

4. The notation on the drawings at tie-in points does state that the Contractor shall tie to facilities constructed by others or provide a plug. The intent of this instruction is that, if a tie-in cannot be made, the Contractor shall furnish and install a plug at the terminal end as defined above.

1.10 PROTECTION OF CONSTRUCTION AND EQUIPMENT

A. All newly constructed work shall be carefully protected from injury in any way. No wheeling or walking or placing of heavy loads on it shall be allowed. The Contractor at his own expense shall reconstruct all portions injured.

B. All structures shall be protected in a manner approved by the Engineer. Should any of the floors or other parts of the structures become heaved, cracked or otherwise damaged, all such damaged portions of the Work shall be completely repaired and made good by the Contractor at no additional cost to the Owner and to the satisfaction of the Engineer. Special attention is directed to substructure bracing requirements, described in other sections. If, in the final inspection of the work, any defects, faults or omissions are found, the Contractor shall cause the same to be repaired or removed and replaced by proper materials and workmanship without extra compensation for the materials and labor required. Further, the Contractor shall be fully responsible for the satisfactory maintenance and repair of the construction and other work undertaken herein for at least the guarantee period described in the Contract.

C. The Contractor shall take all necessary precautions to prevent damage to any structure due to water pressure during and after construction and until such structure is accepted and taken over by the Owner.

D. After the buildings or structures have been made weather tight and ready for the installation of pumps, motors, piping and other equipment, the interior temperature shall be maintained at a minimum temperature of 50°F, and thereafter until the completion of the contract, temperature shall not be allowed to drop below 50°F.

1.11 CLEANUP DURING CONSTRUCTION

During the course of the Work, the Contractor shall keep the site of his operations in as clean and neat a condition as is possible. He shall dispose of all residues resulting from the construction work and, at the conclusion of the Work, he shall remove and haul away any surplus excavation, broken pavement, lumber, equipment, temporary structures, and any other refuse remaining from the construction operations, and shall leave the entire site of the Work in a neat and orderly condition.

1.12 COOPERATION WITHIN THIS CONTRACT

A. All firms or persons authorized to perform any work under this Contract shall cooperate with the General Contractor and his subcontractors or trades, and shall assist in incorporating the work of other trades where necessary or required.

B. Cutting and patching, drilling, and fitting shall be carried out where required by the trade or subcontractor having jurisdiction, unless otherwise indicated herein or directed by the Engineer.

PART 2 - PRODUCT - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

TECHNICAL SECTION
DIVISION 01 - GENERAL REQUIREMENTS
SECTION 01046 -MODIFICATIONS TO EXISTING STRUCTURES, PIPING AND EQUIPMENT

PART 1 - GENERAL

1.01 SCOPE OF WORK

Furnish all labor, materials, equipment, and incidentals required to modify, alter and/or convert existing structures as shown or specified and as required for the installation of new mechanical equipment, pumping units, piping, and appurtenances. Work shall be performed within the requirements of Special Project Procedures in Section 01100 and required Progress Schedules in Section 01310. Existing pumping units, piping, and equipment shall be removed and dismantled as necessary for the performance of structural alterations in accordance with the requirements herein specified.

PART 2 - PRODUCT - NOT USED

PART 3 - EXECUTION

3.01 GENERAL

A. The Contractor shall dismantle and remove all existing pumping units, equipment, piping, electrical conduit and wiring, electrical panels, and other appurtenances required for the completion of the work. Where called for or required, he shall cut existing pipelines for the purpose of making connections thereto. Anchor bolts for equipment and structural steel removed shall be cut off one inch below the concrete surface. Surface shall be finished as specified in Division 3.

B. No existing structure, equipment, or appurtenance shall be shifted, cut, removed, or otherwise altered except with the express approval of and to the extent approved by the Engineer.

C. When removing materials or portions of existing structures and when making openings in walls and partitions, the Contractor shall take all precautions and use all necessary barriers and other protective devices so as not to damage the structures beyond the limits necessary for the new work and not to damage the structures or contents by falling or flying debris.

D. Materials and equipment removed in the course of making alterations and additions shall remain the property of the Owner, except that items not salvageable, as determined by the Engineer and the Owner shall become the property of the Contractor

to be disposed of by him off the site of the work at his own place of disposal. Operating equipment shall be thoroughly cleaned and then lubricated and greased for protection during prolonged storage as specified in other sections.

E. All work of altering existing structures shall be done at such time and in such manner as will comply with the approved time schedule. So far as possible before any part of the Work is started, all tools, equipment, and materials shall be assembled and made ready so that the work can be completed without delay.

F. All workmanship and new materials involved in constructing the alterations shall conform to the Specifications for the classes of work insofar as such specifications are applicable.

G. All cutting of existing masonry or other material to provide suitable bonding to new work shall be done in a manner to meet the requirements of the respective Section of these Specifications covering the new work. When not covered, the work shall be carried on in the manner and to extent directed by the Engineer.

H. Where holes in existing masonry are required to be sealed, unless otherwise herein specified, they shall be sealed with cement mortar or concrete. The sides of the openings shall be provided with keyed joints and shall be suitably roughened to furnish a good bond and make a watertight joint. All loose or unsound material adjacent to the opening shall be removed, and if necessary, replaced with new material. The method of placing the mortar seal shall provide a suitable means of releasing entrapped air.

I. Surfaces of seals visible in the completed work shall be made to match as nearly as possible the adjacent surfaces.

J. Non shrink grout shall be used for setting wall castings, sleeves, leveling pump bases, doweling anchors into existing concrete and elsewhere as shown.

K. Where necessary or required for the purpose of making connections, the Contractor shall cut existing pipelines in a manner to provide an approved joint. Where required, he shall weld bends, flanges, or provide Dresser couplings, all as required.

L. The Contractor shall provide flumes, hoses, piping, etc., to divert or provide suitable plugs, bulkheads, or other means to hold back the flow of wastewater, water, or other liquids, all as required in the performance of the Work under this Contract.

3.02 WALL PENETRATIONS

Unless otherwise shown on the Drawings or specified herein, wall penetrations for pipes or conduits shall be made using a modular sealing strip such as the Link-Seal as manufactured by Thunderline Corporation, Wayne, Michigan, or approved equal. Wall sleeves for use with the sealing strips shall be Schedule 40, galvanized steel pipe. A suitable water stop approximately 1/4-inch thick by 2-inch wide shall be welded to the sleeve completely around the periphery of the pipe. The use of such sealing strips shall not relieve the Contractor of his responsibility of providing a guaranteed watertight seal. Wall penetrations will be permitted only with the expressed approval of the Engineer. Wall seals exposed to sewage or sewage gasses shall be rated for corrosive service.

3.03 CLEANING EXISTING STRUCTURES

A. After dewatering and before commencing work on each structure, the Contractor shall remove and dispose of, away from the site and at a properly permitted disposal site, any sand, sludge, and other solids remaining in such structure.

B. The use of explosives will not be permitted to complete any work under this Contract. Care shall be taken not to damage any part of existing buildings or foundations or outside structures.

END OF SECTION

TECHNICAL SECTION
DIVISION 01 - GENERAL REQUIREMENTS
SECTION 01048 - UTILITIES COORDINATION

PART 1 - GENERAL

1.01 UTILITIES

Utilities for the purpose of these Specifications shall be considered as including, but not limited to: pipelines, conduits, cables, transmission lines and appurtenances of Public Utilities and those of Special Utility Districts, Cities or Towns, businesses or individuals solely for their own use or for use of their tenants; and storm drains, sanitary sewers, street lighting, traffic signal and fire alarm systems, except those owned or under the direct control of the Owner.

1.02 UNDERGROUND INSTALLATIONS

Existing underground pipelines and utilities are indicated on the Drawings only to the extent such information was made available to or discovered by Engineer in preparing drawings. There is no guarantee as to the accuracy or completeness of such information, and all responsibility for the accuracy and completeness thereof is expressly disclaimed by the Owner and the Engineer.

1.03 UTILITIES LOCATED IN OWNER'S RIGHT-OF-WAY

Unless otherwise provided or accepted herein, the removal, adjusting, relocation, or replacement of utility structures or facilities within the Owner's right-of-way, which may be necessary for construction of the work being done, in accordance with these Contract Documents, shall be at the expense of the owners of the utilities. While it is the utility owner's responsibility to perform any work and bear any expense involved in relocations and adjustments within Owner's right-of-way, it shall be the Contractor's responsibility to protect and maintain those utilities which, in the opinion of the Engineer, do not need to be disturbed in order to accomplish the work required by the Contract.

1.04 RELOCATIONS OF EXISTING GAS LINES, TELEPHONE LINES, ELECTRIC LINES, CABLE TV LINES, AND WATER LINES

The Contractor shall notify the proper authority of the utility involved when relocation of these lines is required. The Contractor shall coordinate all work by the utility so that the progress of construction will not be hampered.

PART 2 - PRODUCT - NOT USED

PART 3 - EXECUTION

3.01 GENERAL

The Contractor, when the Notice to Proceed is received, shall notify the owners of utilities affected by the Work, the approximate date upon which he will begin work, and shall submit a progress schedule of the proposed work. This shall be deemed sufficient notice if the project progresses according to the progress schedule submitted with the notification. If changes in the schedule of the work occur, the Contractor shall appraise both the owner of the utility affected, and the Engineer so that adjustments in the work schedule of the utility can be made. The Contractor shall be responsible for damages to the utility facility and construction delays resulting from failure to notify the utility and the Engineer of changes in procedure or location.

3.02 UTILITY CROSSINGS

It is intended that wherever existing utilities such as water, gas, telephone, electrical, drains, or other service lines must be crossed by a force main or waterline, deflection of the pipe within recommended limits and cover shall be used to satisfactorily clear the obstruction unless otherwise indicated on the drawings. However, when in the opinion of the Owner or Engineer this procedure is not feasible, he may direct the use of fittings for a utility crossing as detailed on the drawings.

3.03 TEST PITS

A. Test pits for the purpose of locating underground pipelines or structures shall be excavated prior to development of laying schedules for all pipe sizes of 16 inches and larger. The test pits shall be for the purpose of accurately locating underground utilities and structures both horizontally and vertically. Underground utilities' and structures' locations shall be referenced to the project baseline by station and offset distance, left or right and measured perpendicular to the baseline, along with the elevation of the top of the utility or structure. The data shall also include the size and depth or diameter of the utility or structure.

B. This procedure shall be completed for the entire project and all underground utilities and structures shall be located as described above in conformance with the requirements of the field engineering provision of Section 01050. The data collected shall be used to develop a pipe laying schedule with accurately depicts the location of

underground utilities and structures and details both horizontal and vertical deflections and adjustments of the proposed force main pipe required to eliminate conflicts. This laying schedule shall be submitted to the Engineer for approval prior to fabrication of the pipe.

C. Test pits shall be excavated and backfilled prior to both the preparation of the pipe laying schedule and the commencement of construction. The test pits shall be backfilled immediately after their purpose has been satisfied and the surface restored and maintained in a manner satisfactory to the Engineer. The costs of the test pit excavations shall be included in the various bid items for which the test pits benefit, except as otherwise allowed by Section 01025, Measurement and Payment.

3.04 PROTECTION OF EXISTING UTILITIES

A. The attention of the Contractor is drawn to the fact that during excavation, the possibility exists of the Contractor encountering water, gas, telephone, electrical or other utility lines not shown on the drawings. The Contractor shall exercise extreme care before and during excavation to locate and flag these lines so as to avoid damage to the existing lines. Should damage occur to an existing line, the Contractor shall repair the line at no cost to the Owner.

B. The Contractor shall assume full responsibility for the protection of all utilities, public and private, including poles, services to buildings, gas pipes, water pipes, hydrants, sewers, drains, and electric and telephone cables, whether or not they are shown on the drawings. The Contractor shall carefully support and protect all such utilities from injury of any kind. Any damage resulting from the Contractor's operation shall be repaired by him at his expense. The protection and preservation of utility facilities, which are located within the right-of-way, but outside the normal limits of construction, as determined by the Engineer, shall be the responsibility of the Contractor. The Contractor shall be responsible for all damage to utilities, which are due to his negligence.

C. The Contractor shall bear full responsibility for obtaining locations of all underground structures and utilities (including existing water services, drain lines, and sewers). Services to buildings shall be maintained, and all costs or charges resulting from damage thereto shall be paid by the Contractor.

D. If, in the opinion of the Engineer, permanent relocation of a utility owned by the Owner is required, he may direct the Contractor, in writing, to perform the work. Work so ordered will be paid for at the Contract unit prices, if applicable, or as extra work under Article 10 of the General Conditions. If relocation of a privately owned utility is required, the Contractor will notify the Utility to perform the work as expeditiously as possible. The Contractor shall fully cooperate with the Owner and Utility and shall have no claim for delay due to such relocation.

E. The Contractor shall notify public and private utility companies in writing at least two, but not more than five full days (excluding Saturdays, Sundays, and legal holidays) before excavating near their utilities.

F. The Owner will not be responsible for any delay or inconvenience to the Contractor in carrying out the work resulting from the existence, removal or adjustment of any public utility. Additional costs incurred as a result thereof shall be the expense of the Contractor.

3.05 UTILITIES TO BE ADJUSTED

The owners of utility facilities, which required relocation, removal, adjustment or replacement, shall, if possible and feasible, perform this work prior to the commencement of the Contractor's work. Where utility work must be done in conjunction with the Contractor's work on the project or in conjunction with the work of other utilities, arrangements for when, how and where the operation is to proceed shall be worked out among the parties concerned. If disputes arise, the Engineer shall decide the course of action to be taken.

3.06 UTILITIES CONFLICTING WITH OPERATIONS

Those utility facilities which do not conflict with the improvement, but which are obstructions to the operations required for installation or which present unusual difficulty due to their close proximity to the area of the operations shall be located with certainty by the owners of the utility prior to the arrival of the Contractor's operation which would be hindered by the utility facility. The Contractor is required to preserve the utility facility in place without damage and shall be responsible for damages sustained, if the utility owner has located the facility by exposing it to the view of the Contractor or has otherwise shown the Contractor, with certainty, the location of the facility. Any other arrangements that the Contractor may make with a utility

owner as a substitute for the requirements of this Section shall require the approval of the Engineer, in writing.

3.07 MIS-LOCATED UTILITIES

The owner of a utility shall be wholly responsible for the proper location of his facilities, which are affected by construction work performed according to these Specifications. Improperly located or mis-located facilities, which are damaged during construction, shall be the responsibility of the utility, providing proper notification has been given.

END OF SECTION

TECHNICAL SECTION
DIVISION 01 - GENERAL REQUIREMENTS
SECTION 01050 - FIELD ENGINEERING

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

A. The Contractor shall provide and pay for field engineering services for the following:

1. Survey work required in execution of Work.
2. Civil, structural, or other professional engineering services specified or required to execute the Contractor's construction method.

B. The method of field staking for the construction of the Work shall be at the option of the Contractor. T he Owner shall provide the engineering surveys to establish reference points that in his judgment are necessary to enable the Contractor to proceed with his Work.

C. The accuracy of any method of staking shall be the responsibility of the Contractor. All engineering for vertical and horizontal control shall be the responsibility of the Contractor.

D. The Contractor shall be held responsible for the preservation of all stakes and marks. If any stakes or marks are carelessly or willfully disturbed by the Contractor, the Contractor shall not proceed with any work until he has reestablished such points, marks, lines and elevations as may be necessary for the prosecution of the Work.

E. The Contractor shall retain the services of a competent surveyor, registered in the State of Louisiana, to layout the work and maintain a survey during construction. The Contractor shall be solely responsible for proper location of the Work.

1.02 SURVEY REFERENCE POINTS

Locate and protect control points prior to starting site work, and preserve all permanent reference points during construction.

A. Make no changes or relocations without prior written notice to the Engineer.

B. Report to the Engineer when any reference point is lost or destroyed or requires relocation because of necessary changes in grades or locations.

C. Require surveyor to replace control points, which may be lost or destroyed. Establish replacements based on original survey control.

1.03 PROJECT SURVEY REQUIREMENTS

A. Establish temporary benchmarks as needed, referenced to data established by survey control points. Record locations with the horizontal and vertical data on the Record Drawings.

B. Establish lines and levels, and locate and lay out, by instrumentation and similar appropriate means:

1. Site improvements, including utility slopes and invert elevations.
2. Batter boards for structures.
3. Controlling lines and levels required for mechanical and electrical trades.

C. From time to time, verify layouts by same methods.

D. Establish all lines and grades prior to construction of pipe work at 100-foot increments.

1.04 RECORDS

A. Maintain a complete, accurate log of all control and survey work as it progresses.

B. At Contract closeout, submit a survey of installation of structures and pipelines at the same scale as the Engineer's drawings indicating elevations and stationing at 100-foot increments and at all valve and fitting locations when applicable.

1.05 SUBMITTALS

A. On request of the Engineer, submit documentation to verify accuracy of field engineering work including cut sheets when applicable.

B. Submit Drawings showing locations of all pipes and structures constructed. These drawings shall be included with the Record Drawings.

PART 2 - PRODUCT - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

TECHNICAL SECTION
DIVISION 01 - GENERAL REQUIREMENTS
SECTION 01060 - REGULATORY REQUIREMENTS

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

Abbreviations and acronyms used in Contract Documents to identify reference standards are illustrated in Section 01092 - Abbreviations.

1.02 QUALITY ASSURANCE

A. Application: When a standard is specified by reference, comply with requirements and recommendations stated in that standard, except when requirements are modified by the Contract Documents or applicable codes establish stricter standards.

B. Publication Date: T he publication in effect on the date of issue of Contract Documents, except when a specific publication date is specified.

C. Merchantable timber must be harvested and sold commercially to satisfy requirements of the State of Louisiana Forestry Commission.

D. Siltation and sedimentation control shall be practiced to satisfy requirements of the State of Louisiana Department of Wildlife and Fisheries.

E. Detailed requirements such as fertilizer and seeding types, application rates, and seasons shall be subject to modification by the local Soil and Water Conservation District.

1.03 FINANCING BY GOVERNMENTAL AGENCIES

A. When projects are funded by Federal or State agencies, the regulations and rules of the funding agency shall be strictly adhered to.

B. Contractor shall secure from the Owner or the funding agency the regulation applicable to his work and organization including all labor requirements.

C. The Contractor shall be responsible to comply with all rules and regulations as outlined by the funding agency.

1.04 COMPLIANCE WITH REGULATIONS

A. The Contractor shall observe and comply with all Federal, State, and local laws, ordinances, codes, orders, and regulations, which in any manner affect those engaged or employed on t he work, the materials used in the work, or the conduct of the work. If any discrepancy or inconsistency should be discovered in this Contract in relation to

any such law, ordinance, code, order, or regulation, the Contractor shall report the same in writing to the Engineer. Any particular law or regulation specified or referred to elsewhere in these specifications shall not in any way limit the obligation of the Contractor to comply with all other provisions of Federal, State and Local laws and regulations.

B. The Contractor shall be responsible for securing all permits and licenses required and shall pay all fees required to complete the job.

PART 2 - PRODUCT - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

TECHNICAL SECTION
DIVISION 01 - GENERAL REQUIREMENTS
SECTION 01091 - REFERENCE STANDARDS

PART 1 - GENERAL

1.01 UNIT OF MEASURE

The standard units of measure shall be the inch-pound as defined by the U.S. National Bureau of Standards. Metric conversion shall be in accordance with ASTM E380.

1.02 STANDARD STATUS

A. All Standards referred to shall be current with latest addenda and supplements as of the date of the Contract Documents.

B. All work shall comply with all governing building and safety laws, ordinances and regulations relating to building and public health and safety laws having jurisdiction.

1.03 REFERENCE MATERIAL

All reference material utilized in the formation of these specifications can be obtained from local libraries or from the Engineer at the costs of reproduction.

PART 2 - PRODUCT - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

TECHNICAL SECTION
DIVISION 01 - GENERAL REQUIREMENTS
SECTION 01092 - ABBREVIATIONS

PART 1 - GENERAL

1.01 DESCRIPTION

A. The following standards are referenced in the Contract Documents. The Contractor shall obtain copies of reference standards directly from the publication source when needed for proper performance of Work or when required for submittal by Contract Documents.

AA	Aluminum Association 900 19th Street, NW, Suite 300 Washington, DC 20006	202/862-5100
AABC	Associated Air Balance Council 1518 K Street NW, Suite 503 Washington, DC 20005	202/737-0202
AAMA	American Architectural Manufacturer's Association 1827 Walden Office Square, Suite 550 Schaumburg, IL 60173	847/303-5664
AASHTO	American Association of State Highway and Transportation Officials 444 North Capitol Street, Suite 225 Washington, DC 20001	202/624-5800
AATCC	American Association of Textile Chemists and Colorists P.O. Box 12215 Research Triangle Park, NC 27709	919/549-8141
ABMA	American Boiler Manufacturers Association 950 North Glebe Road, Suite 160 Arlington, VA 22203-1824	703/522-7350
ACCA	Air Conditioning Contractors of America 2025 Southern Avenue Shreveport, LA 71104	318/868-2785
ACI	American Concrete Institute 3880 Country Club Drive Farmington Hills, MI 48331	248/848-3700
ACIL	American Council of Independent Laboratories 1629 K Street NW Washington, DC 20006-1633	202/887-5872
ACPA	American Concrete Pipe Association 8300 Boone Boulevard, Suite 400 Vienna, VA 22182	703/821-1990

ADC	Air Diffusion Council 1901 N.Roselle Road, Suite 800 Schaumburg, IL 60195	847/706-6750
AEICI	Association of Edison Illuminating Companies, Inc. 600 N. 18th Street Birmingham, AL 35203	205-254-3568
AGA	American Gas Association 400 N.Capitol St., NW Washington, DC 20001	202/824-7000
AGCA	Associated General Contractors of American 1901 Pennsylvania Avenue NW Washington, DC 20006	202/530-1188
AGMA	American Gear Manufacturers Association 1500 King Street, Suite 201 Alexandria, VA 22314	703/684-0211
AHA	American Hardboard Association 1210 West Northwest Highway Palatine, IL 60067	847/934-8800
AHAM	Association of Home Appliance Manufacturers 1111 19th Street NW Washington, DC 20036	202/872-5955
AI	Asphalt Institute 2696 Research Park Drive Lexington, KY 40511-8480	859/288-4960
AIA	American Institute of Architects 1735 New York Ave. NW Washington, DC 20006	202/626-7300
A.I.A.	American Insurance Association 1130 Connecticut Avenue, NW, Suite 1000 Washington, DC 20036	202/828-7100
AIHA	American Industrial Hygiene Association 345 White Pond Drive Akron, OH 44320	216/762-7294
AISC	American Institute of Steel Construction One East Waker Drive, Suite 3100 Chicago, IL 60611	312/670-8332
AISI	American Iron and Steel Institute 1140 Connecticut Avenue NW, Suite 705 Washington, DC 20036	202/452-7100

AITC	American Institute of Timber Construction 7012 S.Revere Pkwy Englewood, CO 80112	303/792-9559
ALI	Associated Laboratories, Inc. 500 S. Vermont Street Palatine, IL 60067	313/335-6114
ALSC	American Lumber Standards Committee P.O. Box 210 Germantown, MD 20875-0210	301/972-1700
AMCAI	Air Movement and Control Association International, Inc. 30 W. University Drive Arlington Heights, IL 60004	847/394-0150
ANLA	American Nursery & Landscape Association 1000 Vermont NW, Suite 300 Washington, DC 20005-4914	202/789-2900
ANSI	American National Standards Institute 25 W 43rd Street New York, NY 10036	212/642-4900
AOAC	Association of Official Analytical Chemists 481 N. Frederick Avenue Gaithersburg, MD 20877	301/924-7077
APA	American Plywood Association – The Engineered Wood Association P.O. Box 11700 Tacoma, WA 98411	206/565-6600
A.P.A.	American Parquet Association 2900 First Commercial Building Little Rock, AR 72201	501/375-5561
APHA	American Public Health Association 1015 15th Street N.W. Washington, DC 20005	202/789-8670
API	American Petroleum Institute 1220 L Street NW Washington, DC 20005	202/682-8000
ARCA	Asphalt Removing Contractors Association 237 Branston Road Burton Upon Trent Staffordshire DE14 3BT Canada	01283 531126
AREA	American Railway Engineering Associates 50 F Street NW, Suite 7702 Washington, DC 20001	202/639-2190

ARMA	Asphalt Roofing Manufacturers Association 1156 – 15th Street, NW, Suite 900 Washington, DC 20005	202/207-0917
ACRTI	Air Conditioning and Refrigeration Technology Institute 4100 North Fairfax Drive, Suite 200 Arlington, VA 22203	703/524-8800
AGCA	Associated General Contractors of America 333 John Carlyle Street, Suite 200 Alexandria, VA 22314	703/548-3118
ASA	Acoustical Society of America 2 Huntington Quadrangle Melville, NY 11747	516/576-2360
ASC	Adhesive and Sealant Council Inc. 7979 Old Georgetown Road Bethseda, MD 20814	301/986-9700
ASCE	American Society of Civil Engineers 1535 West Loop S. Houston, TX 77027	281/624-7153
ASHRACE	American Society of Heating, Refrigerating & Air Conditioning Engineers 1791 Tullier Circle NE Atlanta, GA 30329	404/636-8400
ASME	American Society of Mechanical Engineers Three Park Avenue New York, NY 10016-7722	800/843-2763
ASMI	ASM International 9639 Kinsman Road Novelty, OH 44072	440/338-5151
ASNDT	American Society for Non-Destructive Testing 1711 Arlingate Lane Columbus, OH 43228	614/274-6003
ASPE	American Society of Plumbing Engineers 8614 W.Catalpa Avenue Chicago, IL 60656	773/693-2773
ASSE	American Society of Sanitary Engineering 901 Canterbury Road Westlake, OH 44145	440/835-3040
ASTB	American Standards Testing Bureau, Inc. 1075 New Dehaven Street Conshohocken, PA 19428	610/825-2010

ASTM	American Society for Testing and Materials 100 Bar Harbor Drive Conshohocken, PA 19428-2956	610/832-9500
ATT	American Telephone and Telegraph Company 295 N. Maple Avenue Basking Ridge, NJ 07920	908/221-4191
AWI	Architectural Woodwork Institute 1952 Isaac Newton Sq. W. Reston, VA 22206	703/733-0600
AWPA	American Wood Preservers' Association 5001 Comache Vista Court Granbury, TX 76049	517/326-6300
AWPI	American Wood Preservers' Institute 2750 Prosperity Avenue Fairfax, VA 22031	703/204-0500
AWS	American Welding Society 550 NW 42nd Avenue or 550 Le Jeune Road NW Miami, FL 33126	305/443-9353 or 800/443-9353
AWWA	American Water Works Association 6666 W. Quincy Ave. Lakewood, CO 80235	303/347-0388
BANC	Brick Association of the Carolinas 8420 University Exec. Park Drive Charlotte, NC 28262	704/510-1500
BELLCORE	Bellcore 2101 l Street NW Lbby Washington, DC 20037	202/776-5400
BIA	Brick Institute of America 4194 Fulton Drive NW Canton, OH 44718	330/492-0303
BOBS	Board of Building Standards 6606 Tussing Road Reynoldsburg, OH 43068	
BOCAI	Building Officials and Code Administrators Int'l, Inc. 10830 East 45th Street Tulsa, OK 74146	918/664-4434
BOR	Bureau of Reclamation 11056 W. Country Road 18 E Loveland, CO 80537	970/667-4410

CAGI	Compressed Air and Gas Institute 1300 Sumner Avenue Cleveland, OH 44115	216/241-7333
CAUS	Color Association of the United States 343 Lexington Avenue New York, NY 10016	212/683-9531
CDA	Copper Development Association 260 Madison Avenue New York, NY 10016	212/251-7200
CDC	Centers for Disease Control 4770 Buford Highway Atlanta, GA 30341	770/451-7443
CEA	Cement Employers Association 122 East Board Street Bethlehem, PA 18018	610/868-8060
CEMA	Conveyor Equipment Manufacturers Association 6724 Lone Oak Blvd. Naples, FL 34109	239/514-3441
CFR	Code of Federal Regulations Government Printing Office Washington, DC 20402	
CGA	Compressed Gas Association 1725 Jefferson Davis Highway Arlington, VA 22202	703/412-0900
CIE	Carrier Information Exchange 1625 E Washington Street West Bend, WI 53095	262/338-0817
CIMA	Cellulose Insulation Manufacturers Association 136 S Keowee Street Dayton, OH 45402	937/222-2462
CISCA	Ceiling & Interior Systems Construction Association 1500 Lincoln Highway St. Charles, IL 60174	630/584-1919
CISPI	Cast Iron Soil Pipe Institute 5959 Shallowford Road, Suite 419 Chattanooga, TN 37421	423/892-0137
CPIA	Chlorinated Paraffin Industries Association 1250 Connecticut Avenue NW Washington, DC 20036	202/637-9040

CRI	Carpet & Rug Institute 310 Holiday Avenue Dalton, GA 30720	706/278-3176
CRSI	Concrete Reinforcing Steel Institute 933 North Plum Grove Road Schaumburg, IL 60195	847/517-1200
CTIA	Ceramic Tile Institute of America 12061 Jefferson Blvd. Culvert City, CA 90230	310/574-7800
C.T.I.	Cooling Tower Institute 2611 FM 1960 Road West Houston, TX 77068	281/583-4087
DHI	Door and Hardware Institute 14150 Newbrook Drive, Suite 200 Chantilly, VA 20151	703/222-2010
DIPRA	Ductile Iron Pipe Research Association 245 Riverchase Trail Hoover, AL 35244	205/402-8700
ECSA	Exchange Carriers Standards Association 100 South Jefferson Road, Suite 1 Whippany, NJ 07981	973/884-4596
EIA	Electronic Industries Association 2500 Wilson Blvd. Arlington, VA 22201	703/907-7500
EJCDC	Engineers' Joint Contract Documents Committee American Consulting Engineers Council 1015 15th Street NW Washington, DC 20005	
EJMA	Expansion Joint Manufacturers Association 25 North Broadway Tarrytown, NY 10591	914/332-0040
FCC	Federal Communications Commission 445 12th Street SW Washington, DC 20024	202/418/0101
FCI	Fluid Controls Institute 1300 Summer Avenue Cleveland, OH 44115	216/241-7333
FHWA	Federal Highway Administration 400 7th Street SW Washington, DC 20590-0411	

FMEA	Factory Mutual Engineering Association Charlotte, NC 28277	704/752-1021
FTL	Federal Testing Laboratories 4900 9th Avenue NW Seattle, WA 98107	206-706-9904
GA	Gypsum Association 810 1st St. NE, Suite 510 Washington, DC 20002	202/289-5440
HEI	Heat Exchange Institute 1300 Sumner Avenue Cleveland, OH 44115	216/241-7333
HI	Hydraulic Institute 9 Sylvan Way, Suite 180 Parsippany, NJ 07054-3802	973/267-9700
HLMA	Hardwood Lumber Manufacturers Association 545 W Chocolate Avenue Hershey, PA 17033	717/312-1244
HMA	Hardwood Manufacturers Association 400 Pen Center Blvd., Suite 53 Pittsburgh, PA 15235	412/829-0770
IAPMO	International Association of Plumbing and Mechanical Officials 20001 Walnut Drive South Walnut, CA 91789-2825	909/595-8449
ICBO	International Conference of Building Officials 2122 112th Avenue NE, Suite 8300 Bellevue, WA 98004	425/451-9541
ICEAI	Insulated Cable Engineers Association, Inc. 5 Deerfield Road Carrollton, GA 30116	770/830-0369
ICAA	Insulation Contractors Association of America 1321 Duke Street Alexandria, VA 22314	703/739-0356
ICAC	Institute of Clean Air Companies 1660 L Street NW Washington, DC 20036	202/457-0911
IEEE	Institute of Electrical and Electronic Engineers 445 Hoes Lane Piscataway, NJ 08854	732/981-0060

IESNA	Illuminating Engineering Society of North America 120 South Street New York, NY 10038	212/248-5000
IFI	Industrial Fasteners Institute 1717 East 9th Street, Suite 1105 Cleveland, OH 44115	216/241-1482
IIAR	International Institute of Ammonia Refrigeration 1110 N. Glebe Road Arlington, VA 22201	703/312-4200
ILIAI	Indiana Limestone Institute of America, Inc. Stone City Bank Building, Suite 400 Bedford, IN 47421	812/275-4426
IMI	International Masonry Institute 3421 Ivy Hills Blvd. Cincinnati, OH 45244	513/272-2449
IMSA	International Municipal Signal Association 200 Metro Center Blvd. Warwick, RI 02886	401/738-2220
IOS	International Organization for Standardization American National Standards Institute 25 W 43rd Street New York, NY 10036	212/642-4900
IRI	Industrial Risk Insurers 85 Woodland Street Hartford, CT 06114	860/953-2211
ISA	Instrument Society of America Cincinnati Commerce Center Cincinnati, OH 45202	513/956-7016
ISS	Iron and Steel Society 186 Thorn Hill Road Warrendale, PA 15086	724/776-1535
ISSA	International Slurry Surfacing Association Annapolis, MD 21403	410/267-0023
ITEA	International Test and Evaluation Association 4400 Fair Lakes Court Fairfax, VA 22033	703/631-6220
KCMA	Kitchen Cabinet Manufacturers Association 1899 Preston White Drive Reston, VA 22091-4326	703/264-1690

LIA	Lead Industries Association, Inc. 13 Main Street Sparta, NJ 07871	973/726-5323
LPI	Lightning Protection Institute 3335 N.Arlington Heights Road Arlington Heights, IL 60004	847/255-3003
MBMA	Metal Building Manufacturers Association 1300 Sumner Avenue Cleveland, OH 44115	216/241-7333
MCAA	Mechanical Contractors Associations of America 1385 Piccard Drive Rockville, MD 20850	301/869-5800
MFMA	Maple Flooring Manufacturers Association 60 Revere Drive, Suite 500 Northbrook, IL 60062	847/480-9080
MIA	Marble Institute of America 28901 Clemens Road Westlake, OH 44145	440/250-9222
MSSVFI	Manufacturers Standardization Society of the Valve and Fittings Industry 127 Park Street NE Vienna, VA 22180	703/281-6613
NACE	National Association of Corrosion Barker, TX 77413	281/492-0535
NAPA	National Asphalt Pavement Association 5100 Forbes Blvd. Lanham, MD 20706	301/731-4748
NBBPVI	National Board of Boiler and Pressure Vessel Inspectors 7437 Pinque Drive Columbus, OH 43085	614/888-8320
NBHA	National Builders Hardware Association 1019 S.E. 10th Avenue Portland, OR 97214	503/233-5381
NCMA	National Concrete Masonry Association 13750 Sunrise Valley Drive Herndon, VA 20171	703/713-1900
NCRPM	National Council on Radiation Protection and Measurement 7910 Woodmont Avenue, Suite 1016 Bethesda, MD 20814	301/657-2652

NCTA	National Cable Television Association 1724 Massachusetts Avenue NW Lbby Washington, DC 20036-1969	202/775-3550
NDPA	National Decorating Products Association 403 Axminister Drive Fenton, MO 63026	636/326-2636
NEBB	National Environmental Balancing Bureau 8575 Grovemont Circle Gaithersburg, MD 20877	301/977-3698
NECA	National Electrical Contractors Association Southern Regional Office 5001 Highway 190, Suite D6 Covington, LA 70433	985/893-2920
N.E.C.A.	National Exchange Carrier Association 100 S. Jefferson Road, Suite 1 Whippany, NJ 07981	973/884-4596
NEII	National Elevator Industry, Inc. 20 W. 44th Street New York, NY 10036	212/730-2124
NEMA	National Electrical Manufacturers Association 1300 17th Street N Arlington, VA 22209	703/841-3200
NFLPA	National Fluid Power Association 3333 North Mayfair Road, Suite 101 Milwaukee, WI 53222	414/778-3344
NFPA	National Fire Protection Association Batterymarch Park Quincy, MA 02169	617/770-4543 or 617/745-2200
N.F.P.A.	National Forest Products Association 1111 19th Street NW Washington, DC 20036	202/463-2700
NHLAIS	National Hardwood Lumber Association Inspection School P.O. Box 34518 Memphis, TN 38184	901/377-1818
NIOSH	National Institute for Occupational Safety & Health 200 Independence Avenue SW, #7 Washington, DC 20201	202/401-0721
NKBA	National Kitchen & Bath Association 687 Willow Grove Street Hackettstown, NJ 07840	908/852-0033

NLA	National Lime Association 200 North Glebe Drive Arlington, VA 22203	703/243-5463
NRCA	National Roofing Contractors Association 10255 West Higgins Road Des Plaines, IL 60018	847/299-9070
NPCC	National Painting and Coatings Corporation P.O. Box 170 Orange, NJ 07051	973/324-5800
NSPE	National Society of Professional Engineers 1420 King Street Alexandria, VA 22314	703/684-2800
NSWMA	National Solid Wastes Management Association 4301 Connecticut Avenue NW Washington, SC 20008	202/244-4700
NTCA	National Tile Contractors Association 626 Lakeland East Drive Jackson, MS 39232	601/939-2071
NUCA	National Utility Contractors Association 4301 North Fairfax Drive, Suite 360 Arlington, VA 22203	703/358-9300
NWMA	National Woodwork Manufacturers Association 950 Jennings Street Bethlehem, PA 18017	610/317-6300
NWWDA	National Wood Window & Door Association 1111 19th Street NW Washington, DC 20036	202/463-2799
PDI	Plumbing and Drainage Institute 45 Bristol Drive South Easton, MA 02375	508/230-3516
PEI	Porcelain Enamel Institute 5696 Peachtreet Parkway Norcross, GA 30092	770/242-2632
PHCCNA	Plumbing-Heating-Cooling Contractors-National Association 180 S. Washington Street Falls Church, VA 22040	703/237-8100
PPI	Plastics Pipe Institute 1825 Connecticut Avenue NW Washington, DC 20009	202/462-9607

PPIC	Plumbing Piping Industry Council 9450 SW Commerce Center, Suite 310 Wilsonville, OR 97070	503/682-7919
RFCI	Resilient Floor Covering Institute 401 East Jefferson Street Rockville, MD 20805	301/340-8580
RIS	Redwood Inspection Service 405 Enfrente Road Novato, CA 94949	415/382-0662
RMA	Rubber Manufacturers Association 1400 K Street NW, Suite 900 Washington, DC 20005	202/682-4800
SBCCI	Southern Building Code Congress International 9420 Research Blvd. Austin, TX 78759	512/346-4150
SEMI	Semiconductor Equipment and Material International 1041 K Street NW Washington, SC 20005	202/289-0440
SIGMA	Sealed Insulating Glass Manufacturers Association 401 N Michigan Avenue Chicago, IL 60611	312/644-6610
SJI	Steel Joist Institute 3127 10th Avenue, Ext. N Myrtle Beach, SC 29577	843/626-1995
SMA	Screen Manufacturers Association 3950 North Lake Drive Chicago, IL 60613	773/525-2644
SMACNA	Sheet Metal / Air Conditioning Contractors National Association 4201 Lafayette Center Drive Chantilly, VA 20151-1209	703/803-2980
SPI	Society of Plastics Industry 1801 K Street NW Washington, DC 20006	202/974-5200
SPIB	Southern Pine Inspection Bureau 4709 Scenic Highway Pensacola, FL 32504	850/434-2611
STI	Steel Tank Institute 570 Oakwood Road, Suite 101 Lake Zurich, IL 60047	847/438-8265

SWI	Steel Window Institute 1300 Sumner Avenue Cleveland, OH 44115	216/241-7333
SWPA	Submersible Wastewater Pump Association 1866 Sheridan Road, Suite 201 Highland Park, IL 60035	847/681-1868
SWRI	Sealant Waterproofing & Restoration Institute 2841 Main Street Kansas City, MO 54108	816/472-7974
TAS	Technical Aid Series Construction Specifications Institute 601 North Madison Street Alexandria, VA 22314	703/684-0300
TCA	Tile Council of America 100 Clemson Research Blvd. Anderson, SC 29625	864/646-8453
TEMA	Tubular Exchanger Manufacturers Association 1001 North Fulton Avenue Tulsa, OK 74115	918/835-1042
TMANC	Terrazzo Mosaic Association of Northern California 700 Ygnacio Valley Road Walnet Creek, CA 94596	925/944-4911
TPI	Truss Plate Institute 583 Donoforio Drive, Suite 200 Madison, WI 53719	608/833-5900
UL	Underwriters Laboratories, Inc. 333 Pfingsten Road Northbrook, IL 60062-2096	847/272-8800
UNI-BELL	Uni-Bell PVC Pipe Association 2655 Villa Creek Drive, Suite 155 Dallas, TX 75234	972/243-3902
WCLIB	West Coast Lumber Inspection Bureau 6980 SW Varns Street Portland, OR 97223	503/639-0651
WIC	Woodwork Institute of California 552 Sunset Palmdale, CA 93551	661/272-1438
WPCF	Water Pollution Control Federation 601 Wythe Street Alexandria, VA 22314-1994	703/684-2400

WQA	Water Quality Association 4151 Naperville Road, Suite 100 Lisle, IL 60532	630/505-0160
WWPA	Western Wood Products Association 1500 Yeon Building Portland, OR 97204	503/224-3930

B. Names and titles of federal government standard or specification producing agencies are frequently abbreviated. T he following acronyms or abbreviations as referenced in the contract documents indicate names of standard or specification producing agencies of the federal government.

CFR	Code of Federal Regulations Available from the Government Printing Office North Capitol Street between G and H Streets NW Washington, DC 20402 (Material is usually first published in the Federal Register)	202/783-3238
COE	Corps of Engineers (US Department of the Army) Chief of Engineers-Referral Washington, DC 20314	202/693-6456
CPSC	U.S. Consumer Product Safety Commission 4330 E. West Highway Bethesda, MD 20814	301/504-0515
CD	Commercial Development 601 13th Street NW Washington, DC 20005	202/777-2000
DOC	Department of Commerce 1110 Vermont Avenue NW Washington, DC 20005	202/728-6829
DOTn	U.S. Department of Transportation 2100 2nd Street SW Washington, DC 20593	202/646-5095
DOTy	U.S. Department of Treasury Bureau of Alcohol, Tobacco and Firearms c/o Superintendent of Documents U.S. Government Printing Office Washington, DC 20402-9325	202/606-8754
EPA	Environmental Protection Agency 901 5th Street NW Washington, DC 20001	202/260-2080

FAA	Federal Aviation Administration 1575 I Street NW Washington, DC 20005	202/789-1707
FCC	Federal Communications Commission 445 12th Street SW Washington, DC 20024	202/418-0101
FHA	Federal Housing Administration (U.S. Department of Housing and Urban Development) 451 Seventh Street SW Washington, DC 20410	202/708-1112 or 208-8216
FS	Federal Specification (General Services Administration) Specifications Unit (WFSIS) 7th and D Streets SW Washington, DC 20406	202/472-2205 or 472-2140
GSA	General Services Administration Rockville, MD 20847	301/443-0100
HUD	Department of Housing and Urban Development 451 7th Street SW Washington, DC 20410	202/708-1112
LADOTD	Louisiana Department of Transportation & Development 1201 Capital Access Road Baton Rouge, LA 70804	225/274-4326
MSD	Military Standardization Documents (U.S. Department of Defense) Naval Publications and Forms Center 5801 Tabor Avenue Philadelphia, PA 19120-5099	215/697-2667
NBS	National Bureau of Standards (U.S. Department of Commerce) Gaithersburg, MD 20234	301/921-1000
OSCI	Office of Standards Code and Information National Bureau of Standards Gaithersberg, MD 20899	301/975-4029
OSHA	Occupational Safety and Health Administration (U.S. Department of Labor) c/o U.S. Government Printing Office Washington, DC 20402-9325	202/783-3238

PS	Product Standard of NBS (U.S. Department of Commerce) Government Printing Office Washington, DC 20402	202/783-3238
REA	Rural Electrification Administration (U.S. Department of Agriculture) 14th Street and Independence Avenue SW Washington, DC 20250	202/720-2791
USDA	U.S. Department of Agriculture 1400 Independence Avenue Washington, DC 20250	202/264-8600
USPS	U.S. Postal Service 458 Lenfant Plaza SW Washington, DC 20024	202/523-2013

C. Names and addresses are subject to change but are believed to be, but are not assured to be, accurate and up-to-date as of the date of the Contract Documents.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

TECHNICAL SECTION
DIVISION 01 - GENERAL REQUIREMENTS
SECTION 01100 - SPECIAL PROJECT PROCEDURES

PART 1 - GENERAL

1.01 DESCRIPTION

This Section describes special procedures for alterations, preservation, security, hazardous material, and other types of projects demanding unique procedures.

1.02 SEPARATION BETWEEN SEWER LINES AND WATER LINES

See specifications and applicable piping systems specifications. Where the separation between sanitary sewer and water lines is not clearly defined by dimensions on the drawings, a sewer shall not be closer horizontally than ten feet to a water supply main or service line, except that where the bottom of the water pipe will be at least eighteen inches above the top of the sewer pipe, the horizontal spacing may be a minimum of ten feet. Where gravity flow sewers cross above the water lines, the sewer pipe for a distance of ten feet each side of the crossing shall be ductile iron or PVC pipe, without any joint closer horizontally than ten feet to the crossing, or shall be fully encased in concrete. The thickness of the concrete including at the pipe joints shall be no less than four inches. These provisions are regulations of the State Sanitary Code and Ten States Standards. Unless otherwise approved by the Engineer, the locations, lines and grades shown on the drawings shall not be changed.

1.03 OPEN WASTEWATER BYPASSING

Temporary open wastewater bypass discharges shall generally be prohibited. The applicable State Pollution Control Agency and U.S.E.P.A. must approve open wastewater bypassing if the terms of the N.P.D.E.S. permit allow bypassing. Bypassing will be allowed only when absolutely necessary and the approval of the Engineer, the State and U.S.E.P.A. is mandatory.

1.04 INSTALLATION OF EQUIPMENT

A. Special care shall be taken to ensure proper alignment of all equipment with particular reference to mechanical equipment such as pumps and electric drives. The units shall be carefully aligned on their foundations by qualified millwrights and their base plates shimmed to correct elevation and alignment at the anchor bolts. The anchor bolts shall be set in place and the nuts tightened against the shims. The alignment of equipment shall be further checked after securing to the foundations, and, after confirmation of all alignments, the base plates shall be finally grouted in

place. The Contractor shall be responsible for the exact alignment of equipment with associated piping, and under no circumstances will "pipe springing" be allowed.

B. All wedges, shims, filling pieces, keys, packing, grout, and other materials necessary to properly align, level, and secure equipment in place shall be furnished by the Contractor at no additional cost to the Owner. All parts intended to be plumb or level must be proven so.

1.05 SLEEVES, OPENINGS, AND ANCHORS

A. The Contractor shall provide all openings, channels, chases, etc., and install anchor bolts and other items to be embedded in concrete as required to complete the work under this Contract, together with those required by subcontractors, and shall do all cutting and patching, except cutting and patching of materials of a specified trade and as stated otherwise in the following paragraph.

B. The Contractor shall coordinate with equipment suppliers and subcontractors to provide all sleeves, inserts, hangers, anchor bolts, etc. of the proper size and material for the execution of the work. The Contractor shall be responsible for any corrective cutting and refinishing required to make necessary openings, chases, etc. In no case shall beams, lintels or other structural members be cut without the written approval of the Engineer.

1.06 PROVISIONS FOR CONTROL OF EROSION AND POLLUTANTS

Sufficient precautions shall be taken during construction to minimize the runoff of polluting substances such as silt, clay, fuels, oils, bitumens, calcium chloride, or other materials harmful to humans, fish, or other life, into the ground and surface waters of the state. Control measures must be adequate to assure that turbidity in the receiving waters will not be increased more than 10 nephelometric turbidity units (NTU), or as otherwise required by the state or other controlling agency, in water used for public water supply or fishing unless limits have been established for the particular water. In surface water used for other purposes, the turbidity must not exceed 25 NTU unless otherwise required by the state or other controlling agency. Special precautions shall be taken in the use of construction equipment to prevent operations that promote erosion.

1.07 ROADSIDE CULVERTS AND STRUCTURES

Should the scope or location of the Work require the removal of roadside culverts and/or structures (i.e., bridges, pipes), their removal and relaying or replacement shall be included in the cost of the various other pay items at no e xtra payment. R elaying roadside pipe culverts, replacing broken pipe, setting driveway bridges, or replacing bridges shall be equal to or better than that which existed before the work. Replacements of broken pipe or bridges may be with used materials.

1.08 RELOCATION OF MAILBOXES, STREET AND TRAFFIC SIGNS

When mailboxes are located within the limits of construction, the Contractor shall give the mailbox owner sufficient written notice to remove his mailbox from the construction site. If the mailbox is not removed the Contractor shall remove the mailbox and replace the mailbox to the same condition that existed prior to construction.

Street name markers and traffic signs which are within the construction limits shall be removed, stored, protected and reinstated in approximately the original location by the Contractor. Any markers or signs that become lost or damaged shall be replaced by the Contractor equal to or better than the original.

1.09 PROTECTION OF WORK

Until the acceptance of the work by the Engineer as evidenced in writing, said work shall be under the charge and care of the Contractor. T he Contractor shall take every necessary precaution against damages to any part thereof by the elements or from any other cause. The Contractor shall rebuild, restore, repair, and make good, at his own expense, all injuries or damages to any portion of the work occasioned by any of the above causes before its completion and acceptance.

1.10 INCLEMENT WEATHER

A. Within thirty (30) days of the date of Notice to Proceed, the Contractor shall submit to the Engineer an Inclement Weather Preparedness Plan. T he plan shall outline the necessary measures, which the Contractor will perform in case of the occurrence of storm conditions and/or hurricanes.

B. In the event of inclement weather, or whenever Engineer shall direct, Contractor and Subcontractors will protect carefully the Work and materials against damage or

injury from the weather, including sudden rises in sewer flows due to storms outside the immediate construction zones. Damaged Work and materials shall be removed and replaced. If, in the opinion of the Engineer, any portion of Work or materials shall have been damaged or injured by reason of failure on the part of the Contractor or Subcontractors to so protect the Work, no additional time for removal and replacement will be given by the Owner.

1.11 WATER TIGHTNESS

A. Special precautions shall be taken in the curing of concrete to reduce concrete cracking as called for in Section 03010. Each water-retaining structure (those which are intended to hold a liquid) shall be filled and tested for leaks by the Contractor with clean water prior to surface coating or painting. Leaks shall be repaired by the Contractor. The procedure and manner in which leaks are repaired shall meet the approval of the Engineer. All costs associated with the testing and repair of leaks shall be at the expense of the Contractor. Prior to the beginning of the leakage test, the structure shall be filled to the highest working water level (to grade level in pump stations) and allowed to stand for a period of 24 hours to allow for absorption.

Leakage limitations shall be as follows:

1. All water visibly flowing through a concrete wall shall constitute a leak and shall be repaired by pumping and sealing the crack with a two-part water intensive epoxy.

2. Damp areas not exceeding one percent of the total wall wetted area and not having visible seepage shall be conditionally acceptable subject to all said dampness being eliminated by application of the water side surface treatment as may be specified. In the absence of a specified water side surface treatment or where said treatment does not eliminate wall dampness, the water side of the wall shall be prepared in accordance with the manufacturer's instructions and an approved epoxy concrete surface coating applied.

3. All leakage testing shall be performed prior to tank backfill.

4. To check for leakage through the tank bottoms, the fall in surface water level during tank testing shall be measured and shall not exceed 0.5 inch in a 24-hour period, providing allowance for evaporation at a rate approved by the Engineer. Visual leaks, either flowing or damp areas, observed during the filling, absorption, or test periods shall be marked and locations recorded and repaired.

1.12 SALVAGE

The Owner may desire to salvage certain items of existing equipment that are to be dismantled and removed during the course of construction. Prior to removal of any existing equipment from the site of the work, the Contractor shall ascertain from the Engineer whether or not the particular item or items are to be salvaged. Items to be salvaged shall be stockpiled on site in a location as directed by the Engineer. All other items of equipment shall be disposed of off-site by the Contractor at his own expense.

1.13 PUBLIC NUISANCE

A. The Contractor shall not create a public nuisance, including, but not limited to, encroachment on adjacent lands, flooding of adjacent lands, or excessive noise.

B. Sound levels from Contractor operations shall not exceed 45 dBA 7 P.M. to 7 A.M. or 55 dBA 7 A.M. to 7 P.M. This sound level is to be measured at the exterior of the nearest exterior wall of the nearest residence. Levels at operating equipment shall not exceed 85 dBA at the equipment at any time. Sound levels in excess of these values are sufficient cause to have the work halted until equipment can be quieted to these levels. If requirements of the local noise ordinance are more restrictive than the above limits, then the Ordinance shall have precedence over the above requirements. Work stoppage by the Engineer for excessive noise shall not relieve the Contractor of any obligations under the Contract, including, but not limited to, performance of the work at the contract time and contract price.

C. No extra payment will be made for time lost due to work stoppage resulting from the creation of a public nuisance.

1.14 UNFAVORABLE CONSTRUCTION CONDITIONS

A. The Contractor shall confine his operations to Work, which will not be affected adversely by unfavorable weather, wet ground, or other unsuitable construction conditions. No portion of the Work shall proceed under conditions that would affect adversely the quality or efficiency of the Work, unless suitable special precautions or countermeasures are taken by the Contractor.

B. During suspension of the Work from any cause, the work shall be suitably covered and protected so as to preserve it from injury by the weather.

C. If the Contractors work may be damaged or rendered inferior by unfavorable weather conditions, the Engineer may issue an order to suspend work. Compensation for additional Contract Time under other sections of this Specification will be awarded for suspended work as a result of unfavorable weather conditions. The authority of the Engineer to issue such an order shall not be interpreted as a requirement to do so.

D. Any work constructed during unfavorable weather conditions and found to be damaged or of inferior quality shall be removed and replaced at no additional costs to the Owner or Engineer.

1.15 RELOCATIONS

The Contractor shall be responsible for the relocation of structures, including but not limited to, light poles, signs, sign poles, fences, piping, conduits and drains that interfere with the positioning of the work as set out on the Drawings. The cost of all such relocations shall be included in the costs of Work.

1.16 SUBSURFACE AND SURFACE OBSTRUCTIONS

In the event unforeseen subsurface or surface obstructions occur in the progression of work, the Contractor shall confer with the Engineer and obtain his written consent before undertaking any deviations from the plans. At the direction of the Engineer, the Contractor may be permitted to delete construction in the obstruction area temporarily; however, the Contractor shall make no claim for damage by this delay.

1.17 EXAMINATION OF SITE

Before submitting a bid for this project, the Contractor shall visit the site and become familiar with existing conditions under which the project is to be executed. No additional allowances will be made to the Contractor for any error or negligence on his part.

1.18 TOLERANCES

Contractor shall verify in the field before any material or equipment is fabricated the dimension when those dimensions of existing structures or equipment are dependent as correctness of such information. Should dimensions as shown on the drawing vary from the field, then, the Contractor shall notify the Engineer and jointly resolve the figure in favor of the correct dimensions.

All work and materials shall be within reasonably accepted manufacturing and construction tolerances as defined by the drawings, specifications, and the manufacturer of material and equipment. If those tolerances exceed limits, the Engineer may accept the work provided the work would not be materially affected by the change and the interests of the Owner are protected.

1.19 PUMPING

A. The Contractor with his own equipment shall do all pumping necessary to prevent flotation of any part of the structures during construction operations.

B. The Contractor shall, for the duration of the Contract and with his own equipment, pump out water and wastewater which may seep or leak into the excavations or structures at the work sites which shall be kept dry at all times.

1.20 HAZARDOUS LOCATIONS

A. The existing wet wells, manholes, sewers, force mains, pipes, and other related areas are hazardous locations in that explosive concentrations of sewage gas may be present. The Contractor is cautioned that the above areas, especially the wet well, may be deficient in oxygen. Checks shall be made by the Contractor whenever personnel are working in these areas to insure that adequate ventilation has been provided.

B. In his operations in hazardous locations, the Contractor shall use spark-proof tools and explosion-proof temporary lighting and shall not use electric power tools, open flame devices, electric welding or any device or methods which might conceivably cause ignition or explosion.

C. If a working area atmosphere is unsafe, the Contractor shall furnish, install, operate, and later remove such temporary auxiliary ventilating facilities as are necessary to provide a safe atmosphere.

D. The Contractor shall also instruct and caution his employees and the employees of his subcontractors to avoid smoking while in the hazardous areas. Suitable prominent "No Smoking" signs shall be placed at locations where sewage gas could be present.

1.21 OPERATING REQUIREMENTS FOR EXISTING PUMPING AND COLLECTION SYSTEMS

A. During construction of the new facilities and rehabilitation of existing facilities the Owner's operators will be responsible for operating and maintaining the existing

pumping and collection system located outside of the limits of the Contract site, and the Contractor shall be responsible for operating and maintaining the entire pumping and collection system within the Contract site. The Contractor shall provide adequate trained staff to perform proper system operation and maintenance. The Owner's operating staff will be responsible for the operation and maintenance of all existing facilities until they are formally taken over by the Contractor.

B. When the Contractor is ready to begin work at a site, including the delivery of material, he shall notify the Engineer, and a date of site take-over by the Contractor will be agreed. On the site take-over date, a walk-through joint inspection will be made by the Contractor, Owner, and Engineer at which notes will be made and photographs taken documenting the conditions of the facilities and a Contractor take-over document prepared and executed by the Owner and Contractor.

Thereafter, the Contractor shall operate and maintain the facilities to the satisfaction of the Engineer and Owner until the Contract work at the site and facilities is finished and the Certificate of Substantial Completion is issued by the Engineer. The cost of operating and maintaining the site and facilities during this construction period shall be included in the bid price except for the following, which will be furnished by the Owner:

1. Electricity for operating the facilities.
2. Water for operating the facilities (not for construction).
3. Spare parts for replacements necessary but not caused by the Contractor's deficient operation and maintenance.

1.22 NOTIFICATION OF WORK ON EXISTING FACILITIES

Before commencing work on any of the existing structures or equipment, the Contractor shall notify the Engineer in writing at least ten (10) calendar days in advance of the date he proposes to commence such work.

PART 2 - PRODUCT - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

TECHNICAL SECTION
DIVISION 01 - GENERAL REQUIREMENTS
SECTION 01200 - PROJECT MEETINGS

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

A. The Engineer shall schedule and administer a pre-construction meeting at the office of the Program Manager, construction progress meetings, and specially called meetings throughout the progress of the Work. The Engineer will:

1. Prepare agenda for meetings.
2. Make arrangements for meetings.
3. Preside at meetings.
4. Record the minutes; include significant proceedings and decisions.
5. Reproduce and distribute copies of minutes.

B. The Contractor and representatives of, where appropriate, subcontractors and suppliers shall attend meetings. The representative shall be qualified and authorized to act on behalf of the entity each represents.

C. The Contractor shall attend and identify at the meetings the actual status of the Contract Work and, when the Work is not being performed consistently with the Contract Documents and construction schedules shall identify at the meetings the steps he is taking to resolve the inconsistency.

1.02 PRE-CONSTRUCTION MEETING

A. The Contractor shall participate in a pre-construction meeting to be held after the effective date of the Agreement and/or on the date of Notice to Proceed.

B. The following are expected to be in attendance:

1. Owner's Representative and other staff as appropriate.
2. Engineer and his professional consultants as appropriate.
3. Engineer's Resident Project Representative.
4. Contractor's Representative and Construction Superintendent.
5. Subcontractors as appropriate.
6. Utility representative as appropriate.
7. Others as appropriate.

C. The purpose of the conference is to designate responsible personnel and establish a working relationship. Matters requiring coordination will be discussed and procedures for handling such matters established. The agenda will include:

1. Description of all parties including contract representatives, phone numbers, and addresses.
2. Responsibilities of Owner.
3. Responsibilities of authorities of the Engineer.

4. Responsibilities of the Contractor.
5. Responsibilities and Authorities of Resident Project Representative.
6. Responsibilities and Authorities of Testing Laboratory.
7. General Project Status and Information.
8. Location of Items.
9. Regulatory Requirements.
10. Site Conditions.
11. Labor Requirements.
12. Submittals required by Contractor.
13. Payment to Contractor.
14. Project Closeout.

1.03 CONSTRUCTION PROGRESS MEETING

A. Construction progress meetings will be held monthly with the first meeting thirty (30) days after the date of Notice to Proceed.

B. Special construction progress meetings will be held as required by progress of the Work.

C. The following are expected to be in attendance:

1. Owner Representative and other staff as appropriate.
2. The Engineer and his professional consultants as appropriate.
3. Contractor's Representative and/or Construction Superintendent.
4. Subcontractors as appropriate.
5. Suppliers as appropriate.
6. Others as appropriate.

D. The following matters are expected to be addressed:

1. Review and approve minutes of previous meeting.
2. Review of work progress.
3. Field observations, problems, and conflicts.
4. Problems, which impede Construction Schedule.
5. Review of off-site fabrication, delivery schedules.
6. Corrective measures and procedures to regain Construction Schedule.
7. Revisions to Construction Schedule.
8. Progress and schedule during succeeding work period.
9. Payment applications and processing.
10. Submittals.
11. Maintenance of quality standards.
12. Changes, substitutions, and change orders.
13. Review proposed changes for:

a. Effect on Construction Schedule and completion date.
b. Effect on other contracts of the Project.

14. Other matters as appropriate.

15. Record drawings.

E. The Contractor shall be prepared to discuss the above topics and to make commitments for resolving deficiencies.

F. The Contractor shall provide a current submittal log at each progress meeting in accordance with Section 01340.

PART 2 - PRODUCT - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

TECHNICAL SECTION
DIVISION 01 - GENERAL REQUIREMENTS
SECTION 01300 - SUBMITTALS

PART 1 - GENERAL

1.01 DESCRIPTION

This Section refers to the general procedures and requirements for submittals. Specific requirements for submittals are included in other sections of these Specifications.

1.02 DEFINITION

The term "submittal" as used herein shall be understood to include detail design calculations, shop drawings, fabrication and installation drawings, erection drawings, lists, graphs, operation instructions, catalog sheets, data sheets, product data, samples, and similar items.

1.03 LIST OF SUBMITTALS

A. The following is a list of submittals and the times required for submitting all in accordance with the Contract Documents.

ITEM	TIME
1. Schedule of Progress	Pre-Construction Conference*
2. Schedule of Payments	Pre-Construction Conference*
3. Schedule of Values	Pre-Construction Conference*
4. List of Manufacturers and Associated Products	Prior to Start of Work
5. Substitute Material or Equipment	Prior to Start of Work
6. Manufacturers Certificate of Compliances	Prior to Start of Work
7. Change Orders	Within 15 days of occurrence
8. Layout and Shop Drawings of Fabricated Items	Prior to Installation
9. Shop Drawings or Prior to Installation	Preferred Prior to Start of Work
10. Operation & Maintenance Manuals & Spare Parts	Completion of Project
11. Tabulation of Equipment w/Data	Completion of Project
12. Certificate of Gradation	

of Aggregate	Prior to Installation
13. Concrete Mix Design	Prior to Installation

** If no Pre-Construction Conference is held, Prior to First Payment.*

B. The Engineer may require submittals not listed above to expedite the work. Contractor shall comply with all submittal requests made by Engineer.

PART 2 - PRODUCT - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

TECHNICAL SECTION
DIVISION 01 - GENERAL REQUIREMENTS
SECTION 01310 - PROGRESS SCHEDULES

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

A. Contractor shall comply with the General Conditions.

B. Submit revised progress schedules periodically.

1.02 FORM OF SCHEDULES

A. Prepare schedules in the form of a horizontal bar chart.

1. Provide separate horizontal bar for each trade or operation.
2. Horizontal time scale: Identify the first workday of each week.
3. Scale and Spacing: To allow for notations and future revisions.
4. Minimum sheet size: 8 1/2" x 11"

B. Formal of Listings: The table of contents of the Contract Documents.

C. Identification of Listings: By bid items.

1.03 CONTENT OF SCHEDULES

A. Construction Progress Schedule:

1. Show the complete sequence of construction by activity.
2. Show the dates for the beginning, and completion of, each major element of construction.
3. Show projected percentage of completion for each item, as of the first day of each month.
4. Show an anticipated monthly payment schedule.

B. Submittals Schedule for Shop Drawings, Product Data and S amples. S how the following:

1. The dates for Contractor's submittals.
2. The dates approved submittals will be required from the Engineer.

1.04 PROGRESS REVISIONS

A. Indicate progress of each activity to date of submission.

B. Show changes occurring since previous submission of schedule:

1. Major changes in scope.
2. Activities modified since previous submission.
3. Revised projections of progress and completion.
4. Other identifiable changes.

C. Provide a narrative report as needed to define:

1. Problem areas, anticipated delays, and the impact on the schedule.
2. Corrective action recommended, and its effects.

1.05 SUBMISSIONS

A. Submit initial schedules in accordance with the General Conditions.

1. Engineer will review schedules and return review copy within ten (10) days after receipt.
2. If required, Contractor shall resubmit within seven (7) days after return of review copy.

B. Submit revised progress schedules with each Application for Payment.

C. Submit the number of opaque reproductions, which the Contractor requires, plus five copies, which will be retained by the Engineer.

PART 2 - PRODUCT - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

TECHNICAL SECTION
DIVISION 01 - GENERAL REQUIREMENTS
SECTION 01340 - SHOP DRAWINGS, PROJECT DATA, AND SAMPLES

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

A. The Contractor shall submit to the Engineer for review and exception, if any, such working drawings, shop drawings, test reports and data on materials and equipment (hereinafter in this article called data), and material samples (hereinafter in this article called samples) as are required for the proper control of Work, including but not limited to those working drawings, shop drawings, data and samples for materials and equipment specified elsewhere in the Specifications and in the Contract Drawings.

B. Within fifteen (15) calendar days after the Effective Date of the Agreement, the Contractor shall submit to the Engineer a complete list of preliminary data on items for which shop drawings are to be submitted. Included in this list shall be the names of all proposed manufacturers furnishing specified items. Review of this list by the Engineer shall in no way relieve the Contractor from submitting complete shop drawings, data, and samples in accordance with the Specifications. This procedure is required in order to expedite final review of shop drawings.

C. The Contractor is to maintain an accurate updated submittal log and will bring this log to each scheduled progress meeting. This log should include the following items:

1. Submittal Description and Number assigned.
2. Date to Engineer.
3. Date returned to Contractor (from Engineer).
4. Status of Submittal (Approved, Approved as Noted, Revise and Resubmit, Not Approved).
5. Date of Re-submittal and Return (as applicable).
6. Date material released (for fabrication).
7. Projected date of fabrication.
8. Projected date of delivery to site.
9. Status of O&M Manuals submitted.

1.02 CONTRACTOR'S RESPONSIBILITY

A. It is the duty of the Contractor to check all Drawings, data and samples prepared by or for him before submitting them to the Engineer for review. Each and every copy of the Drawings and data shall bear Contractor's stamp showing that they have been so checked. Shop drawings submitted to the Engineer without the Contractor's stamp or evidence that the Contractor has not performed the required review would be returned to the Contractor for conformance with this requirement. Shop drawings shall indicate

any deviations in the submittal from requirements of the Contract Documents.

B. Determine and verify:

1. Field measurements.
2. Field construction criteria.
3. Catalog numbers and similar data.
4. Conformance with Specifications and indicate all variances from the Specifications.

C. All shop drawings or other submittals shall be accompanied by the Engineer's standard submittal transmittal form. This form may be obtained in quantity from the Engineer at reproduction cost. Any submittal not accompanied by such a form, or where all applicable items on the form are not completed, will be returned for re-submittal. A separate transmittal form shall accompany each shop drawing, product data, or sample.

D. The Contractor shall be solely responsible for the accuracy and completeness of the shop drawing. In no case shall a subcontractor or supplier submit shop drawings directly to the Engineer. All communications concerning shop drawings or the project in general shall be directed through the Contractor. C ontractor shall coordinate between subcontractor, suppliers, and manufacturers all shop drawings to ensure that the total work including all interconnections, timers, control, etc., or the system confers to the design criteria specified.

E. No products, equipment, or material shall be delivered or fabricated until the shop drawings, product data, or sample have been submitted and checked by the Engineer for its conformance to the drawings and specifications and given final approval for fabrication or erection by the Engineer. Until final approval of shop drawing or sample is given in writing, Contractor shall not proceed with any work directly or indirectly associated with that item.

F. The Contractor shall furnish the Engineer a schedule of shop drawing submittals fixing the respective dates for the submission of shop and working drawings, the beginning of manufacture, testing and installation of materials, supplies and equipment. This schedule shall indicate those that are critical to the progress schedule.

G. The Contractor shall submit to the Engineer all Drawings and schedules sufficiently in advance of construction requirements to provide no l ess than twenty-one (21) calendar days for checking and appropriate action from the time the Engineer receives

them.

H. All shop drawings shall be clearly marked and labeled as to their intended use. Any submittal which causes the Engineer to ponder or guess at the intended use shall be rejected.

I. The Contractor shall submit seven (7) copies of shop drawings and descriptive or product data submittals to complement shop drawings to the Engineer which will be retained for his use. The Contractor shall submit extra sets as required for his subcontractors, his suppliers, and his own use.

J. The Contractor shall be responsible for and bear all cost of damages, which may result from the ordering of any material or from proceeding with any part of work prior to the completion of the review by Engineer of the necessary shop drawings.

K. The Contractor shall utilize a Sequential Numbering System for submittals (1-999). Re-submittals or confirming material shall be assigned a letter next to the submittal number, i.e., A=second submittal, B=third submittal, etc.

L. Submittals shall include a certified statement of compliance to the requirements detailed in the specifications in addition to other submittal requirements. This certification shall be prepared by the manufacturer and not the local supplier. Validity of the authority and position of the person signing the certification shall be verified by a Notary Public. The statement of compliance shall address each point of conformance contained in the governing specifications with definitive comments of either compliance or non-compliance. Statements of non-compliance with points of conformance shall be accompanied by a statement of justification as to the reason for non-compliance and why the non-complying feature is considered to be either equal to or better than the specified feature. The Engineer will use the certified statement of compliance in his evaluation of the submittal rendering a judgment as to equality to the specified product and issuing a statement as to whether the product is acceptable for or rejected from incorporation into the work.

M. When a manufacturer named in the controlling specification is chosen to supply a product, and the details of manufacture, size, and installation are shown on his standard catalog cut sheets, the manufacturer may submit the certified statement of compliance as detailed above along with installation details specific to the Work such as laying

schedules, etc. as required, deleting the standardized catalog data.

N. Should the Contractor provide a submittal that would require modification to a structure, hydraulic piping, electrical components, layout, controls, or other previously designed aspects of the project, he shall submit with his transmittal, additional design calculations and details of the modification. Any cost incurred by the Engineer for review of these modifications and the direct affect on other designed portions of the project and the implementation of alternate designs shall be borne by the Contractor. The Owner or Engineer will incur no additional costs for modifications or deviations from the original drawings and specifications as submitted by shop drawings, product data, or samples.

O. Shop drawings shall be prepared by a qualified detailer indicating all dimensions, weights, tolerances, clearances, space required, and structures. The manufacturer or supplier of equipment or materials shall certify as to the correctness of the dimensions. Contractor shall verify all drawings submitted as to their completeness with respect to field measurements, field construction criteria, catalog numbers, and similar data. Any drawing submitted through the Contractor not bearing the Contractors approval, data, and checker's name will be returned to the Contractor.

1.03 ENGINEER'S REVIEW OF SHOP DRAWINGS

A. The Engineer's review of Drawings, data and samples submitted by the Contractor will cover only general conformity to the Specifications, external connections, and dimensions that affect the installation.

B. The review of Drawings and schedules will be general, and shall not be construed:

1. as permitting any departure from the Contract requirements;

2. as relieving the Contractor of responsibility for any errors, including details, dimensions, and materials;

3. as approving departures from details furnished by the Engineer, except as otherwise provided herein.

C. When reviewed by the Engineer, each of the shop drawings will be identified as having received such review being so stamped and dated.

1. If the copies received are marked "Approved", those documents are used as guidelines for installation.

2. If the copies received are marked "Approved As Noted", the Contractor shall make the appropriate corrections to the material and/or product and incorporate the revised material and/or product into the project.

3. If the copies received are marked "Revise and Resubmit", the material or product may be acceptable; however, substantial corrections require the Engineer to review the material or product after the revisions have been made. A formal re-submittal of the revised material and/or product is required using a separate transmittal form. S even (7) copies of the revised re-submittal are required.

4. If the copies received are marked "Not Approved", the material and/or product cannot be incorporated into the project. Another product approved by the Contract Documents shall be submitted with a new transmittal form accompanied by seven (7) copies of shop drawings, product data, or samples.

D. Upon review of the shop drawing, product data, or sample by the Engineer, the Engineer will distribute the submittals as follows:

No. Required	To Whom	For Use
1	Engineer	Office
2	Owner	O&M Manuals
1	Resident Project Representative	Field
3	Contractor	Field
	Office	
	Vendor	

E. If the drawings or schedules as submitted describe variations per subparagraph 1.04.D, and show a departure from the Contract requirements which Engineer finds to be in the interest of the Owner and to be so minor as not to involve a change in Contract Price or Time, the Engineer may return the reviewed Drawings without noting any exception.

F. Re-submittals will be handled in the same manner as first submittals. The Contractor shall direct specific attention to revisions other than the corrections requested by the Engineer on previous submissions by written details or markings on the resubmitted Shop Drawings. The Contractor shall make any corrections required by the Engineer.

G. If the Contractor considers any correction indicated on the Drawings to constitute a change to the Contract Drawings or Specifications, the Contractor shall give written notice thereof to the Engineer.

H. The Engineer will review a submittal/re-submittal a maximum of three (3) times after which cost of review will be borne by the Contractor. The cost of engineering

shall be equal to the Engineer's charges to the Owner under the terms of the Engineer's agreement with the Owner.

I. When the shop drawings have been completed to the satisfaction of the Engineer, the Contractor shall carry out the construction in accordance therewith and shall make no further changes therein except upon w ritten instructions or approval from the Engineer.

1.04 SHOP DRAWINGS

A. Shop Drawings shall be complete and detailed.

B. Drawings and schedules shall be checked and coordinated with the work of all trades involved, before they are submitted for review by the Engineer and shall bear the Contractor's stamp of approval as evidence of such checking and coordination. Drawings or schedules submitted without this stamp of approval shall be returned to the Contractor for resubmission.

C. Each shop drawing shall have a b lank area 3-1/2 inches by 3-1/2 inches, located adjacent to the title block. The title block shall display the following:

1. Number and title of the drawing.
2. Date of drawing or revision.
3. Name of project building or facility.
4. Name of Contractor and Subcontractor submitting drawings.
5. Clear identification of contents and location of the work.
6. Specification number and title.

D. If Drawings show variations from Contract requirements because of standard shop practice or for other reasons, the Contractor shall describe such variations in his letter of transmittal. If acceptable, proper adjustments in the Contract shall be implemented where appropriate. If the Contractor fails to describe such variations, he shall not be relieved of the responsibility for executing the work in accordance with the Contract, even though such Drawings have been reviewed.

E. Data on materials and equipment include, without limitation, materials and equipment lists, catalog data sheets, cuts, performance curves, diagrams, materials of construction and similar descriptive material as required. Materials and equipment lists shall give for each item thereon the name and location of the supplier or manufacturer, trade name, catalog reference, size, finish and all other pertinent data.

F. The Contractor shall provide a list including the equipment name, address, and telephone number of the manufacturer's representative and service company so that service and/or spare parts can be readily obtained for all mechanical and electrical equipment furnished.

G. All manufacturers or equipment suppliers who proposed to furnish equipment or products shall submit an installation list to the Engineer along with the required Shop Drawings. The installation list shall include at least five installations where identical equipment has been installed and has been in operation for a period of at least one (1) year.

H. Only the Engineer will utilize the color "red" in marking Shop Drawing submittals.

1.05 WORKING DRAWINGS

A. Working drawings shall be considered to mean the Contractor's plans for temporary structures.

B. Copies of working drawings as noted in subparagraph 1.02, shall be submitted to the Engineer where required by the Contract Documents or requested by the Engineer, and shall be submitted at least thirty (30) calendar days (unless otherwise specified by the Engineer) in advance of their being required for Work.

C. The Engineer will not review working drawings but shall use them as information to monitor the work performed by the Contractor.

1.06 SAMPLES

A. The Contractor shall furnish for the review of the Engineer samples required by the Contract Documents or requested by the Engineer. Samples shall be delivered to the Engineer as specified or directed and the Contractor shall prepay all shipping charges. Materials or equipment for which samples are required shall not be used in work until reviewed by the Engineer.

B. Samples shall be of sufficient size and quantity to clearly illustrate:

1. Functional characteristics of the product, with integrally related parts and attachment devices.
2. Full range of color, texture, and pattern.

C. Each sample shall have a label indicating:

1. Name of Project.

2. Name of Contractor and Subcontractor.
3. Material or Equipment represented.
4. Place of origin.
5. Name of Producer and Brand (if any).
6. Location in Project.

Samples of finished materials shall have additional marking that will identify them under the finished schedules.

D. The Contractor shall prepare a transmittal letter in triplicate for each shipment of samples containing the information required in subparagraph 1.06.B above. He shall enclose a copy of this letter with the shipment and send a copy of this letter to the Engineer and the remaining copy shall be for the Contractor's records. Review of a sample shall be only for the characteristics or use named and shall not be construed to change or modify any Contract requirements.

E. Reviewed samples not destroyed in testing shall be sent to the Engineer or stored at the site of the Work. Reviewed samples of the hardware in good condition will be marked for identification and may be used in the Work. Materials and equipment incorporated in work shall match the reviewed samples. Samples, which failed testing or were rejected, will be returned to the Contractor at his expense, if so requested at time of submission.

PART 2 - PRODUCT - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

TRANSMITTAL FOR SHOP DRAWINGS, PRODUCT DATA, OR SAMPLES

TO: _____

FROM: _____

DATE: _____
PROJECT NO.: _____
PROJECT: _____
ENGINEER SUBMITTAL NO.: _____

CONTRACTOR HAS REVIEWED AND APPROVED SUBMITTAL:

BY: _____ DATE: _____ CONTRACTOR SUBMITTAL NO.: _____

SHOP DRAWING ☐ PRODUCT DATA ☐ SAMPLE ☐

GENTLEMEN: WE ARE SUBMITTING THE FOLLOWING SHOP DRAWINGS, PRODUCT DATA OR SAMPLES:

QTY	SPECIFICATION DIVISION AND SECTION	DRAWING	MANUFACTURER	DESCRIPTION

THERE ARE ☐ NO DEVIATIONS WHATSOEVER FROM DRAWINGS AND SEPCIFICATIONS

☐ DEVIATIONS FROM DRAWING AND SPECIFICATIONS, EXPLANATION ON BACK OF SHEET

ENGINEER'S REVIEW STATEMENT:

	APPROVED	APPROVED AS NOTED*	REVISE AND RESUBMIT	NOT APPROVED	CHECKED BY
STRUCTURAL	☐	☐	☐	☐	_____
MECHANICAL	☐	☐	☐	☐	_____
CIVIL	☐	☐	☐	☐	_____
ELECTRICAL	☐	☐	☐	☐	_____

*SUBMIT **8** CORRECTED RECORD COPIES

ENGINEER'S FINAL STATEMENT:

APPROVED ☐

APPROVED AS NOTED* ☐

REVISE AND RESUBMIT ☐

NOT APPROVED ☐

ENGINEER'S REVIEW AND APPROVAL OF THIS SUBMITTAL ARE EXPRESSLY LIMITED AS PROVIDED IN THE CONTRACT DOCUMENT AND ARE ONLY TO DETERMINE COMPLIANCE WITH INFORMATION GIVEN IN CONTRACT DOCUMENTS AND CONFORMANCE WITH DESIGN CONCEPT OF COMPLETED PROJECT AS A FUNCTIONING WHOLE. CONTRACTOR IS, AND ENGINEER IS NOT, RESPONSIBLE FOR ALL MATTERS RELATING TO FABRICATION, SHIPPING, HANDLING, STORAGE, ASSEMBLY INSTALLATION AND CONSTRUCTION FOR ALL SAFETY ASPECTS OF PERFORMING THE WORK AND FOR COORDINATING THE WORK.

TECHNICAL SECTION
DIVISION 01 - GENERAL REQUIREMENTS
SECTION 01370 - SCHEDULE OF VALUES

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

A. Submit to the Engineer a Preliminary Schedule of Values in accordance with Article 2.6 of the General Conditions.

B. Upon request of the Engineer, support the values with data, which will substantiate their correctness.

C. Refine the Schedule of Values to reflect the requirements of Article 2.9 of the General Conditions. The final Schedule of Values shall be used only as the basis for the Contractor's Applications for Payments.

1.02 FORM AND CONTENT OF SCHEDULES OF VALUES

A. Type schedule on 8-1/2" x 11" or 8-1/2" x 14" white paper. Contractor's standard forms and automated printout will be considered for approval by the Engineer upon Contractor's request. Identify schedule with:

1. Title of Contract and location.
2. Engineer and Contract numbers.
3. Name and Address of Contractor.
4. Contract designation.
5. Date of submission.

B. Schedule shall list the installed value of the component parts of the Work in sufficient detail to serve as a basis for computing values for progress payments during construction.

C. Identify each line item with the number and title of the respective major section of the Specifications.

D. For each major line item, list sub-values of major products or operations under the item.

E. For the various portions of the Work:

1. Each item shall include a directly proportional amount of the Contractor's overhead and profit.

2. For items on which progress payments will be requested for stored materials, break down the value into:

a. The cost of the materials, delivered and unloaded, with taxes paid. Paid invoices are required for materials upon request by the Engineer.

b. The total installed value.

F. Follow the Bid Form Schedule of Prices as the format for listing component items for unit price project.

G. The sum of all values listed in the schedule shall equal the total Contract Sum of all lump sum and extended unit price items in the Bid Form.

PART 2 - PRODUCT - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

TECHNICAL SECTION
DIVISION 01 - GENERAL REQUIREMENTS
SECTION 01380 - CONSTRUCTION PHOTOGRAPHS

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

A. Contractor shall take construction record photographs monthly during course of the Work.

1.02 PHOTOGRAPHY REQUIRED

A. Video Survey as specified herein (pre-construction).

B. Provide two (2) photographs each month of each major portion of the work.

C. Provide two (2) prints of each photograph.

D. Negatives:

1. Remain property of photographer.
2. Maintain negatives for a period of two (2) years from date of Substantial Completion of entire Project.
3. At the request of the Engineer, furnish additional prints at commercial rates applicable at time of purchase.

E. As an alternative to hand held photos, color aerial photographs showing construction will be acceptable. Two (2) copies of each view will be submitted.

F. When piping is required within a plant site, additional photos will be required showing location of all piping, valves, and fittings with relationship to other objects or structures. Contractor shall include in photograph a colored yardstick so as to allow viewer of photo to make measurement on photograph.

1.03 COSTS OF PHOTOGRAPHY

Contractor shall pay costs for specified videotaping, photography, and prints. Additional photography or prints requested will be paid by the requesting agency.

PART 2 - PRODUCT

2.01 PRINTS

A. Color:

1. Paper: Single weight, white base.
2. Finish: Smooth surface, glossy.
3. Size: 4 in. x 6 in.

B. Identify each print on back, listing:

1. Name of Project.

2. Facility Location.
3. Orientation of view.
4. Date and time of exposure.
5. Identification of exposure.

2.02 VIDEO TAPE

A. Specifications for Audio-Video Survey - Prior to the start of construction on the contract, the Contractor shall furnish to the Engineer, the videotapes of the construction areas. The Engineer shall review the tapes and either approved or additional coverage will be required to fully show the physical conditions of the work areas. The Contractor shall have the additional coverage taped and shall not begin work, including moving equipment and/or material on the project site, until the audio-video survey has been approved by the Engineer. After approval, the Contractor shall supply two (2) copies of the audio-video survey to the Engineer. One copy of the tapes will remain available for viewing by the Contractor and may be reviewed by him for any assistance that the tapes may provide in resolving disputes, which arise with the property owners claiming improper restoration of their properties. That copy of the tapes will also be used as a guide by the Engineer, prior to issuance of final payments, in determining the adequacy of restoration and the extent of damages attributable to the Contractor's work. The remaining copy of the tapes will be delivered to the Owner's representative.

B. Technical Requirements - The total audio-video recording system and the procedures employed in its use shall be such as to produce a finished product that will fulfill the technical requirements of the project, as well as those more subjective requirements of high-quality audio and video production. The video portion of the recording shall reproduce bright, sharp, clear pictures with accurate colors and shall be free from distortion, tearing, rolls or any other form of picture imperfection. The audio portion of the recording shall reproduce precise and concise explanatory notes by the camera operator with proper volume, clarity and freedom from distortion.

C. Recorder - The recorder shall be an industrial grade device and shall record the color signal with a minimum horizontal resolution of 240 lines. The recorder shall be of the 1/2-inch VHS format. Commercial grade recorders shall not be acceptable.

D. Camera - When taping areas accessible to conventional wheeled vehicles, the color video camera shall have a horizontal resolution of 550 lines at center (e.g., Panasonic WV-V3 or equal). When taping areas not accessible to conventional vehicles, the color video camera shall have a horizontal resolution of at least 550 lines at center.

E. Character Printout - All video recordings must, by electronic means, display continuously and simultaneously, generated digital information to include (1) the date of the recording, (2) the engineering stationing corresponding to the stationing on the plans, or as directed by the Engineer, (3) the name of the street, easement or building being documented, and (4) the direction of travel and the viewing side. The date shall appear linearly in the bottom left hand corner (e.g. 02-21-92). Plan stationing shall be expressed in engineering symbols and shall appear directly beneath the date information (e.g., 87+03). The remainder of the printed information shall appear at the bottom of the viewing screen (e.g., N on First St. V/E). To maximize viewing area no more than twenty-four (24) rasters shall be used to express the digital information.

PART 3 - EXECUTION

3.01 TECHNIQUE FOR STILL PHOTOGRAPHS

A. Factual presentation.

B. Correct exposure and focus.

1. High resolution and sharpness.
2. Maximum depth-of-field.
3. Minimum distortion.

3.02 VIEWS REQUIRED FOR STILL PHOTOGRAPHS

A. Contractor shall photograph from locations to adequately illustrate condition of construction and state of progress. Consult with Engineer at each period of photography for instructions concerning views required.

B. In addition, the Contractor shall photograph the sites of each major portion of the work prior to the beginning of work at each site. Views shall be as required by the Engineer. In addition, the same sites shall be photographed utilizing the same views at the completion of construction.

C. The Contractor shall also inspect and photograph any structure within 100 feet of each construction site prior to beginning of work. Photographs of any existing damaged areas shall be taken.

3.03 TECHNIQUE AND VIEWS REQUIRED FOR VIDEO TAPING

A. At the start of production, and at the beginning of a new street or easement, an identification summary shall be read into the record while, at the same time, a wide-angle view with numeric displays shall be provided for a visual record. This summary will include (1) tape number, (2) job title, (3) job location, (4) positional location at job start, (5) date and time, (6) weather and (7) any other notable conditions.

B. Coverage - The recording shall include coverage of all surface features located within the construction zone-of-influence. This zone shall be defined as (1) the area within the permanent and temporary easements and areas adjacent to these easements, which may be affected by routine construction operations, (2) road right-of-way, (3) areas directed by the Owner. The surface features within the construction zone shall include, but not be limited to, all roadways, pavements, curbs, driveways, sidewalks, culverts, headwalls, retaining walls, buildings, landscaping, shrubbery and fences. Of particular concern shall be the existence, or non-existence, of any faults, fractures or defects. The coverage shall be continuous (i.e., the camera shall not be turned off once photography has begun) to the greatest extent practicably possible. If the camera must be turned off, then a verbal message shall be inserted stating that the camera will be turned off and the reason for discontinuing coverage.

C. Visibility - No recording shall be done during periods of significant precipitation, mist or fog. The recording shall only be done when sufficient sunlight is present to properly illuminate the subjects of recording.

D. Rate of Travel - The vehicle's rate of travel shall be indirectly proportional to the number, size and value of the surface features within that construction area's zone-of-influence. The average rate of travel shall not exceed forty-eight feet per minute. Forward motion shall be halted when viewing objects or structures outside the limits of the street or easement being documented. Conversely, only the street or easement being documented shall be viewed while the camera is being moved forward.

E. Camera Elevation - To ensure property perspective and to capture optimal detail, the distance from the camera lens to the ground shall not be less than twelve feet when conventional wheeled vehicles are employed.

F. Experience - The operator in charge must have had previous experience video documenting a minimum of fifty miles of pre-construction work. Any apprentice operators must be continuously supervised by an above-described experienced operator.

3.04 DELIVERY OF PRINTS

A. After approval of videos, deliver two (2) record copies to Engineer.

B. Pre-construction photographs shall be delivered to the Engineer prior to the beginning of construction on each pump station site.

C. Deliver progress prints to Engineer to accompany each Application for Payment.

3.05 DELIVERY OF VIDEO TAPES

A. Recording Schedule - The recording shall be performed prior to the placement of any construction materials or equipment on the proposed construction site, but not more than seven weeks prior to the placement of materials or equipment.

B. Tape Indexing - All video tapes and their storage cases shall be properly identified by video tape index number, project title and general project location. Displayed on the storage case of each videotape shall be a log of that tape's contents. That log shall describe 1) the various segments contained on that tape in terms of the names and the sides of the streets or easements, 2) coverage start, direction and endpoints, with corresponding video tape player counter numbers. A cumulative index correlating the various segments of coverage to their corresponding tapes shall be typed and supplied to the Owner.

C. Unacceptable Documentation - The Owner shall have the authority to reject all or any portion of the videotape documentation not conforming to the specifications. Those rejected portions shall be retaped at no additional cost to the Owner.

D. Specification Deviations - Any deviation from these specifications must have the written approval of the Owner/Engineer.

E. Payment - Payment for video documentation shall be included in the costs of Work.

END OF SECTION

TECHNICAL SECTION
DIVISION 01 - GENERAL REQUIREMENTS
SECTION 01400 - QUALITY CONTROL

PART 1 - GENERAL

1.01 DESCRIPTION

This Section includes general quality control procedures and requirements that are applicable to other sections.

1.02 TESTING LABORATORY

A. If desired by the Owner, a qualified testing laboratory will make field visits to sample such items as Portland cement concrete, hot or cold-mix asphalt, earthwork fill and compaction, aggregate, welding, etc. The frequency of testing will be at the discretion of the Owner and the recommendations of the Engineer to the Owner.

B. Refer to Section 01410 for detail description of testing laboratory services.

1.03 INSPECTION SERVICES

A. The Owner may employ the services of a Resident Project Representative (RPR) to review field operations, provide daily reports, and act as a liaison between the Engineer and Contractor.

B. Refer to Section 01420 for detail descriptions of the Resident Project Representative.

1.04 CONFORMANCE STANDARDS

A. The manufacturer of equipment shall issue a manufacturer's conformance certificate indicating the product was assembled or constructed in accordance with specific standards and that the product performs under specific parameters.

B. Submit conformance certificates in accordance with Section 01300 - Submittals.

1.05 CERTIFIED TEST REPORTS

A. Test reports performed in the field or in the shop shall be certified by the manufacturer of the product.

B. Submit certified test reports in accordance with Section 01300 - Submittals.

PART 2 - PRODUCT - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

TECHNICAL SECTION
DIVISION 01 - GENERAL REQUIREMENTS
SECTION 01410 - TESTING LABORATORY SERVICES

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

Owner will employ and pay for the services of an Independent Testing Laboratory to perform testing specifically indicated on the Contract Documents or specified in the Specifications and may at any other time elect to have materials and equipment tested for conformity with the Contract Documents.

A. Contractor shall cooperate with the laboratory to facilitate the execution of its required services.

B. Employment of the laboratory shall in no way relieve Contractor's obligations to perform the Work of the Contract.

1.02 LIMITATIONS OF AUTHORITY OF TESTING LABORATORY

A. Laboratory is not authorized to:

1. Release, revoke, alter or enlarge on requirements of Contract Documents.
2. Approve or accept any portion of the Work.
3. Perform any duties of the Contractor.

1.03 CONTRACTOR'S RESPONSIBILITIES

A. Cooperate with laboratory personnel; provide access to Work and to Manufacturer's operations.

B. Secure and deliver to the laboratory adequate quantities of representational samples of materials proposed to be used and which require testing.

C. Provide to the laboratory the preliminary design mix proposed to be used for concrete, and other material mixes, which require control by the testing laboratory.

D. Materials and equipment used in the performance of Work under this Contract are subject to inspection and testing at the point of manufacture or fabrication. Standard specifications for quality and workmanship are indicated in the Contract Documents. The Engineer may require the Contractor to provide statements or certificates from the manufacturers and fabricators that the materials and equipment provided by them are manufactured or fabricated in full accordance with the standard specifications for quality and workmanship indicated in the Contract Documents.

All costs of this testing and providing statements and certificates shall be a subsidiary obligation of the Contractor, and no extra charge to the Owner shall be

allowed on account of such testing and certification.

E. Furnish incidental labor and facilities:

1. To provide access to Work to be tested.
2. To obtain and handle samples at the Project site or at the source of the product to be tested.
3. To facilitate inspections and tests.
4. For storage and curing of test samples.

F. Notify laboratory at least 24 hours in advance of operations to allow for laboratory assignment of personnel and scheduling of tests.

When tests or inspections cannot be performed after such notice, reimburse Owner for laboratory personnel and travel expenses incurred due to Contractor's negligence.

G. Employ and pay for the services of the same or a separate, equally qualified independent testing laboratory to perform additional inspections, sampling and testing required for the Contractor's convenience and as approved by the Engineer.

H. If the test results indicate the material or equipment complies with the Contract Documents, the Owner shall pay for the cost of the testing laboratory. If the tests and any subsequent retests indicate the materials and equipment fail to meet the requirements of the Contract Documents, the Contractor may pay for the laboratory costs directly to the testing firm or the total of such costs shall be deducted from any payments due the Contractor.

PART 2 - PRODUCT - NOT USED

PART 3 - EXECUTION

3.01 REPORTS

Testing Laboratories are required to provide a minimum of four (4) copies of each testing report. Copies shall be distributed by the testing laboratory to 1) Owner, 2) Engineer, 3) Contractor, and 4) Resident Project Representative.

END OF SECTION

TECHNICAL SECTION
DIVISION 01 - GENERAL REQUIREMENTS
SECTION 01420 - INSPECTION SERVICES

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

A. The Owner will employ the services of a Resident Project Representative (RPR) in an effort to protect the Owner against defects and deficiencies in the Work.

B. The RPR will 1) act as the Engineer's agent at the site, 2) act as directed by and under the supervision of the Engineer, and 3) will confer with the Engineer regarding the RPR's actions.

C. RPR's dealings in matters pertaining to the on-site Work shall in general be with Engineer and Contractor keeping Owner advised as necessary. RPR's dealings with subcontractors shall only be through or with the full knowledge and approval of Contractor. RPR shall generally communicate with Owner with the knowledge of and under the direction of Engineer.

1.02 DUTIES AND RESPONSIBILITIES OF RPR

A. Schedules - Review the progress schedule, schedule of Shop Drawing submittals and schedule of values prepared by Contractor and consult with Engineer concerning acceptability.

B. Conferences and Meetings - Attend meetings with Contractor, such as pre-construction conferences, progress meetings, job conferences, and other project-related meetings, and prepare and circulate copies of minutes thereof.

C. Liaison:

1. Serve as Engineer's liaison with Contractor, working principally through Contractor's superintendent and assist in understanding the intent of the Contract Documents; and assist Engineer in serving as Owner's liaison with Contractor when Contractor's operations affect Owner's on-site operations.
2. Assist in obtaining from Owner additional details or information, when required for proper execution of the Work.

D. Shop Drawings and Samples:

1. Record date of receipt of Shop Drawings and samples.
2. Receive samples, which are furnished at the site by Contractor, and notify Engineer of availability of samples for examination.
3. Advise Engineer and Contractor of the commencement of any Work requiring a Shop Drawing or sample, if the submittal has not been approved by Engineer.

E. Review of Work, Rejection of Defective Work, Inspections and Tests:

1. Conduct on-site observations of the Work in progress to assist Engineer in determining if the Work is in general proceeding in accordance with the Contract Documents.

2. Report to Engineer whenever RPR believes that any Work is unsatisfactory, faulty or defective or does not conform to the Contract Documents, or has been damaged, or does not meet the requirements of any inspection, test or approval required to be made; and advise Engineer of Work that RPR believes should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.

3. Verify that tests, equipment and systems startup and operating and maintenance training are conducted in the presence of appropriate personnel, and that Contractor maintains adequate records thereof; and observe, record and report to Engineer appropriate details relative to the test procedures and startup.

4. Accompany visiting inspectors representing public or other agencies having jurisdiction over the Project, record the results of these inspections and report to Engineer.

F. Interpretation of Contract Documents - Report to Engineer when clarifications and interpretations of the Contract Documents are needed and transmit to Contractor clarifications and interpretations as issued by Engineer.

G. Modifications - Consider and evaluate Contractor's suggestions for modifications in Drawings or Specifications and report with RPR's recommendations to Engineer. Transmit to Contractor decisions as issued by Engineer.

H. Records:

1. Maintain at the job site orderly files for correspondence, reports of job conferences, Shop Drawings and samples, reproductions of original Contract Documents including all Work Directive Changes, Addenda, Change Orders, Field Orders, additional Drawings issued subsequent to the execution of the Contract, Engineer's clarifications and interpretations of the Contract Documents, progress reports, and other Project related documents.

2. Keep a diary or log book, recording Contractor hours on t he job site, weather conditions, data relative to questions of Work Directive Changes, Change Orders or changed conditions, list of job site visitors, daily activities, decisions, observations in general, and specific observations in more detail as in the case of observing test procedures; and send copies to Engineer.

3. Records names, addresses and telephone numbers of all Contractors, subcontractors, and major suppliers of materials and equipment.

I. Reports:

1. Furnish Engineer periodic reports as required of progress of the Work and of Contractor's compliance with the progress schedule and schedule of Shop Drawing and sample submittals.

2. Consult with Engineer in advance of scheduled major tests, inspections or start of important phases of the Work.
3. Draft proposed Change Orders and Work Directive Changes, obtaining backup material from Contractor and recommend to Engineer Change Orders, Work Directive Changes, and Field Orders.
4. Report immediately to Engineer and Owner upon the occurrence of any accident.

J. Payment Requests - Review applications for payment with Contractor for compliance with the established procedure for their submission and forward with recommendations to Engineer, noting particularly the relationship of the payment requested to the schedule of values, Work completed and materials and equipment delivered at the site but not incorporated in the Work.

K. Certificates, Operation and Maintenance Manuals - During the course of the Work, verify that certificates, operation and maintenance manuals and other data required to be assembled and furnished by Contractor are applicable to the items actually installed and in accordance with the Contract Documents, and have this material delivered to Engineer for review and forwarding to Owner prior to final payment for the Work.

L. Completion:

1. Before Engineer issues a Certificate of Substantial Completion, submit to Contractor a list of observed items requiring completion or correction.
2. Conduct final inspection in the company of Engineer, Owner and Contractor and prepare a final list of items to be completed or corrected.
3. Observe that all items on final list have been completed or corrected and make recommendations to Engineer concerning acceptance.

1.03 LIMITATION OF AUTHORITY OF RPR

A. The Resident Project Representative:

1. Shall not authorize any deviation from the Contract Documents or substitution of materials or equipment, unless authorized by Engineer.
2. Shall not exceed limitations of Engineer's authority as set forth in the Contract Documents.
3. Shall not undertake any of the responsibilities of Contractor, subcontractors or Contractor's superintendent.
4. Shall not advise on, issue directions relative to or assume control over any aspect of the means, methods, techniques, sequences or procedures of construction unless such advice or directions are specifically required by the Contract Documents.
5. Shall not advise on, issue directions regarding or assume control over safety precautions and programs in connection with the Work.

6. Shall not accept Shop Drawing or sample submittals from anyone other than Contractor.
7. Shall not authorize Owner to occupy the Project in whole or in part.
8. Shall not participate in specialized field or laboratory tests or inspections conducted by others except as specifically authorized by Engineer.

PART 2 - PRODUCT - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

TECHNICAL SECTION
DIVISION 01 - GENERAL REQUIREMENTS
SECTION 01505 - MOBILIZATION

PART 1 - GENERAL

1.01 DEFINITION

A. Mobilization shall include the obtaining of all permits, insurance, and bonds; moving onto the site of all plant and equipment; furnishing and erecting plants, temporary building, and other construction facilities; all as required for the proper performance and completion of the work. Mobilization shall include but not be limited to the following principal items:

1. Moving on to the site of all Contractor's plants and equipment required for first month operation.

2. Installing temporary construction power and wiring.

3. Establishing fire protection system.

4. Developing construction water supply.

5. Providing field office trailers for the Contractor and the Engineer, complete with all specified furnishings and utility services including telephones.

6. Providing on-site sanitary facilities and potable water facilities as specified.

7. Arranging for and erection of Contractor's work and storage yard.

8. Submittal of all required subcontractor insurance certificates and bonds.

9. Obtaining all required permits.

10. Posting all OSHA required notices and establishment of safety programs.

11. Have the Contractor's superintendent at the jobsite full time.

12. Have provided a detailed schedule acceptable to the Owner for project use as specified.

13. Audio-Video Survey.

1.02 PAYMENT FOR MOBILIZATION

A. The Contractor's attention is directed to the condition that no pa yment for mobilization or any part thereof will be approved for payment under the contract until all mobilization items listed above have been completed as specified.

B. If the project is a unit price contract and a line item is designated "mobilization", all costs incurred for the above work shall be placed under that item. If no item is listed for "mobilization", the costs for the above-described work shall be placed in other items. In this case, no direct payment will be made for mobilization.

C. For lump sum projects, the costs for this work shall be included in the overall costs of the project and shown as a separate item in the Schedule of Values.

PART 2 - PRODUCT - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

TECHNICAL SECTION
DIVISION 01 - GENERAL REQUIREMENTS
SECTION 01510 - TEMPORARY UTILITIES

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

Furnish, install and maintain temporary utilities required for field offices and construction and remove on completion of the Work.

1.02 REQUIREMENTS OF REGULATORY AGENCIES

A. Comply with National Electric Code.

B. Comply with Federal, State and local codes and regulations and with utility company requirements.

PART 2 - PRODUCT

2.01 MATERIALS, GENERAL

Materials may be new or used, but must be adequate in capacity for the required usage, must not create unsafe conditions, and must not violate requirements of applicable codes and standards.

2.02 TEMPORARY ELECTRICITY AND LIGHTING

A. Arrange with utility company and Owner to provide service required for power and lighting, and pay all costs for service and for power used in the construction, testing and trial operation prior to final acceptance of the work by the Owner as stipulated by the Engineer.

B. Provide adequate artificial lighting for all areas of work when natural light is not adequate for work, and for areas accessible to the public.

2.03 TEMPORARY HEAT AND VENTILATION

A. Provide temporary heat and ventilation as required maintaining adequate environmental conditions to facilitate progress of the Work.

B. Provide adequate forced ventilation of enclosed areas for curing of installed materials, to disperse humidity, and to prevent hazardous accumulations of dust, fumes, vapors or gases.

C. Portable heaters shall be standard approved units complete with controls.

D. Pay all costs of installation, maintenance, operation and removal, and fuel consumed.

E. Provide connections to existing facilities or extend and supplement the existing

facilities with temporary units as required to comply with requirements. Pay all costs of installation, maintenance, operation and removal.

2.04 TEMPORARY TELEPHONE SERVICE

Arrange with local telephone service company, provide direct line telephone service, as stipulated in Section 01590, including an external bell at the construction site for the use of personnel and employees. Service required.

A. One direct line instrument in Field Office of Engineer for the Owner.

B. Other instruments at the option of the Contractor, or as required by regulations.

2.05 TEMPORARY WATER

A. Provide and pay for all water required for construction and consumptive purposes.

B. Install at each and every connection to the potable water supply a backflow preventer meeting the requirements of ASA A40.6, latest revision. Contractor shall be required to meter all water used.

C. If potable water system is owned by the Owner, any water used for construction purposes will be provided by the Owner. Limited, reasonable, and unwasteful amounts of water will be provided for clearing, flushing, disinfecting, testing, and other minor construction purposes. Unreasonable or wasteful use amounts as determined by the Owner will be charged at prevailing rates. The hours and duration of water usage shall be determined by the Owner.

2.06 TEMPORARY SANITARY FACILITIES

A. Provide sanitary facilities in compliance with laws and regulations.

B. Service, clean and maintain facilities and enclosures.

PART 3 - EXECUTION

3.01 GENERAL

A. Comply with applicable requirements specified in Division 2 - Site Work, Division 15 - Mechanical, and Division 16 - Electrical.

B. Maintain and operate systems to assure continuous service.

C. Modify and extend systems as work progress requires.

3.02 REMOVAL

A. Completely remove temporary materials and equipment when their use is no longer required as determined by the Engineer.

B. Clean and repair damage caused by temporary installations or use of temporary facilities.

END OF SECTION

TECHNICAL SECTION
DIVISION 01 - GENERAL REQUIREMENTS
SECTION 01580 - PROJECT IDENTIFICATION AND SIGNS

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

A. Furnish, install, and maintain the project identification signs.

B. Remove signs on completion of construction.

C. Allow no other signs to be displayed.

1.02 PROJECT IDENTIFICATION SIGN

A. Project identification sign shall be as shown in the Drawings.

B. If no project identification sign is shown in the drawings, the sign shall have the following characteristics:

1. One painted sign, of not less than 64 square feet area, with painted graphic content to include:

- **a**. Title of Project
- **b**. Name of Owner
- **c**. Names and titles of authorities as per directed by the Owner.
- **d**. Names and title of:
  1) Program Manager
  2) Engineer
  3) Professional Consultants
- **e**. Prime Contractor
- **f**. Major Subcontractors
- **g**. Telephone Number
- **h**. Value of Project

2. Graphic design, style of lettering, and color shall be approved by Engineer.

C. Signs shall conform to requirements of funding agency.

D. Erect on the site at a lighted location of high public visibility, as approved by the Engineer and the Owner.

1.03 QUALITY ASSURANCE

A. Sign Painter: Professional Experience in type of work required.

B. Finishes, Painting: Adequate to resist weathering.

PART 2 - PRODUCT

2.01 SIGN MATERIALS

A. Structure and Framing - May be new or used, wood or metal, in sound condition structurally adequate to work and suitable for specified finish.

B. Sign Surfaces - Exterior softwood plywood with medium density overlay, standard large sizes to minimize joints or as otherwise required. Thickness: As required by standards to span framing members, to provide even, smooth surface without waves or buckles.

C. Rough Hardware – Galvanized.

D. Paint - Exterior quality, as specified in Section 09010.

PART 3 - EXECUTION

3.01 PROJECT IDENTIFICATION SIGNS

A. Paint exposed surface of supports, framing and surface material as called for in Section 09010.

B. Paint graphics in styles, sizes and colors selected.

3.02 MAINTENANCE

Maintain signs and supports in a neat, clean condition; repair damages to structures, framing or sign.

3.03 REMOVAL

Remove signs, framing, supports, and foundations at completion of Project.

END OF SECTION

TECHNICAL SECTION
DIVISION 01 - GENERAL REQUIREMENTS
SECTION 01600 - MATERIAL AND EQUIPMENT

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

A. Material and equipment incorporated into the Work shall:

1. Conform to applicable specifications and standards.

2. Comply with size, make, type, and quality specified to the greatest extent possible, detailing all aspects and providing explicit reasons for parameters not in compliance and specifically approved in writing by the Engineer.

3. Manufactured and Fabricated Products:

- **a**. Design, fabricate, and assemble in accord with the best engineering and standard shop practice.
- **b**. Manufacture like parts of duplicate units to standard sizes and gauges, to be interchangeable.
- **c**. Two or more items of the same kind shall be produced, by the same manufacturer.
- **d**. Products shall be suitable for service conditions.
- **e**. Equipment capacities, sizes and dimensions shown or specified shall be adhered to unless variations are specifically approved in writing.

4. Do not use material or equipment for any purpose other than that for which it is designed or is specified.

B. The term "Product" shall refer to material and/or equipment when used in these Specifications or visa versa.

C. When material or equipment requires pre-qualification as described by Section 01030 - Alternates/Alternatives, only those materials and equipment approved prior to the bid or by addendum will be incorporated into the Project.

1.02 SUBSTITUTE MATERIAL AND EQUIPMENT

A. When a particular product is specified or called for, it is intended and shall be understood that the Contractor includes those products in his bid. Should the Contractor desire to substitute products which he purports to be equal to those specified and not listed as an alternate/alternative pre-qualified product, the Contractor shall furnish the information as described in the General Conditions and described in this Section.

The substitute product(s) submitted by the Contractor shall meet the requirements of the specifications and shall, in all respects, be equal to the products specified by name herein.

B. Manufacturers of substitute equipment must submit through the Contractors evidence of manufacturer, installation, and successful operation of their equipment for ten (10) installations. The manufacturer shall submit the names, addresses, and telephone numbers of Owners, Engineers and Contractors. These installations shall be over a period of the past three (3) years. Installation shall be equal in application and operating conditions. If a manufacturer cannot meet these requirements as a result of new technology, experimental data can be submitted to meet the experience requirement.

C. Substitute equipment by manufacturers, which cannot provide acceptable references of comparable installations in successful operation will not be allowed to provide equipment on this Project.

D. The Owner and Engineer will solely make the determination as to whether or not a proposed substitute is "equal". This determination will be made in accordance with these Contract Documents and based upon submittal data supplied by the manufacturer. Submittal data which causes the Engineer and Owner to ponder, or does not address key items of the proposed equipment will be rejected. Submittal data shall be precise concerning the equipment parts and its operation.

E. To determine if a substitute product is equal, the following parameters shall be used:

1. Function of equipment
2. Capacity, size, rating
3. Reliability and past performance on similar projects
4. Quality control and workmanship
5. Design data
6. Installation and cost
7. Operational costs (i.e., fuel, electrical, manpower)
8. Maintenance schedules
9. Guarantees
10. Availability of parts and service from area reps
11. Replacement costs
12. Any required license fees or royalties
13. Other available data

F. Proposals for substitute material or equipment shall be made in writing to the Engineer with associated brochures and descriptive data. No substitute product may be submitted as a shop drawing, product data, or sample, unless it has been previously approved by the Engineer in writing. In the case where a substitute product is

approved, any modifications to the project such as design changes, construction changes, etc., shall be made at the Contractors expense. Any design modification shall be submitted to and approved by the Engineer prior to ordering or installing the substitute product.

G. All apparatus, mechanism, equipment, machinery, and manufactured articles for incorporation into the Work shall be new and unused and the standard products of recognized reputable manufacturers.

H. Contractor's Representation - A request for a substitution constitutes a representation that Contractor:

1. Has investigated the proposed Product and determined that it is equal to or superior in all respects to that specified;
2. Will provide the same warranties or bonds for the substitution as for the product specified;
3. Will coordinate the installation of an accepted substitution into the Work, and make such other changes as may be required to make the work complete in all respects; and,
4. Waives all claims for additional costs, under his responsibility, which may subsequently become apparent.

1.03 APPROVAL OF MATERIALS

A. Only new materials and equipment shall be incorporated in the Work. All materials and equipment furnished by the Contractor shall be subject to the inspection and approval of the Engineer. No material shall be delivered to the Work without prior approval of the Engineer.

B. The Contractor shall submit to the Engineer, data relating to materials and equipment he proposes to furnish for the work. Such data shall be in sufficient detail to enable the Engineer to identify the particular product along with reference to the applicable section(s) of the Specifications to form an opinion as to its conformity to the Specifications. The data shall comply with Section 01340 - Shop Drawings, Product Data, and Samples and other paragraphs of this Section.

C. Facilities and labor for handling and inspection of all materials and equipment shall be furnished by the Contractor. If the Engineer requires, the Contractor shall submit samples of materials for such special tests as may be necessary to demonstrate that they conform to the specifications. Such samples shall be furnished, stored, packed, and

shipped as directed at the Contractor's expense. Except as otherwise noted, the Contractor will make arrangements for and pay for the tests. Where such tests confirm compliance with the specifications, the Owner will reimburse the actual charges of the testing firm paid by the Contractor.

D. Contractor shall submit data and samples sufficiently early to permit consideration, approval, manufacture, and delivery of materials before they are necessary for incorporation in the work. Any delay of approval resulting from the Contractor's failure to submit samples or data promptly shall not be used as a basis of claim against the Owner or the Engineer.

E. The materials and equipment used in the Work shall correspond to the approved samples or other data.

1.04 MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION

A. When Contract Documents require that installation of the Work shall comply with manufacturer's printed instructions, obtain and distribute copies of such instructions to parties involved in the installation, including copies to the Engineer. One complete set of the installation instructions shall be available for use on the job site during and through completion of the Work.

Installation instructions shall be submitted in accordance with Section 01340 - Shop Drawings, Product Data and Samples.

B. Handle, install, connect, clean, condition and adjust products as required by the manufacturer's instructions and in conformity with specified requirements.

1. Should the specified requirements conflict with the manufacturer's instructions, the manufacturer's instructions shall have priority unless changes are authorized in writing by the manufacturer.
2. Should job conditions conflict with the manufacturer's instructions, consult with the manufacturer for clarification.
3. Clarifications of installation instructions shall be issued only by the manufacturer, shall be in writing, and shall be distributed to all parties involved in the installation as stated above and prior to alteration of the installation procedures.
4. Do not proceed with the Work without clear instructions concerning the specific installation procedures.

C. Do not omit any preparatory step or installation procedure unless specifically modified or exempted by the manufacturer.

1.05 SERVICES OF MANUFACTURER'S REPRESENTATIVE

A. From each company manufacturing or supplying equipment, the Contractor shall provide as outlined below the services of a qualified factory service representative. Equipment furnished under Divisions 11, 13, 15, and 16 shall include the costs of these services. A service representative shall be a full-time factory-trained service employee with a minimum of two (2) years field service experience. Manufacturer's sales representatives or sales agents, subcontractors to manufacturers, or similar personnel will not qualify. The service rendered by these representatives shall be at the work site for an eight (8) hour workday for each piece of equipment. The number of trips and days required for each piece of equipment stated below is as follows:

Phase I - Installation

The factory service representative shall direct the contractor in the proper unloading, setting, installation, erection, storage and connection to adjacent units for their respective equipment. These services shall be for a period of not less than one (1) day. Some equipment may require additional time for the installation of major units of equipment. In this case a longer period may be mutually agreed to by the Contractor and Manufacturer. These services during the installation phase may be omitted if the installation of the equipment is not complicated. Permission for deletion of these services shall be made in writing to the Engineer prior to the delivery of the equipment with the appropriate reasons why these services are not needed for this equipment. Only after written approval has been granted by the Engineer will these services be voided. In any case, the manufacturer is responsible for the correct installation of the equipment in accordance with the manufacturer's recommended practices.

Phase II - Testing

After the equipment has been properly installed by the Contractor and readied for operation, each unit of equipment together with piping, power, and controls shall be tested by a factory service representative for its intended use as outlined in the technical specifications and drawings. These services shall be a separate one (1) day minimum visit to inspect and test the unit to verify that the installation is in accordance with the recommended practice of the manufacturer.

Any calibrations, adjustments, or coordination of controls with other equipment shall be made at this time. The services of a factory service representative will be required on a consecutive day basis until the equipment has been properly tested to perform in accordance with the Contract Documents. If the equipment is not tested as required, the cost for additional visits will be paid for by the Contractor or the manufacturer.

In the presence of the Owner's representative, the Resident Project Representative and/or Engineer, the operation, testing, and adjustments shall be

performed to demonstrate the equipment operates as intended. After the site visit during this phase, the manufacturer or the supplier shall certify in writing a report (in triplicate) to the Engineer of the results of the inspection, operation and condition of the equipment. This report shall include a detailed description of tests performed and the actual performance of the equipment. Any results which would require precautions to be taken to ensure proper maintenance of the equipment should be included in the report. Finally, the report should include a certification that the equipment conforms to the requirements of the Contract Documents and is ready for permanent operation. Furthermore, the certification shall include a statement stating nothing in the installation or testing operations will void the manufacturer's warranty. All manufacturers are required to provide the services outlined in this phase without exception.

Phase III - Start-Up, Operation and Training

Once all equipment has been satisfactorily tested and the facility is substantially complete, the Contractor shall coordinate the concurrent start-up of all units of equipment. This coordination shall include the simultaneous attendance of the Owner's representative, the Engineer, and the factory service representative of each unit of equipment.

The factory service representative will provide for a minimum of one (1) day instruction and training for the Owner's representative in the proper operation, adjustment and maintenance of the equipment. At this item the service representative shall provide operation and maintenance manuals to the Engineer unless provided for otherwise.

B. For equipment or products furnished under other divisions, the Contractor, unless otherwise specified, shall furnish the services of authorized representatives of the manufacturers only when some evident installation or operation problem makes such services necessary in the opinion of the Engineer.

C. Manufacturer's Operating and Maintenance Manuals shall be delivered to the Engineer in accordance with the requirements of Section 01730.

1.06 TRANSPORTATION AND HANDLING

A. Arrange deliveries of Products as required by the currently approved construction schedule coordinating each delivery to avoid conflict with other work and conditions at the site.

1. Deliver products in an undamaged condition, in the manufacturer's original containers or packaging and with identifying labels intact and legible.

2. Prior to accepting delivery, inspect shipments to assure compliance with approved submittals, and that the products have been properly protected and are undamaged.

B. Provide equipment and personnel to handle products preventing soiling or damage to the products or their protective packaging.

1.07 STORAGE AND PROTECTION

A. Store Products in accordance with manufacturer's instructions, with seals and labels intact and legible.

1. Store products subject to damage by the elements in weather-tight enclosures.
2. Maintain temperature and humidity within the ranges required by manufacturer's instructions.
3. Store fabricated products above the ground, on blocking or skids, prevent soiling, staining or corrosion. Cover products, which are subject to deterioration with impervious sheet coverings and provide adequate ventilation to avoid condensation.
4. Store loose granular materials in a well-drained area on solid surfaces to prevent mixing with foreign matter.

B. All materials and equipment to be incorporated in the Work shall be handled and stored in a manner to prevent warping, twisting, bending, breaking, chipping, rusting, and other injury, theft or damage.

C. Cement and lime shall be stored under a roof and off the ground and shall be kept completely dry at all times. All miscellaneous steel, structural steel and reinforcing steel shall be stored off the ground, kept free of accumulations of dirt and grease, and in areas free of standing water and minimize rusting. Pre-cast concrete sections shall be handled and stored in a manner to prevent staining, chipping or cracking. Brick, block and similar masonry products shall be handled and stored in a manner to reduce staining, breaking, chipping, cracking, and spilling.

D. All materials, which in the opinion of the Engineer, have become so damaged as to be unfit for the use intended, including aesthetics, shall be promptly removed from the site of the Work.

E. Arrange storage in a manner to provide easy access for inspection. Make periodic inspections and exercise or rotate moving parts of stored products as required by the manufacturer to assure that products are maintained under specified conditions and free from damage or deterioration.

F. Provide substantial coverings as necessary to protect installed products from damage caused by traffic and subsequent construction operations. R emove the protective covering when no longer needed.

G. The Contractor shall be responsible for all material, equipment, and supplies sold and delivered to the Owner under this Contract until final inspection of the Work and acceptance thereof by the Owner. In the event any such material, equipment, and supplies are lost, stolen, damaged, or destroyed prior to final inspection and acceptance they shall be replaced by the Contractor.

H. Should the Contractor fail to take proper action to properly store and handle equipment supplied under this Contract, the Owner retains the right to notify the Contractor in writing of the deficiencies, to correct all deficiencies and deduct the cost associated with these corrections from the Contractor's Contract. These costs may be comprised of expenditures for labor, equipment usage, administration, clerical, engineering and any other costs associated with making the necessary corrections.

1.08 OFF-SITE STORAGE AND PROTECTION

A. Off-site storage arrangements shall be acceptable to the Owner and approved in writing by the Engineer for all material and equipment not incorporated into the Work but included in the application for payment. Off-site storage shall be permitted and payment made therefore if the following conditions are met:

1. Protection: The material and equipment is stored in a s ecurity-protected environment to avoid damage or theft by vandals.

2. Insurance: Adequate insurance in accordance with Article 5 of the General Conditions shall be maintained by the Contractor and property owner of the site in which the material and equipment is stored. A minimum level of insurance shall be maintained to replace the item should it become damaged or stolen.

3. Title: A title indicating the Owner has purchased the material and equipment is provided by the Contractor to the Owner after payment is made; and

4. Access for Inspection: The Owner, the Engineer or their representatives has access to the site for inspection purposes. Site inspection will be conducted with the site owners.

1.09 PRODUCT TESTING

A. All work installed in accordance with the plans and specifications shall have post installation tests performed to check the system conformance to the specified operation.

The Contractor shall file with the Engineer a standard form written report detailing the field operation of the product. The standard form reports will be furnished by the Engineer and completed by the Contractor and the Resident Project Representative.

B. Report forms shall be listed and shown in the Appendix.

1.10 SPECIAL TOOLS

Manufacturers of equipment and machinery shall furnish any special tools (including grease guns or other lubricating devices) required for normal adjustment, operations and maintenance, together with instructions for their use. The Contractor shall preserve and deliver to the Owner these tools and instructions in good order no later than upon completion of the Contract.

1.11 WARRANTY

For all major pieces of equipment, submit a warranty from the equipment manufacturer as specified in Section 01740. The manufacturer's warranty period shall be concurrent with the Contractor's as stipulated in the specifications for each piece of equipment.

1.12 SPARE PARTS

Spare parts for certain equipment provided under Divisions 11, 13, 15, and 16 have been specified in the pertinent sections of the Specifications. The Contractor shall collect and store all spare parts so required in an area to be designated by the Engineer. In addition, the Contractor shall furnish to the Engineer an inventory listing all spare parts, the equipment they are associated with, the name and address of the supplier, and the delivered cost of each item. Copies of actual invoices for each item shall be furnished with the inventory to substantiate the delivered cost.

1.13 GREASE, OIL AND FUEL

All grease, oil, and fuel required for testing of equipment shall be furnished with the respective equipment. The Owner shall be furnished with a year's supply of required lubricants including grease and oil of the type recommended by the manufacturer with each item of equipment supplied.

The Contractor shall be responsible for changing the oil in all drives and intermediate drives of each mechanical equipment after initial break-in of the equipment, which in no event

shall be any longer than three weeks of operation.

PART 2 - PRODUCT - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

TECHNICAL SECTION
DIVISION 01 - GENERAL REQUIREMENTS
SECTION 01700 - CONTRACT CLOSEOUT

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

A. The Contractor shall comply with the requirements stated in the General Conditions and in the Specifications for administrative procedures in closing out the Work.

B. The following is a list of items required to complete the Project.

1. Owner may request use of substantially completed portions of the work without such use constituting acceptance. Provision should be made for consent or notification of the survey and the insurers for the Project;
2. Contractor to request Substantial Completion inspection of the project or a portion thereof when construction is sufficiently complete to be utilized for the purposes intended;
3. Engineer, Contractor, and Resident Project Representative to make substantial completion inspection. A list of incomplete items will be prepared by the Engineer.
4. Engineer will issue a Substantial Completion Certificate (E.J.C.D.C. Form 1910-8D) with a date of substantial completion with the attached list of uncompleted items. Certificate will be filed by the Owner for a prescribed period of time. Besides listing the uncompleted items, the substantial completion shall designate the responsibilities for utilities, maintenance and insurance; and any exceptions to guarantees or warranties.
5. Contractor shall complete list of uncompleted items. Upon the completion of work, he shall request a final inspection.
6. Final Inspection shall be made by Owner, Contractor, Engineer, Resident Project Representative, Regulatory Agencies, Funding Agency and any other agency involved in this project.
7. Contractor shall make final request for payment with the appropriate data; i.e., clear-lien certificate, release from surety, etc., all as required by State Law.
8. Engineer to process final payment request and present request to Owner.

1.02 SUBSTANTIAL COMPLETION

A. When the Contractor considers the Work is substantially complete, he shall submit to the Engineer:

1. A written notice that the Work or designated portion thereof is substantially complete.
2. A list of items to be completed or corrected.

B. Within five (5) working days after receipt of such notice, the Engineer will make an inspection to determine the status of completion. The Engineer's opinion as to the status of completion shall be based on completion of the following as applicable:

1. Installation of all piping, valves, force mains, and/or gravity sewers including pressure, leakage or other required tests.
2. Installation of all equipment including, but not limited to, fans, blowers, aerators, dehumidifiers, and surge suppressors.
3. Installation or construction of structures including all required protective or aesthetic coatings or devices including required tests.
4. Installation of electrical conduits, wiring, load centers, controls, and all other electrical elements as required including tests, inspections, and approval by local agencies for compliance with ordinances and codes.
5. Backfill and compaction of backfill as indicated by required tests for all structures, pipelines, conduits, and other subterranean installations.
6. Installation or restoration of pavements including required tests for sub-base, base and pavement materials, and approval by the local municipality. Pavements shall not be individually considered and shall be considered only with other portions of the Work requiring the installation or restoration of pavement.
7. All painting required by the Contract Documents except for touch-up.
8. Top soiling, final grading, fertilizing, seeding, sodding, or landscaping except for growth of vegetation and watering to establish the required ground cover of vegetative growth.
9. Release of all permits whether or not the permit was acquired by the Contractor.
10. Installation of all doors, windows, louvers, and other building appurtenances including painting, finish hardware, glazing, locks, and other required devices to secure the Work.
11. All required instructions for the Owner's operation and maintenance personnel including a minimum of one approved copy of the required operation and maintenance manual for use by the Owner's personnel.

C. Should the Engineer determine that the Work is not substantially complete:

1. The Engineer will promptly notify the Contractor in writing, giving the reasons therefore in accordance with the General and Supplemental Conditions.
2. Contractor shall remedy the deficiencies in the Work, and send a second written notice of substantial completion to the Engineer.
3. The Engineer will re-inspect the Work.

D. When the Engineer finds that the Work is substantially complete, he will:

1. Prepare and deliver to Owner a t entative Certificate of Substantial Completion with a tentative list of items to be completed or corrected before final payment in accordance with the General and Supplementary Conditions.
2. After consideration of any objections made by the Owner as provided in the General and Supplemental Conditions of the Contract, and when the Engineer considers the Work substantially complete, he will execute and deliver to the Owner and the Contractor a definite Certificate of Substantial Completion with

a revised tentative list of items to be completed and/or corrected and a cost list for each of those items including the cost of mobilization, all in accordance with LA Revised Statues 38:2248.

1.03 FINAL INSPECTION

A. When Contractor considers the Work is complete, he shall submit written certification that:

1. Contract Documents have been reviewed.

2. Work has been inspected for compliance with Contract Documents.

3. Work has been completed in accordance with Contract Documents.

4. Equipment and systems have been tested in the presence of the Engineer and Owner's representative and are operational.

5. Work is completed and ready for final inspection.

B. The Engineer will make an inspection to verify the status of completion with five working days after receipt of such certification.

C. Should the Engineer consider that the work is incomplete or defective:

1. The Engineer will promptly notify the Contractor in writing, listing the incomplete or defective work.
2. Contractor shall take immediate steps to remedy the stated deficiencies, and send a second written certification to the Engineer that the Work is complete.
3. The Engineer will re-inspect the Work.

D. When the Engineer finds that the Work is acceptable under the Contract Documents, he shall request the Contractor to make closeout submittals.

1.04 RE-INSPECTION FEES

Should the Engineer perform re-inspections due to failure of the Work to comply with the claims of status of completion made by the Contractor:

A. Owner will compensate the Engineer for such additional services.

B. Owner will deduct the amount of such compensation from the final payment to the Contractor.

1.05 CONTRACTOR'S CLOSEOUT SUBMITTALS TO ENGINEER

A. Evidence of compliance with requirements of governing authorities.

B. Project Record Documents: Requirements of Section 01720.

C. Manufacturer's Certificates of Installation: Requirements of Section 01600.

D. Warranties and Bonds: Requirements of Section 01740.

E. Keys and Keying Schedule.

F. Spare Parts and Maintenance Materials: Requirements of Section 01730.

G. Certificate of Insurance for Products and Completed Operations.

1.06 FINAL ADJUSTMENT OF ACCOUNTS

A. Submit a final statement of accounting to the Engineer.

B. Statement shall reflect all adjustments to the Contract Sum:

1. The original Contract Sum.
2. Additions and deductions resulting from:
   - **a**. Previous Change Orders
   - **b**. Unit Prices
   - **c**. Deductions for uncorrected Work
   - **d**. Penalties and Bonuses
   - **e**. Deductions for liquidated damages
   - **f**. Deductions for re-inspection payments
   - **g**. Other adjustments
3. Total Contract Sum, as adjusted.
4. Previous Payments.
5. Sum remaining due.

C. Engineer will prepare a final Change Order reflecting approved adjustments to the Contract Sum, which were not previously made by Change Orders.

D. In accordance with the requirements of Section 01035 - Modification Procedures, the Engineer will submit the final Change Order and a recommendation for acceptance of the Work to the Owner for approval.

1.07 APPLICATION FOR PAYMENT

Upon receipt of approval of the final Change Order, the Contractor shall submit an Application for Payment in accordance with procedures and requirements stated in the General Conditions.

1.08 CONTRACT CLEAR LIEN CERTIFICATE AND PAYMENT OF RETAINAGE

A. Upon receipt of the Owner's acceptance of the work, the Contractor shall make filings with the Recorder of Mortgages as required by Louisiana State Public Contract Statute.

B. In accordance with the Louisiana State Public Contract Statute, the Recorder of Mortgages shall issue a Clean Lien and Privilege Certificate upon expiration of a period of not less than forty-five (45) days, provided no liens are recorded against the Project.

C. Upon receipt of the Clear Lien and Privilege Certificate, the Contractor shall submit an Application for Payment to the Engineer requesting the release of the Project retainage with the certificate attached as evidence of authority for the Owner to pay the retainage.

D. The Engineer shall review the Application for Payment for the Project retainage and if in order shall transmit the application to the Owner for Payment.

E. In accordance with the General Conditions, the Owner shall release the Project retainage and make payment to the Contractor the legal sum of the retainage for which the Contractor is entitled.

PART 2 - PRODUCT - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

TECHNICAL SECTION
DIVISION 01 - GENERAL REQUIREMENTS
SECTION 01710 - SITE CLEANING

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

Cleaning shall include daily "policing" of the work and surrounding areas to clear general debris, waste paper, wood scraps, broken concrete, and other objectionable material along with the final cleanup of site(s) required for Project acceptance.

1.02 DISPOSAL REQUIREMENTS

Conduct cleaning and disposal operations to comply with codes, ordinances, regulations, and anti-pollution laws.

PART 2 - PRODUCT - NOT USED

PART 3 - EXECUTION

3.01 DURING CONSTRUCTION

A. Execute daily cleaning to keep the Work, the site and adjacent properties, free from accumulations of waste materials, rubbish and windblown debris, resulting from construction operations.

B. Provide onsite containers for the collection of waste materials, debris and rubbish. All waste materials including containers, food debris and other miscellaneous materials must be disposed of daily in onsite containers.

C. Remove waste materials, debris and rubbish from the site periodically and dispose of at legal disposal areas away from the site.

3.02 FINAL CLEANING

A. Employ skilled workmen for final cleaning.

B. Remove grease, mastic, adhesives, dust, dirt, stains, fingerprints, labels, and other foreign materials from sight-exposed interior and exterior surfaces.

C. Broom clean exterior paved surfaces; rake clean other surfaces of the grounds.

D. Prior to final completion or Owner occupancy, Contractor shall conduct an inspection of sight-exposed interior and exterior surfaces and all work areas to verify that the entire Work is clean.

E. Apply a finished paint coat per Section 09010 to all equipment incorporated into the Project. Final finish coat of paint shall be applied after equipment has been installed.

3.03 FUELING

Upon servicing all equipment, all fuel storage and equipment tanks shall be filled to completion.

END OF SECTION

TECHNICAL SECTION
DIVISION 01 - GENERAL REQUIREMENTS
SECTION 01720 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

Maintain at the site for the Owner one record copy of:

A. Conformed Drawings.

B. Conformed Specifications.

C. Change Orders and other Modifications to the Contract.

D. Engineer's Field Orders or written instructions.

E. Approved Shop Drawings, Working Drawings and Samples.

F. Field Test records.

G. Construction photographs.

H. Latest Approved Progress Schedule.

1.02 MAINTENANCE OF DOCUMENTS AND SAMPLES

A. Store documents and samples in Contractor's field office apart from documents used for construction.

1. Provide files and racks for storage of documents.
2. Provide locked cabinet or secure storage space for storage of samples.

B. File documents and samples in accordance with CSI section numbers.

C. Maintain documents in a clean, dry, legible, condition and in good order. Do not use record documents for construction purposes.

D. Make documents and samples available at all items for inspection by the Engineer.

E. As a pre-requisite for monthly progress payments, the Contractor is to exhibit the currently updated "record documents" for review by the Engineer and Owner.

1.03 MARKING DEVICES

Provide felt tip marking pens for recording information in the color code designated by the Engineer.

1.04 RECORDING

A. Label each document "PROJECT RECORD" with rubber stamp.

B. Record information concurrently with construction progress and do not conceal any work until required information is recorded.

C. Legibly mark drawings to record actual construction:

1. The Contractor shall use the following color code in marking Contract Drawings.
- **a**. Yellow for no change.
- **b**. Red to indicate additions, deletions and changes.

2. Elevations of various structure elements in relation to elevation datum.
- **a**. Elevations referenced to control points established by the Owner's agent.
- **b**. Specifically, elevations of drainage culvert inverts, building slabs, top of roadway and driveway curbs, bridges, etc.

3. All underground piping with elevations and dimensions, changes to piping location, horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements, actual installed pipe material, class, etc.
- **a**. Elevations of constructed underground piping at 100 ft. increments and points where changes occur in either the slope or horizontal direction.
- **b**. Three swing ties from referenced permanent surface improvements to the pipe centerline at 500 ft. increments and the center of each manhole cover, valve, the branch, vent, end of service connection at the property line, other fittings and appurtenances.
- **c**. Identify existing utilities, which parallel the proposed construction, including size and offset distance horizontally and vertically, when exposed by the construction activity.
- **d**. Identify existing utilities including size, material type, vertical clearance over or under, intersecting station, and angle of intersection crossing proposed construction.

4. Location of internal utilities and appurtenances concealed in the construction by referencing to visible and accessible features of the structure.

5. Field changes of dimension and detail.

6. Changes made by Field Order or by Change Order.

7. Details not on original contract drawings.

8. Equipment and piping relocations.

9. Identify the actual motor installed by manufacturer's name, nameplate horsepower and serial number.

10. Identify the actual pump installed by manufacturer's name, model number, impeller size, rated capacity and serial number.

11. Major architectural and structural changes including relocation of doors, windows, etc.

D. Specifications and Addenda; Legibly mark each Section to record:

1. Manufacturer, trade name, catalog number, and supplier of each Product and item of equipment actually installed.

2. Changes made by Field Order or by Change Order.

E. Shop Drawings (after final review):

Five (5) sets of record drawings for each process equipment, piping, electrical system and instrumentation system.

F. Certified site survey and line elevations and stationing at 100 ft. increments and all points of change of direction of pipelines per Section 01050 b y a registered land surveyor.

1.05 SUBMITTAL

A. At Contract closeout, deliver Record Documents to the Engineer for the Owner.

B. Accompany submittal with transmittal letter in duplicate containing:

1. Date.
2. Project title and number.
3. Contractor's name and address.
4. Title and number of each Record Document.
5. Signature of Contractor or his authorized representative.

PART 2 - PRODUCT - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

TECHNICAL SECTION
DIVISION 01 - GENERAL REQUIREMENTS
SECTION 01730 - OPERATING AND MAINTENANCE DATA

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

A. Compile product data and related information appropriate for Owner's maintenance and operation of equipment furnished under Contract.

1. Prepare operating and maintenance data as specified herein and as referenced in other pertinent sections of Specifications.
2. Submit operating and maintenance manuals as specified herein.

B. Instruct Owner's personnel in maintenance of products and in operation of equipment and systems.

1.02 QUALITY ASSURANCE

A. Preparation of data shall be done by personnel:

1. Trained and experienced in maintenance and operation of described products.
2. Familiar with requirements of this Section.
3. Skilled in technical writing to the extent required to communicate essential data.
4. Skilled as draftsman competent to prepare required drawings.

1.03 FORM OF SUBMITTALS

A. Prepare data in form of an operating and maintenance manual for use by Owner's personnel.

B. Format:

1. Size: 8-1/2 inches x 11 inches, punches and reinforced for insertion into the binders.
2. Paper: 20 pound minimum white, for typed pages.
3. Text: Manufacturer's printed data, or neatly typewritten.
4. Drawings:
- **a**. Provide reinforced punched binder tabs, bind in with text.
- **b**. Reduce larger drawings and fold to size of text pages but not larger than 11 inches x 17 inches.

5. Provide flyleaf for each separate product, or each piece of operating equipment:
- **a**. Provide typed description of product, and major component parts of equipment.
- **b**. Provide indexed tabs.

6. Cover: Identify each volume with typed or printed title "OPERATING AND MAINTENANCE INSTRUCTIONS" List:
- **a**. Title of Project.

b. Identity of separate structure as applicable.
c. Identity of general subject matter covered in the manual.

C. Binders:

1. Commercial quality three-post binders with durable and cleanable plastic covers.
2. Maximum post width: 2-inches, D-ring.
3. When multiple binders are used, correlate the data into related consistent groupings.

1.04 CONTENT OF OPERATING AND MAINTENANCE MANUAL

A. A complete neatly typewritten table of contents listing documents in all volumes shall be included and arranged in systematic order.

1. Contractor, name of responsible principal, address and telephone number.
2. A list of each product required to be included, indexed to content of the volume.
3. List, with each product, name, address and telephone number of:
a. Subcontractor or installer.
b. Maintenance contractor, as appropriate.
c. Identify area of responsibility of each.
d. Local source of supply for parts and replacement.
4. Identify each product-by-product name and other identifying symbols as set forth in Contract Documents.

B. Product Data:

1. Include only those sheets, which are pertinent to the specific product.
2. Annotate each sheet to:
a. Clearly identify specific product or part installed.
b. Clearly identify data applicable to installation.
c. Delete references to inapplicable information.

C. Drawings:

1. Supplement product data with drawings as necessary to clearly illustrate:
a. Relations of component parts of equipment and systems.
b. Control and flow diagrams.
2. Coordinate drawings with information in Project Record Documents to assure correct illustration of completed installation.
3. Do not use Project Record Documents as maintenance drawings.

D. Written text, as required to supplement product data for the particular installation:

1. Organize in consistent format under separate headings for different procedures.
2. Provide logical sequence of instructions of each procedure.

E. Copy of each warranty, bond and service contract issued and provide information sheet for Owner's personnel, giving proper procedures in the event of failure and instances, which might affect the validity of warranties or bonds.

F. Provide for each unit of equipment and system, as appropriate:

1. Description of unit and component parts.
- **a**. Function, normal operating characteristics, and limiting conditions.
- **b**. Performance curves, engineering data and tests.
- **c**. Complete nomenclature number of replaceable parts including standard or manufacturer's part.

2. Operating procedures:
- **a**. Start-up, break-in, routine and normal operating instructions.
- **b**. Regulation, control, stopping, shutdown and emergency instructions.
- **c**. Summer and winter operating instructions.
- **d**. Special operating instructions.

3. Maintenance Procedures:
- **a**. Routine operations.
- **b**. Guide to "troubleshooting".
- **c**. Disassembly, repair, and reassembly.
- **d**. Alignment, adjusting and checking.

4. Servicing and lubrication schedule including a list of lubricants required.

5. Manufacturer's printed operating and maintenance instructions.

6. Description of sequence of operation by control manufacturer.

7. Original manufacturer's parts list, illustrations, assembly drawings and diagrams required for maintenance including the following:
- **a**. Predicted life of parts subject to wear.
- **b**. Items recommended to be stocked as spare parts.

8. As-installed control diagrams by controls manufacturer.

9. Each contractor's coordination drawings including as-installed color-coded piping diagrams.

10. Charts of valve tag numbers, with location and function of each valve.

11. Cataloged list of manufacturer's spare parts supplied with the equipment or system, manufacturer's current prices, and recommended quantities to be maintained in storage.

12. Other data as required under pertinent sections of Specifications.

G. Content, for each electric and electronic system, as appropriate:

1. Description of system and component parts.
- **a**. Function, normal operating characteristics, and limiting conditions.
- **b**. Performance curves, engineering data and tests.
- **c**. Complete nomenclature including standard or manufacturer's part number of replaceable parts.

2. Circuit directories of panel boards.

a. Electrical service.
b. Controls.
c. Communications.

3. As-installed color-coded wiring diagrams.
4. Operating procedures:
a. Routine and normal operating instructions.
b. Sequences required.
c. Special operating instructions.
5. Maintenance procedures:
a. Routine operations including recalibration procedures.
b. Guide to "troubleshooting".
c. Disassembly, repair and reassembly.
d. Adjustment and checking.
6. Manufacturer's printed operating and maintenance instructions.
7. List of original manufacturer's spare parts, manufacturer's current prices, and recommended quantities to be maintained in storage.
8. Other data as required under pertinent sections of specifications.

H. Prepare and include additional data when the need for such data becomes apparent during instruction of Owner's personnel.

I. Additional requirements for operating and maintenance data as required by the respective sections of the Specifications.

Preparation of O & M Manual

In order for the Engineer to prepare the O & M Manual for the Owner, selected material presented by each equipment supplier is required. In addition to those items stated previous in other subsections, the Engineer requires specific information to complete the Manual. The structure of the O & M Manual for each piece of equipment is as follows:

General

Unit/Process Description
Relationship to Adjacent Units
Classification and Control
Major Components
Common Operation Problems
Laboratory Controls
Start-Up

Specific Plant Operation

Normal Operation
Alternate Operation
Emergency Operations and Failsafe Feature

Each equipment manufacturer shall ensure in their submittal of O & M data that the information submitted covers each of the topics stated above. Failure to submit O&M data on each of the topics above will be cause for rejection of the O&M Manual.

1.05 SUBMITTAL SCHEDULE AND REQUIREMENTS

A. Submit two (2) copies of preliminary draft of proposed formats and outlines of contents of Operating and Maintenance Manual within thirty (30) days of first Engineer review of shop drawings for each equipment item. T he Engineer will review the preliminary draft and return one copy with comments.

B. Submit five (5) copies of the final manual to the Engineer within thirty (30) calendar days of product shipment to the project site and preferably within thirty (30) days after the reviewed copy is received.

C. Submit five (5) copies of any addenda to the Operating and Maintenance Manual as applicable with certificates as specified in Article 1.05 of Section 01600 within thirty (30) days after final inspection and start-up.

1.06 INSTRUCTION OF OWNER'S PERSONNEL

A. Prior to initial start-up inspection or request for substantial completion, fully instruct Owner's designated operating and maintenance personnel in operation, adjustment and maintenance of products, equipment and systems. Refer to Article 1.05 of Section 01600.

B. Operating and maintenance manual shall constitute the basis of instruction and shall review comments of manual with personnel in full detail to explain all aspects of operation and maintenance.

PART 2 - PRODUCT - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

TECHNICAL SECTION
DIVISION 01 - GENERAL REQUIREMENTS
SECTION 01740 - WARRANTIES AND BONDS

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

A. Compile specified warranties and bonds, as in Articles 5 and 13 of the General Conditions.

B. Co-execute submittals when so specified.

C. Review submittals to verify compliance with Contract Documents.

D. Submit to the Engineer for review and transmittal to Owner.

1.02 SUBMITTAL REQUIREMENTS

A. Assemble and include warranties, bonds and service and maintenance contracts, executed by each of the respective manufacturers, suppliers, and subcontractors including effective dates as required by Section 01730, Operation and Maintenance Data, in the required operation and maintenance manuals.

B. Number of original signed copies required - Two (2) each.

C. Table of Contents - Neatly typed in orderly sequence. Provide complete information for each item.

1. Product or work item.
2. Firm, with name of principal, address and telephone number.
3. Scope.
4. Date of beginning warranty, bond or service and maintenance contract.
5. Duration of warranty, bond or service maintenance contract.
6. Provide information for Owner's personnel:
   - **a**. Proper procedure in case of failure.
   - **b**. Instances that might affect the validity of warranty or bond.
7. Contractor, name of responsible principal, address and telephone number.

1.03 FORM OF SUBMITTALS

A. Prepare in duplicate packets.

B. Format:

1. Size: 8-1/2 inches x 11 inches, punch sheets for standard 3-post binder.
   - **a**. Fold larger sheets to fit into binder.
2. Cover: Identify each packet with typed or printed title "WARRANTIES AND BONDS" List:
   - **a**. Title of Project.
   - **b**. Name of Contractor.

C. Binders - Commercial quality three-post binders with durable and cleanable plastic covers and maximum post width: 2-inches, D-ring.

1.04 WARRANTY SUBMITTAL REQUIREMENTS

A. For all major pieces of equipment, unless stated otherwise in the specifications for each individual item of equipment, submit a written warranty from the equipment manufacturer to replace promptly any equipment or component thereof which, in the sole opinion of the Engineer, has defects in design, workmanship, materials, or performance within a one (1) year period following the date of acceptance for operation (Substantial Completion) by the Owner. The manufacturer's warranty period shall be concurrent with the Contractor's for one (1) year, unless otherwise specified, commencing at the time of acceptance for operation (beneficial use) by the Owner and shall be read in conjunction with the Contractor's warranty which shall operate together to provide for replacement of defective equipment and restoration of proper operation. The Contractor shall be solely responsible for both warranties.

B. The Contractor shall obtain manufacturer's warranties for all equipment which has 1 HP motor or larger and/or which lists for more than $1,000.00. The Engineer reserves the right to request warranties for equipment not so classified. The Contractor shall warrant all equipment in the Contract one-year warranty period even though manufacturer's warranties may not be required.

C. In the event that the Contractor is unable to obtain from an equipment manufacturer or supplier the above one-year warranty, the Contractor shall provide, prior to acceptance for operation of the equipment by the Owner, a bank letter of credit in favor of the Owner in the amount of two-hundred percent (200%) of the purchase price of the equipment for a period of 18 months from the beginning of the warranty period on which the Owner may draw for replacement of defective equipment (materials and labor).

PART 2 - PRODUCT - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

DIVISION TWO

SITE CONDITIONS

2

TECHNICAL SECTION
DIVISION 2 – SITE CONDITIONS
DIVISION 02060 – LANDSCAPING

PART 1 – GENERAL

1.01 GENERAL

Landscaping shall include all seeding, sodding, and planting, and associated ground preparation required as indicated on the Drawings and specified herein. This Work shall include topsoiling and finish grading where necessary. All Work shall be performed in accordance with applicable provisions of the Louisiana Standard Specifications for Roads and Bridges, latest revision.

1.02 SUBMITTALS

A. All products and/or materials to be used in this project shall be submitted to the Engineer in accordance with Section 01340 of Division 1- General Requirements.

B. Manufactures shall submit with his shop drawings any recommended installation procedures which when approval by the Engineer shall become the basis for inspecting, accepting, and/or rejecting actual installation, procedures used on this Project.

C. The manufactures shall submit in writing a certification that the product meets these specifications. C ertification shall be in the format similar to the certification form shown at the end of Section 01340.

D. Mill certificates shall be furnished upon request of the Engineer.

PART 2 – PRODUCTS

2.01 SEEDING

Seeding shall be accomplished on a ll disturbed areas and other designated areas as indicated on the Drawings. Seeding shall include preparations of the seedbed, fertilizing, liming, placing of seed, mulching, and watering.

A. Topsoil - Topsoil shall be furnished and spread on areas designated on the Drawings or as otherwise directed by the Engineer. T opsoil shall be an approved natural, workable, loamy soil, free of debris, refuse and other foreign matter. Existing material within the project construction limits may be used upon w ritten approval of the Engineer.

Areas to receive topsoil shall be scarified to a depth of at least two (2) inches and dressed to six (6) inches or more below finished grade. T opsoil shall then be

deposited and spread at a minimum depth of six (6) inches to finished grade.

Fertilizer and lime shall be applied in accordance with these specifications prior to placing topsoil unless hydro seeding methods are to be used.

B. Fertilizer and Agricultural Lime:

1. Fertilizer shall be an approved brand conforming to the requirements of the Louisiana Department of Agriculture. Unless otherwise directed, fertilizer shall be among 8-8-8, 12-12-12 or 13-13-13 and shall be applied at the following rates:

Type	Pounds per Acre
8-8-8	1000
12-12-12	667
13-13-13	615

Fertilizer shall be uniformly spread over the area and when applied following surface dressing, it shall be thoroughly incorporated into the soil by light disking or harrowing. Fertilizer may be applied immediately prior to final disking or harrowing during the surface dressing process or, if dressed by hand, it may be applied immediately prior to final raking and leveling.

2. Agricultural Lime shall consist of ground limestone or seashells containing at least 90 percent calcium carbonate ($CaCo_3$) equivalent and not more than 10 percent magnesium carbonate ($MgCO_3$). The material shall be ground so that 100 percent must pass a No.8 sieve and at least 30 percent must pass a No.100 sieve. Unless otherwise directed, lime shall be spread at a rate of at least 2 tons per acre. Lime must be applied prior to seeding, and may be applied in conjunction with the fertilizer. Immediately following application, lime or lime-fertilizer mixture shall be disked or harrowed into the top 3-6 inches of soil.

C. Seed - Seed shall conform to all requirements, rules, and regulations of Chapter II, Title 3 of Louisiana Revised Statutes of 1950. All seed shall be of the previous year's crop and the analysis date on each seed container shall be within six (6) months of the time of delivery to the project. The minimum percentage of pure live seed and the maximum percentage of weed seed permitted shall be as follows:

Seed Variety	Min. Percent of Pure Live Seed	Max. Percent of Weed Seed
Hulled Bermuda	86	1
Carpet Grass	76	2
Pensacola Bahia	81	2
Dixie Crimson Clover	82	1
Kentucky 31 Fescue	82	1

Noxious weed seed, as defined by the Louisiana Seed Commission, shall not exceed 500 per pound.

Unless otherwise directed by the Engineer, seed mixture, application rates, and planting time shall be governed by the following:

Seed Mixture	Pounds Per Acre	Planting Dates
Hulled Bermuda	15	March thru Sept.
Pensacola Bahia	15	
Hulled Bermuda	10	Feb. thru March
*Crimson Clover	20	
Kentucky 31 Fescue	30	Sept. thru Feb.
Pensacola Bahia	10	
Kentucky 31 Fescue	30	Sept. thru Feb.
*Crimson Clover	10	
Kentucky 31 Fescue	20	Sept. thru Feb.
*Crimson Clover	10	
Pensacola Bahia	10	
Kentucky 31 Fescue	40	Sept. thru Feb.

*Crimson Clover will be inoculated to planting with the proper bacterial culture.

Seed shall be placed on topsoil or seedbed prepared by light disking or harrowing to a minimum depth of three (3) inches, and then graded and rolled if necessary. Seed shall be placed only if bed is in a friable condition, not muddy, or hard. Seed shall be spread in two perpendicular directions with an approved seeding device. If covering and rolling is not properly accomplished by the seeding device, it shall be lightly raked into the ground and rolled with a 500 pound roller.

After placing seed, entire seeded area shall be wetted with a fine water spray, unless otherwise directed by the Engineer. Contractor shall be responsible for subsequent watering as directed by the Engineer until completion of the job. Brackish or oily water shall not be used.

The Contractor will be allowed to seed the newly disturbed area by the use of a hydro seeder in a slurry using water as a carrying agent. Under this method, the seed, fertilizer and agricultural lime shall be distributed over the area in one operation. The same rates for seed, fertilizer, and agricultural lime will apply as in the conventional method.

D. Mulching - Mulching shall closely follow placement of seed and may be accomplished manually or with suitable mechanical equipment. Mulch shall be loose

enough to allow air circulation while at the same time reducing raindrop impact. Mulching operations shall begin at the top of slopes and extend downward. Mulch shall be vegetative in character and shall consist of either stems or stalks of oats, rye, rice, wheat or other approved straws.

The Contractor may also use hay obtained from various legumes and grasses such as lespedezas, clover, vetches, soybeans, Bermuda, Dallis, carpet sedge, fescue or other approved legumes of grasses of any combination thereof. S traw or hay shall be reasonably dry and free from mold, Johnson grass or other noxious weeds.

Additional erosion control measures may be provided at the discretion of the Contractor or as directed by the Engineer. These measures may include erosion control mesh, jute, special binder, or sod.

E. Maintenance of Seeded Areas - Maintenance operations shall begin immediately after any area is seeded and shall continue until acceptance. M aintenance operations shall include watering, reseeding, remulching, weeding, mowing, and fertilizing.

The Contractor shall repair and reseed all areas which exhibit erosion damage or which do not show a strong and uniform stand of grass. Repair and reseeding shall be done as often as necessary or directed. It shall be the responsibility of the Contractor to produce a good and uniform stand of grass on all designated areas. Supplying of all water, whether for seeding or maintenance operations, shall be the responsibility of the Contractor.

END OF SECTION

TECHNICAL SECTION
DIVISION 2 - SITE CONDITIONS
SECTION 02221 - BUILDING & STRUCTURE DEMOLITION & REHABILITATION

PART 1 - GENERAL

1.01 SCOPE

This Section includes work which requires (1) the demolition of designated structures and removal of material from the site, (2) demolition and removal of foundations and slabs on grade, and (3) demolition and removal of identified and/or unused utilities, rehabilitation of buildings or structures not designated by the drawings and other items related to this type of work.

1.02 REGULATORY REQUIREMENTS

A. Conform to applicable code for demolition of structures, safety of adjacent structures, and dust control.

B. Obtain required permits from authorities.

C. Notify affected utility companies before starting work and comply with their requirements.

D. Do not close or obstruct roadways without permits.

E. Conform to applicable regulatory procedures when hazardous or contaminated materials are discovered.

1.03 SEQUENCING

The sequence of any demolition or rehabilitation work shall at the Contractor's desired schedule provided (1) the schedule is approved by the Owner and Engineer prior to commencement of Work and (2) the schedule does not interfere with the normal operations of the facility.

1.04 SCHEDULE OF WORK

The drawings provide the guidelines for demolition and rehabilitation work. To assist the drawings, a Schedule of Work attached to this section illustrates the areas and work (demolition or rehabilitation) required. The miscellaneous work shown on this schedule may or may not be illustrated by the drawings. A CD-Rom with digital pictures is enclosed with the schedule to illustrate the work required.

1.05 SUBMITTALS

A. All products and/or materials to be used in this project shall be submitted to the Engineer in accordance with Section 01340 of Division 1- General Requirements.

B. Manufactures shall submit with his shop drawings any recommended installation procedures which when approval by the Engineer shall become the basis for inspecting, accepting, and/or rejecting actual installation, procedures used on this Project.

C. The manufactures shall submit in writing a certification that the product meets these specifications. C ertification shall be in the format similar to the certification form shown at the end of Section 01340.

D. Mill certificates shall be furnished upon request of the Engineer.

PART 2 – PRODUCTS – NOT USED

PART 3 - EXECUTION

3.01 PREPARATION

A. Provide, erect, and maintain temporary barriers and security devices at locations indicated.

B. Protect existing landscaping materials, appurtenances, and structures that are not to be demolished.

C. Prevent movement or settlement of adjacent structures. Provide bracing and shoring.

D. Mark location of utilities.

3.02 DEMOLITION REQUIREMENTS

Conduct demolition to minimize interference with adjacent structures.

A. Cease operations immediately if adjacent structures appear to be in danger. Notify Engineer and Owner. Do not resume operations until directed.

B. Conduct operations with minimum interference to public or private accesses. Maintain protected egress and access at all times.

C. Obtain written permission from adjacent property owners when demolition equipment will traverse, infringe upon, or limit access to their property.

D. Sprinkle demolition areas with water to minimize dust. Provide hoses and water connections for this purpose.

3.03 DEMOLITION

A. Disconnect and cap designated utilities within demolition areas. Remove disconnected utilities.

B. Remove foundation walls and footings to a minimum of two feet (600 mm) below finished grade beyond area of new construction.

C. Remove concrete slabs on grade.

D. Break up concrete slabs on grade to permit natural moisture drainage.

E. Break up site paving in areas indicated.

F. Empty buried tanks located within demolition area. R emove buried tanks, components, and piping from site.

G. Backfill areas excavated caused as a r esult of demolition, in accordance with Technical Specifications.

H. Rough grade and compact areas affected by demolition to maintain site grades and contours.

I. Remove demolished materials from site.

END OF SECTION

TECHNICAL SECTION
DIVISION 2 – SITE CONDITIONS
SECTION 02240 – FILLING AND GRADING

PART 1 - GENERAL

1.01 SCOPE

This Section covers filling and grading of the site within the "Limits of Civil Work" as required to achieve the final site contours and positive drainage as indicated on the Drawings or as authorized by the Engineer. This Section does not apply to that work beneath pavements or against structures.

1.02 REFERENCED STANDARD

Work shall conform to the following Section of the State of Louisiana, Department of Transportation and Development, "Louisiana Standard Specifications for Roads and Bridges", 2000 Edition, except as may be modified herein:

Section 203 - Excavation and Embankment

All references made therein to measurement and payment is deleted.

1.03 SUBMITTALS

Submittals, samples and certificates of compliance shall be provided in accordance with Section 01340 - Shop Drawings, Project Data, and Samples.

PART 2 - PRODUCTS

2.01 FILL MATERIAL

A. Select fill shall be in accord with paragraph 203.06 (b) selected soils of the referenced Standard. Select soils shall have a PI of 15 or less and, a liquid limit (LL) of 36 or less and a maximum organic context of 5 percent.

B. Material used for general filling shall be "usable soils" in accordance with paragraph 203.06(a) usable soils of the referenced Standard. Usable soils shall have a PI of twenty (20) or less, an organic content of less than five (5%) percent and a maximum silt content of sixty (60%) percent.

C. Surplus excavated material may be used for filling if said material meets the specifications of paragraph 2.1A.

D. All fill materials, whether from the excavations or from borrow, shall be of such nature as to provide a dense, stable fill after placement and compaction by accepted procedures. Fill shall be essentially free of organic and porous materials, shall contain

no visible vegetation, masses of roots, or individual roots longer than 18 inches or more than 1/2 inch in diameter, and shall be free of stones greater than three (3") inches in longest dimension.

2.02 TOP SOIL

Loam and other humus type material that was stripped from the site and stockpiled under Excavation and Embankment shall be utilized as topsoil on disturbed and fill areas.

PART 3 - EXECUTION

3.01 MOISTURE CONTROL

A. Moisture in fill materials shall be in the range of -2.0% and +4.0% of the optimum established in accord with DOTD TR418 (Modified Proctor Density). If the fill material is excessively wet, the Contractor shall spread the material on the areas to be filled and fill shall be permitted to dry to an allowable, moisture content. The drying process shall be assisted by harrowing where necessary.

B. If additional moisture is required, water shall be applied by sprinkler tanks or other sprinkling devices in such a way as to provide uniform distribution over the area to be treated with accurate control of the rate and quantity of water applied. If excessive amounts of water are added or if rain should cause excessive wetness, the area shall be allowed to dry as provided above.

C. The moisture content of the fill shall be sufficient to permit proper compaction but not so great as to cause loss of soil stability.

3.02 PREPARATION OF SUBGRADE

The Contractor shall strip the top three (3") inches of loam and topsoil, loose vegetative matter, stumps, large roots, etc., from all areas which are to receive placement of fill. The sub-grade shall be prepared by forking, furrowing, or plowing the top six (6") inch in order that the new material to be placed thereon shall be well bonded to the sub-grade. The top six (6") inch of the sub-grade shall be compacted to 90% Standard Proctor density, within two (2%) percent optimum moisture content.

3.03 FILLING AND COMPACTION

A. After the sub-grade has satisfactorily been prepared, the fill material shall be placed

thereon and built-up in successive layers until the required elevation is reached.

B. The filling operation shall begin in the deepest part of the area to be filled, and fill shall be brought up in essentially level lifts.

C. Fill shall be placed in layers by bulldozer or other approved method. The entire surface of the work shall be maintained free from ruts and in a condition that will permit construction equipment to travel over any section readily.

D. Layers of fill shall not exceed eight (8") inches in depth before compaction. In all cases, the methods of laying and compacting fill shall be subject to the Engineer's approval.

E. The top surface of each layer shall be made level or slightly sloped away from the center of the filled area. In general, the finer and less pervious materials shall be placed toward the center and the coarser and more pervious materials toward the outer limits of the filled area.

F. Each spread layer of material shall be compacted by the use of sheep's foot rollers, rubber-tire equipment, or other approved means so as to secure a dense, stable, and thoroughly compacted mass.

G. Area adjacent to structures and other area inaccessible to mobile compaction equipment shall be compacted with suitable power driven tampers or other approved devices. Compaction by the latter method shall be done in six (6) inch layers, unless otherwise directed by the Engineer or shown on the Drawings.

H. Previously placed or new materials shall be moistened by sprinkling, if required, to ensure proper bond and compaction. No compaction shall be done when the material is too wet. If the compaction surface of the fill layer is determined to be too smooth to provide and adequate bond with the succeeding layer, the surface shall be loosened by harrowing or by some other approved method of compaction used.

I. Select fill shall be compacted to 95% Standard Proctor Density at ±3% of optimum moisture.

3.04 GRADING

A. Grading of filled and unfilled area shall be to the lines and grades indicated on the Drawings or as specified by the Engineer. Grading shall be performed in conjunction with all of the necessary clearing, grubbing, stripping, filling, and compacting

operations to the satisfaction of the Engineer. Grading shall be performed to such lines and grades as may be necessary to allow for the addition of loam, if required, to the proposed finished grade.

B. Grading shall be done by bulldozer or other approved means. Areas adjacent to structures and other areas inaccessible to heavy grading equipment shall be graded by manual methods.

C. Final grading shall be performed in such manner as to provide proper drainage from the project site. Finished grades shall be pitched to drain away from structures completed under this contract as indicated on the Drawings or as directed by the Engineer. In no case shall drainage from the project site be so alert or controlled as to result in damage, or the potential for damage, to adjacent property or to any portion of the work executed under this Contract from erosion or flooding.

3.05 TOPSOIL PLACEMENT

Stockpiled topsoil shall be evenly spread over all disturbed earthen areas and fill areas to a depth of four (4") inches. The topsoil shall be neatly raked in preparation to receive seeding, fertilization or sodding.

END OF SECTION

TECHNICAL SECTION
DIVISION 02- SITE CONDITIONS
SECTION 02315-EXCAVATION, BACKFILLING, AND COMPACTION (STRUCTURES AND PIPELINES)

PART 1 - GENERAL

1.01 SCOPE OF WORK

The Contractor shall furnish all labor, materials, equipment, and incidentals necessary to perform all excavation, backfill, grading, and wall protection required to complete the structure and piping work shown on the Drawings and specified herein. The Work shall include but not necessarily be limited to excavation, filling, and grading under and around pre-cast and cast-in-place structures to attain the sub-grades and grades indicated on the drawings; trenching operations to install pipe, manholes, vaults, electrical duct conduit, pump station wet wells and valve pits, and other structures, including all backfilling, grading, disposal of surplus and unsuitable materials, and all related work such as sheeting, bracing, and water handling.

1.02 QUALITY ASSURANCE

The Contractor shall perform excavation work in compliance with applicable requirement codes and standards of governing authorities having jurisdiction.

The Owner will engage and pay for soil testing and inspection services for quality-control testing during earthwork operations as provided in other sections of this Specification.

1.03 JOB CONDITIONS

A. The Contractor shall examine the site and review the available test borings or undertake his own soil borings prior to submitting his Bid, taking into consideration all conditions that may affect his work. The Owner and Engineer will not assume responsibility for variations of subsoil quality or conditions at locations other than places shown and at the time the investigation was made. Boring log data, if available, may be reviewed or purchased at the office of the Engineer.

B. Existing Utilities - Locate existing underground utilities in the areas of work. If utilities are to remain in place, provide adequate means of protection during earthwork operations.

1. The location of all pipes, ducts, or underground structures is not warranted to be exact, nor is it warranted that all underground pipes, ducts, or structures are shown. If the project is located in Louisiana, the Contractor shall contact LA One Call or the appropriate utility company for location of their underground service a minimum of 48 hours prior to beginning construction in each area.

If the Project is located in another state, Contractor shall contact similar agencies to locate underground existing utilities. It is the Contractor's responsibility to verify and locate all utilities in the field at no additional cost to the Owner.

2. Cooperate with Owner and utility companies in keeping respective services and facilities in operation. Repair the damaged utilities to satisfaction of utility owner or make the site available to the utility owner for his work crews to make the necessary repairs at no additional cost to the Owner.

3. Demolish and completely remove from site existing underground utilities indicated on the Drawings to be removed.

4. Examine the areas and conditions under which excavating, filling, and grading are to be performed. Do not proceed with the Work until unsatisfactory conditions have been corrected.

5. Examine existing grade of walks, pavements, and steps prior to commencement of work and report to Engineer if elevations of existing sub-grade vary from elevations shown on drawings.

6. If it is determined that existing utilities are to be relocated by owner of those utilities, the Contractor shall be responsible for that coordination. The Contractor shall notify the utility owner in sufficient time as to avoid any delays to the Contractor's schedule. The Contractor is solely responsible for this coordination, and no delay or extension of time will be allowed as a result of or the cause of inaction by the Contractor or utility owner.

1.04 PROTECTION

A. Slope sides of excavations to comply with OSHA regulation and any applicable local codes and ordinances. Shore and brace where sloping is not possible because of space restrictions or stability of material excavated. Maintain sides and slopes of excavations in a safe condition until completion of backfilling.

B. Sheeting and Bracing in Excavations:

1. In connection with construction of below grade structures and piping, the Contractor shall construct, brace, and maintain cofferdams consisting of sheeting and bracing as required to support the sides of excavations, to prevent any movement which could in any way diminish the width of the excavation below that necessary for proper construction, and to protect adjacent structures, existing yard piping and/or foundation material from disturbance, undermining, or other damage. Care shall be taken to prevent voids outside of the sheeting but if voids are formed, they shall be immediately filled and rammed.

2. Trench sheeting for pipes is not to be withdrawn when driven below mid-diameter of any pipe, and no wood sheeting shall be cut off at a level lower than one (1) foot above the top of any pipe unless otherwise directed by the Owner. If during the progress of the Work the Owner decides that additional wood sheeting should be left in place, he may direct the Contractor in writing and the Contractor shall be reimbursed in accordance with the Bid Documents. If steel

sheeting is used for trench sheeting, removal shall be as specified above, unless written approval is given for an alternate method of removal.

3. All sheeting and bracing not left in place shall be carefully removed in such a manner as not to endanger the construction or other structures, existing utilities, the existing piping, or personnel and property. U nless otherwise approved or indicated on the drawings or in the Specifications, all sheeting and bracing may be carefully removed after completion of the substructure. Care shall be taken not to disturb or otherwise injure any finished masonry. All voids left or caused by withdrawal of sheeting shall be immediately refilled with sand by ramming with tools especially adapted to that purpose, by hydraulic compaction or otherwise as may be directed.

4. The right of the Owner to order sheeting and bracing left in place shall not be construed as creating any obligation on his part to issue such orders, and his failure to exercise his right to do s o shall not relieve the Contractor from liability for damages to persons or property occurring from or on the Work occasioned by negligence or other cause, growing out of a failure on the part of the Contractor to leave in place sufficient sheeting and bracing to prevent any caving or moving of the ground.

5. The Contractor may construct the cofferdams and sheeting outside the neat lines of the foundation for pipes and manholes, unless indicated otherwise, to the extent he deems is desirable for his method of operation. Sheeting shall be plumb and securely braced and tied in position. S heeting, bracing, and cofferdams shall be adequate to withstand all pressures to which the existing or new structure will be subjected. Pumping, bracing, and other work within the cofferdam shall be done in a manner to avoid disturbing any completed construction or personnel injury. Any movement or bulging, which may occur, shall be corrected by the Contractor so as to provide the necessary clearances and dimensions.

6. The Contractor is fully responsible for any sheeting, bracing, and cofferdams that are required to perform any of the Work under the Contract. As part of his submittal of schedules and other data indicating his planning of the Work, the Contractor shall provide drawings of the planned supporting system, not for review by the Owner but for informational purposes only and use by the Owner in tracking the progress of the Work. Such drawings shall be of sufficient detail to adequately disclose the method of operation that the Contractor plans to use for each of the various stages of construction. The Work shall not be started until such drawings are received.

7. Establish requirements for trench shoring and bracing to comply with OSHA regulations and any applicable local codes and ordinances.

8. Maintain shoring and bracing in excavations regardless of time period excavations will be open. C arry down shoring and bracing as excavation progresses.

9. As an alternate to sheeting, the Contractor is authorized to utilize a mechanical trench box, the size and construction of which shall be submitted to the Owner for review.

C. Dewatering, Drainage and Flotation:

1. The Contractor shall furnish all materials and equipment and perform all work required to install and maintain the drainage systems he proposes for handling groundwater and surface water encountered during construction of structures, pipelines, and compacted fills.

2. The Contractor shall construct and place all pipelines, concrete work, structural fill, bedding, and base course in-the-dry. In addition, the Contractor shall make the final 24 inches of excavation for this work in-the-dry, and not until the water level is a minimum of 12 inches below proposed bottom of excavation.

3. The Contractor shall, at all times during construction, provide and maintain proper equipment and facilities to promptly remove and dispose of all water entering excavations and keep such excavations dry so as to obtain a satisfactory undisturbed sub-grade foundation condition, until the fill, structure, or pipes to be built thereon have been completed to such extent that they will not be floated or otherwise damaged by allowing water levels to return to natural elevations.

4. Dewatering shall at all times be conducted in such a manner as to preserve the natural undisturbed bearing capacity of the sub-grade soils at proposed bottom of excavation.

5. Well points may be required for pre-drainage of the soils prior to final excavation for some of the deeper below-ground structures or piping, and for maintaining the lowered groundwater level, until construction has been completed to such an extent that the structure, pipeline, or fill will not be floated or otherwise damaged. Well points shall be surrounded by suitable filter sand and no fines shall be removed by pumping. Pumping from well points shall be continuous and standby pumps shall be provided.

6. If requested by the Owner, the Contractor's proposed method of dewatering shall include a minimum of two (2) 4-inch, Schedule 40, operating groundwater observation wells at each structure to be used to determine the water level during construction of the structure. Locations of the observation wells shall be at structures and along pipelines as approved by the Owner prior to their installation.

7. Prior to excavation, the Contractor shall submit his proposed method of dewatering and maintaining dry conditions to the Owner. The Contractor shall be responsible for the satisfactory performance of the system. The Contractor shall be responsible for correcting any disturbance or natural bearing of soils or damage to structures caused by an inadequate dewatering system or by interruption of the continuous operation of the system as specified.

8. As part of the submittal of his dewatering system, the Contractor may be required to demonstrate the adequacy of the proposed system and well point filter sand by means of a test installation. Discharge water shall be clear, with no visible soil particles in a one-quart sample.

9. During backfilling and construction, water levels shall be measured in observation wells located as directed by the Owner.

10. Continuous pumping will be required as long as water levels are required to be below natural levels.

11. While dewatering for new construction in the vicinity of existing structures, depletion of the groundwater level underneath these existing structures may cause settlement. To avoid this settlement, the groundwater level under these structures shall be maintained by appropriate methods of construction.

D. Protection of Persons and Property:

1. Barricade open excavations occurring as part of this Work and post with warning lights in accordance with local requirements. Operate warning lights as recommended by authorities having jurisdiction.

2. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining washout, and other hazards created by earthwork operations.

1.05 SUBMITTALS

A. All products and/or materials to be used in this project shall be submitted to the Engineer in accordance with Section 01340 of Division 1- General Requirements.

B. Manufactures shall submit with his shop drawings any recommended installation procedures which when approval by the Engineer shall become the basis for inspecting, accepting, and/or rejecting actual installation, procedures used on this Project.

C. The manufacture shall submit in writing a certification that the product meets these Specifications. Certification shall be in the format similar to the certification form shown at the end of Section 01340.

D. Mill certificates shall be furnished upon request of the Engineer.

PART 2 - PRODUCTS

2.01 SOIL

A. Definitions:

1. Select Material: Select material shall conform to Louisiana DOTD designation TR 423 Classes A-l-a, A-l-b, A-3, A-2-4, A-2-6, A-4 or A-6 having a maximum liquid limit of 35 and a maximum plasticity index of 15. This material is referred to as "selected soils" in the DOTD Specifications. Based on an approved geotechnical engineering report, particularly A-6 soils, a higher plasticity index of up to 25 will be considered.

2. Bedding Materials: Bedding material shall be #610 Limestone. The limestone shall be 100% quarried. The stone shall pass the soundness test and abrasion test. Soundness loss shall not exceed 15% when subjected to 5 cycles of the magnesium sulfate soundness test in accordance with AASHTO

104. The stone shall show an abrasion loss of not more than 40% when tested in accordance with AASHTO 96.

3. Stabilization Materials: Stabilization materials shall be a blended, manufactured aggregate conforming to the requirements for concrete aggregate as stated in ASTM C33 except for gradation, which shall be between sizes 78 and 57 (inclusive) as specified in ASTM D448.

4. Special Stabilization Materials: Where special stabilization materials are required by the Engineer or called for under a specific Bid Item, the following specification shall apply:

4.1 General:

The special stabilization material shall be "Perma-Soil" soil stabilizer or approved alternate. This is a product, which will dry, strengthen and bond soils so as to increase the load-bearing properties of the soil while minimizing subsidence, without exceeding a compressive strength that would prevent easy re-excavation. It should exhibit quick setting properties. This special stabilization material, when required, shall be used to a depth of five feet (5'), or maximum portion thereof for excavations of less than five feet (5') in depth, not to extend below the depth of the top of the pipe.

4.2 Performance Characteristics:

a. All soils treated with the stabilizer and routinely compacted shall attain unconfined compressive strengths greater than the same soils, which are untreated and compacted to 95% modified proctor of the maximum laboratory dry density.

b. Treated soil should attain a California Bearing Ratio (CBR) of fifty (50) or greater when used in accordance with manufacturer's instructions.

c. Treated soils shall gain in compressive strength and maintain their size and shape when subjected to damp environments.

d. Treated soils should attain sufficient strength to allow for repaving, removal of any traffic control devices and provide for the return to normal traffic on any site where the stabilizer is used within one (1) hour or less of the final compaction lift, when used in accordance with manufacturer's instructions.

e. Treatment of soil will create less than 10 F exothermic reaction, so as to prevent possible damage to pipe or other underground conduits, plant or animal life. The stabilizer shall not pose a threat of thermal injury to workers, nor will it cause the ground to expand after compaction, which would prevent immediate re-paving.

f. The stabilizer shall be environmentally safe and shall not exceed EPA standards for ingestion or inhalation, nor cause hazards to work crews or the environment.

g. The stabilizer will be non-corrosive to underground pipe and other conduits.

h. The stabilizer shall be packaged in watertight, puncture-resistant fifty (50 lb.) pound pail-type containers to provide ease of handling and storage. Alternate products must be available in containers of a size and weight to allow for ease of handling by one (1) person.

4.3 Specific Mixing Instructions:

It is the Contractor's responsibility to insure that proper, updated application instructions from the manufacturer are being followed. The instructions included below are representative of the procedure to be followed but must be certified as correct by the manufacturer prior to use of the product.

a. Survey moisture content - All soils must have a minimum of 7% moisture content. A quick field check is to squeeze a hand full of soil into a ball; if it retains its shape the minimum is present. The only exception to this moisture content is in clay soils without silt or sand (when rubbed between thumb and forefinger this clay will shine). To field test, roll a sample between the hands; it should elongate into a roll, without breaking, down to 1/2 inch diameter. Should it break before reaching 1/8-inch diameter, it is too dry and more water should be added.

b. Determine mixture amount - In all soils a minimum mix of one pail (50 lbs) per cubic yard is required. If the soil is super saturated with moisture, it should have two pails per cubic yard. The clay soil identified above will require some special action to ensure proper reaction. This soil should be broken up with the proper equipment into pieces two to three inches in diameter and completely covered with Perma-Soil stabilizer. If this is done, the proper ratio will be obtained for this soil type.

(Perma-Soil stabilizer will assist breaking up the clay structure as it is mixed into the soil.)

c. Mixing - Mixing should be accomplished with a backhoe or front-end loader, where available. When working in clay soil without silt or sand content, the procedure described in paragraph two above is necessary to obtain proper reaction and ensure proper mixture ratio of stabilizer to soil. In all other cases the last two lifts or twelve inches of spoil should have a higher ratio of stabilizer added to the soil. This is done by holding back one pail to be added and mixed immediately prior to compaction of the last twelve inches. It is not necessary to allow more curing of this spoil.

d. Curing instructions - This mixture should be allowed to set from 45 minutes to 1 hour for curing or until the mixture becomes compatible. A field check is to squeeze a hand full

of soil into a ball. When dropped from waist high it should break into two or three pieces to be at its best compatible state. If it shatters, it is too dry. If it stays in one piece and deforms on impact, it is too wet. When this is completed, the material is ready to be compacted back in the repair site. Heavy clay soils may take longer to become compactable.

e. Compaction of the spoil - The material should be replaced in the repair site in six to eight-inch lifts and compacted so that all air voids are removed. Gasoline rammers and hydraulic tampers can be used to accomplish compaction.

NOTE: THE VIBRATORY PLATE COMPACTORS ARE NOT SUITABLE FOR COMPACTION EXCEPT FOR OVERLAY MATERIAL OR GRANULAR (NON-COHESIVE SOILS AND THEN ONLY IN THIN LIFTS). COMPACTION WITH THE BACKHOE BUCKET OR ANY OTHER HEAVY APPARATUS NOT DESIGNATED SPECIFICALLY FOR SOIL COMPACTION IS NOT ALLOWED.

f. Overlaying the repair - When compaction is completed the repair site may be overlaid with overlay material immediately. Traffic should be kept from traveling over the repair site for a minimum of one hour after compaction or until the overlay material has cured.

5. Sand - Clay - Gravel: Sand-clay-gravel shall be composed of either a natural mixture of sand, clay and gravel or an artificial mixture prepared by either the mixing of washed sand-gravel and binder; washed gravel or crushed stone, sand and binder; or by the addition of washed gravel or crushed stone to natural sand-clay-gravel. It shall be free from an excess of soft or disintegrated pieces, alkali, adobe, vegetable matter, or other deleterious substances and shall be of such quality that it will compact thoroughly when watered and rolled to form a firm, well bonded surfacing.

5.1 Physical Requirement:

When sampled and tested in accordance with standard test methods, the aggregate shall meet the following requirements:

a. Combined Gradation - When tested in accordance with ASTM C136, or AASHO T27, the material shall meet the following sieve analyzes:

Sieve Sizes	Percent Passing (By Weight)	
	Grade A	**Grade B**
2-1/2"	100	100
1-1/2"	85-100	85-100
No. 4	40-60	50-75
No. 40	20-45	20-50
No. 20	10-20	12-25

b. Plasticity Index - When tested in accordance with ASTM D424 or AASHO T90, the plasticity index of the material passing the No. 40 Sieve shall not be more than six (6) nor

less than two (2).

c. Liquid Limit - When tested in accordance with ASTM D423 or AASHO T89, the liquid limit of the material passing the No. 40 Sieve shall be not more than 25%.

Either grade may be used unless otherwise shown on the plans or specified in the Special Provisions.

As a matter of information, but no limitation, the several materials may be combined in approximately the following proportions:

	Grade A	**Grade B**
Gravel or crushed stone, Percent	45	35
Sand, Percent	40	47-1/2
Binder, Percent	15	17-1/2

However, the exact proportion by volume shall be determined by an approved testing laboratory from test samples of the materials proposed to be used.

Gravel and crushed stone shall conform to Section 101 of the Standard Specifications for Public Works Construction. Sand shall comply with the applicable provisions of paragraph 1.21.

Binder material shall not have a plasticity index in excess of the plasticity index indicated above for the terminal product.

6. Usable Excavated Soils: Usable excavated soils, referred to as "usable soils" in LADOTD specifications, shall conform to Classes A-l-a, A-l-b, A-2-4, A-2-5, A-2-6, A-2-7, A-3, A-4, A-5, A-6, A-7-5, and/or A-7-6, except that soils in Classes A-5, A-6, A-7-5 and A-7-6, which are considered unusable by the Owner, and any soil with a plasticity index exceeding 60 will not be accepted in accordance with paragraph 203.06 in the DOTD Specifications. These materials can be used for backfill from 12 inches above the top of the pipe up to the surface in unimproved areas.

7. Soil classifications used herein are to be in accordance with the AASHO table for "Classification of Soils and Soil-Aggregate Mixtures (With Suggested Subgroups)" as shown on LADOTD designation TR423.

B. General:

1. Materials for use as fill and backfill shall be as described above. The Contractor shall notify the Owner of the source of each material and shall furnish to the Owner for testing and approval a representative sample of each material weighing approximately 50 pounds, at least ten (10) calendar days prior to the date of anticipated use of such material.

2. Additional materials shall be furnished as required from off-site sources and hauled to the site.

3. Disposal of unsuitable material is specified in this Section, paragraph 3.07.

C. Structural Fill:

1. Structural fill shall be used below spread footing foundations, slab-on-grade floors, and other portions of structures, except that, when stabilization layers or

courses are shown on the drawings, stabilization material shall be placed and compacted over the structural fill material in accordance with the requirements for the structural fill.

2. Select material, bedding material, and sand-clay gravel are acceptable structural fill materials. Any structural fill material encountered during the excavation may be stored in segregated stockpiles for reuse. All material, which in the opinion of the Owner is not suitable for reuse shall be spoiled as specified herein for disposal of unsuitable materials.

3. Well pointing: Well points shall be of P.V.C. construction of 1 1/2" x variable lengths with 3 feet of .016 slotted screen at one end of this assembly. Other end of this assembly to accept a one-piece, cylindrical shape, sleeve design of flexible P.V.C. material and to be self-sealing under any vacuum condition.

The well point accessories shall be ALCO "Sure-Seal" as manufactured by ALCO pump company or equal.

D. Trench Backfill:

1. Backfill methods for trenches, as shown on the drawings, are classified into four (4) zones: bedding, initial backfill, intermediate backfill, and final backfill.

a. Bedding is the material a minimum of 6 inches under the pipe up to a level even with six-tenths (6/10) of the outside diameter of the pipe. Limestone, size 57 or 610. At the Owner's option, the Engineer may direct the use of sand-clay gravel as initial backfill.

b. Intermediate Backfill is the material placed above the initial backfill extending up to the final backfill. Acceptable intermediate backfill materials are select material, limestone sizes 57 or 610, sand-clay gravel, and useable excavated soils. Intermediate backfill of pipes under highways or streets shall be 610 limestone or when directed by the Engineer special stabilization material. Intermediate backfill of pipes under paved driveways or parking lots shall be special stabilization material.

c. Final backfill is the material placed in the upper size to eighteen inches of the trench after densification of the intermediate trench backfill. Acceptable final backfill materials are the same as intermediate backfill except in locations under pavements, roads, streets, drives, or walks.

Pavement replacements (improved surfaces) over trenches are detailed on the Drawings.

d. Foundation is the material below the pipe bedding material. Furnish foundation material where shown on the drawings or where directed by the Engineer. Foundation material shall be as specified for pipe bedding, size 57 limestone.

E. Unsatisfactory Materials - Unsatisfactory materials shall be materials that do not comply with the requirements for other material specified herein. Unsatisfactory

materials include but are not limited to those materials containing roots and other organic matter, trash, debris, frozen materials, stones larger than 6 inches, and materials classified in ASTM D2487, as PT, OH, and OL. Unsatisfactory materials also include man-made fills, refuse, or backfills from previous construction. Materials, which are referred to as "unstable" and consists of material that is too wet to properly support utility pipe or structures shall be classified as unsatisfactory. All material classified unsatisfactory shall not be used as backfill material.

PART 3 - EXECUTION

3.01 EXCAVATION

A. General - Excavation consists of removal and disposal of material encountered when establishing required grade elevations and in accordance with the drawings.

B. Excavation Classifications - The following classifications of excavation will be made when unclassified excavation is encountered in the Work. Do not perform such work until material to be excavated has been cross-sectioned and classified by Owner or specialized geotechnical consultant.

1. Authorized earth excavation includes removal and disposal of pavements and other obstructions visible on ground surface, underground structures, utilities indicated in soil boring data on subsurface conditions, and other materials encountered that are not classified are unauthorized excavation.

2. Unauthorized excavation consists of removal of material beyond the limits needed to establish required grade and sub-grade elevations without specific direction of Owner. Unauthorized excavation, as well as remedial work directed by the Owner, shall be at no additional expense to the Owner. Backfill and compact unauthorized excavation, as specified for authorized excavations, except that bedding material as specified above, shall be used for backfill under footings, foundations bases, or retaining walls unless otherwise directed by the Owner. If acceptable to the Owner or specialized geotechnical consultant, and soil conditions allow the extra loading, the Owner may approve the use of lean-concrete fill, reinforced or un-reinforced, as required by the site conditions and as required by the Owner.

C. Additional Structural Excavation - When excavation has reached required sub-grade elevations, notify the Owner who will contact a specialized geotechnical consultant and make an inspection of conditions.

1. If unsuitable, unsatisfactory bearing materials are encountered at the required sub-grade elevation, carry excavation deeper, and replace the

excavated material as directed by the Owner.

2. Removal of unsuitable material and its replacement as directed beyond the authorized limits will be paid on the basis of Contract conditions relative to changes in the Work as provided in the General Conditions.

D. Excavation for Structures - Conform to elevations and dimensions shown within a tolerance of plus or minus 0.10 feet and extending a sufficient distance from footings and foundations to permit placing and removal of concrete framework, installation of services, other construction, and for inspection or as shown on the drawings.

1. In excavation for footings and foundations, take care not to disturb bottom of excavation. Excavate by hand to final grade just before concrete reinforcement is placed. Trim bottoms to required lines and grades to leave solid base to receive any required stabilization material or concrete.

2. In the event that excavations subsequent to the placement of the fill are performed by the Contractor to install piping, conduit, or other appurtenances, any fill placed above the level of the planned excavation shall be fully compacted in accordance with the requirements of this specification prior to beginning the excavation.

E. Excavation for Pipelines - Excavation for all trenches required for the installation of pipes and electrical ducts shall be made to the depths indicated on the drawings and in such manner and to such widths as will give suitable room for laying the pipe or installing the ducts within the trenches, for bracing and supporting, and for pumping and drainage facilities. The bottom of the excavations shall be firm and dry, and in all respects acceptable to the Owner.

Where pipes or ducts are to be laid in bedding or encased in concrete the trench may be excavated by machinery to or just below the designated sub-grade provided that the material remaining in the bottom of the trench is no more than slightly disturbed.

Where the pipes or ducts are to be laid directly on the trench bottom, the lower part of the trenches shall be excavated to grade by machinery. The material being excavated shall be done in such a manner that will give a flat bottom true to grade so that pipe or duct can be evenly supported on undisturbed material. Bell holes shall be made as required.

During excavation, material satisfactory for backfilling shall be stockpiled in an orderly manner at a distance from the banks of the trench equal to ½ the depth of the excavation but in no instance closer than 2 feet. Excavated material not required or not

satisfactory for backfill shall be disposed of by the Contractor. Grading shall be done as may be necessary to prevent surface water from flowing into the excavation, and any water accumulating therein shall be removed to maintain the stability of the bottom and sides of the excavation. U nauthorized over excavation shall be backfilled at no additional cost to the Owner.

Where sheet piling, shoring, sheeting, bracing, or other supports are necessary, they shall be furnished, placed, maintained, and removed by the Contractor. Sheet piling and other supports shall be withdrawn in such a manner as to prevent additional backfill on pipelines that might cause overloading.

In advance of any excavation of any trench or trenches, five (5) feet or more in depth, the Contractor shall submit, for acceptance of the Owner, a detail plan showing the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of casing earth during the excavation of such trench or trenches. All design of trench-protection devices shall be by a registered Civil or Structural Engineer's license in the state in which work is to occur.

3.02 FILL PLACEMENT

A. General:

1. Material placed in fill areas under and around structures within the pipe trench limits shall be deposited within the lines and to the grades shown on the drawings or as directed by the Owner, making due allowance for settlement of the material. Fill shall be placed only on pr operly prepared surfaces that have been inspected and approved by the Owner. If sufficient fill material is not available from excavation on site, the Contractor shall provide borrows as may be required.

2. Ground Surface Preparation: Remove vegetation, debris, unsatisfactory soil materials, obstructions, and deleterious materials from ground surface prior to placement of fills. Plow strip or break-sloped surfaces steeper than 1 vertical to 4 horizontal so that fill material will bond with existing surface.

3. Fill shall be brought up in substantially level lifts throughout the site, starting in the deepest portion of the fill. The entire surface of the Work shall be maintained free from ruts and in such condition that construction equipment can readily travel over any section. F ill shall not be placed against concrete structures until they have attained sufficient strength.

4. Fill shall be dumped and spread in layers by a bulldozer or other approved method. D uring the process of dumping and spreading, all roots, debris, and other objectionable material shall be removed from the fill areas, and the Contractor shall assign a sufficient number of men to this work to insure

satisfactory compliance with these requirements.

5. If the compacted surface of any layer of material is determined to be too smooth to bond pr operly with the succeeding layer, it shall be loosened by harrowing or by another approved method before the succeeding layer is placed.

6. All fill materials shall be placed and compacted "in-the-dry." The Contractor shall dewater excavated areas and is required to perform the work in such manner as to preserve the undisturbed state of the natural inorganic soils.

3.03 COMPACTION

A. General:

1. Contractor shall control soil compaction during construction and obtain the minimum required percentage of the total maximum dry densities as specified herein and as shown on the structural or civil drawings. Soil compaction with the backhoe bucket or any other heavy apparatus not designed specifically for soil compaction is not allowed. The Contractor shall maintain the backfill for a period of one (1) year after final acceptance and shall restore any backfill that fails and repair any pavement or other structures, which may be damaged as a result of backfill failure.

It shall be the Contractor's responsibility to notify the Owner in writing that compaction tests of among the nuclear gauge, sand-cone, or other method as required can be performed.

2. The frequency for density tests will be a minimum of one (1) test per lift per 1,000 linear feet under pavements, within street and highway rights-of-way, and under building slabs and one (1) randomly selected test per 2,500 linear feet for open areas (testing of each lift in open areas is not required). If the density tests indicate that the Work does not meet specified density requirements, the Owner may require additional density tests to determine the extent of the deficient Work. The Contractor will not be allowed an extension of contract time as a result of any density testing.

3. It is the Contractor's responsibility to provide equipment and labor as needed to achieve the required compaction as specified herein. Should the rates of compaction fall below the values specified herein, the Owner has the right to instruct the Contractor to alter his work to assure that the required backfill quality is consistently achieved. Any decision by the Owner to forgo such instructions shall in no way relieve the Contractor of his responsibility to provide backfill of the specified quality.

B. Percentage of Maximum Density Requirements:

1. Compact soil to not less than the following percentages of maximum dry density as determined in accordance with AASHTO T-180 (ASTM D1557, Modified Proctor) or seventy-five percent (75%) relative density as determined by ASTM D2049 as applicable.

a. Structures and five feet Around Perimeter of Building - Compact top 36 i nches of sub-grade and each layer of backfill or fill

material to a minimum of ninety-five percent (95%) of the maximum dry density.

b. Building Slabs - Compact top 12 inches of sub-grade and each layer of backfill or fill material to a minimum of ninety-five percent (95%) of the maximum dry density.

c. Compaction of Backfill Near Highways or Streets - Where the trench limit falls under the roadway pavement or within two (2) feet of the edge of pavement, requiring limestone backfill and in other areas designated on the plans where future roadways are to be constructed, backfill for the balance of the trench above a point one (1) foot above the top of the pipe shall be placed in layers of not more than six (6) inch compacted thickness and compacted with mechanical tampers or by any satisfactory method or methods that will obtain the density hereinafter specified. The density of compacted material in each layer of backfill shall not be less than ninety-five percent (95%) of the maximum dry density.

d. Walkways - Compact top six (6) inches of sub-grade to a minimum of ninety-five percent (95%) of the maximum dry density.

e. Driveway Pavements and Steps - Compact top 24 inches of sub-grade to a minimum of ninety-five percent (95%) of the maximum dry density.

f. Bedding Material - Shall be compacted to a minimum of ninety-two percent (92%) of the maximum dry density.

g. Compaction of All Other Backfill - Where a trench is in open ground and the backfill is not influenced by the loading conditions as described in the other listed backfilling requirements, the balance of the trench above a point one (1) foot above the top of the pipe may be filled and compacted in layers of not more than 12 inches to obtain a minimum density of the measured insitu condition prior to excavation. If the Contractor has to dry the excavated soil to moisture content below the insitu moisture content in order to achieve the required rate of compaction, he shall do so at no additional expense to the Owner. The final surface shall be left in a condition equal to that originally found at the start of the Work.

C. Moisture Control:

Condition sub-grade or layer material correcting moisture content:

1. When the material is too dry to be compacted efficiently, the Contractor shall uniformly apply water to surface of sub-grade or layer of soil material and thoroughly mix the soil to achieve a moisture-content near the optimum level to facilitate connection.

2. Remove and replace or scarify and air-dry soil material that is too wet to permit compaction to specified density.

3. Soil material that has been removed because it is too wet to permit compaction but is otherwise satisfactory may be stockpiled or spread and allowed to dry. T he Contractor may assist the drying process by discing, harrowing, or pulverizing to reduce the moisture content to a satisfactory value.

D. Structural fill and base course in open areas shall be placed in layers not to exceed the thicknesses specified above. Each layer shall be compacted to the minimum dry density as stated herein. Incidental compaction due to traffic by construction equipment will not be credited toward the required minimum compaction as required for any material. Acceptable bedding material is #57 limestone.

E. All other fill shall be placed and compacted in a manner similar to that described above for structural fill except that dike or levee fill required below water level in peat excavation areas, this may be placed as one lift, in-the-wet, to an elevation one (1) foot above the water level at the time of filling.

F. Areas adjacent to structures and other confined areas inaccessible to roller type equipment shall be compacted with approved hand guided mechanical compaction equipment. The Contractor shall also conform to additional backfilling requirements at structures as specified in Part 3 of these Specifications. Compaction of the fill by such means shall be to the same degree of compaction as obtained by roller type equipment and the Owner may make the necessary tests to determine the amount of compactive effort necessary to obtain connection. Unless such tests indicate that modifications may be made, the fill compacted by mechanical compactors shall be placed in six (6) inch layers and thoroughly tamped over the entire surface. Compaction equipment is subject to approval by the Owner.

3.04 PIPE BACKFILLING

A. Backfilling over pipes shall begin as soon as practicable after the pipe has been laid, jointed, and inspected and the trench filled with suitable compacted bedding material up to a level even with six-tenths (6/10) of the outside diameter of the pipe or as otherwise required on the Drawings. Acceptable bedding material is #57 limestone.

B. All backfilling shall be prosecuted expeditiously and as detailed on the Drawings.

C. Any space remaining between the pipe and sides of the trench shall be packed full by hand shovel with bedding material and thoroughly compacted with a tamper as fast as placed in lifts no greater than six (6) inches in thickness, up to a level even with six-tenths (6/10) of the outside diameter of the pipe.

D. The backfilling shall be carried up evenly on both sides of the pipe with at least one man tamping for each man shoveling material into the trench.

E. Acceptable initial backfill material either #57 limestone, sand clay gravel or select material shall then be placed and compacted from the top of the bedding material to a minimum depth of one (1) foot above the top of the pipe.

F. The remainder of the trench intermediate and final backfill, as just described above shall be filled and thoroughly compacted to the required density by rolling, ramming, or puddling to prevent subsequent settling.

3.05 BACKFILLING AROUND STRUCTURES

A. Fill shall be placed in layers having a maximum thickness of eight (8) inches in loose state and shall be compacted sufficiently to prevent settlement. If compaction is by rolling or ramming, material shall be wet down as required. Where material can be suitably compacted by flooding, the Contractor may use this method.

B. Backfilling shall be carried up evenly on all walls of an individual structure simultaneously. A longitudinal variation of two (2) feet and a horizontal variation of three (3) inches in elevation will be the maximum allowable. No backfill shall be allowed against walls until the walls and their supporting slabs if applicable have attained sufficient strength. Backfilling shall be subjected to approval of the Owner.

C. In locations where pipes pass through building walls, the Contractor shall take the following precautions to consolidate the backfilling up to an elevation of at least one (1) foot above the bottom of the pipes:

1. Place structural fill in such areas for a distance of not less than three (3) feet either side of the centerline of the pipe in level layers not exceeding six (6) inches in thickness.
2. Wet each layer to the extent directed by the Owner and thoroughly compact each layer with a power tamper to the satisfaction of the Owner.
3. Structural fill shall be of the quality specified under Part 2 of this Section.

D. The final finished surface of filled areas shall be graded to smooth true lines, strictly conforming to grades indicated on the grading plan, and no soft spots or uncompacted areas will be allowed in the Work.

E. Temporary bracing shall be provided as required during construction of all structures to protect partially completed structures against all construction loads, hydraulic pressure, and earth pressure. The bracing shall be capable of resisting all loads applied to the walls as a result of backfilling.

3.06 GRADING

A. General - Uniformly grade areas within limits of grading under this Section, including adjacent transition areas. Smooth finished surface within specified tolerances, compact with uniform levels or slopes between points where elevations are shown, or between such points and existing grades as are required or shown on the drawings.

B. Grading Outside Building Lines - Grade areas adjacent to building lines, as shown on the Drawings, to drain away from structures and to prevent ponding. Finish surface free from irregular surface changes and as follows:

1. Lawn or Unpaved Areas: Finish areas to within not more than 0.10 feet above or below the required elevation.
2. Walks: Shape surface of areas under walks to line, grade and cross-section, with finish surface not more than 0.10 feet above or below the required sub-grade.

C. Grading Surface of Fill Under Building Slabs - Grade smooth and even, free of voids, compacted as specified, and to required elevation. Provide final grades within a tolerance of one-half (½) inch when tested with a ten (10) foot straightedge.

D. Compaction - After grading, compact sub-grade surfaces to the depth and percentage of maximum dry density for each area classification.

E. Grading shall be performed at such places as are indicated on the Drawings, to the lines, grades, and elevations shown or as directed by the Owner and shall be made in such a manner that the requirements for formation of embankments can be followed. All unacceptable material encountered, of whatever nature within the limits indicated, shall be removed and disposed of in accordance with paragraph 3.07. During the process of excavation, the grade shall be maintained in such condition that it will be

well drained at all times. When directed, temporary drains and drainage ditches shall be installed to intercept or divert surface water that may affect the prosecution or condition of the Work.

F. If at the time of excavation it is not possible to place any material in its proper section of the permanent structure, it shall be stockpiled in approved areas for later use. No extras will be considered for the stockpiling or double handling of excavated material.

G. The right is reserved to make adjustments or revisions in lines or grades if found necessary as the Work progresses, due to discrepancies on the Drawings or in order to obtain satisfactory construction.

H. All fill slopes shall be uniformly dressed to the slope, cross section, and alignment shown on the drawings, or as directed by the Owner.

I. In cuts, all loose material on the back slopes shall be barred loose or otherwise removed to line or finished grade of slope. All cut and fill slopes shall be uniformly dressed to the slope, cross section, and alignment shown on the drawings or as directed by the Owner.

J. No grading is to be done in areas where there are existing pipelines that may be uncovered or damaged until such lines, which must be maintained, are relocated or where lines are to be abandoned, all required valves are closed, and drains plugged at manholes.

3.07 DISPOSAL OF UNSUITABLE AND SURPLUS MATERIAL

A. Unsuitable and surplus excavated materials, unless specified otherwise below, and pavement shall become the property of the Contractor to be removed and disposed of by the Contractor off the project site.

B. Usable excavated material may be used for fill or backfill if it meets the specifications and is approved by the Owner. Excavated material so approved may be neatly stockpiled at the site where designated by the Owner provided there is an area available that will not interfere with the Owner's access nor inconvenience traffic or adjoining property owners.

C. Surplus suitable excavated material shall be used to fill depressions as the Owner may direct.

3.08 SPECIAL FOUNDATIONS

A. The Contractor shall furnish and install a special foundation for gravity sewer pipe and manholes or other pipes (i.e., force mains, water mains, etc.) as shown on the drawings.

B. All gravity sewer lines and laterals shall be installed on the special bedding foundation and the prices for laying gravity sewer lines shall include this cost. This bedding shall be as previously specified and placed in the trench to the proposed elevation prior to any pipe lying. This bedding shall not be used under any circumstances as a drain for groundwater. The Contractor shall take all precautions necessary to maintain the bedding in a compacted state and to prevent washing erosion or loosening of this bed.

3.09 MAINTENANCE

A. Protection of Graded Areas - Protect newly graded areas from traffic and erosion. Keep areas free of trash and debris and repair and re-establish grades in settled, eroded, and rutted areas to specified tolerances.

B. Reconditioning Compacted Areas - Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify surface, reshape, and compact to required density prior to further construction.

END OF SECTION

TECHNICAL SECTION
DIVISION 2 – SITE CONDITIONS
SECTION 02376 – GEOTEXTILE FABRIC

PART 1 - GENERAL

1.01 SCOPE

This Section provides for the furnishing and placing of geotextile fabrics where shown on the Drawings or as directed by the ENGINEER.

1.02 REFERENCED STANDARD

Conform to the following Sections of the State of Louisiana, Department of Transportation and Development, Standard Specifications for Roads and Bridges, 2000 E dition; except as modified herein:

Section 712 - Revetments

All references made therein to measurement and payment is hereby deleted.

1.04 SUBMITTALS

Submittals shall be provided in accordance with Section 01340 - Shop Drawings, Product Data and Samples.

PART 2 - PRODUCTS

2.01 GENERAL

Materials related to geotextile fabric erosion control and soil stabilization for sub grades, rock rip-rap and other purposes shall conform to the following subsections of the referenced Standard:

A. Revetment 711.02

B. Geotextile Fabric 1019.01 (Class D)

PART 3 - EXECUTION

3.01 GENERAL

The Contractor shall neatly dress and prepare area designated for base construction or erosion control work as specified in Section 02240 - Filling and Grading, Section 02302 - Base Course and Section 02375 - Rip-rap for Rock Lining.

3.02 GEOTEXTILE FABRIC PLACEMENT

Geotextile fabric shall be buried for anchorage along the edges of the area to be protected. Adjacent strips shall be lapped a minimum of eighteen inches (18") and the laps shall be pinned at five foot (5') intervals. The entire area to receive revetment shall be covered with geotextile fabric.

END OF SECTION

DIVISION THREE

CONCRETE

3

TECHNICAL SECTION
DIVISION 3 - CONCRETE
SECTION 03010 - CAST-IN-PLACE CONCRETE

PART 1 – GENERAL

1.01 SCOPE

This Section covers the requirements of concrete, reinforcing steel, and related materials, and methods of construction for cast-in-place concrete structures and facilities as shown on the drawings.

The Contractor shall provide all labor, material, equipment and services required to form, furnish, place and finish all reinforced and non-reinforced cast-in-place concrete work as shown on the drawings, specified herein, or directed by the Engineer, including furnishing and placing all reinforcing steel and ties, water stops, installing all items to be built into concrete work, and repairing and patching existing concrete work which is required to be disturbed or altered in this Contract.

1.02 GENERAL

In general, all structural concrete shall be in accordance with ACI-318R-89 Specifications, latest revision. All liquid holding or conveying structures shall also comply with ACI C350 and ACI 504.1R82 specifications, latest revision, shall govern in case of conflict with this Specification.

Unless otherwise indicated on the drawings, the 28-day compressive strength shall be as follows:

(1) Liquid holding and conveying structures:
4000 p.s.i. (cement as required by performance requirements)
(2) Building floor slabs and foundations, walkways, and other structures:
3000 p.s.i. (cement as required by performance requirements)

A. Submittals:

1. The Contractor shall furnish at his own expense, concrete mix designs to the Engineer for review and approval before any pours are made; however, this approval does not in any way relieve the Contractor of his responsibility for the concrete attaining the required strengths. The Owner reserves the right to have concrete test cylinders made during each monolithic pour at his own expense. If the tests reveal that adequate strength is not attained, the Contractor will be responsible not only for the testing cost but also for any required remedial work. He must also provide a new mix design.

2. Before beginning any reinforced concrete construction, the Contractor shall furnish to the Engineer for approval in accordance with Section 01340, fully dimensioned drawings of the proposed work indicating all reinforcing steel.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Cement - Portland Cement shall conform to the requirements of ASTM Standards for "Portland Cement," C 150, Type 1, latest revision, with approved air entraining admixture, as directed by the Engineer.

B. Aggregates:

1. Liquid Holding and Conveying Structures: Fine aggregates shall conform to the requirements of the ASTM Standards for "Concrete Aggregates," C 33, latest revision. If the materials become contaminated or streaked with clay, dust, or other foreign matter, or if the fine and coarse aggregates become intermixed, they shall be remixed and properly washed, or removed from the site of the Work, as directed by the Engineer.

Coarse aggregate shall have a maximum size of one inch and shall conform to ASTM C33, latest revision. The following maximum limitations shall apply:

- Soft particles:	2.0 percent
- Chert as a soft impurity (defined in Table 3 of ASTM C 33):	1.0 percent
- Total of soft particles and chert as a soft impurity:	2.0 percent
- Flat and elongated particles (long dimension more than 5 times short dimension):	15.0 percent

2. Other Structures: Aggregates for other concrete structures shall be in accordance with Section 204 of ACI 301-89, latest revision.

C. Water - Water for use in concrete shall be reasonably clean and free from injurious amounts of oil, acid, alkali, organic matter, or other deleterious substances. Water, which is suitable for drinking may be accepted for use with the cement without being tested.

If the water is of questionable quality, it shall be tested in accordance with the current standard Method of Test for Quality of Water to be used in Concrete, AASHTO Designation T-26, latest revision.

D. Admixtures - Water-reducing, set-controlling admixture conforming to ASTM C494-86 shall be used in all concrete placed in liquid holding and conveying structures. These admixtures may be used in all other structures as required. The following ASTM designations shall apply:

Type - A	(Water reducing)
Type - B	(Retarding)

Type - C	(Accelerating)
Type - D	(Water reducing and retarding)
Type - E	(Water reducing and accelerating)
Type - F & G	(High range water reducing super plasticizers)

1. Field Service - When requested, a qualified concrete technician employed by the manufacturer shall be available to assist in proportioning concrete materials for optimum use, to advise on pr oper use of the admixture and adjustment of concrete mix proportions to meet job site and climactic conditions. A minimum of 72 hours notice shall be given by contractor/supplier to insure availability.

2. Any admixture utilized must be shown capable of maintaining essentially the same composition and performance throughout the work.

3. Admixtures containing chloride ions shall not be used if their use will produce a deleterious concentration of chloride ion in the mixing water.

4. Air entraining admixtures shall conform to "Specifications for Air Entraining Admixtures for Concrete", ASTM C260, latest revision.

5. High-Range Water-Reducing Admixture (Super Plasticizer) - ASTM C494, Type F or Type G. The admixture shall not contain calcium chloride nor any chloride based ingredient. The admixture shall be added to the concrete at the batch plant. T he treated concrete must be capable of maintaining its "high slump" state for at least 90 minutes.

a. Material shall meet or exceed the following qualities:

1) Product shall be manufactured under an established quality assurance program.
2) The manufacturer's concrete testing laboratory shall be regularly inspected by the Cement and Concrete Reference Laboratory of the National Bureau of Standards.
3) Manufacturer shall submit certification and a conformance test report from an independent testing laboratory attesting to the product meeting all requirements of ASTM C 494-86 for Type F and G admixtures.
4) Manufacturer shall submit a company warranty.

b. Available Products: S ubject to compliance with requirements, products, which may be incorporated in the work include, but are not limited to, the following:

"Sikament"; Sika Chemical Corp.
"PSI Super"' Gifford-Hill
"Rheobuild"; Master Builders

2.02 MIX PROPORTIONING

A. Liquid Holding and Conveying Structures - Concrete shall be watertight and resistant to naturally occurring or commonly used chemicals. All materials shall be so proportioned as to produce a well-graded mixture of high density and maximum workability, with a specified 28-day compressive strength as required. The concrete

shall be proportioned in accordance with ACI 211 Standards, latest revision, subject to the following special requirements:

1. Compressive strength shall be 4000 p.s.i. (28-day)
2. Maximum aggregate size shall be 3/4 inch.
3. Cement content as required.
4. Air entraining admixture shall be required for all exposed concrete.
5. High range water reducing admixture will be required for walls, beams, columns and elevated slabs, etc. (base slabs are optional).
6. Maximum water/cement ratio = 0.50. When water-reducing admixtures are used in the concrete, the water/cement ratio shall be less than 0.45.
7. Air content (ASTM C 231 or ASTM C 173) shall be provided with a 4.5% +/- 1.5% treatment dosage (by volume).
8. Slump -8 in. < Slump < 11 in. (with super plasticizer) 1 in. < Slump < 3 in. (Base slabs without super plasticizer).

B. Other Structures - Building slabs, foundations, walkways and all other structures not described in Paragraph A shall be regular concrete subject to the following special requirements:

1. Compressive strength shall be 3000 p.s.i. (28-day).
2. Cement content as required.
3. Air entraining admixtures shall be required for all exposed concrete.
4. Water reducing admixtures may be used as required.
5. Maximum water/cement ratio: 0.50 (no water-reducing admixtures) 0.45 (with water-reducing admixtures)
6. Air content (ASTM C 231 or ASTM C 173) shall be provided with a 4.5% +/- 1.5% (by volume).
7. Slump:
   1" minimum
   3" maximum in footings
   4" maximum in slabs, beams, walls, columns, etc.

C. Control of Set - Concrete shall be adjusted to produce the required rate of hardening for varied climactic and job site conditions.

1. Under 50 degrees F (10 degrees C) ambient temperature - Accelerate (Type C or Type E admixture -ANSI/ASTM C 494-80).
2. Above 80 degrees F (27 degrees C) ambient temperature - Retard (Type B and D admixture ANSI/ASTM C 494-80).
3. Between 50 degrees F (10 degrees C) and 80 degrees F (27 degrees C) - Normal Rate of Hardening (Type A admixture - ANSI/ASTM C 494-80).

2.03 MIXING AND BATCHING

Concrete shall be mixed only in quantities needed for current use. Concrete which shows evidence of partial set or which has been re-tempered or remixed shall not be used. Mixing shall

be in accordance with ACI 301-72, latest revision.

A. Machine Mixing - If the concrete is to be mixed at the job site, an approved batch mixer shall be used, except when otherwise authorized by the Engineer. The mixer shall be capable of combining the aggregates, cement, and water within the specified time into a thoroughly mixed and uniform mass, and discharging the concrete without segregation. The mixer shall be equipped with an approved batch meter and timing device which will automatically lock the discharge lever during the time of mixing, and a means of accurately measuring the water, unless otherwise authorized. Before any mixing is begun, all equipment used in the mixing operation shall be thoroughly cleaned of all loose particles of old concrete, left over aggregates, ice, debris and other such foreign substances.

Each batch of concrete shall be mixed for 1-1/2 minutes after all the materials composing the batch, including the water, have been deposited simultaneously in the mixer drum. The mixer shall rotate at the rate recommended by the manufacturer. The drum shall be entirely emptied after each batch.

Hand mixing will not be permitted.

B. Ready Mixed Concrete - Ready mixed concrete shall include both central mixed and transit mixed concrete, and all the specification requirements covering materials, proportioning, and mixing and batching, as set forth in the ASTM Standards for "Ready Mixed Concrete,", C 94, latest revision, shall apply unless otherwise specified herein. The concrete shall be delivered and placed in the Work no later than 120 minutes after the water has been added, provided that mixing has been continuous in the truck agitator. When ready mixed concrete is used for a continuously poured concrete section, the elapsed time between batches shall be no more than 20 minutes. Non-agitating type trucks shall not be used to haul ready mixed concrete under any circumstances.

1. Transit Mixed Concrete - When the concrete is transit mixed, the truck mixer shall be of an approved revolving drum or revolving blade type.

2. Central Mixed Concrete - When a central mixing plant is used, the concrete shall be delivered in approved truck agitators or truck mixers.

C. Retempering - Retempering will not be permitted except in case of emergency and only then in accordance with special instructions of the Engineer. In general, all

concrete or mortar, which has partially hardened shall be wasted and not used in the Work.

2.04 REINFORCING STEEL

The Contractor shall be responsible for the furnishing, cleaning, placing, and protection of all reinforcing steel called for on the drawings and/or specified to meet the requirements of the work of this Contract.

A. Materials - All steel used for reinforcement of concrete shall be deformed bars rolled from new billets, unless otherwise authorized by the Engineer, and of the shapes, weights, and sizes shown on the drawings, or as required. The steel shall conform in all respects to the current ASTM "Specifications for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement," A615, latest revision. All reinforcing shall be Grade 60, 60,000psi, of new stock, free from mill scale, rust, dirt, grease, or other foreign matter.

Samples of reinforcing steel for analysis and tests shall be furnished by the Contractor, if required by the Engineer.

B. Cleaning - Before placing the reinforcing steel in the concrete, it shall be thoroughly cleaned, and shall be kept clean until the concrete is placed. If not kept clean during and after placing as specified, the steel may be required to be removed from the form, cleaned, and replaced as directed.

If the reinforcing steel is washed after having been placed in the forms and prior to concreting, the wash water shall be drained or pumped leaving the foundation firm and dry when the concrete is poured.

C. Placing - All reinforcing steel shall be placed in conformance with the spacing, splices, and sizes shown on the drawings, or as directed by the Engineer. It shall be bent or fabricated as shown on the drawings or as directed, and shall be fastened in position so as to prevent its possible displacement during the placing of the forms and the pouring of the concrete. Where splices in bars are allowed, the splices shall be in accordance with ACI 318-89 Standards. Bends shall be accurately made cold in a bending machine in conformance with the standard practices specified in the current codes of the "American Concrete Institute," or as directed by the Engineer. Bars shall be securely fastened at crossings and splices, and wherever practicable shall be supported and braced with acceptable steel chairs, steel spreaders and/or cement mortar

blocks cast for this purpose.

Sheets of mesh or bar mat reinforcement shall overlap each other sufficiently to maintain a uniform strength and shall be securely fastened at the ends and edges.

The edge lap shall not be less than one mesh in width. Before any concrete is placed, the Engineer shall have inspected and approved the placement of the steel reinforcing and given permission to place the concrete.

D. Protection - Before placing the steel, it shall be thoroughly protected from all moisture and dirt. After placing, it shall be protected against possible disturbance or displacement until the concrete is placed; and, if concreting is interrupted for any considerable number of days, the steel shall be protected with canvas, tarred paper, or other satisfactory covering.

Reinforcing bars left temporarily projecting from concrete to which other bars are to be joined shall be maintained in their original position. Bending of these bars, requiring subsequent straightening, will not be permitted.

2.05 CEMENT GROUT

Concrete material for grouting around pipes, repairing holes and grouting under machinery and equipment, shall be a non-shrink premixed mortar, similar or equal to Sealtight 558 as manufactured by W. R. Meadows, Inc. or approved equal. The non-shrink mortar shall be terminated one inch below the finished surface and the final inch shall be a conventional mortar material applied in a workmanlike manner to provide a neat appearing finished surface.

Grout shall be mixed as directed by the Manufacturer so as to form a stiff consistency. The grout shall be composed of high early strength cement, sand, and an expanding agent. No lime shall be permitted in the mix. The mix shall attain a compressive strength of at least 7,500psi after seven days and 9,000psi after twenty-eight days. Grout shall conform to Corps of Engineers Specification CRD-C-588-78, latest revision.

2.06 JOINTS

A. General - Three (3) types of joints are to be utilized in the project. They are described below:

1. C.J. (Construction Joint) provides a pre-formed key, reinforcing through the joint, water stop and joint sealant.
2. (Contraction Joint) provides terminated main reinforcing each side of joint, smooth dowels through the joint, water stop (PVC) and joint sealant.

Details in the drawings relate to contraction joints only.

3. E.J. (Expansion Joint) provides terminated main reinforcing each side of joint, smooth dowels with grease cup through the joint, water stop (PVC/bulb) and joint sealant.

After joints have been installed in all water-bearing structures, a survey shall be conducted to determine if joint is watertight. Should a joint leak, the Contractor, at his own expense, shall make adjustments necessary to make the joint watertight. Any adjustments shall be submitted to the Engineer for his approval prior to the commencement of any Work.

B. Material - Water stops shall be used on all liquid holding and conveying structures and below grade portions of other structures in accordance with Section 3.07 of these Specifications. Filler and sealants shall be as follows:

1. Pre-molded Joint Filler:

a. Joint filler for expansion and isolation joints called for on the drawings shall be "asphalt joint" as manufactured by W.R. Meadows or approved equal unless otherwise noted.

b. Other Pre-molded Joint Filler - Where pre-molded cork-asphalt or pre-molded closed cell neoprene joint filler is required by the Drawings, it shall be of the dimensions indicated on the Drawings and must be approved by the Engineer before installation.

2. Joint Sealer:

a. Joint sealer for construction, contraction, expansion and isolation joints called for on the drawings shall be "Sonomeric CT-1 Sealant" as manufactured by Sonneborn or an approved equal unless noted otherwise.

All construction and contraction joints in liquid holding and/or conveying structures shall receive joint sealant applied in a pre-molded block. Sealant shall be applied on the waterside of walls or slabs.

C. Construction Joints - When the placing of concrete is suspended, all necessary grooves or construction joints for joining future work shall be made before the concrete has had time to set. All construction joints shall be made in accordance with ACI 301-89, latest revision.

1. Location and Type - The location and type of construction joints shall be as shown on the drawings or as approved by the Engineer. The location of construction joints other than those indicated on the drawings shall be approved by the Engineer prior to commencing work on any structure.

They shall be designed and located so as not to impair the strength and appearance of the structure. All joints shall be either horizontal or vertical, unless otherwise shown on the drawings or approved by the Engineer.

2. Keys - Keys shall be provided in all construction joints unless otherwise shown on the drawings. Unless otherwise stipulated, the width of the keys shall be approximately one-third of the width of the section at that point, and their depth one-third of the width.

Immediately after the removal of the end form or bulkhead of a poured section, any projecting fins shall be removed from the surface and interior of the keys.

3. Alternate Water stop System:

a. The "Synko-Flex Preformed Plastic Adhesive Water stop" and "Synko-Flex Primer" system manufactured by Synko-Flex Products, Incorporated, Houston Texas (800-231-4551) (or approved equal) may be substituted for the PVC water stops shown on the Drawings for all construction joints (excluding contraction and expansion joints).

The water stop material shall be a single-component, self-sealing plastic adhesive type. It shall also have non-oxidizing, non-evaporating, non-expanding, non-shrinking, and with water, chemical and saturated hydrogen sulfide resistant characteristics.

The pre-formed plastic water stop shall meet or exceed all requirements of federal specifications SS-5-210A and shall not contain solvents, irritating fumes or obnoxious odors. The water stop shall be extruded in a "ropelike" form and wrapped between two silicone treated protective paper strips. The extrusion shall have at least 1.0 square inches of cross-sectional area and be shipped in lengths practical to install (3'-0" long, minimum).

Adhesive primer shall be supplied by the water stop manufacturer to insure compatibility of bonded materials.

b. The following criteria and/or conditions will serve as prerequisites for utilization of the alternate water stop system.

1) The starter walls shown at the base of the vertical walls may be omitted. A key will be cast into the base slab in place of the started walls. Inverted key will not be permitted.
2) The water stop system installed shall comply and meet or exceed those test criteria set forth in Shilstone Testing Laboratory Report 6-5016-B-R, dated 11/11/87, those test criteria set forth in the report titled "Hydrostatic Pressure Tests on Synko-Flex Preformed Plastic Adhesive Water stop" dated March 1979, issued by the Department of Civil Engineering of the University of Texas, and "Hydrostatic Pressure Testing of Synko-Flex Preformed Plastic Adhesive Water stop Report No. SWRI 06-1391-201" dated November, December, 1986 and January, 1987, by Southwest Research Institute, San Antonio, Texas.

3) Contractor shall install the alternate water stop system in accordance with his vendor/supplier's approved integrated shop drawings and installation procedures. Submittal of details of placement in and around PVC water stops in expansion/contraction joints will be required by the Contractor/vendor. Sample submittals will be required.
4) Contractor/vendor shall warrant the product, its installation and performance in accordance with the General Conditions.

2.07 PIPES, CASTINGS AND CONDUITS EMBEDDED IN CONCRETE

The Contractor shall do everything possible to have all castings and inserts delivered to the Work, so that they may be placed in the forms and concreted in place. In case any castings and inserts are not on the job, the Contractor shall remove the forms from the openings and prepare the opening for placing of the casting or insert. After the casting or insert is placed, he will then build forms for concreting the opening around the casting; such forms shall be so constructed that the concrete or mortar in the highest point can be poured under a head of concrete or mortar of not less than six inches and shall in every way meet with the approval of the Engineer. Where basins holding water or other liquids are involved or where leakage through the concrete so placed may occur, the concrete shall contain a waterproofing agent such as "Embeco", as manufactured by the Master Builders Company, Cleveland, Ohio; "Ferrolith GDS" as manufactured by the Sonneborn Chemical and Refining Corporation, New York, New York; "Thoroset Metallic Grouting Compound" as manufactured by Standard Dry Wall Products, Inc., New Eagle, Pennsylvania; or approved equal. All such waterproofing agents shall be used in strict accordance with the manufacturer's instructions. The Contractor shall be responsible for the water tightness of the concrete work and shall remove the forms and finish the concrete in a thorough competent and workmanlike manner.

PART 3 - EXECUTION

3.01 PLACING CONCRETE

Before placing the concrete, the space within the limits of the pour shall have been cleaned of all debris and water, and adjacent concrete surfaces prepared as hereinafter specified.

A. Methods - The Contractor shall provide sufficient and suitable equipment and labor to assure that the concrete when deposited in the forms shall have the quality and consistency specified regardless of the methods of transporting, handling, placing and working.

1. Transporting and Placing Concrete - Concrete shall be transported and placed by methods which will prevent segregation or loss of materials.

The concrete shall be placed so that the top surface is level and does not flow along the forms. Precautions shall be taken to eliminate the possibility of segregation through free dropping of the concrete.

2. Working the Concrete - During and immediately after placing, the concrete shall be thoroughly worked by spading, vibrating or other suitable methods to assure a dense, compacted, homogeneous concrete free of voids, pockets, or seams of segregated materials. The forms shall be completely filled without overflowing. Care shall be taken to avoid disturbing the alignment of the forms and displacing the steel reinforcement or any embedded fixtures.

B. Placing Concrete Under Water - Concrete shall not be deposited in water or exposed to the action of water before setting except with the approval of the Engineer. In no case shall concrete be deposited in running water. If concrete is to be placed in water, the formwork designed to retain such concrete shall be watertight.

C. Placing Concrete in Cold Weather - Using normal placing techniques, concrete shall only be poured when the ambient temperature is 40 degrees F and rising. Concrete may, with permission, be placed in weather colder than 40 degrees F subject to ACI 306R-88 and the following:

1. An approved accelerating agent shall be used in the concrete. Calcium chloride shall not be permitted as an accelerating agent without the prior written approval of the Engineer.

2. Water and aggregates used in the concrete mix shall be heated to 90 degrees F to 100 degrees F prior to injection into the mix.

3. Forms shall be heated prior to concreting and the area shall continue to be heated after placement of the concrete for a period of at least 48 hours or until the ambient temperature is above 45 degrees F, whichever occurs first.

The Engineer may, however, prohibit the placing of concrete at any time when, in his judgment, the conditions are unsuitable or the proper precautions are not being taken, whatever the weather may be in any season.

3.02 CURING

All concrete surfaces normally exposed to the atmosphere shall be protected against too rapid drying by curing for a minimum period of seven (7) days.

Concrete shall be either cured by keeping continuously wet with water for the above specified periods or the exposed surfaces of the fresh concrete may be sealed with an approved curing compound which will minimize the escape of moisture from within the concrete.

Concrete being cured shall be wet down as often as is necessary to keep it continually wet. Vertical surfaces shall be protected from too rapid drying by being covered with burlap or other suitable blanket material kept continuously wet for a period of 7 days.

A. Membrane Curing - Membrane curing shall be accomplished by coating the entire exposed surface of the concrete with a liquid compound applied uniformly by means of an approved pressure spray distributor, at the rate of 200 square feet per gallon of material. To prevent waste or pooling, the required application may be secured by more than one coat.

Curing compound shall be of a nature and composition not deleterious to concrete, thinned to a working consistency either with a volatile solvent or by emulsification with water. The curing compound shall be of standard and uniform quality and shall be ready to use as shipped by the manufacturer. No diluting shall be permitted.

It shall form a membrane which will adhere to moist concrete and which will not disintegrate, check, peel from the surface, nor show signs of such deterioration within thirty (30) days after application, under actual weather and working conditions.

The compound shall, when tested in accordance with the method of test for "Water Retention Efficiency of Methods for Curing Concrete: ASTM C 156, latest revision, be effective in limiting the water loss in the concrete test specimen to 3-1/2 percent when applied at the rate of coverage recommended by the manufacturer.

3.03 FINISHING CONCRETE SURFACES

The provisions of this Subsection shall apply to all exposed exterior concrete surfaces and all interior concrete surfaces of conduits and structures whose finish is not specified elsewhere in these Specifications or specifically indicated on the drawings.

Holes produced by form ties, any other holes, honeycomb spots, broken corners or edges, and other defects on all surfaces shall be thoroughly cleaned and, where necessary, cut back to homogeneous concrete. These surfaces shall be saturated with water and carefully pointed and trued with mortar composed of one part of Portland Cement and 2 parts of sand so that a smooth, even surface of uniform color and texture results.

The exposed tops of walls of structures shall be brought to true level, floated to bring a workable grout to the surface, struck off and re-leveled where necessary with cement grout of the same proportions as the mortar of the concrete. The wall tops shall then be float finished and

edged unless otherwise indicated on the drawings. The edger used shall be of ½" radius and shall have its flanges ground to a knife-edge so as to have as little burr as possible.

Where not otherwise indicated on the drawings, the top and bottom slabs of all structures and water carrying conduits shall be finished as follows: The top of the slab shall be screeded to grade and cross section; lightly tamped as required to bring up a good bed of mortar for finishing and re-screeded as necessary. The surface shall then be finished with a wood float and leveling darby. No further finish will be required on top slabs or structures or conduits, which are to be buried. All exposed top slabs of structures and conduits shall be given a final wood and brush finish with a smooth surface that conforms with accuracy to required shape, slope and grade. Slabs shall be edged as appropriate.

A. Rubbing and Grinding - In general, all concrete exposed permanently to view including the inside of basins constructed to hold water (to 1'-6" below normal water level) shall be finished by wet rubbing. Where such wet rubbing is required, the forms shall be removed from the concrete as quickly as possible and the rubbing accomplished mechanically by a slow speed-grinding wheel or manually with No.20 carborundum stones.

During the rubbing process, the concrete shall be kept thoroughly wetted and the rubbing continued until all form marks, fins, and other such irregularities have been removed and until the entire surface of the concrete is of a smooth, even texture and is uniform in color. Where wet rubbing is accomplished manually, the final rubbing shall be accomplished with No. 40 carborundum stones.

Where dry grinding is required or necessary to remove fins or projections prior to final finishing or necessary because the concrete has hardened beyond the point where wet rubbing will be effective, it shall be accomplished mechanically with high speed grinding wheels or discs satisfactory for the purpose. Where air holes must be filled and the dry grinding is to affect the finished surface, the concrete shall first be painted with a coating of wet cement paste and then ground with a slower speed machine until the desired surface texture is obtained; additional cement paste and water shall be added as needed.

B. Building Floors - After the concrete has been placed, spread and compacted as specified, the floor shall be screeded or struck off to the proper level. When the

concrete has hardened to the point where it can no longer be dented with the finger or only a slight amount of moisture comes to the surface, it shall then be floated, mechanically with machines designed for this purpose or by hand with wooden floats. The floating shall be continued until all hollows have been filled and an even sandstone like surface achieved.

A chemical hardener shall be applied to interior building floor areas in accordance with the manufacturer's recommendations. The hardener shall be "HARDTOP" as manufactured by Gifford-Hill, Inc., an equivalent by Sonneborn or approved equal.

3.04 SWEPT CEMENT GROUT FINISH

The floor surfaces of basins in which raking mechanisms are to be installed, shall be finished, as indicated on the drawings, by sweeping in cement grout with the mechanism. The cement grout to be used shall be composed of one part Portland cement and two parts sand.

The sweeping-in process shall be performed under the supervision of a factory representative of the equipment manufacturer and all costs incidental to such supervision shall be included in the bid price for the Work.

The slab upon which the grout is to be applied shall be finished as described above except that after leveling and floating it shall be lightly raked in such a manner as to provide a good bond for the grout. Before grout is deposited on the slab it shall be thoroughly cleaned, wet down with clean water and lightly dusted with neat cement immediately prior to placement of the grout.

3.05 TESTING

The Contractor shall submit the mix design he intends to use to the Engineer, which must be provided by preliminary cylinder tests at least 30 days before the operation. The costs for these preliminary cylinder tests shall be borne by the Contractor.

A. Slump Tests - Slump tests, if ordered by the Engineer, shall be made at frequent intervals on the concrete that is to be incorporated into the Work. Failure of the concrete to satisfy the slump test shall be sufficient reason for removal of the concrete and replacement with satisfactory concrete, if, in the opinion of the Engineer, such concrete is unfit for the purpose for which it was designed. The slump test shall be performed in accordance with the ASTM Standards for "Slump Tests," C 143, latest

revision.

B. Test Cylinders - One set of test cylinders shall be obtained Contractor for each day's pour or one set for each 75 yards poured per day. Cylinders falling below the minimum compressive strength, as hereafter specified, will be sufficient reason for the removal of the concrete and replacement with satisfactory concrete, if, in the opinion of the Engineer, such concrete is unfit for the purpose for which it was designed.

One set of test cylinders shall include four (4) test cylinders six (6) inches in diameter and twelve (12) inches high. Two cylinders shall be tested at seven days and two cylinders shall be tested at 28 days. These cylinders shall be made and tested in accordance with the ASTM Standards for "Making and Curing Specimens," C 31, latest revision, and "Test for Compression Strength of Concrete Cylinders," C 39, latest revision. The costs for cylinder testing shall be borne by the Owner. The making, curing and testing of selected concrete cylinders shall be performed by a certified, independent laboratory, selected by the Engineer and paid for by the Owner.

Should the concrete fail to meet the specified 28-day strength, the Engineer may order tests on the hardened concrete as described in Section 1704 of ACI 301-89. If the concrete is cored and the cores fail to meet the specified 28-day strength, the Engineer shall have the right to reject the concrete, change the mix proportions, or both, at the expense of the Contractor.

3.06 FORMING

The forms shall be suitable for the work and shall conform to the shape, lines and dimensions of the structure to be built as shown on the drawings.

For all surfaces, which are exposed in the finished work, forms shall be of steel, metal surfaces on wood, plywood, pressboard, or well-seasoned boards, dressed all over and smooth. They shall be so built that when removed, the concrete will be left free from offsets, fins, ridges, or other unsightly defects. Formwork shall be constructed so as to ensure that the concrete surfaces will conform to the tolerances of Section 203.1, "Recommended Practice for Concrete Formwork," ACI-347, latest revision. Forms shall be sufficiently tight to prevent leakage of mortar. The size and spacing of studs and wales shall be determined by the nature of the work and the height to which concrete is placed. Joints shall be snug, and shall occur at the designated locations only.

All forms shall be cleaned and inspected immediately prior to placing concrete. Deformed, broken, or defective forms shall be removed from the work. Temporary openings shall be provided where necessary to facilitate cleaning and inspection just prior to placing concrete.

Should the forms show any sign of yielding, spreading or otherwise becoming displaced from correct alignment or position during or after the placing of concrete, they shall be corrected immediately by adjustment or bracing to the extent necessary, or, if required, shall be removed in part or in their entirety and rebuilt or reset.

The entire inside surfaces of forms shall be oiled with approved form oil, or shall be thoroughly wetted just prior to placing concrete.

All exposed corners and edges shall have a formed 3/4-inch chamfer unless otherwise indicated on the drawings.

Wooden forms for surfaces not exposed to view may be built of sound No.1 yellow pine, Douglas fir, or equivalent acceptable lumber, dressed on all sides and neatly fitted. Matched lumber, shiplap, or other satisfactory joint lumber shall be used throughout, and tongued and grooved material shall be used where required.

Sheeting shall be erected in level random courses. All vertical joints shall be squared, and all horizontal joints shall be level and matched throughout the entire job. Except for panel forms, vertical joints shall not exceed the width of one board and shall be staggered at least thirty-two (32) inches and made on the center of a stud. Inside forms shall not be placed until exterior forms have been checked, or vice versa.

Forms for beam and girder soffits shall be constructed with nominal 2-inch lumber, and all joints shall be tight and even. Beam and girder soffits shall be sufficiently braced, shored, and wedged to prevent deflection.

Forms for all interior exposed concrete surfaces and designated areas of exterior exposed concrete surfaces shall be constructed with minimum thickness 5/8-inch plywood for straight sections, and 3/8-inch plywood for curved sections. Plywood shall be made with waterproof glue and manufactured especially for concrete formwork. Edges shall match in thickness, width, and length. Full size sheets of plywood shall be used, except where otherwise required or where smaller pieces will cover an entire area. Forms shall be placed so that markings will be symmetrical. Plywood shall be thoroughly oiled on contact faces and edges with raw linseed oil

or other approved form lacquer. Surplus oil shall be wiped off forms before reinforcing steel is placed and while the surfaces are accessible.

If steel forms are proposed, they shall be approved prior to use. The forms shall be accurately constructed in a standard size and in such minor multiple widths and lengths as will permit plates and fillers to be erected to correct curves, as required.

Steel forms shall be coated before each use, with light, clear paraffin-base oil, or other acceptable commercial preparation that will not discolor the concrete. Plates shall be wire brushed after each use.

Voids below grade beams, walls, and slabs shall be closed by a monolithic extension of the concrete member at its edges, or by pre-cast concrete blocks which extend at least 6" into the sub-grade to retain the adjacent soil.

Only form ties, hangers, and clamps approved by the Engineer shall be used, and they shall be of such type that no metal will be closer than one-half (1/2") inch from the surface. Wire ties will not be permitted. Lugs, cones, washers, or other devices which will leave holes or depressions at the surface of the concrete greater than 7/8" diameter shall not be fitted within the forms. The spacing of form ties, hangers, and clamps shall be strictly in accordance with manufacturer's directions.

In general, forms shall not be removed until the concrete has hardened sufficiently to support its own load safely plus any superimposed loads that might be placed thereon. In any event, forms shall be left in place at least the minimum required length of time specified below, after the date of placing concrete:

Columns	2 days
Side forms for girders & beams	2 days
Bottom forms of slabs	7 days
Bottom forms of beams & girders	7 days
Walls	2 days

The removable portion of form ties shall be withdrawn from the concrete immediately after taking down the forms. The holes left by such ties shall be filled with grout and the surface shall be finished with a steel spatula or rubbed with sackcloth.

Care shall be taken in removing forms, wales, shorings, supports, and the form ties to avoid spalling or marring the concrete. The required rubbed finish and such patching as may be necessary shall be started within one (1) day after removal of the forms.

Where it is necessary to block out an opening in a concrete wall or slab to accommodate fittings the forms used in making the opening shall include a keyway on all facings. The space between the pipe or fitting and the concrete shall be thoroughly cleaned and filled with a non-shrink grout or mortar, which will preserve watertight integrity.

3.08 WATER STOPS

Water stops shall be installed in construction joints at locations shown in the drawings. All water stops shall be continuous throughout their length.

The water stops shall be heavy duty polyvinyl water stop conforming to Corps of Engineers Specification CRD-C-572, latest edition, as manufactured by Serviced Products Division of W.R. Grace and Company; B.F. Goodrich Company; Electrover, Inc.; W.R. Meadows, Inc.; Vinylex Corporation; Wal-John, Inc.; Greenstreak; or an approved equal of the same type and material and approximately equal in dimensions and weight but not necessarily of exactly the same shape. Water stops shall be of the type, shape and size shown on the drawings. A serrated center bulb type water stop will be provided at the expansion joints.

The water stop shall be extruded from polyvinyl chloride resin plastic having the following minimum properties:

Tensile Strength	1,700 psi
Ultimate Elongation	350%
Brittleness Temp (ASTM D746-57T)	-35 degrees F

All water stops shall be installed so that one-half width will be embedded on one side of the joint and one-half on the other. The Contractor shall employ a method of placing the water stop to insure that the water stop will be held securely in true vertical position and in straight alignment in the joint and to completely enclose the water stop in the concrete without air voids.

All water stops shall be continuous and so joined at all points of contact in the same plane, or at intersections with water stops in different planes, so as to form a complete barrier to the passage of water through any construction, contraction or expansion joint and all joints shall be made by heat welding as specified herein.

Joints in PVC water stops shall be made by heating the two surfaces to be joined until the material has softened to the point where it is just short of being fluid and then bringing the two softened surfaces together with a slight rubbing motion followed by firmly pressing them together so that a solid and tight bond is made. The joints in strips of water stop made in the

above manner shall be such that the entire cross-section of this joint shall be dense, homogeneous and free of all porosity. All finished joints shall have a tensile strength of not less than 75 percent of the material of the strip as extruded.

The heating of the surfaces to be jointed shall be done by means of an electric hot plate splicer designed for the specific purpose and controlled by means of a voltage regulator. It shall be rated at 1,000 watts for use with 115-volt electric current. The size of the plate shall be approximately 2-inch by 10-inch, with a Teflon cover, and shall be such that both sides of the plate can be used simultaneously. The voltage regulator to be used in conjunction with the above described hot plate shall be rated at 7.5 amps, 115-volt input and 0-135-volt output. In use, the heat of the hot plate shall be so regulated as to prevent too rapid melting and accompanying charring of the water stop material.

The Contractor shall provide such jigs as will assist in making the joints in a proper and workmanlike manner and in holding the strips so that the alignment of joined strips is correct and angles are true to those required.

Prior to embedment, all joints in the water stop strips will be carefully inspected by the Engineer and any found defective shall be corrected. The Contractor shall take such steps as are necessary to protect exposed water stops at all times.

END OF SECTION

TECHNICAL SECTION
DIVISION 3 – CONCRETE
SECTION 03200 – CONCRETE REINFORCEMENT

PART 1 - GENERAL

1.01 SCOPE

This Section covers reinforcement for Portland cement concrete for Administration Building and sidewalk concrete. S ee 03010 Cast-In-Place Concrete for all other concrete reinforcement.

1.02 APPLICABLE PUBLICATIONS

The publications listed below form a part of this Specification to the extent referenced. The publications are referred to in the text by the basic designation only.

A. American Concrete Institute (ACI) Standard

318-83 - Building Code Requirements for Reinforced Concrete

B. American Society for Testing and Materials (ASTM) Publications

A 82-85 - Cold-Drawn Steel Wire for Concrete Reinforcement
A 120-84 - Pipe, Steel, Black and Hot-Dipped Zinc-Coated (Galvanized) Welded and Seamless, for Ordinary Uses
A 184-86 - Fabricated Deformed Steel Bar Mats for Concrete Reinforcement
A 185-85 - Welded Steel Wire Fabric for Concrete Reinforcement
A 497-86 - Welded Deformed Steel Wire Fabric for Concrete Reinforcement.
A 499-81 - Steel Bars and Shapes, Carbon Rolled from "T" Rails
A 615-86 - Deformed and Plain Billet-Steel Bars for Concrete Reinforcement
A 675-85 - Steel Bars, Carbon, Hot-Wrought, Special Quality, Mechanical Properties.

C. American Welding Society, Inc. (AWS) Publication

D1.4-79 - Structural Welding Code - Reinforcing Steel

D. Concrete Reinforcing Steel Institute (CRSI) Publication

Manual of Standard Practice (23rd Ed. 2nd Prtg 1981; 1983).

E. State of Louisiana Department of Transportation and Development, Office of Highways Standard Specifications

Louisiana Standard Specifications for Roads and Bridges, 2000 Edition.

1.03 SUBMITTALS

Submittals shall be provided in accordance with Section 01340 -Shop Drawings, Samples and Product Data. Submittals shall include:

A. Shop Drawings - Shop Drawings shall be submitted and show reinforcing steel schedules, sizes, grades, and splicing and bending details. Drawings shall show support details including types, sizes, and spacing.

B. Certificates - Certified copies of mill reports attesting that the reinforcing steel furnished meets the requirements specified shall be submitted prior to the installation of reinforcing steel.

1.04 DELIVERY AND STORAGE

Reinforcement and accessories shall be stored off the ground on platforms, skids, or other supports.

PART 2 - PRODUCTS

2.01 Dowels shall conform to ASTM A675, Grade 80, or ASTM A499. Steel pipe conforming to ASTM A120, Schedule 80, may be used as dowels provided the ends are closed with metal or plastic inserts or with mortar.

2.02 Reinforcing Steel shall be deformed bars conforming to ASTM A615 grade 60, sizes as indicated. Cold drawn wire used for spiral reinforcement shall conform to ASTM A82.

2.03 Welded Wire Fabric shall conform to ASTM A185 or A497.

2.04 Wire Ties shall be 16 gauge or heavier black annealed steel wire.

2.05 SUPPORTS

Bar supports shall be designed and fabricated in accordance with CRSI Manual of Standard Practice. Concrete blocks or bricks are not permitted. For slabs on grade, supports shall be steel with one piece rectangular bearing plates. SBP Slab Bolster with Plate as manufactured by Meadow Burke. Conical supports shall not be used on slabs. Specifically designed conical bar supports fabricated of plastic may be used for footings.

2.06 FIBER REINFORCEMENT

The concrete for all exterior flatwork shall be reinforced with the use of polypropylene, collated, fibrillated fibers as manufactured by Fibermesh Co. of Chattanooga, Tennessee or approved equal. The fibers shall be used at a rate of one and one half pounds (1½ lbs.) per cubic

yard and in strict accordance with the manufacturer's recommendations. The fiber manufacturer or approved distributor shall provide the services of a qualified technician at job startup.

PART 3 - EXECUTION

3.01 REINFORCEMENT

Reinforcement shall be fabricated to shapes and dimension shown and shall conform to the requirements of ACI318. Reinforcement shall be cold bent unless otherwise authorized. Bending may be accomplished in the field or at the mill. Bars shall not be bent after embedment in concrete.

A. Placement - Reinforcement shall be free from loose rust and scale, dirt, oil, or other deleterious coating that could reduce bond with the concrete. Reinforcement shall be placed in accordance with ACI318 at locations shown plus or minus one bar diameter. Reinforcement shall not be continuous through expansion joints and shall be as indicated through construction or contraction joints. Concrete coverage shall be as indicated or as required by ACI318. If bars are moved more than on bar diameter to avoid interference with other reinforcement, conduits or embedded items, the resulting arrangement of bars, including additional bars required to meet structural requirements, shall be approved before concrete is placed.

B. Splicing - Splices of reinforcement shall conform to ACI318 and shall be made only as required or indicated. Splicing shall be by lapping or by mechanical or welded butt connection; except that lap splices shall not be used for bars larger than No.11 unless otherwise indicated. Welding shall conform to AWS D1.4. Welded butt splices shall be full penetration butt welds. Lapped bars shall be placed in contact and securely tied or spaced transversely apart to permit the embedment of the entire surface of each bar in concrete. Lapped bars shall not be spaced farther apart than one-fifth the required length of lap or 6-inched. Mechanical butt splices shall develop 125 percent of the specified minimum yield tensile strength of the spliced bars or of the smaller bar in transition splices. Bars shall be flame dried before butt splicing. Adequate jigs and clamps or other devices shall be provided to support, align, and hold the longitudinal centerline of the bars to be butt spliced in a straight line.

3.02 DOWELS

Dowels shall be installed in slabs on grade at locations indicated and at right angles to joint being doweled. Dowels shall be accurately aligned parallel to the finished concrete surface and rigidly supported during concrete placement. One end of dowels shall be coated with a bond breaker.

END OF SECTION

DIVISION NINE

FINISHES

9

TECHNICAL SECTION
DIVISION 9 - FINISHES
SECTION 09010 - PAINTING

PART 1 – GENERAL

1.01 GENERAL

The Work described in this Section of the Specifications includes the furnishing of all paint, materials, equipment, and labor to completely paint and finish those surfaces of the interior and exterior of buildings, exposed piping, mechanical equipment, concrete work and electrical equipment specified in the painting schedule contained herein. Also included is the provision of protective coatings on concrete structures in contact with earth and/or liquids, as specified.

The Contractor shall familiarize himself with the Specifications of various other trades and all surfaces left unfinished by the requirements of their Specifications shall be painted or finished as part of this Contract with the exception of the following:

1. Aluminum Work, unless specifically indicated
2. Ceiling Tile
3. Primer coat on items specified to be primed at the shop
4. Electrical Panels
5. Stainless Steel items
6. Other non-ferrous metal such as brass, bronze, copper, etc. unless specifically indicated.
7. Galvanized items, unless specifically indicated.

Before starting the work and from time to time as the Work progresses, the Contractor shall examine Work and materials installed by others insofar as they apply to his Work and promptly notify the Engineer in writing of any deficiencies in materials or workmanship such as: walls, ceilings, furring or partitions that are not square, true, plumb and level and/or other conditions that may exist which will prevent the Contractor from achieving the desired finish..

1.02 GENERAL PAINTING REQUIREMENTS

The Contractor shall submit sample panels of all paint finishes to the Engineer for approval, and change and resubmit the sample finishes if required until they are approved. It shall be understood that "color to be selected" shall permit the Engineer to select any color, not necessarily one of the manufacturer's standard colors. The approved sample finishes shall be accurately followed for formula, texture and color. Each panel shall be prepared in "step-down" fashion and will show the varying shades of all coats; the priming or sealer coat covering seven-eights (7/8) of the face, and the finish coat covering three-quarters (3/4) of the face, thus leaving portions of the priming and body colors exposed. These samples shall be prepared on close grained plywood panels six (6) by six (6) inches square and labeled on the back with all

information concerning the finish, including the brand names of all materials.

PART 2 – PRODUCT

2.01 MATERIALS

All paint materials shall be approved by the Engineer and shall be equal in essential respects to those manufactured by TNEMEC Company, Dupont, or prior approved equal.

Substitutions, which decrease the film thickness, the number of coats applied, change the generic type of coating, or failure to meet the performance criteria of the specified materials outlined in Section 1.02, will not be approved.

Interior non-masonry materials on buildings shall be painted with paint materials as specified. They may be manufactured by Tnemec, Benjamin Moore, or equal approved by the Engineer.

Each paint system including primer, intermediate coat, and finish coat shall be from a single manufacturer.

All paint shall be delivered to site in manufacturer's sealed containers. Each container shall be labeled by the manufacturer. Labels shall give manufacturer's name, type of paint, color of paint and instructions for reducing. Thinning shall be done only in accordance with directions of manufacturer.

The manner of, and place for storing painting materials at the site shall be approved by the Engineer and only paint or ingredients which are to be used on this work shall be so stored. The storage space must be kept clean at all times. Every precaution shall be taken to avoid fire hazards.

2.02 COLORS

Ceilings generally will be painted a different color than walls except that generally plaster walls and ceilings in rooms having ceramic tile wainscot will be painted the same color.

Exposed piping generally will be painted color and texture to match walls or ceilings adjacent to it or as color coded for all process piping and equipment.

Hollow metal doors and adjacent trim will generally be painted the same color, but a different color from adjacent walls.

The undercoats of paint and enamel shall be of the approximate shade of final coat, but each coat shall be sufficiently different to provide a noticeable contrast between coats. Each coat

shall be inspected and approved by the Engineer before application of the succeeding coats. Failure to achieve Engineering acceptance of each coat could result in the Contractor recoating the work in question at no cost to the Owner.

Standard Colors:

Wastewater Treatment Plants and Facilities:

Raw sewage piping	Light Gray
Sludge piping	Chipmunk Brown
Gas Piping	Safety Red
Potable water supply piping	Safety Blue
Non-potable water piping	Safety Orange

Water Treatment Plants and Facilities:

Raw water piping	Safety Green
Treated water piping	Safety Blue
Chemical feed piping	Safety Orange

All Facilities:

Gas or liquid, fuel	Safety Red
Heating piping and ducts	Aluminum
Elect. Equip., and conduits	Slate Gray
Mechanical Equip., exposed interior and exterior	Gray
Mechanical Equip., submerged or intermittently submerged	Black
Compressed air piping	Cloud

Standard Colors:

Compressed air piping	Cloud
Chlorine Gas or solution piping	Safety Yellow
Plumbing drains and submerged surfaces	Black
Structural steel, interior and exterior	Spring Green, Ice Cream, Safety Blue or as directed
Safety equipment or cabinets	Gulf Green
* Pump room, walls and ceilings	Cloud
* Masonry, interior and exterior	Spring Green, Ice-Cream, Safety Blue or as directed
* Masonry and concrete, normally unexposed or submerged	Black

* NOTE: Interior walls and ceilings (where indicated on drawings) or normally occupied rooms shall be painted. Exterior exposed or submerged concrete shall not be painted unless shown on the Drawings. Normally unexposed concrete walls, floors, and ceilings such as concrete tanks, wet wells, channels, shall not be painted unless shown on the Drawings.

The Contractor shall apply each coat of paint at the spread rate specified by the manufacturer to achieve the minimum dry mil th ickness recommended by manufacturer. The Contractor shall submit to the Engineer, upon request, certification from the manufacturer that minimum dry film thicknesses have been achieved. Deficiencies in film thickness shall be corrected by additional coat(s) of the same coating that is deficient in thickness (e.g., The finish coat cannot be applied to build millage that is deficient in the prime coat).

Exterior custom textured masonry shall have a clear finish.

2.03 PAINTING SYSTEMS

A. Steel-Structural, Tanks, Pipes and Equipment, Steel Doors and Frames

1.0	*Exterior, Non-Immersion - Severe or Mild Exposure*		D.F.T.
	System:	Aliphatic Polyurethane	
	Surface Preparation:	SSPC-SP-6 Commercial Blast Cleaning	
	1st Coat:	Zinc-Rich Polyurethane (TNEMEC 90-97)	2.5-3.5
	2nd Coat	Hi-Build Epoxy (TNEMEC's #66)	4.0-6.0
	3rd Coat:	Aliphatic, Acrylic, Polyurethane Enamel (TNEMEC's #1074)	2.5-3.0
			9.0-12.5
2.0	*Interior, Non-Immersion*		
	System:	Epoxy Polyamide	
	Surface Preparation:	SSPC-SP-6 Commercial Blast Cleaning	
	1st Coat:	Hi-Build Epoxy (TNEMEC's #66)	3.0-5.0
	2nd Coat:	Hi-Build Epoxy (TNEMEC's #66)	4.0-6.0
			7.0-11.0
3.0	*Immersion Service*		
	System:	Epoxy Polyamine	
	Surface Preparation:	SSPC-SP-10 Near White Blast Cleaning	
	1st Coat:	HS Epoxy (TNEMEC's #104)	6.0-8.0
	2nd Coat:	HS Epoxy (TNEMEC's #104)	6.0-8.0
			12.0-16.0
4.0	*High Temperature Surfaces to 1,200 degrees F*		
	Surface Preparation:	SSPC-SP-10 Near-White Blast Cleaning	
	1st Coat:	Silicone Zinc (Dampney Thurmalox 245)	1.5-2.0
	2nd Coat:	Silicone (Dampney Thurmalox 230)	1.5-2.0
			3.0-4.0
5.0	*O.E.M. (Original Equipment Manufacturers) Painted Steel*		
	System:	Universal Primer/Alkyd Topcoat	
	Surface Preparation:	SSPC-SP-3 Power Tool Clean	
	1st Coat:	Universal Primer (TNEMEC's #37-77 Chemprime)	2.5-3.0
	2nd Coat:	H. Solids Gloss Alkyd (TNEMEC's 2H TNEMEC-Gloss)	2.0-3.0
	3rd Coat:	H. Solids Gloss Alkyd (TNEMEC's 2H TNEMEC-Gloss)	2.0-3.0
			6.5-9.0

B. Milled-coated Steel Pipe

1.0 *Exterior or Interior - Immersion or Non-Immersion*

System:	Epoxy-Polyamide	
Surface Preparation:	Surface shall be clean and dry	
1st Coat:	Hi-Build Epoxy (TNEMEC #66)	3.0-5.0
2nd Coat:	Hi-Build Epoxy (TNEMEC #66)	4.0-6.0
3rd Coat:	(As necessary)	**7.0-11.0**

C. Galvanized Steel - Pipe and Miscellaneous Fabrications

1.0 *Exterior - Severe Exposure*

System:	Aliphatic Polyurethane	
Surface Preparation:	SSPC-SP-1 Solvent Cleaning followed by SSPC-SP7 Brush-off Blast to achieve a uniformly profiled surface.	
1st Coat:	Hi-Build Epoxy (TNEMEC's #66)	2.0-3.0
2nd Coat:	Aliphatic, Acrylic Polyurethane Enamel (TNEMEC's #1074)	2.0-3.0 **4.0-6.0**

2.0 *Interior Non-Immersion*

System:	Epoxy-Polyamide	
Surface Preparation:	SSPC-SP-1 Solvent Cleaning followed by SSPC-SP7 Brush-off Blast to achieve a uniformly profiled surface.	
1st Coat:	Hi-Build Epoxy (TNEMEC's #66)	4.0-6.0

3.0 *Immersion*

System:	Epoxy-Polyamide	
Surface Preparation:	SSPC-SP-1 Solvent Cleaning followed by SSPC-SP7 Brush-off Blast to achieve a uniformly profiled surface.	
1st Coat:	Hi-Build Epoxy (TNEMEC's #66)	2.0-3.0
2nd Coat:	Hi-Build Epoxy (TNEMEC's #66)	2.0-3.0
		4.0-6.0

D. Concrete (Textured Finish)

1.0 *Exterior - Dense Masonry - Non-Immersion*

System:	High-Build Acrylic - Sand Texture	
Surface Preparation:	Surface shall be clean and dry	
1st Coat:	High-Build Acrylic (TNEMEC'S #181)	4.0-5.0
2nd Coat:	High-Build Acrylic (TNEMEC'S #181)	4.0-5.0
		8.0-10.0

1.1 *Interior Dense Masonry, Plaster and Wallboard Severe or Mild Exposure*

System:	Epoxy Polyamide	
Surface Preparation:	Surface shall be clean and dry	
1st Coat:	Hi-Build Epoxy (TNEMEC's #66)	4.0-6.0
2nd Coat:	Hi-Build Epoxy (TNEMEC's #66)	4.0-6.0
		8.0-12.0

2.0 *Immersion - Severe Exposure (Headworks, Chlorine Contact Chamber, Wetwell)*

System:	Polyamine Epoxy	

Surface Preparation:	Allow new concrete to cure a minimum of 28 da ys. V erify dryness in accordance with ASTM D 4263 "plastic film tape-down test". A brasive blast to remove all laitance, form release agents, curing compounds, sealers and other contaminants and to provide surface profile equivalent to ICRI CSP 5 (reference SSPC-SP13). P rovide a f ull skim coat of Tnemec Series 218 Mortar Clad to provide a smooth void-free surface.	
1st Coat:	TNEMEC Series 435 or Series 436 Perma-Glaze	60.0-70.0 dry mils

Upon full cure, the installed lining system shall be checked by high voltage spark detection in accordance with NACE RPO188-90 to verify a pinhole-free surface. Voltage shall be set in accordance with manufacturer's instructions. Areas which do not pass the test shall be corrected and retested.

3.0 *Interior Concrete Floors*

System:	Epoxy Polyamide	
Surface Preparation:	Acid Etch or Brush Off Blast Cleaning	
1st Coat:	Hi-Build Epoxy* (TNEMEC's #66)	4.0-6.0
2nd Coat:	Hi-Build Epoxy (TNEMEC's #66)	4.0-6.0
		8.0-12.0

*Uniformly broadcast 30-50 silica mesh to achieve desired level of skid-resistance.

4.0 *Exterior Porous Masonry*

System:	Clear Silicone Waterproofing
Surface Preparation:	Surface shall be clean and dry
1st Coat:	Chemprobe Prime A Pell 200 Coverage as recommended on technical data sheet.

5.0 *Interior Porous Masonry*

System:	Epoxy-Polyamide	
Surface Preparation:	Surface shall be clean and dry	
1st Coat:	Cementitious Acrylic (TNEMEC's #130)	60-80 sq. ft./gal.)
2nd Coat:	Hi-Build Epoxy (TNEMEC's #66)	4.0-6.0
3rd Coat:	Hi-Build Epoxy (TNEMEC's #66)	4.0-6.0
		8.0-12.0

6.0 *Below Grade (Buried, Nonimmersed)*

System:	Coal Tar	
Surface Preparation:	Brush-off blast to remove laitance and other soluble surface contaminants and to provide a uniformly profiled surface.	
1st Coat:	Coal Tar (TNEMEC's #46-465)	8.0-12.0

E. Wood - Opaque Finish

Exterior or Interior

System:	Alkyd Gloss	
Surface Preparation:	Surface shall be clean and dry	
1st Coat:	Alkyd Undercoater (TNEMEC's #36-603)	2.0-3.5
2nd Coat:	Alkyd Gloss (TNEMEC's #2H)	1.5-2.5
3rd Coat:	Alkyd Gloss (TNEMEC's #2H)	1.5-2.5
		5.0-8.5

F. Wood - Transparent Finish

System:	Clear Polyurethane Alkyd Resins	
Surface Preparation:	Surface shall be clean and dry	
1st Coat:	Devoe Wonder Wood Stain Interior Alkyd #95XX	Wiped Off
2nd Coat:	Devoe Mirrothane Polyurethane Varnish #6600 Satin	1.0 Mil.
3rd Coat:	Devoe Mirrothane Polyurethane Varnish #6600 Satin	1.0 Mil.
	Total Thickeners	**2.0 Mils**.

G. Interior Insulation Pipe

System:	Acrylic Latex	
Surface Preparation:	Surface shall be clean and dry	
1st Coat:	Acrylic Latex (TNEMEC's #6)	2.0-3.0
2nd Coat:	Acrylic Latex (TNEMEC's #6)	2.0-3.0
		4.0-6.0

H. Gypsum Board

System:	Alkyd Semi-Gloss	
Surface Preparation:	Clean and dry sanded smooth.	
1st Coat:	Tnemec Series 36-603	2.0 - 2.5
2nd Coat:	Tnemec Series 23 Endurature	2.0 - 2.5
3rd Coat:	Tnemec Series 23 Endurature	2.0 - 2.5
		6.0 - 7.5

PART 3 – EXECUTION

3.01 PRE-WORK INSPECTION

A. Examine surfaces to be coated and report any conditions that would adversely affect the appearance or performance of the coating system and which cannot be put into an acceptable condition by the preparatory work specified in paragraph 3.02.

B. Do not proceed with surface preparation and application until the surface is acceptable or authorization to proceed is given by the Engineer.

3.02 PREPARATION OF SURFACES

A. General:

1. If a discrepancy exists between the specification and the manufacturer's written instructions, the more stringent method of preparation shall be employed.
2. Dislodge dirt, plaster nibs, mortar spatter and other dry material by scraping or brushing. R emove dust and loose material by brushing, sweeping, vacuuming or blowing with high-pressure air.
3. Remove oil, wax and grease by scraping off heavy deposits and cleaning with mineral spirits or a hot tri-sodium phosphate solution followed by a water rinse.
4. Verify that surfaces to be coated are dry, clean and free of dust, dirt, oil, wax, grease or other contaminants.

B. Ferrous Metal Surfaces - All surfaces shall be prepared as specified in the painting schedule. Weld slag, weld spatter, rough edges and sharp edges of weld seams shall be ground smooth. The shop primer coats that have been damaged shall be power tool cleaned to bare metal and re-primed with primer specified in the Painting Schedule. The intact coatings shall be feather-edged with the failed areas to create a s mooth transition.

C. Galvanized Metal Surfaces - Galvanized surfaces shall be washed thoroughly to remove all soluble surface contaminants, and then prepared as specified in the painting schedule. The surface shall be thoroughly dry prior to the application of any paint.

D. Gypsum Wallboard:

1. Sand joint compound smooth and flush with the surface using fine grit sandpaper.
2. Fill nicks, scratches, holes and uneven spots with spackling compound and after dry, sand flush with the surface.

E. Plastic Surfaces - Contractor shall sandpaper to provide rough surface and then dust off to provide satisfactory surface characteristics.

F. Poured Concrete and Masonry Surfaces – Allow new concrete to cure a minimum of 28 days. All protruding fins and other adhering matter shall be removed providing a smooth, even finish Prepare surfaces as specified in the painting schedule. Verify moisture limits are within the limitations of the coating manufacturer. The concrete shall be thoroughly dry prior to the application of any paint.

G. Exposed Tar Coated Pipes and Fi ttings - Prepare in accordance with coating manufacturer's recommendation.

H. Shop-Prime Metals - Power tool clean in accordance with SSPC-SP11 all field connections, welds, burned and abraded areas as well as any failed areas to remove rust and contaminants and touchup with specified primer before further rusting occurs.

3.03 PAINTING PROCEDURES

A. All materials shall be applied in accordance with the paint manufacturer's published technical data by skilled painter, under adequate illumination and ventilation. Where conflict exists between these specifications and the paint manufacturers published data relating to application and curing of paint, the published data shall take precedence. All paint and finish shall be evenly spread.

B. The finished surface shall be uniform in finish and color and free of brush marks, sagging, corduroy and other imperfections. Should any coat be judged unsatisfactory, the Contractor shall sandpaper or otherwise clean off this coat and apply another.

C. All weld seams, nuts, bolts and sharp edges shall be stripe coated with epoxy after the application of the prime coat. The color of the stripe coat shall be different than the color of the primer.

D. Apply all coating in conditions that are in accordance with manufacturer's written instructions. No interior painting shall be done until the building has been enclosed, ventilated and thoroughly dried out as approved by the Engineer. No exterior painting shall be done in rainy, snowy, damp or frosty weather, nor until surfaces are thoroughly dry. The surface temperature shall be a minimum of 5ºF above the dew point.

E. Edges of paint or finish adjoining other materials or colors shall be sharp and clean without overlapping. Should workmanship be found defective, proper repair work shall be done in accordance with specified requirements. All finish hardware, accessories, fixture and similar items installed prior to painting and not required to be painted, shall be removed or protected during such painting. If removed, the items shall be carefully replaced and adjusted upon completion of the painting.

F. All paint shall be applied by spray, roller, or brush applied. Extreme care shall be exercised in spray application that no finished materials are damaged. If this condition should happen, painter shall repair or replace damaged materials at his own expense.

G. The Contractor shall protect his work and adjacent work by carefully covering with drop cloths. Upon completion of work, he shall remove all paint spots from the floors, glass and other surfaces. He shall remove from the premises all rubbish and accumulated materials. When all other trades are finished, he shall go over the building and touch up all abrasions, scratches, etc. to the satisfaction of the Engineer. It shall be the responsibility of the Contractor to deliver the painting work in a clean and undamaged condition.

3.04 PIPE AND MACHINERY CODING

All pumps and mechanical equipment shall be marked to indicate service and number. The pipes and equipment shall be color coded as outlined in Subsection 2.02. All colors shall be approved by the Engineer.

3.05 PAINTING SCHEDULE

Unless otherwise indicated on the finish schedule on the Contract Drawings, the painting and finishing shall include, but not necessarily be limited to, the following items:

1. All new miscellaneous metal work, including stairs, handrails, railings, doors, door frames, etc.
2. All new machinery and equipment.
3. All new piping, valves, and appurtenances.
4. All new concrete block (interior and exterior).
5. All new structures and equipment.
6. All gypsum board walls and ceilings.
7. All interior wood trim, cabinetry, doors, plywood and other exposed interior woodwork.
8. All exterior woodwork, soffits, exterior ceilings plywood, casing and other exposed exterior woodwork.

END OF SECTION

DIVISION FIFTEEN

MECHANICAL

15

TECHNICAL SECTION
DIVISION 15 - MECHANICAL
SECTION 15010 - PIPING

PART 1 – GENERAL

1.01 SCOPE

The Work covered by this Section of the Specifications shall include, in general, furnishing and installation of all interior and exterior piping as indicated on the drawings, including all fittings, painting, hangers, supports, spacers, sleeves, anchors, base plates, collars, straps and other appurtenances as shown on the drawings or as required to provide the Owner with complete and satisfactory piping systems. All pipe and materials shall be new. No used pipe or materials shall be approved.

The responsibility of providing special coatings, detailed layout drawings, storage areas, testing, reports, cleaning and special anchoring of all piping shall be the responsibility of the Contractor.

This Section outlines pipe and fittings. If designated on the drawings Contractor shall apply these standards as outlined on the drawings. If no pipe material or standards are shown on the drawings Contractor Shall provide the pipe and fittings as shown in the Schedule in paragraph 2.01.

A. Related Work Described Elsewhere - Contractor shall perform excavating, trenching, and backfilling for all exterior piping in accordance with pertinent provisions of Division 2 of these Specifications. Contractor shall also refer to Division 3 of these Specifications for additional requirements relating to piping system concrete supports.

For all Work performed under this Section, the Contractor shall comply with all pertinent, applicable specifications, conditions, and provisions presented in Division 1 of these Specifications, and any other applicable Contract requirements of the Owner.

B. Quality Assurance:

1. Standards: Contractor shall comply with standards specified in this Section, and all other applicable Sections of these Specifications.

2. Qualifications of Installers: Contractor shall use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the Work of this Section.

C. Submittals:

1. Product Data: Within ten (10) calendar days after award of the Contract, the Contractor shall submit to the Engineer for approval:

a. Complete list of all materials and items, which are proposed to be furnished and installed under this Section.

b. Manufacturers' specifications and other data required to demonstrate compliance with the specified requirements.

c. Manufacturers' recommended installation procedures which, when approved by the Engineer, shall become the basis for inspecting and accepting or rejecting actual installation procedures used on the Work.

2. Drawings Required On Contract Work: Before ordering any water, wastewater, or process piping or appurtenances, the Contractor shall furnish to the Engineer six (6) copies of fully dimensioned drawings of the proposed work for approval.

3. Mill Certificates: Mill certificates shall be furnished upon request of the Engineer.

1.02 PRODUCT HANDLING

A. Protection - Contractor shall use all means necessary to protect the materials of this Section before, during, and after installation and to protect the work and materials of all other trades.

B. Protection of Utilities - Contractor shall protect existing utilities as specified under the General Conditions section of the Contract Documents and Division 1 of these Specifications.

C. Delivery and Storage - All materials shall be delivered to the job site in their original containers with all labels intact and legible at time of use, and shall be stored in strict accordance with the manufacturer's recommendations as approved by the Engineer.

D. Replacements - In the event of damage, Contractor shall immediately make all repairs and replacements necessary to the approval of the Engineer and at no additional cost to the Owner.

E. Care of Pipe Coatings - Pipe shall be handled so that the coating shall not be damaged. Repair of any damage shall be made by the Contractor at no additional cost to the Owner, and shall be made in a manner satisfactory to the Engineer.

PART 2 – PRODUCTS

2.01 PIPE AND FITTINGS SCHEDULE

Unless otherwise indicated on the Contract Drawings or in the Specifications, the following schedule shall apply for piping and fittings:

Application	Pipe Material	Type of End Connection
1. Exterior Yard Piping (except force mains process water lines, chemical feed lines, and gravity sewers)	Ductile Iron	Mechanical Joint
2. Interior Pressure Piping (except process and potable water)	Ductile Iron	Flanged Joint or Victaulic Coupling
3. Floor Drain Lines Interior & Exterior	Cast Iron Soil	Neophrene Gaskets Pipe or Arc
4. Roof Drain Lines Interior	Galvanized Iron, PVC or Steel	Screwed (Galvanized or Steel), Solvent Weld (PVC), Welded or Victaulic Coupling (Steel)
5. Potable Water Lines		
a) Interior - Less than 3" Diameter	Copper - Type L, Galvanized Steel	Solder Joint (Copper) Threaded (Galv. Steel)
3" Diameter or Greater	Ductile Iron	Flanged Joint or Victaulic Coupling
b) Exterior - Less than 3" Diameter	Copper - Type K or PVC	Flared Fitting (Copper) Bell and Spigot (PVC)
3" Diameter or Greater	Ductile Iron, PVC	Bell and Spigot, Mechanical Joint
6. Process and Non-Potable Water Lines		
a) Interior - Less than 3" Diameter	Galvanized Iron or Black Steel	Screwed or Victaulic Coupling
3" Diameter or Greater	Ductile Iron	Screwed or Victaulic Coupling
b) Exterior - Less than 3" Diameter	Galvanized Iron, or PVC	Screwed (Galv.), or Bell and Spigot (PVC)
3" Diameter or Greater	Ductile Iron	Mechanical Joint
7. Chemical Feed Lines	Rigid PVC (Schedule 80)	Solvent Weld except at fittings and valves where union required on each side of fitting or valve or Victaulic Coupling

8. Air Lines		
a) Interior - 3" Diameter and Less	Galvanized Steel	Screwed or Victaulic Coupling
Greater than 3" Iron, or Steel	Ductile Iron, Cast	Flanged or Victaulic Coupling
b) Exterior - 3" Diameter and Less	Galvanized Iron or Black Steel	Screwed
Greater than 3"	Ductile Iron	Mechanical Joint
9. Storm Drainage	Reinforced Concrete or Corrugated Metal	Rubber Gasket (RCP) or Coupling (CMP)
10. Gravity Wastewater Lines		
a) 15" Diameter and Less	PVC Sewer Pipe	Bell and Spigot
b) Greater than 15"	Reinforced - Concrete, Ductile Iron, or PVC Sewer Pipe	Bell and Spigot
11. Force Mains		
a) 8" Diameter and Less	Ductile Iron, PVC Pressure Pipe	Bell and Spigot w/Mech. Joint for Fittings
b) Greater than 8"	Ductile Iron Joint for Fittings	Bell and Spigot w/Mech.

2.02 PIPING AND FITTINGS

A. POLYVINYL CHLORIDE PLASTIC PRESSURE CLASS PIPING (PVC -PC)

1. Pipes - Polyvinyl chloride (PVC) Pressure Class pipe sizes four through twelve-inch (4"-12") shall conform to AWWA C900. Pipe compound shall conform to ANSI/ASTM D1784 with a hydrostatic design-basis (HDB) rating of 4000psi stress in water at 73.4°F (23°C) as determined by ANSI/ASTM D2837 and as established by the Plastics Pipe Institute (PPI) and designated as PVC 1120. The pipe thickness shall be designed in accordance with AWWA C900, as modified hereinbefore. Unless Pressure Class 100 or 200 is designated on the drawings or in the bid proposal, the Pressure Class shall be 150.

Each length of pipe and each coupling shall be hydrostatically tested at a pressure of 4.0 times the rated Pressure Class; i.e., test at 600psi for Pressure Class 150. Furnish pipe in standard laying lengths of twenty (20) feet. Pipe shall have outside diameters equivalent to cast iron (CI-OD) sizes only and I.P.S. sizes will not be permitted.

2. Joints and Materials - Pipe joints shall be CI-OD sizes of the electrometric gasket type in compliance with ANSI/ASTM D3139 and shall be either of the integral bell type or the double bell coupling type. The wall thickness of PVC couplings using elastomeric seals shall be adequate to withstand pressures not less than the Pressure Class rating of the pipe with which they are designed to be used. Rubber gaskets shall comply with ANSI/ASTM F477.

Joints in ductile iron fittings shall conform to ANSI A 21.11/AWWA C111 with either mechanical joint or push-on rubber gasketed joint as designated bolts and nuts for mechanical joints shall be corrosion resistant high strength low alloy steel ("Cor-Ten").

3. Fittings - Fittings for use with PVC Pressure Class pipe in sizes four through twelve inches (4"- 12") shall comply with ANSI/AWWA C110 for standard short-bodied cast iron-fittings. All fittings shall be ductile iron and gray iron shall not be permitted. The minimum pressure rating in these sizes shall be 350psi with ductile iron.

Line fittings with standard thickness cement mortar lining and bituminous seal coating on the inside in accordance with ANSI/AWWA C104.

Fittings shall have an exterior 1-mil thick bituminous coating.

Note: All fittings shall have proper external thrust restraint in the form of concrete thrust blocks or mechanical restrained joints.

B. POLYVINYL CHLORIDE PLASTIC PRESSURE RATED PIPING (PVC - PR)

1. Pipes - Pressure rated polyvinyl chloride (PVC) pipe shall comply with the appropriate standard according to size as follows:

Size	Standard
1/ 2" - 8"	ANSI/ASTM D1785, Schedule 40 and 80
1-1/2" - 12"	ANSI/ASTM D2241, Standard Dimension Ratio - Pressure Rated (SDR-PR)

Pipe compound shall conform to ANSI/ASTM D1784 with a hydrostatic-design-basis (HDB) rating of 4,000psi stress in water at 73.4ºF (23ºC) as determined by ANSI/ASTM D2837 and as established by the Plastics Pipe Institute (PPI) and designated as PVC 1120. The pipe thickness design shall be determined by the method specified hereinbefore, except with de-rating the pipe for operating temperatures above 73ºF, as recommended by PPI.

Pressure ratings and sizes allowed for PVC piping (fittings and pipe) shall be in accordance with the following table.

PRESSURE RATINGS & SIZES ALLOWED

Pressure Rating (PR) psi	Standard Dimension Ratio Pipe SDA 2124	SDA 32.5	SDA	Schedule Fittings or Pipe: Unthreaded Fitting or Pipe Sch. 40	Unthreaded Fitting or Pipe Sch. 80	Threaded Pipe Sch. 40	Threaded Pipe Sch. 60
200	2" -12"	N.A	N.A.	½" - 4"	½" - 8"	N.A.	½"-2"
160	2" -12"	2" -12"	N.A	½" - 8"	½" - 8"	N.A.	½"- 4"
125	2" -12"	2" -12"	2" -12"	½" - 8"	½" - 8"	N.A.	½"- 6"

NOTE: N. A. denotes no approved. Threading of Sch. 40 pipe is prohibited in all sizes and is not approved.

Unless a pressure rating of 125 or 200psi is designated on the Drawings or in the bid proposal the pressure rating of piping shall be 160psi with SDR 26 and Schedule 40 or 80, as appropriate.

All PVC pressure pipe and fittings shall be approved by and bear the seal of certification by the National Sanitation Foundation in lieu of hydro testing.

Furnish pipe in nominal laying lengths of 20' for gasketed joints and 20' or 40' for solvent-cemented joints. Pipe shall have outside diameters equivalent to steel pipe (IPS) sizes.

2. Fittings - PVC fittings shall be injection molded of PVC 1120 material. Socket joint fittings for solvent cementing shall comply with the applicable ANSI/ASTM D2466 for Schedule 40 or ANSI/ASTM D2467 for Schedule 80. Threaded joint fittings shall be Schedule 80 complying with ANSI/ASTM D2464. Gasketed, joint PVC pressure fittings shall be specially designed and long-term pressure rated with a minimum thickness at least 110% of pipe with equal pressure rating.

The pressure rating of a PVC fitting shall be equal to the pressure rating of the pipe with which it is used. Use Schedule 40 fittings on Schedule 40 pipe in sizes eight inch (8") and smaller, on SDR 21 - PR 200 pipe in sizes four-inch (4") and smaller, and on SDR 26 - PR 160 pipe in sizes eight-inch (8") and smaller. Use Schedule 80 fittings on Schedule 80 pipe in sizes eight-inch (8") and smaller and on SDR 21 -PR 200 pipe in sizes six-inch and eight-inch (6" & 8"). Use special pressure rated gasketed fittings compatible with the pipe in limited available sizes in the range of two to eight inch (2"-8").

Cast iron fittings for use with gasketed joint PVC pipe in sizes three through twelve inch (3"-12") shall comply with ANSI/AWWA C110 for standard short-bodied cast iron fittings. All fittings shall be ductile iron and gray iron shall not be permitted. The minimum pressure rating in these sizes shall be 350psi with ductile iron.

Cast iron fittings with standard thickness cement mortar lining and bituminous seal coating on the inside in accordance with ANSI/AWWA C104. Fittings shall have an exterior 1-mil thick bituminous coating.

Note: All fittings shall have proper external thrust restraint.

C. DUCTILE IRON PRESSURE PIPING (DI)

1. Pipes - Pipe sized three inches (3") through fifty-four inches (54") shall be ductile iron conforming to ANSI 21.51/AWWA C151. The thickness of buried pipe shall be designed in accordance with ANSl 21.50/AWWA C150, as modified hereinbefore except with one additional increment of Class thickness (approximately 0.030) added for corrosion allowance in addition to the standard 0.080" in the design. Unless designated otherwise on the Drawings or in the proposal, thickness Classes shall be as follows:

Nominal Size, Inches	Thickness Class
3-4	52
6-12	51
14-16	52
18-20	53
24	54
30-54	55

Flanged pipe in all sizes shall be ductile Iron thickness Class 53 conforming to ANSI A21.15/AWWA C115.

Each length of pipe shall be hydrostatically tested during manufacture at 500psi.

All iron pipes shall have standard thickness cement mortar lining and bituminous seal coating on the inside in accordance with ANSI/AWWA C104.

Coat pipe exteriors with 1-mil minimum thickness of asphalt varnish for buried service or one coat of paint primer for exposed service and subsequent field painting.

Pipe shall be manufactured in nominal laying lengths of 18 or 20 feet.

2. Joints and Materials - Mechanical joints and accessories shall conform to ANSI A21.11/AWWA C111.

The bolts and nuts shall be corrosion resistant high strength low alloy steel ("Cor-Ten"). The pressure rating of mechanical joints shall be the same as the fitting or pipe.

Push-on joints with rubber gaskets shall comply with ANSI A21.11/AWWA C111. The pressure rating of slip-on joints on fittings and pipe shall be as follows:

Size, Inches	Rating, psi
18" and smaller	350
20"	300
24"	250
30"-54"	200

Flanged joints with threaded flanges and their accessories shall be factory fabricated and comply with ANSI A21.15/AWWA C115 with pressure ratings of 250psi. Flanges shall be flat-faced or plain-faced without projection or raised face. The bolt circle and holes shall match those of Class 125 ANSI B 16.1 (iron) or Class 150 ANSI B 16.5 (steel flanges, unless the drawings specifically require special flanges complying with Class 250 ANSI B 16.1 or Class 300 ANSI B 16.5.

Grooved and shouldered ("Victaulic") type joints shall comply with AWWA C 606. Pressure ratings shall be as published by the manufacturer.

Threaded or screwed joints shall comply with ANSI B 2.1 with modification to iron pipe diameters.

3. Fittings - Iron fittings shall comply with A.NSI/AWWA C110 for standard short-bodied fittings.

All fittings shall be ductile iron and gray iron shall not be permitted. The pressure rating for mechanical joint or slip joint fittings shall be 350psi in sizes four through twenty-four inches (4"-24") and 250psi in sizes thirty through fifty-four inches (30"-54") for ductile iron.

The pressure rating for flanged fittings shall be 250psi for all sizes in ductile iron.

Line fittings with standard thickness cement mortar lining and bituminous seal coating on the inside in accordance with ANSI/AWWA C104.

All fittings which are not flanged shall have an exterior 1-mil thick bituminous coating. Flanged fittings shall be given a shop coat or paint primer for exposed service and subsequent field painting.

D. HIGH DENSITY POLYETHYLENE PIPING (HDPE)

1. Pipe - The pipe shall be made of high density, extra high molecular weight polyethylene meeting the requirements of ANSI/AWWA C906-07, AWWA Standard for Polyethylene (PE) or latest revision thereof.

Pressure Pipe and Fittings, 4 inch through 63 inch for water distribution and ASTM D1248 for standard PE code designation of PE 2406, PE 3406, and PE 3408.

Pressure class ratings range form 40 psi (276 kPa) to 198psi (1365 kPa) for both PE 2406 and PE 3406 materials and from 51psi (352 kPa) to 254psi (1751 kPa) for PE 3408 material. As a result of the limiting 3-inch (76-mm) wall thickness, the maximum available pressure class rating is progressively reduced with increasing size for nominal pipe sizes larger than 20 inches (500 mm).

PE pipe, fittings and joints shall be made from PE material with the standard PE code designation as stated below and established in ASTM D3350 and ASTM D2837. In addition the hydrostatic design basis (HDB) shall be as shown below.

Standard PE Code Designation	PE Material, Minimum Cell Classification * ASTM D3350	Hydrostatic Design Basis at 73.4ºF (23ºC) ASTMD2837
PE 2406	PE 213333C	1250 psi (8.62 Mpa)
PE 3406	PE 324433C	1250 psi (8.62 Mpa)
PE 3408	PE 334434C	1600 psi (11.03 Mpa)

*The average of the results of the test values of a property determines the cell number, see ASTM D 3350. The cell numbers given for the second through fourth cells represent minimum cells-the cell number determined by actual test results can be higher than the minimum value for a material to qualify for a given PE code designation. For example, a PE of cell classification 224433C qualifies as a PE 2406.

Pressure Class

Material	PE 2406 PE 3406	PE 3408
Hydrostatic Design Basis (HDB)	1250 psi (8.62 Mpa)	1600 psi (11.03 Mpa)
Hydrostatic Design Stress (HDS)	625 psi (4.31 MPA)	800 psi (5.52 MPA)

Dimension Ratio	psig	(kPa)	psig	(kPa)
32.5	40	(275)	51	(352)
26	50	(345)	64	(441)
21	63	(434)	80	(434)
17	78	(538)	100	(538)
15.5	86	(593)	110	(593)
13.5	100	(689)	128	(883)
11	125	(862)	160	(1103)
9.3	151	(1041)	193	(1331)
9	156	(1076)	200	(1379)
7.3	198	(1365)	254	(1751)

If no pressure class is given on the drawings, Contractor shall use PE3406, DR11 polyethylene pressure pipe.

2. Joints and Materials - Polyethylene piping may be joined by thermal butt-fusion, flange assemblies, or mechanical methods. Polyethylene piping shall not be joined by solvent cements, adhesives (such as epoxies), or threaded-type connection. All joining methods shall be capable of conveying water at not less than the design pressure of the piping system and shall be recommended for use by the pipe manufacturer.

All HDPE pipe, fitting, and joints shall comply with NSF/ANSI 61 Drinking Water System components-Health Effects in addition to the requirements of the Safe Drinking Water Act. To comply with these standards, pipe manufacturer shall stamp each pipe and fittings to illustrate that each pipe and fitting complies with the NSF Standards.

Thermal butt-fusion is the most widely used method for joining large-diameter polyethylene piping. This procedure uses portable field-proven equipment to hold pipe and/or fittings in close alignment while the opposing butt-ends are faced, cleaned, melted, and fused together, and then cooled under fusion parameters recommended by the pipe and fusion equipment supplier.

For each polyethylene material there exist an optimum range of fusion conditions, such as fusion temperature, interface pressure, and cooling time. Before attempting fusion of polyethylene pipe, personnel should verify that they have this information for the material being joined. Thermal fusion shall be conducted only by persons who have received training in the use of the fusion equipment according to the recommendation of the pipe supplier or the equipment supplier.

In situations where different polyethylene piping materials must be joined, both pipe manufacturers should by consulted to determine the appropriate fusion procedures.

A polyethylene flange assembly consists of a metal back-up flange or ring and a polyethylene stub-end or flange adapter. The back-up flange is placed over the pipe profile and the stub-end, or flange adapter is then fused into the plain-end pipe.

Flanged joined methods may be used to make connections to alternate piping materials and to pumps, valves, and other appurtenances.

Other methods to join polyethylene pipe or to make service connections to polyethylene pipe are available. These include compression-type connectors, wraparound clamps, saddle fusion, and various quick-connect devices. Because these methods have certain performance limitations, they should be approved by the Engineer prior to use and after consultation with the pipefitting manufacturer.

3. Fittings - Fittings covered by this standard shall be made from the same material stated above and include all fittings intended to be joined to polyethylene piping by thermal heat fusion. Polyethylene fusion fittings may include one or more parts for effecting a mechanical connection, such as by compression or flange, to other piping. Polyethylene fittings may be molded, thermoformed from pipe sections, or fabricated by heat fusion joining polyethylene sheet or block. Molded fittings shall meet the requirements of ASTM D2683 for socket-type fittings, or ASTM D3261 for butt-type fittings, and the requirements of the AWWA 906 standard.

Fittings shall be homogeneous throughout and essentially uniform in color, opacity, density, and other properties. The inside and outside surfaces shall be semi matte to glossy in appearance and free from sticky or tacky material. The walls shall be free from cuts, cracks, holes, blisters, voids, foreign inclusions, or other defects that are visible to the naked eye and that may affect the wall integrity.

Molded fittings shall conform to the dimensional requirements set forth in the applicable ASTM fitting standard referenced above when measured as specified therein. Fabricated fittings shall meet the minimum dimensional requirements and tolerances of the pipe at the point of fusion.

Each polyethylene fusion fitting shall meet all the material requirements established for the pipe to which the fitting is to be joined. Fittings fabricated from pipe shall be manufactured from pipe stock with a wall thickness not less than 25 percent greater than that of the pipe to which the fitting is to be joined. The wall thickness of an outlet may be the same as the wall thickness of the pipe to which the outlet is to be joined.

In any event, each fitting shall be designed and manufactured to operate at not less than the design pressure of the pipe system for which it is intended. The fitting shall meet the five-second pressure test. The first fitting of a particular size and configuration made during production run of that fitting, and thereafter every fiftieth fitting of that production run, shall be subjected to the five-second pressure test.

E. FIBERGLASS REINFORCED THERMOSETTING RESIN PLASTIC PIPE (FRP)

1. Pipes - Pipe sized one through one hundred forty-four inches (1"-144") shall be glass fiber reinforced plastic pipe that conforms to AWWA C950. Sizes one through three inches (1"-3") shall be steel pipe outside diameter series (IPS - OD), sizes four through twelve inches (4"-12") shall be cast it-on pipe outside diameter series (CI -OD) sizes fourteen-through it sixty inches (14"-60") shall be either CI OD for use with cast iron fittings or net I.D. sizes of metric O.D. sizes for use with fabricated F.R.P. fittings, and sizes larger than sixty inches (60") shall be international metric practice outside diameter series. Sizes four through twelve inch (4"-12") shall be Type I, Grade 1, Liner B (filament wound, glass fiber reinforced, epoxy resin pipe with thermoplastic liner). Pipes shall be designed in accordance with AWWA C950, as modified hereinbefore. Unless designated otherwise on the Drawings, the minimum Pipe Stiffness for all sizes sixty inch (60") and smaller shall be 40psi Pressure Class 50 and 100 shall be prohibited and the minimum Pressure Class shall be 200 unless Pressure Class 250 is designated on the drawings.

Each length of pipe shall be hydrostatically tested at manufacture at a pressure of 2.0 times the Pressure Class; i.e., test at 400psi for Pressure Class 200.

Manufacturers are A. O. Smith-Inland, Armco-Corban, Clow, Johns-Manville, Owens-Corning, or equal.

Furnish pipe in nominal laying lengths of 20 feet.

2. Joints and Materials - Pipe and fitting joints shall be of integral bell-gasketed type conforming to ANSI/ASTM D3139. The long-term pressure rating on the joint shall be equal to that of the pipe. Pipe gaskets shall comply with ANSI/ASTM F477.

Joints in ductile iron fittings shall comply with ANSI A 21.11/AWWA C111 with either mechanical joint or push-on rubber gasketed joints. Bolts and nuts for mechanical Joints shall be high strength low alloy corrosion resistant steel ("Cor-Ten").

3. Fittings - Fabricated fittings shall be equal to the pipe in strengths and other applicable requirements.

Iron fittings shall comply with ANSI/AWWA C110 for cast iron pipe diameters (C.I.-O.D.) for standard short-bodied iron fittings. All fittings shall be ductile iron and gray iron shall not be permitted. The minimum pressure rating shall be 350psi for sizes four through twenty-four inches (4"-24") and 250psi for sizes thirty through fifty-four inches (30"-54") with ductile iron. Fittings shall be standard thickness cement mortar lined and bituminous scaled in accordance with ANSI/AWWA C104. Fittings shall have an exterior 1-mill thick bituminous coating.

Note: All fittings shall have proper external thrust restraint.

F. LARGE STEEL PIPING (STL)

1. Pipes - Steel pipe in sizes 6" and larger shall conform to AWWA C200 or API 5L with dimensions conforming to ANSI/ASTM A53. It shall be fabricated seamless, butt-welded, or spiral or straight-seam mill type pipe. Welding shall be only electric resistance or double submerged arc. Continuous butt-welded will be unacceptable. The grade of steel shall meet or exceed the minimum requirements of ASTM A283, Grade D plate with 33,000psi yield and 60,000 psi tensile strengths. ASTM A36 plate with 36,000 yield and 58,000psi tensile strength, ASTM A570, Grade D sheet with 40,000psi yield and 55,000psi tensile strengths, or A.P.I. 5L, Grade B with 35,000psi yield and 60,000psi tensile. The nominal pipe thickness shall be designed on the basis of the method specified hereinbefore for all pipe materials, except for design stress including surge of 16,500psi, which is approximately a 2.0 safety factor on the yield stress, plus an under thickness tolerance of 0.010" for plate or 12.5% for seamless pipe and sheets, with no corrosion allowance but with corrosion protection as specified hereafter.

When the thickness of the pipe is not designated, the ratio of outside diameter to nominal thickness shall be 115 based on criteria for 5% maximum ultimate design deflection.

Each length of pipe shall be hydrostatically tested at manufacture to 1.33 times the maximum working pressure rating or to a stress, which is 75% of the yield point stress.

All pipes shall be furnished in the longest practical standard lengths of not less than forty feet (40').

The Contractor shall submit six (6) copies of drawings of pipe, fittings and fabricated specials along with data on the pipe, coating and lining and diameters and thickness for approval before pipe delivery.

2. Joints - Buried field joints shall generally be manufacturer's standard bolted steel couplings or full circle stainless steel clamps. Above ground joints shall be butt-welded, flanged or grooved and soldered, as indicated by the drawings. Flanges shall have equal or greater pressure rating as the pipe. Unless designated otherwise on the drawings, steel flanges shall comply with AWWA C207 Class D with minimum pressure rating of 175psi for four through twelve-inch sizes (4"-12") and 150 psi for larger sizes. The diameters, drilling and number of bolts match ANSI B 16.1 (iron flanges) Class 125, and in sizes twenty-four inches (24") and smaller, they also match ANSI B 16.5 (steel flanges) 150psi. They do not match Class 250 of ANSI B 16.1 or 300psi of ANSI B 16.5. Grooved and soldered joints shall conform to AWWA C606.

3. Fittings - Fabricated fittings and specials shall have thickness equal to or greater than the pipe with dimensions conforming to AWWA C208. Manufactured seamless fittings for butt- welding in sizes 6" through 24" shall be Standard Weight in compliance with ASNI B 16.10 with dimensions complying with ANSI B 16.9 with long radius (R-1-1/2D) bends except where space limitations justify special bends complying with ANSI B 16.2B.

G. SMALL ALLOY STEEL PIPING (A.S.)

1. Pipes - Steel pile sized one-half inch through four inch (½"- 4") for operating pressures to 150psi shall be either high-strength low-alloy steel pipe or austenitic stainless steel.

High-strength low-alloy ("Yoloy") steel pipe shall be Class 4 (corrosion resistance approximately 4 times that of plain carbon steel), Grade IV, Type F (continuous welded) conforming to ANSI/ASTM. A714. The pipe shall be standard weight Schedule 40 with bare surface and plain ends for welding flanged connections or with galvanized surface and threaded and coupled ends for screwed connections.

Stainless steel pipe shall conform to ANSI/ASTM. A312, Grade TP 304 or TP 304L with dimensions conforming to ANSI B 36.19. Pipe shall be lightweight Schedule 10 S with plain ends when used for shop prefabricated flanged sections and standard weight

Schedule 40 S with threaded ends for screwed connections.

Each length of pipe shall be hydrostatically mill tested in accordance with the respective standard.

2. Joints - Connecting joints shall be either flanged or screwed unless a preference is shown on the Drawings. Flanged joints shall comply with ANSI B 16.5 for Class 150. Threaded joints shall comply with ANSI B 2.1, American National Standard for Pipe Threads.

3. Fittings - Butt-welding fittings for use with welded high-strength low alloy pipe shall comply in applicable respects with Class 4, Grade IV of ANSI/ASTM A714 as manufactured by Babcock & Wilcox.

Screwed fittings for use with high-strength low alloy pipe shall be galvanized malleable iron Class 300 only conforming to ANSI B 16.3/ASTM A338. Class 150 fittings shall be prohibited. Hot dip galvanizing shall conform to ANSI G 8.14/ASTM A153.

Butt-welded fittings for use with austenitic stainless steel pipe shall be Schedule 10 S and comply with ANSI/ASTM A403, Class CR 304 or CR 304L, and forged or rolled alloy-steel pipe flanges shall comply with ANSI/ASTM A182, Grade F 304 or F 304L.

H. COPPER TUBING AND FITTINGS:

1. Pipe and Fittings: Pipe and fittings for interior installation shall be "Type K", soft temper conforming to ASTM Specification B-88, latest revision, with wrought copper solder joint fittings conforming to ASA B-16.22, latest revision.

Pipe and fittings for exterior installation shall be "Type L", hard temper conforming to ASTM Specification B-88, latest revision, with wrought copper solder joint fittings conforming to ASA B-16.22, latest revision.

2. Joints: Joints shall be made using a 95-5 tin antimony solder, and shall comply with all state and local plumbing codes and regulations. Joints shall be prepared in full accordance with the solder manufacturer's recommendations.

3. Couplings: Couplings shall have 150 psi minimum pressure rating and conform to AWWA C800. Cast brass shall be copper alloy UNS number C 83600 conforming to ASTM B62 or ASTM B584.

I. CAST IRON SOIL PIPE AND FITTINGS:

1. Pipe and Fittings: Pipe and fittings shall be of extra heavy construction conforming to CS 1880 or CS 301, latest revision. Pipe may be of the hub or hubless type.

2. Joints: Joints may be of oakum and soft lead using 12 ounces of lead per inch of pipe diameter or of the hubless type using a stainless shield and clamp assembly with an electrometric sealing sleeve.

J. COPPER TUBING AND FITTINGS:

1. Pipe and Fittings: Pipe and fittings for interior installation shall be "Type L", hard temper conforming to ASTM Specification B-88, latest revision, with wrought copper solder joint fittings conforming to ASA B-16.22, latest revision.

Pipe and fittings for exterior installation shall be "Type L", soft temper conforming to ASTM Specification B-88, latest revision, with wrought copper solder joint fittings conforming to ASA B-16.22, latest revision.

2. Joints: Solder joints shall be made using a 95-5 tin-antimony solder, and shall comply with all state and local plumbing codes and regulations. Joints shall be prepared in full accordance with the solder manufacturer's recommendations. Flared couplings shall comply with AWWA C800, latest revision.

K. REINFORCED CONCRETE SEWER PIPE AND FITTINGS:

1. Pipe and Fittings: Pipe and fittings shall conform in all respects to ASTM Specification C-76, latest revision. Pipe and fittings shall be Class IV unless otherwise indicated on the drawings.

2. Joints: Joints shall be of the tongue and groove type, and shall include a rubber gasket of such texture to assure a watertight and permanent seal. The joints shall conform to ASTM Specification C-361, latest revision.

L. CORRUGATED METAL PIPE AND FITTINGS:

1. Pipe and Fittings: Pipe and fittings shall conform in all respects to AASHO Specification M-36, latest revision. Unless otherwise indicated on the Contract Drawings, or in the Specifications, the pipe shall be designed for a H-20 loading. Pipe and fittings shall be supplied with a bituminous coating inside

and outside.

2. Joints: Joints shall be made with couplings and steel bands, and shall be assembled in accordance with the manufacturer's recommendations.

2.03 PIPE ANCHORAGE AND SUPPORTS

A. Exposed Pipe Hangers and Supports:

1. Piping shall be firmly held in place by adjustable clevis hangers as manufactured by Penn Pipe Hanger Company, Unistrut Corporation or equal. Hangers shall be placed at each offset or change in direction, at ends of braches over 5 feet in length, at riser pipes and along piping as necessary to prevent sags, bends, or vibration. Hangers used in conjunction with steel pipe shall be zinc plated. Hangers used with insulated piping shall be large enough to accommodate the pipe plus insulated pipe support. No piping shall be supported by any wire, rope, wood, plumber's tape, band iron, wire hooks, U-bolts, or other make-shift devices.

2. Inserts in poured concrete slabs shall be cadmium coated wrought iron to receive machine bolt head or nut after installation and permit adjustment of this bolt in the horizontal direction. Beam clamps shall be used to attach hanger rods to structural steel, and lag screws shall be used to attach hangers to wood construction. Vertical risers shall be supported with concealed pipe clamps as required.

3. Insulated pipe supports shall be a shop fabricated or manufactured item consisting of a galvanized sheet metal saddle enclosing the bottom third of the bore coated non-compressible cellular glass insulation when fiberglass pipe insulation is used and non-compressible foam plastic insulation when flexible foam plaster pipe insulation is used, which shall insulate and support the weight of the pipe at each hanger and pipe guide. Insulation shall have a fire retardant, vapor barrier jacket, which shall be bonded to the saddle. Insulation and jacket shall extend a minimum of 2" beyond the saddle.

4. Pipe support shields shall be as manufactured by Unific Products, Inc., Steelton, Pennsylvania; Insul-Coustic Corp, Sayreville, New Jersey; or equal.

5. Concrete supports shall be utilized where shown on the Drawings or as required to assure no pipe movement or settlement occurs. Supports shall be constructed in full accordance with Division 3 of these Specifications.

B. Pipe Anchorage for Buried Lines Under Pressure:

1. All plugs, caps, tees, crosses or bends deflecting 22-1/2 degrees or more on pipelines 3 inches or larger shall be provided with a reaction backing, or movement shall be prevented by attaching suitable metal rods, or clamps as shown on the drawings or directed by the Engineer. Metal harness of tie rods or clamps shall be galvanized or otherwise rust proofed.

2. Reaction backing shall be concrete in accordance with standard drawings. Backing shall be placed between solid, undisturbed ground and the fitting to be anchored; the area of bearing on the pipe and on the ground in each instance shall be as directed by the Engineer. The backing shall, unless otherwise shown or directed, be so placed that the pipe and fitting joints will be accessible for repair.

2.04 MISCELLANEOUS PIPING, DRAINS, APPURTENANCES AND PIPING

Accessories: All miscellaneous piping, drains, appurtenances and piping accessories shown or listed on the Contract Drawings shall be installed in accordance with the Manufacturer's recommendation and as specified herein. It is the intent of this subsection of the Specifications to describe those appurtenances and accessories to be supplied for use with the mechanical process, air, sludge, and potable water piping systems shown on the Contract Drawings; specific plumbing fixtures such as urinals, lavatories, and water closets are described in Division 10 of the Specifications.

A. Strainers - Strainers with perforated monel metal, removable, 100 mesh screens shall be provided and installed in the flushing water seal lines to pumps and as shown on the drawings.

B. Flexible Expansion Joints - Flexible expansion joints shall be furnished and installed at the locations indicated on the drawings. Expansion joints provided shall be of the multiple arch-type designed to absorb mechanical vibration, reduce noise and allow for thermal expansion and contraction. Flexible joints shall be hydrostatically tested to 1.5 times the operating pressure.

Flexible expansion joints furnished shall be protected with a seamless tube, leak-proof lining made of reinforced rubber. The joint body shall be constructed of a synthetic rubber compound, recommended by the manufacturer. The expansion joint body shall be adequately reinforced with fabric reinforcement, wire and/or solid steel rings, as required, to provide joint rigidity and strength for the rated working pressure. The exterior surface of the expansion joint shall be formed from neoprene or other material as recommended by the manufacturer for the application.

Expansion joints shall be flanged with ANSI Class 150 standard drilling pattern. Flanges shall be provided with galvanized steel split retaining rings to be placed directly against the inside of the flanges of the expansion joint to prevent damage to the cover body surface when bolts are tightened. Steel washers shall be used where rings are split.

Expansion joints shall be manufactured by Redflex Division of Red Valve Company, Garlock, Inc., Holtz Rubber Company, or equal. Flexible expansion joints shall be installed and supported in accordance with manufacturer's recommendations for the specific application.

C. Vibration Fittings - Vibration fittings (elbows and spools) shall be installed at locations as shown on the drawings. Fittings shall consist of a rubber tube with nylon fabric reinforcement and synthetic rubber outer covering with steel wire reinforcement. Fittings shall be complete with integral 150-pound ANSI standard flanges. Fittings shall be Redflex or equal.

D. Hose Bibs (Inside) - Inside hose bibs shall be of brass construction, with compression valve and provided with a heavy brass C.P. wing elbow for bolting to the wall. Hose bibs shall be located generally where shown on the drawings, but exact location and height shall be as directed by the Engineer. Hose bibs shall be equipped with vacuum breakers.

E. Hose Bibs (Outside) - Outside hose bibs shall be of the non-freeze type, heavy brass construction with 3/4" hose connection, polished brass face, neoprene washers and tee handle key. Bib shall be No. 1400N as manufactured by Josam, or equal. Hose bibs shall be located generally where shown on the drawings, but exact location and height shall be as directed by the Engineer. Hose bibs shall be equipped with vacuum breakers.

F. Rainwater Conductors - Rainwater conductors inside the buildings shall be galvanized iron, steel or Schedule 40 Polyvinyl Chloride (PVC). Galvanized fittings shall be long turn galvanized cast iron, recessed drainage type. PVC fittings shall conform to ASTM Specification D 2466-73, latest revision. All conductors and fittings shall be insulated as indicated on the Contract Drawings.

G. Roof Drains - Roof drain fittings shall be of cast iron with high dome. The drain shall be suitable for installation on steel roof deck with recessed drainage sump. The roof drain shall be equal to Josam, Series 4550 with removable dome, Neenah, or equal.

H. Floor and Drip Drains - All floor drains shall be equal to Josam, Series 300, Zurn or equal, with cast iron body with lacquer finish. All drip drains shall be equal to Josam 300 EI, Zurn or equal with 7 inch extended rim, tractor grate, and drainage flange.

I. Trench Drains - Trench drain grates and frames shall be cast iron, rectangular type equal to Series VTFG-HD by Vulcan Foundries.

J. Cleanouts - Each vertical soil, waste, vent piping and rainwater conductor shall be fitted with a combination test tee and cleanout fitting. The fitting shall be installed at the floor level. Cleanouts full size up to four inches (4") shall be provided at all changes of direction on horizontal drainage lines at intervals of not greater than 40 feet on straight runs. Cleanouts shall be concealed or brought up to floor level as indicated on drawings. Cleanouts used with extra heavy cast iron soil pipe shall be iron body ferrules, with brass or bronze raised hex head plug. Where cleanouts are to be raised to finished floor level, the cleanouts shall be similar to Zurn Z-1326 series, Josam, or equal. In area of tile, the floor cover shall be recessed; in all other cases cover shall be scoriated bronze cover and frame.

Cleanouts below grade shall be equal to Zurn Z-1326, Josam or equal. Cleanouts above grade shall be Zurn 1326-Z, Josam or equal.

All buried traps shall have cleanout connections on top of trap, which shall be brought to finished floor and be fitted with a Zurn Z-1326 Cleanout with scoriated bronze cover and frame.

All exterior cleanouts shall be brought to grade, 4 inch in size, and terminated with a Zurn 1325-12 Cleanout with scoriated Dura coated cover and frame, and encased in a 16 inch x 16 inch x 8 inch deep concrete pad.

K. Wall Sleeves - Wall sleeves shall be utilized where indicated on the Contract Drawings and shall be caulked type or of the mechanical joint adapter sleeve type. Sleeve shall permit the pipe to pass through the wall. Space between the pipe and sleeve shall be sealed with Link-Seal or equal. All wall sleeves shall be of cast iron construction.

L. Wall Pipe - Wall pipe shall be utilized where indicated on the Contract Drawings, and shall be a solid casting with water stops for all piping three inch diameter and larger passing through the structural concrete. The casting shall be supplied with the type of end connections specified on the Contract Drawings.

M. Storm Drainage Inlet Castings - Shall be Neenah Foundry series R-4030, or equal, for flush installations. Shall be Neenah Foundry series R-4350, or equal, for beehive installations.

N. Pipe Insulation - The Contractor shall furnish and install pipe insulation material as indicated on the drawings. Insulation shall be fiberglass enclosed in preformed aluminum jacket, one inch thick, such as Johns-Manville "Micro-Lok 650" or equal.

O. Sleeve Coupling - Shall be cylindrical steel ring type with resilient gaskets and high strength stainless steel bolts as manufactured by Dresser Industries, Rockwell or equal.

2.05 LEAD FREE PIPING

In accordance with the Louisiana Sanitary Code (LAC 51:XII) Chapter 3, Section 335 (D), all installations of, or repairs to, public water systems or residential and nonresidential plumbing facilities that provide drinking water and which are connected to a public water supply shall be made using lead free piping, solder, and flux. The only exception to this general requirement is that leaded joints necessary for the repair of cast iron pipes may be allowed. For these purposes, lead free, when used with respect to solder and flux, refers to solder and flux containing no more than 0.2 percent lead. Additionally, when used with respect to pipes and fittings, lead free refers to pipes and fittings containing no more than 8 percent lead. Please note that the LA Legislature enacted Act 362 in 2011, which became effective on January 1, 2013, which reduced the term “lead free” from not containing more than 8% lead to no more than a weighted average of 0.25% lead when used with respect to the wetted surfaces of pipes, pipe fittings, plumbing fittings, and fixtures.

PART 3 - EXECUTION

3.01 INSTALLATION OF INTERIOR PIPING AND APPURTENANCES

A. Grade and Alignment - All interior piping shall be installed in a workman like manner in accordance with the grade and alignment shown upon the drawings, or as directed by the Engineer.

B. Supports for Pipe Appurtenances - All water, process, chemical and air piping, valves, meters, fittings, controllers and etc., shall be firmly and satisfactorily supported in a neat and professional manner by suitable blocks or pedestals of cast iron or concrete or by steel beams, hangers, columns, or other suitable methods. Where shown by the drawings or where required for stability or where directed by the Engineer, the pipe shall be accurately built into or supported upon approved concrete structures.

C. Installation of Pipe and Appurtenances - All piping shall be assembled in accordance with the layout shown on the drawings, and in accordance with the layout shown on the drawings, and in accordance with the manufacturer's recommendations, with only such modifications as may be necessary to conform to the final detail dimensions of pumps, tanks, valves, meters, existing piping, etc. Any piping modifications required shall be approved by the Engineer, and at no additional cost to the Owner.

All piping shall be assembled so as to be free from strain and shall be securely supported and blocked with concrete, cast iron pedestals, hangers, or other suitable supports, as shown, directed, or as may be necessary to prevent settlement or other movement.

3.02 INSTALLATION OF EXTERIOR PIPING AND APPURTENANCES

A. Grade and Alignment - All exterior piping shall be installed in a workmanlike manner in accordance with the grade and alignment shown on the drawings, or as directed by the Engineer.

B. Supports for Pipe and Appurtenances - Where required or indicated on the drawings, exterior piping, valves, fittings, and etc., shall be firmly and satisfactorily supported in a neat and professional manner by suitable concrete thrust blocks or pads with steel reinforcement rod anchors or other approved methods.

C. Installation of Pipe and Appurtenances - All piping shall be assembled in accordance with the layout shown on t he drawings, and in accordance with the manufacturer's recommendations, with only such modifications as may be necessary to conform to the final detail dimensions of connections, valves, fittings, existing pipes, etc. A ny piping modifications required shall be approved by the Engineer, at no additional cost to the Owner. All piping shall be assembled so as to be free from strain.

Trench shall be excavated to provide a uniform and continuous bearing for pipes. For backfilling and compaction, requirements for pipe trenches, refer to Division 2 of these Specifications.

3.03 COLOR CODING AND PIPING IDENTIFICATIONS

In order to facilitate identification, all exposed interior piping shall be identified and color-coded as specified in Division 9 of these Specifications.

3.04 PIPE TESTING

A. Hydrostatic Testing for Pressure Lines:

1. Leakage Test Requirements:

a. After the pipe has been laid and backfilled as specified, all newly laid pipe, or any valved section thereof, shall be subjected to a pressure of 150 pounds per square inch, or 50% in excess of the normal working pressure, whichever is greater, as directed by the Engineer.

b. Leakage is defined as the quantity of water to be supplied into the newly laid pipe, or any valved section thereof, necessary to maintain the specified leakage test pressure after the pipe has been filled with water and the air expelled.

c. No pipe installation will be accepted until the leakage is less than the number of gallons per hour as determined by the formula:

$$L = \frac{ND\sqrt{P}}{7400}$$

in which "L" equals the allowable leakage in gallons per hour; "N" is the number of joints in the length of pipeline tested; "D" is the nominal diameter of the pipe, in inches, and "P" is the average test pressure during the leakage test, in pounds per square inch gauge.

d. All pipelines located below concrete slabs or foundations shall be pressure tested prior to the installation of concrete slabs or foundations.

e. A hydrostatic pressure and leak test form shall be completed on each segment of line tested.

2. Duration of Test: The duration of the test under pressure shall be two hours.

3. Procedure: Each valved section shall be slowly filled with water and the specified test pressure, based on the elevation of the lowest point of the line or section under test and corrected to the elevation of the test gauge, shall be applied by means of a pump connected to the pipe in a manner satisfactory to the Engineer. The pump, pipe connections, and all necessary apparatus, including gauges, shall be furnished by the Contractor. The Contractor will make all taps into the pipe, and furnish all necessary assistance for conducting the tests.

4. Expelling Air Before Test: Before applying the specified test pressure, all air shall be expelled from the pipe. If hydrants or blow offs are not available at high places, the Contractor shall make the necessary taps at points of highest elevation before the test is made and insert the plugs after the test has been completed. If high point is indicated on drawings, corp stops shall be installed at designated areas.

5. Variation from Permissible Leakage: Should any of pipes laid disclose leakage greater than that specified above, the Contractor shall, at his own expense, locate, repair, and replace the defective joints, pipe or fittings until the leakage is within the specified allowance.

6. Time for Making Test:

a. Asbestos cement pipe shall be filled with water a minimum of 24 hours prior to making any leakage tests. All other pipe may be subjected to hydrostatic pressure and inspected and tested for leakage at any convenient time after the trench has been partially backfilled except at the joints in accordance with the specifications. The leakage allowance for all mains shall be that specified above.

b. Where any section of a main is provided with concrete reaction backing, the hydrostatic pressure test shall not be made until at least five days have elapsed after the concrete reaction backing was installed. I f high early strength cement is used in the concrete reaction backing, the hydrostatic pressure test shall not be made until at least two days have elapsed.

B. Alignment Test for Pressure Lines:

1. Prior to backfilling of pressure lines, the joint alignment shall be inspected to assure the maximum deflection present in each joint does not exceed the manufacturer's recommendations.

2. Pressure lines, which are a portion of a pump discharge system, shall be inspected to assure the line is installed at a constant or increasing grade so as to eliminate the possibility for air accumulation at an intermediate high point.

3. Any and all defects shall be corrected by the Contractor at no additional cost to the Owner and to the satisfaction of the Engineer prior to backfilling. This shall be completed before the work shall proceed and before acceptance of and/or payment therefore shall be made.

C. Alignment, Infiltration and Leakage Testing for Gravity Lines:

1. General: All mains, which are not a portion of a pressured system shall be subjected to alignment and leakage tests as herein specified.

2. Alignment Test:

a. After the mains have been laid and backfill placed to a depth of one and one-half (1-1/2) feet above that of the pipe, a light will be flashed between manholes, manhole locations or the terminus of the main to determine whether the alignment of the main is true and whether any pipe section has been displaced, broken, or otherwise damaged subsequent to laying. This test will again be conducted before acceptance.

b. If a segment of gravity line is determined by the Engineer possibly to be out of alignment, the Contractor will be required to pull a test mandrel to ensure that no pipe shall exceed a deflection of five (5) percent.

c. Any and all defects shall be corrected by the Contractor, and at no additional cost to the Owner and to the satisfaction of the Engineer, before the work shall proceed and before acceptance of and/or payment therefore shall be made.

3. Leakage Tests:

a. Exfiltration Test: Each section of the main between manholes or terminus of the main shall be tested for exfiltration as directed by the Engineer at the Contractor's expense. Leakage from (exfiltration) the main shall not exceed 100 gallons per day, per inch diameter, per mile of pipe when a minimum internal pressure of two feet of water over the crown of the pipe is maintained at the upper location, two feet above high ground water level, or maximum operating water level to which the main will be subjected, whichever is greater. When leakage exceeds the specified amount, corrective action shall be taken by the Contractor to bring it within said limits before acceptance. All sections of the main and its appurtenances shall be properly braced against thrust due to water pressure.

b. Air Testing: The Contractor, at his option, may test each section of main using low-pressure air. The pipe shall be considered acceptable if the air loss rate does not exceed 0.0030 cubic feet per minute per square foot of internal pipe surface when tested at an average pressure of 3.0 psig greater than the average back pressure exerted by the ground water on the backfilled main or the maximum operating water level to which the main will be subjected, whichever is greater. The time for the air pressure to decrease 1.0 psig from 3.5 to 2.5 psig greater than the test pressure specified shall not be less than the time indicated in the following table:

Pipe Diameter	Minutes	Seconds
6"	2	55
8"	3	57
10"	4	43
12"	5	40
15"	7	5
18"	8	30

21"	9	50
24"	11	20
27"	12	45
30"	14	10
36"	17	00
42"	19	50
48"	22	40

If the above rates of leakage are exceeded, corrective action shall be taken by the Contractor to bring it within said limits before acceptance.

A minimum period of 2 minutes shall be provided to allow equilibrium of the air temperature with pipe wall before test readings shall commence. In areas of known high ground water conditions, the Contractor shall determine the height of the ground water above the main by piezometric tube or other methods approved by the Engineer.

The Contractor shall submit to the Engineer for approval the test procedure and list of test equipment he proposes to use prior to testing.

D. Pressure Testing for Air Lines:

1. All air piping and appurtenances shall be tested with air at a pressure of 120 pounds per square inch (psi) for a two-hour test period.

2. Backfilling will be permitted before testing, only where, in the opinion of the Engineer, it is necessary for safety or the protection of property. All leakage apparent on testing must be repaired before backfilling. Pipe shall hold pressure with no more than 1 pound drop per hour at uniform temperature, within 1 degree more or less.

3. While pressure test is on, each joint shall be tested for bubbling air with soapsuds brushed on to form a solid film about pipe and fitting joints. Any leakage shall be stopped before backfilling.

4. After each test and inspection of joints in a section is completed, a 2-inch valve on the laying end of the pipeline shall be suddenly opened to blow dust from the pipe.

5. The Contractor shall furnish all necessary equipment for testing, including air compressor and an accurate pressure gauge.

6. All testing shall conform to the Code for Pressure Piping (American Standard) as approved by the American Standards Association and published in 1942 (ANSI B 31.1), together with current supplements.

3.05 CLEANING AND STERILIZATION

A. General - All water lines shall be flushed and purged of all loose scale and debris prior to installing or connecting new lines. All airlines or gas lines shall be flushed and purged of all lose scale and debris prior to installing equipment. A ll yard piping, sewers, and force mains shall be flushed and cleaned of all loose material and debris prior to acceptance. All cleaning and sterilization shall comply with LAC51XII.353.A.

B. Sterilization of Potable Water Lines - All water lines noted on t he drawings as potable water lines shall be sterilized prior to acceptance. Prior to sterilization, the lines shall be flushed as thoroughly as possible with the water pressure and outlets available. Flushing shall be done after the line pressure test has been made.

The sterilization procedure shall be in accordance with the Slug Method as outlined in AWWA C651-99 AWWA standards for Disinfecting Water Mains or the latest revision thereof. All disinfection procedures shall have a minimum of 50 ppm free chlorine for a period of at least three (3) hours prior to collection of samples by the Health Department. All disinfection procedures shall comply with the state sanitary code and these standards.

Contractor shall obtain from the Board of Health on acceptable test prior to placing the water main in service.

END OF SECTION

TECHNICAL SECTION
DIVISION 15 - MECHANICAL
SECTION 15020 - VALVES & APPARATUS

PART 1 – GENERAL

1.01 SCOPE

All valves and appurtenances shown or listed on the drawings shall be installed as indicated or detailed on said drawings or as directed by the Engineer, and shall be as specified in this Section of the specifications.

1.02 SUBMITTALS

Within ten (10) calendar days after award of the Contract, the Contractor shall submit to the Engineer for approval:

A. Complete list of materials and items proposed to be furnished and installed under this Section.

B. Manufacturer's specifications and other data required to demonstrate compliance with these Specifications.

C. Manufacturer's recommended installation procedure which when approved by the Engineer shall become the basis for inspection and acceptance or rejection of the Work.

PART 2 – PRODUCTS

2.01 VALVES

A. Gate Valves 2 inches and Larger - All gate valves two (2) inches and larger shall conform in all respects to A.W.W.A. Specification C509, Resilient Seat Gate Valves, latest revision. All valves shall be of the non-rising stem type, with iron body full bronze mounted. Gate valves shall be of such design as to maintain the full area of the pipe through the valve when open. Valves shall be pressure rated for 200psi unless otherwise indicated on the drawings.

Valves shall open left (counter-clockwise) and shall be supplied with operators as indicated on the Contract Drawings and specified herein.

1. Exposed manually actuated valves shall be hand wheel actuated unless otherwise indicated on the drawings. Hand wheel operators shall be designed to hold the valve in any intermediate position between fully open and fully closed without creeping or fluttering.

2. Valves installed in overhead pipelines where the centerline of pipe is 8 feet or more above the floor shall be provided complete with geared chain wheel operators. Chain guides shall be provided. Chains shall reach within four feet of the floor. Chains shall be galvanized.

3. Buried valves shall have 2-inch square cast iron operating nuts. Operating nut shall be extended to within 12 inches of finished grade. Each valve shall also be supplied with a roadway type valve box and valve wrench.

4. Where indicated on the drawings, valves shall be provided with extension stems and either cast iron floor boxes or floor stands. Floor stands shall be cast iron, medium duty, with indicators. Extension stems shall be cold rolled steel complete with necessary steady bearings and couplings required to complete the installation indicated. Ratio of total stem length to radius shall not exceed 150.

5. All operating nuts, hand wheels, and chain wheels shall have the direction of opening cast on them.

6. Gate valves installed in buried vertical pipelines shall be provided with bevel gears and enclosed gear cases. Gearing shall be in accordance with the valve manufacturer's recommendations as required to permit easy operation of the valve by one man without excessively large hand wheel or cranks.

Gate valves above grade or exposed shall be supplied with flanged ends in accordance with A.S.A. Class 125, unless otherwise indicated on the drawings, and shall be of the non-rising stem type.

Buried valves shall be supplied with mechanical joint end connections. Valves shall be as manufactured by Crane, Clow, Mueller, Dresser, American Cast Iron Pipe Co., or equal.

B. Gate Valves Smaller than 2 Inches - Valves shall be 150-pound wedge disc non-rising stem brass gate valves with screwed or flanged ends as described in the Drawings. Valves shall be Crane No. 437, or equal. Valves shall be supplied with hand wheel operator.

C. Knife Gate Valves - Valves shall be of the bonnet-less type with fully flanged connections. Flanges shall be drilled to ANSI 125/150 pound standard. Valve pressure rating shall be 150psi in sizes 2 inch through 24 inch and 125psi in sizes 30 inch and 36 inch. Valves shall be by DeZurick or equal.

Knife valves shall have resilient seats. Valve bodies shall have wetted parts of type 304 or 316 stainless steel. The gate shall have a knife-edge and both sides shall be finish ground. The stem shall be stainless steel.

Knife valves shall be supplied with operators as shown on the Contract Drawings.

D. Plug Valves - Valves shall be non-lubricated, eccentric type with resilient faced plug, with screwed, flanged, or mechanical joint ends as shown on the drawings. Port areas shall be at least 80% of the full pipe area. Valve body shall be of semi-steel unless otherwise noted on the drawings. Body seats shall be 90% nickel. Stem bearings shall be of corrosion resistant material. All nuts, bolts, springs and washers

shall be zinc plated. Flanged valves shall be manufactured to ANSI B16.1 Class 125/150 standards, including facing, drilling, and flange thickness. Means of valve operation shall be as indicated on the drawings or as specified hereafter. The valves shall be as manufactured by DeZurik, Milliken or equal.

Plug valves shall be provided with means of operation as indicated on the drawings and as specified herein.

1. Valves four inches and smaller installed in other than buried or submerged locations shall be lever-operated, and a suitable lever shall be either permanently or semi-permanently attached to each valve.

2. Valves larger than four inches that are installed in easily accessible locations, but not included buried or submerged locations, shall be lever operated unless otherwise indicated or specified.

3. Buried valves shall have 2-inch square operating nuts extended to within 12 inches of finished grade. Each valve shall be supplied with a roadway type valve box and valve wrench. Submerged plug valves that are not indicated or specified to be operated from floor stands shall have extension stems, floor boxes, and 2 inch square operating nuts.

4. Submerged valves shall be operated by floor stands where indicated or specified. Where gearing is required for proper operation of submerged valves, the gearing shall be located in enclosed gear cases installed on the floor stand. Gearing shall be in accordance with the valve manufacturer's recommendations as required to permit easy operation of the valve by one man without excessively large hand wheel or cranks. H and wheels shall not exceed 30 inches in diameter.

5. Extension stems, stem guides, operating levers, and other miscellaneous items required for a complete installation shall be provided in accordance with the requirements and recommendations of the valve manufacturer. T wo tee handle valve operating wrenches shall be provided.

6. Gearing shall be provided where either indicated specified or recommended by the valve manufacturer. All gearing shall be provided in enclosed gear cases.

7. Buried plug valves shall be provided with adjustable cast iron valve boxes in accordance with requirements previously specified for valve boxes in connection with gate valves.

8. Valves installed in overhead pipelines where the centerline of pipe is 8 feet or more above the floor shall be provided complete with geared chain wheel operators. Chain guides shall be provided. Chains shall reach within four feet of the floor. Chains shall be galvanized.

9. All plug valves 10 inches and larger in easily accessible locations shall be provided with worm gear operators and hand wheels.

E. Butterfly Valves:

1. Liquid Service Valves: All butterfly valves for liquid service, unless otherwise noted on drawings or specified, shall be of the tight-closing, rubber seat type with rubber seats that are securely fastened to the valve body. Valves shall be bubble-tight at rated pressures with flow in either direction. Valves shall have fully threaded and tapped log type cast iron bodies. All butterfly valves shall meet the full requirements of A.W.W.A. Standard C504-70 for class 150B, and shall be as manufactured by the Henry Pratt Company, K-Flo, or approved equal.

All butterfly valves installed underground shall meet design-for-burial specifications of A.W.W.A. Butterfly valves installed underground shall be Henry Pratt Company "Groundhog" valves, Centerline equivalent, or equal.

2. Air Service Valves: All butterfly valves for air service shall have cast iron bodies designed for air service and for bolting between A.S.A. 125-lb. standard flanges. Valve disc shall be designed to offer minimum resistance to flow and shall be capable of rotating 90 degrees to achieve full flow from a shut position. Disc shall be securely fastened to shaft. A full circumference rubber seat shall cover the inner surface of the valve body. All bearings of operating shaft shall be self-lubricating. The valves shall be manufactured by Henry Pratt Company, Kennedy Corporation, or equal.

3. Valve Operators: Butterfly valves shall be supplied with operators as shown on the Contract Drawings and specified in Subsection 2.01-D of the Specifications. Lever operators for valves shall conform in all respects to A.W.W.A. Specification C509-79, latest revision, and shall be designed to hold the valve in any intermediate position between fully open or fully closed without creeping or fluttering.

F. Ball Valves:

1. Ball Valves Two Inches and Larger: All ball valves two inches and larger shall conform to AWWA C507-73, latest revision, Class 150, and shall be supplied with 150-lb. ANSI flanges. The valve body shall be of single-piece construction, and shall be ductile iron with stainless steel trim. The valve seat and all seats shall be TFEE-LOK, or equal.

Valves shall be of absolutely leak-tight construction and of the double seal design as manufactured by Henry Pratt Co., Jamesbury Corporation, Marpac Corporation, or equal.

Valves shall be supplied with operators as indicated on the Contract Drawings and specified in Subsection 2.01-D of the Specifications.

2. Ball Valves Smaller than Two Inches: All ball valves smaller than two inches shall be of all bronze construction, with TFE seals and seat. Valves shall have screwed end connections, and shall be lever operated, unless otherwise specified or shown on the Contract Drawings. Valves shall be Jamesbury Corporation "Clincher," Marpac equivalent, or equal.

3. Plastic Ball Valves: Plastic ball valves shall be utilized on chemical feed and chlorine gas lines, and shall be of PVC construction with Teflon seat and Viton O-ring seals. The shaft couplings shall be cadmium-plated steel. Valves less than three inches shall be supplied with true union or flanged end connections. Valves 3 inches and greater shall be supplied with Schedule 80 flanges faced and drilled to 150-lb. A.S.A. pattern. Valves shall be as manufactured by Chemtrol, or equal.

4. Ball Check Valves for Air Service: Ball check valves shall be rated for maximum operating pressure of 200psi, shall be suitable for air line service and shall operate equally effective in either the horizontal or vertical position. Ball check valves shall be of a design to insure free movement of ball and the ball shall be supported in such a manner as to provide full flow with minimum turbulence and chatter. Only inches of head pressure shall be required to seal and open the ball check valves. Ball check valves provided shall be constructed of materials and shall be furnished with threaded joints, which are compatible for connection to the air line piping provided.

G. Check Valves:

1. Liquid Service Valves Three Inches and Greater: Check valves three inches and larger shall be iron body horizontal swing check valves with outside lever and weight, unless otherwise indicated. Seats, seat rings, pins, bushings, shaft and hinges shall be constructed of bronze. Unless otherwise specified or indicated on the Contract Drawings, check valves shall be supplied with A.S.A. Standard Class 125 flanges.

Valves shall be designed for 150-lb. working hydrostatic pressure, unless otherwise indicated on the drawings and shall be as manufactured by Clow, Mueller, or equal.

2. Liquid Service Valves Less than Three Inches: Check valves less than three inches shall be of all bronze construction, and shall be supplied with threaded end connections. The valves shall be designed for a 150-lb. working pressure and shall be of the swing check type as manufactured by Crane, Kennedy, or equal.

3. Air Service Valves: Check valves to be installed on air lines shall be of wafer type construction, with aluminum intervals and silicone seal members. Valves shall be provided with cast iron body, and shall be provided with standard A.S.A. 125-lb. flanges.

Valves shall be rated for continuous duty at 300°F, 35 PSIG, and shall be as manufactured by Hoffman Air and Filtration Division of Clarkson Industries, or equal.

4. Flexible Sleeve Check Valves: Flexible sleeve type check valves shall be furnished with cast iron body and flanges conforming to ANSI B16.1, Class 12.5. Sleeve material shall be neoprene with nylon fabric reinforcement. Valves shall be series 33 by Red Valve or equal.

5. Double Door Check Valves: Valves shall be compact design, with fully tapped and threaded lugs by Valve and Primer Corporation or equal.

Doors shall be spring loaded, normally closed, by means of one or more heavy-duty stainless steel torsion springs. Seating shall be resilient and water tight. The sealing element shall be Bune-N molded to the body. Body shall be of cast iron construction, doors shall be cast steel. Springs and shafts shall be T316 stainless steel.

6. Air Cushion Swing Check Valve:

a. General – Check valves shall be Ductile Iron body, bronze mounted, full opening swing type. Valve disc shall swing completely clear of the waterway when the valve is full open, permitting a "full flow" thru the valve equal to the nominal pipe diameter. They shall comply with AWWA Standard C-508 latest revision.

b. Rating - Valves shall be rated for 200 psi on 12" and smaller, and 150 psi on 14" and larger water working pressure. All testing shall be done in accordance with AWWA C508.

c. End Configuration - Valves shall have integrally cast flat face flanges per ANSI B16.1 Class 125.

d. Materials - Body and disc shall be Ductile Iron ASTM A536 GR65-45-12. Seat ring shall be 316SS. Disc seal shall be Buna-N. Hinge pin shall conform to ASTM A276 GR304. Valves shall have internal and external coating of TNEMEC 141 Epoxoline NSF approved 2-part epoxy

e. Design - Air cushion systems shall be side mounted aluminum air cylinder with air intake filter and flow control valve. The check valve's lever arm shall have an adjustable weight. Air cushion check valves shall be suitable for horizontal or vertical installation.

The air cushion swing check valve(s) shall be Crispin SWL-LW-AC or prior approved equal.

H. Pinch Valves - Pinch valves shall be utilized only where specifically indicated on the Contract Drawings, and shall be a Series 75 valve as manufactured by Red Valve Company, Inc. or equal. The valves shall meet or exceed ANSI B16.10 Specification, and shall be provided with a hand wheel operator. The valve sleeve shall be Bune-N Rubber, and the valve body shall be cast iron.

I. Mud Valves - Mud valves shall be utilized only where specifically indicated on the Contract Drawings, and shall be the non-rising stem type. The valve body shall be cast iron. Stem, stem nut, disc ring and seat ring shall be bronze.

1. Rising stem bench standard shall be cast iron suitable for mounting on tank walls.

2. Floor stands shall be non-rising stem floor stands equipped with indicators. Floor stands shall be of cast iron with steel extension stem. Hand wheels shall not exceed 20-inch diameter.

J. Diaphragm Valves - Valve bodies and bonnets shall be cast iron. Valve bodies shall be lined with neoprene material. Valve bonnets shall be of the indicating-type with travel stop, suitable for hand wheel manual operators. All diaphragm valves shall be furnished with manual hand wheel type operators. Diaphragm material shall be EPT.

Straightway diaphragm valves furnished shall be close-coupled type with flanged ends. Flange drilling shall be in accordance with ANSI B16.5 Standard for Class 150 flanges. All valve joint accessories including gaskets, bolts and nuts shall be furnished with each diaphragm valve.

All straightway diaphragm valves shall be as manufactured by the ITT Grinnell Corporation, Clayton Valve Co., or equal.

K. Solenoid Valves - Solenoid valves shall be full port, normally closed type with current to open. Valves shall have one inch screwed connections, explosion proof solenoids with molded epoxy resin coils and NEMA 4 housing, and shall be designed for operation on 12 volt DC current, unless otherwise indicated. Valves shall be bronze body type with renewable discs, which can be replaced without removing valve body from piping system.

L. Liquid Pressure Reducing Valves - Pressure reducing valves shall be self-contained type all bronze body with screwed connections. Valves shall be capable of reducing pressure on water lines by field adjustments to approximately 5 pounds greater than the shut-off pressure of the pump for which the valve serves. Range of reduced pressure adjustment shall be 10 to 100 pounds.

M. Air Pressure Reducing Valves - Valves shall be self-contained, internal pilot, piston-operated type of cast iron and bronze construction. Valves shall be suitable for intended application in accordance with manufacturer's recommendations, and as per

specified equipment requirements. V alves shall be as manufactured by Leslie Company, or equal.

N. Combination Air Release Valves - Combination valves shall consist of an air and vacuum valve and an air release valve rated for 125psi, completely piped and assembled together, with 1-inch gate between. Valve shall be series 1800 by Valve and Primer Company, APCO, or equal.

Air and vacuum valve shall be designed to allow large quantities of air to escape out the orifice when filling a pipeline and to close watertight when the liquid enters the valve. The air and vacuum valve shall also permit large quantities of air to enter thru the orifice when the pipeline is being drained to break the vacuum. T he discharge orifice area shall be equal or greater than the inlet of the valve.

The valve shall consist of a body, cover, baffle, float and seat. The baffle will be designed to protect the float from direct contact of the rushing air and water to prevent the float from closing prematurely in the valve. T he seat shall be fastened into the valve cover, without distortion, and shall be easily removed, if necessary. The float shall be stainless steel designed to withstand a minimum of 100psi. The float shall be center guided for positive shutoff into the seat.

All materials of construction shall be certified in writing to conform to A.S.T.M. specifications as follows:

Body, cover & baffle	Cast iron	ASTM A48,Class 30
Float	Stainless Steel	ASTM A240
Seat	Buna-N	
Exterior paint	Phenolic primer	FDA Approved for
	Red Oxide	Potable Water
	Steel	Contact

Air release valve shall be designed to release small pockets of trapped air as line fills under pressure. Valve shall be designed to open against internal pressure. Valve shall have cast iron body, stainless steel float; Buna-N seat, and Delrin and bronze linkage. All other internal parts shall be stainless steel or bronze.

O. Air Release Valves - Air release valves, size as indicated on the drawings, shall be as manufactured by Valve and Primer Company or equal.

Valves shall comply in all respects with Air Release Valve component of the Combination Air Release Valves as indicated on the drawings.

P. Telescoping Valves - Telescoping valves shall be of the general design indicated on the Drawings. Valves shall be equal to those manufactured by Walker Process Division of CBI, Envirex, or equal. They shall consist of a brass slip pipe, which slides in a cast iron enclosing pipe with a gland for seal. Clear travel of the slip pipe shall be as shown. Top of slip pipe shall feature 13-1/2 inch diameter (O.D.) flare. A substantial cast iron or steel operating stand shall support the slip pipe through an extension stem rigidly connected to the slip pipe. The slip pipe shall be positioned by a hand operator and the position of the outlet shall be indicated through a brass pointer on a graduated scale.

Q. Flanged Valves - All flanged valves shall be drilled and faced to the American 125-lb. standard template, and in accordance with ASA B16.1., unless otherwise noted on the drawings.

R. Electric Actuators – Actuators shall include integral control unit with open/stop/close push buttons and indicating lights, local/remote selector switch, manual hand wheel override and double sealed terminal compartment. Actuators shall include a separate GS ¼ turn gearbox with 360 degree bronze worm wheel and adjustable travel stops. The GS gearbox shall be capable of operating the valve as a standalone manual gear operator in the event the actuator gear case, motor and controls are removed for repair. The actuator/gear box assembly shall direct mount to the valve without the need for accessory bracket and coupling type mounting adapters. Voltage and starting amps shall be in accordance with manufacturer's recommendations.

2.02 HYDRANTS

A. Fire Hydrants - Fire hydrants shall be cast iron body, fully bronze mounted, suitable for working pressure of 150psi and shall meet all requirements of the latest AWWA C502. Each hydrant shall be given a 300psi hydrostatic test in the shop.

Hydrants shall be Mueller Co. Improved AWWA type or equal.

The waterways of hydrants shall be as free as possible of obstructions, sharp turns, corners, or other cause for resistance. The base of the hydrant shall have a mechanical joint connection.

The hydrants shall have a 6-inch mechanical joint connection to street main with auxiliary gate valve, two 2½-inch brass nozzles with threads for hose connections and 1 pumper nozzle together with caps fastened securely to each hydrant with steel chain and threaded to fit nozzles. The bottom valve of the hydrant shall not be less than 5¼" inches in diameter and 7-inch minimum I.D. riser barrel. Threads for hose and steamer connections shall match existing hydrants and shall be opened by turning in a counter-clockwise direction.

The hydrant main valve shall be of the compression type, closing with pressure. The valve shall be faced with rubber, or other approved material.

Drain valves shall be automatic and positive acting. When the main valve is closed, drain valves shall automatically open, insuring rapid and complete drainage of the hydrant riser. They shall close automatically when the main valve is opened.

Hydrants shall have a safety "breakable" section located above ground line. The distance from the ground line of the hydrant to the top of the hydrant head shall not be less than 30 inches. Hydrants shall come with one shop coat of primer. After installation, skinned or scratched surfaces of hydrants shall be wire brushed and touched up with one coat of primer. Two coats of Sonneborn's Hydrant Enamel shall be applied in the field. Color shall be determined by the Owner with the first coat having lamp black added to distinguish it from the final coat.

Hydrants shall be placed with pumper nozzle facing street and shall be located as indicated on Plans. Each hydrant shall be placed on a concrete base and shall be secured against dislocation as shown on Plans. A minimum of 7 cubic feet of clean washed gravel shall be placed around each hydrant base. Backfill above gravel shall be thoroughly tamped. Care shall be taken so as to keep the drain holes clear.

B. Yard Hydrants - Yard hydrants shall be 1 1/2" - 4' depth of bury, non-freezing type with aluminum housing, similar to Series 1440-N, as manufactured by Josam Manufacturing Company, an equivalent model by Zurn, or equal.

2.03 ONE WAY FLOW ALTITUDE VALVE WITH DELAYED OPENING CONTROL AND PRESSURE MONITORING SYSTEM

A. Function - The one way altitude control valve shall consist of a hydraulically operated level control pilot and delayed opening pilot which alternately apply or relieve pressure to the valve actuator's diaphragm chamber to open or close the main valve. The valve shall close at a pre-set reservoir high level and fully open in response to an adjustable level drop as sensed by the 3-way altitude pilot and delayed opening control pilot. The valve shall include pressure monitoring transmitters on both the upstream and downstream sides of the valve seat. The transmitter's 4-20mA outputs shall send continuous system pressure and tank level data to the water plant's control room via SCADA. The valve shall also include a position indicator to signal the valve is open or closed.

B. Main Valve - The 12"main valve shall be center guided, diaphragm actuated of oblique (Y) pattern design. The valve body shall have a replaceable, raised stainless steel seat. The valve shall have an unobstructed flow path, with no stem guides or bearings. The valve body and cover shall be of ductile iron. The 12" valve's CV shall be a minimum of 2100 GPM @ 1 psi pressure drop. The valve's actuator assembly shall be double chambered with an inherent separating partition between the lower surface of the diaphragm and the main valve. Single chamber and piston design control valves shall not be permitted in this application. The entire actuator assembly shall be removable from the valve as an integral unit. The 303 non-magnetic stainless steel valve stem shall be center guided by a bearing in the separating partition. The seal disk assembly shall include a resilient Buna N seal. All necessary repairs and/or modifications other than replacement of the main valve body shall be possible without removing the valve from the pipeline.

Main Valve Material Specification
Main Valve Body and Cover: Ductile Iron / ASTM A-536
Main Valve Seat: 303 Stainless Steel
End Detail: ANSI B16.5 150 LB. FLG.
Pressure Rating: 275 PSI
Temperature Range: 180 DEGREES F
Rubber Material: NBR
Coating: FDA, NSF, AND WRAS APPROVED FUSION BONDED EPOXY PROTECTIVE COATING

C. Pilot Control System - The control system shall consists of a 3-way adjustable, direct acting altitude pilot valve, delayed opening pilot, needle valve and isolation cock valves, in line check valve, and large Type F Control Filter. Y strainers or self cleaning strainers that project into the flow stream are not acceptable. The assembled valve shall be hydraulically tested and factory adjusted to the customer's requirements.

Pilot Control System Material Specification
Body & Cover: Cast Bronze/ Brass
Pressure Rating: 350 psi
Trim: Stainless Steel
Rubber Material: NBR
Parker Parflex Tubing and Brass Fittings
Operating Fluids: Potable Water

D. Monitoring System and Commissioning Services - Upstream and Downstream of the altitude control valve's seat shall be a 4- 20 mA pressure transmitter with LCD display. The downstream transmitter shall be field calibrated to the overflow level of the elevated tank. The upstream transmitter shall be calibrated to SCADA. The pressure transmitter shall be a Rosemount 3051T with block and bleed valves.

A factory trained representative shall be made available for start-up service, inspection and necessary adjustments. The representative shall provide a 7 day report showing operating of the altitude valve in service. Report shall detail opening and closing cycles per day, opening and closing time expanded to record pressure at 100 times per second. All opening and closing times shall be calibrated by GPS clock. Location of installation shall be documented by GPS location. R eport shall be generated in a power point presentation and used during a two hour operator training class.

Report shall also document:

1. Altitude pilot set point for closing valve closed elevation
2. Document transient pressure created upstream of the control valve when valve closed and closing time. Closing time shall be adjusted to minimize pressure transients in the distribution system.
3. Pressure required for valve to re-open and charge the system with water.
4. Change in water volume during tank cycle.

At no additional charge, the representative shall provide a time calibrated system showing opening and closing time and pressure for both elevated tanks in a 24 hour operation.

E. Quality –The main valve and actuator shall be flow tested in accordance with ISO 9001-2000 certification procedures and NSF-61 approved for potable water usage. The valve manufacturer shall warrant the valve to be free of defects in material and workmanship for a period of two (2) years from the date of shipment, provided the valve is installed and used in accordance with all applicable instructions. The valve manufacturer shall be able to supply a complete line of equipment from 1 ½" thru 36" sizes as well as a complete selection of complimentary equipment. The valve manufacturer shall provide a computerized cavitation chart which shows flow rate, velocity, differential pressure, overhaul hours, and if there will be cavitation damage.

The one way flow altitude valve system shall be the Bermad model no.: 750-80-89-F-S-3051 or prior approved equal.

PART 3 - EXECUTION

3.01 INSTALLATION AND STORAGE

The valves and appurtenances shall be installed in accordance with the installation manual furnished by the valve manufacturer. Extreme care shall be used in the handling, storage and installation of these valves to prevent damage or distortion of the equipment and to insure proper performance.

3.02 PAINTING

All surfaces of each valve body assembly shall be clean, dry and free from grease before painting. All un-machined surfaces of the valve body assembly shall be wire brushed down to clean metal and given two coats of an approved shop primer. Two coats of an asphalt varnish complying with Federal Specifications TT-V 51a shall be applied to all exterior surfaces.

3.03 SPARE PARTS AND TOOLS

Repair or service parts for one of each type of valve used in this Work shall be furnished and stored as directed by the Engineer. The equipment shall include, in general the following items: s pecial tools required for maintenance or operation of valves, gaskets, rings, seals, lubricants, bolts, washers, operation manuals, drawings, etc., required to maintain valves in proper operating service.

END OF SECTION

DIVISION SIXTEEN

ELECTRICAL

16

TECHNICAL SECTION
DIVISION 16 – ELECTRICAL
SECTION 16010 – GENERAL SPECIFICATIONS FOR ELECTRICAL INSTALLATION

PART 1 – GENERAL

1.01 SCOPE

The Electrical Drawings and Specifications under this division shall be made a part of the Contract Documents. The drawings and specifications of other Divisions of this Contract, as well as supplements issued thereto, information to Bidders and pertinent documents issued by the Owner's representative are a part of these Drawings and Specifications and shall be complied with in every respect. All the above documents will be on file at the office of the Owner's representative and shall be examined by all Bidders. Failure to examine all documents shall not relieve the responsibility or be used as a basis for additional compensation due to omission of details of other Sections from the Electrical documents.

The Contractor shall furnish all work, labor, tools, superintendence, material, equipment and operations necessary to provide for complete and workable electrical systems as defined by the Contract Documents. The Contractor shall be responsible for visiting the sites and checking the existing conditions and ascertaining the conditions to be met for installing the work and adjusting his bid accordingly.

It is the intent of the Contract Documents that upon completion of the electrical work, each entire system shall be in a finished, workable condition.

All Work that may be called for in the specifications but not shown on the drawings; or, all Work that may be shown on the drawings but not called for in the specifications, shall be performed by the Contractor as if described in both. Should work be required which is not set forth in either document, but which work is nevertheless required for fulfilling of the intent thereof; then, the Contractor shall perform all Work as fully as if it were specifically set forth in the Contract Documents.

The definition of terms used throughout the Contract Documents shall be as specified by the following agencies:

A. Underwriters Laboratories (UL)
B. National Electrical Manufacturers Association (NEMA)
C. American National Standards Institute (ANSI)
D. Insulated Cable Engineers Association (ICEA)
E. National Electrical Code (NEC)
F. National Fire Protection Association (NFPA)

The use of the terms: "as (or where) indicated"; "as (or Where) shown"; "as (or Where) specified"; or "as (or where) scheduled" shall be taken to mean that the reference is made to the Contract Documents, either on the drawings or in the specifications, or both documents.

The use of the words "furnish," provide," or "install" shall be taken to mean that the item or facility is to be both furnished and installed under this Section unless stated to the contrary that the item or facility is to be either furnished under another Section or under another Contract, furnished under this Section and installed under another Section or under another Contract.

1.02 PERMITS, CODES, AND REGULATIONS

Secure all permits, licenses, and inspection as required by all authorities having jurisdiction. Give all notices and comply with all laws, ordinances, rules, regulations and contract requirements bearing on the Work.

The minimum requirements of the electrical systems installations shall conform to the latest edition of the National Electrical Code as well as state and local codes.

Codes and ordinances having jurisdiction and specified codes shall serve as minimum requirements; but, if the Contract Documents indicate requirements which are in excess of those minimum requirements, then the requirements of the Contract Documents shall be followed. Should there be any conflicts between the Contract Documents and codes, or any ordinances, report these with bid.

Determine the exact requirements for the utility service connections and metering facilities as set forth by the utilities that will serve the Project, and pay for and perform all work as required by those utilities.

1.03 STANDARDS

All materials and equipment shall conform to the requirements of the Contract Documents. They shall be new, free from defects, and they shall conform to the following standards where these organizations have set standards:

A. Underwriters Laboratories, Inc. (UL)
B. National Electrical Manufacturer's Association (NEMA)
C. American National Standards Association (ANSI)
D. Insulated Cable Engineers Association (ICEA)

The same manufacturer shall supply all material and equipment of the same class, unless specified to the contrary.

All products shall bear UL labels where standards have been set for listing.

1.04 SHOP DRAWINGS AND SUBMITTALS

Shop drawings shall be taken to mean detailed drawings with dimensions, schedules, weights, capacities installation details, and pertinent information that will be needed to describe the material or equipment in detail.

Submittals shall be taken to mean catalog cuts, general descriptive information, catalog numbers, and manufacturer's name.

Submit for review in sextuplicate within sixty days after award of Contract, all shop drawings and submittals as hereinafter called for.

Review of submittals or shop drawings shall not remove the responsibility for furnishing materials or equipment of proper dimensions, quantity and quality; nor will such review remove the responsibility for error in the shop drawings or submittals.

Assume all costs and liabilities, which may result from the ordering of any material or equipment prior to the review of the shop drawings or submittals, and no work shall be done until the shop drawings or submittals have been reviewed. In case of correction or rejection, resubmit until such time as they are accepted by the Owner's representative and such procedures will not be cause for delay. After the final review, 6 copies will be supplied if requested.

Shop drawings and submittals will be returned unchecked if the specific items proposed are not clearly marked, or if the general Contractor's approval stamp is omitted.

1.05 ACCEPTANCE AND SUBSTITUTIONS

All manufacturers named are a basis as a standard of quality and substitutions of any equal product will be considered for acceptance unless prohibited under other divisions of these Specifications. The Engineer shall make the judgment of equality of product substitutions.

Substitutions after award of Contract shall be made only within sixty days after the award of Contract. Furnish all required supporting data. The submittal of substitutions for review shall not be cause for time extensions.

Where substitutions are offered, the substituted product shall meet the product performance as set forth in the specified manufacturer's current catalog literature, as well as meeting the details of the Contract Documents.

The details on the drawings and the requirements of the specifications are based on the first listed item of material or equipment; if any other than the first listed materials or equipment is furnished, then assume responsibility for the correct function, operation, and accommodation of the substituted item. In the event of misfits or changes in Work required, either in this section or other sections of the Contract, or in both; bear all costs in connection with all changes arising out of the use of other than the first listed item specified.

Substitutions of products under another section may occur. Make necessary adjustments and additions to Work under this section to accommodate those substitutions. Such adjustments and additions shall be performed in compliance with specifications at no additional charge.

1.06 RECORD DRAWINGS

At the start and during progress of the job, Contractor shall keep one separate set of blue-line prints for making construction notes and mark-ups, and shall:

Show conduit routing and wiring runs as constructed and identify each.
Show all terminal number and schematic changes.
Record all deviations from the Contract Documents.
Submit set of marked-up drawings for review.

1.07 OPERATIONS AND MAINTENANCE MANUALS

Six weeks prior to the completion of the project, compile an operations and maintenance manual on each item of equipment. These manuals shall include detailed instructions and maintenance as well as spare parts lists.

Submit six (6) copies for review.

1.08 AS BUILT DRAWINGS

Within 30 days after final inspection, the electrical contractor shall submit to the Engineer a clearly marked set of as built drawings showing all changes to the project. Included shall be terminal numbers of all cable terminations on the project. Information shall be submitted in a form such that it can be easily interpreted by a computer draftsman and require minimum engineering input.

1.09 ELECTRICAL EQUIPMENT REQUIREMENTS

The plant electrical system is custom designed to the specific requirements of the Owner and the Engineer using a sophisticated control system. The vendors shall custom design their electrical equipment and panels to match these electrical requirements. This means that it is highly unlikely that the vendor's standard panels and electrical equipment will be compatible with the requirements of this Project. Shop drawings shall be submitted showing external wiring terminals and shall properly identify the devices to which that they are to be interconnected. At a minimum the drawings shall be prepared with the same engineering effort as can be expected to be utilized in motor control center class 2, type B wiring. Wiring and elementary and control drawings shall be prepared using drawing sizes sufficient to show wiring details clearly and shall have the Owner's name and project on each sheet. All options furnished shall be identified. Any item not furnished shall be entirely deleted from the drawing. Drawings that indicate such things as "if supplied" "these models only" "optional" etc. will be rejected. Any drawings submitted where it is obvious that no effort was made to properly prepare them for easy checking by the Engineer will be rejected.

Shop drawings, unless mark-ups are very trivial, will not be returned, "approved as noted". They will be returned for re-submittal as many times as necessary. Therefore make every effort to comply with the requirements of this Project on the first submittal in order to avoid project delays.

The Contractor shall include monies in his bid to strictly adhere to the above.

1.10 CERTIFICATIONS

The General Contractor via his subcontractors shall submit the following certifications upon completion of the Project.

A. All motor overload heaters and circuit breakers have been properly selected and installed. Attach a completed form "Motor Overload Heater and Circuit Breaker Data Sheet".

B. All wiring has been properly connected to all equipment in accordance with the manufacturer's recommendations and the plans and specifications.

C. All electrical systems and subsystems are operating properly and have been operationally tested by simulations of all possible operating conditions.

D. All electronic instruments and switches are calibrated and functioning properly.

E. The emergency generation system and transfer switch (if specified) is operating properly and has been tested at maximum expected operating conditions.

F. The Graphic Display Panel (if specified) has been tested and is functioning properly.

G. The Distributed Control System (if specified) has been properly connected to all required equipment, is operating properly and has been operationally tested by simulation of all possible operating conditions.

H. Other certifications as to proper electrical operation as deemed necessary by the Engineer.

1.11 ADDITIONAL REQUIREMENTS

Electrical wire and conduit schedules and interconnection drawings are prepared by the Engineer to assist the electrical contractors in estimating the cost of the Project and are based on the latest information available from the vendors at the time of design. Once shop drawings are received, changes may be required on the project external wiring to accommodate their latest design and to make the system function properly.

It shall be the Contractor's responsibility to check with the various vendors before bidding the Project and to include monies in his bid to accommodate these requirements since no changes to the contract price will be allowed for these changes.

PART 2 – PRODUCT

2.01 CONDUIT

Detail specifications will indicate the type of conduit system to be used.

Liquid tight flexible metallic conduit shall be U.L. listed and shall consist of a metallic interlocking core with an extruded thermoplastic cover.

2.02 CONDUIT FITTINGS

Conduit fittings shall be compatible with the conduit system used. Outdoor enclosures shall be weatherproof.

Insulating bushings shall be non-combustible high impact thermosetting phenolic with 150 degrees C temperature rating and shall not support combustion.

2.03 CONDUIT BODIES AND BOXES

Conduit bodies and boxes for pulling and installation of outlets shall be compatible with the conduit system and shall be as follows:

CONDUIT SYSTEM

Item	Galvanized Rigid Steel	Rigid Aluminum
Outlet Bodies	Threaded Zinc Coated	Threaded Copper Free
	Malleable Iron w/ Gasketed Cast Metal Crouse Hinds Form 7 or Equal	Aluminum w/Gasketed Sheet Aluminum Covers Crouse Hinds Form 9 or Equal
Outlet Boxes	Same as Above	Threaded Copper Free
	Except Crouse Hinds FD,FS and DS or Equal. Outdoor or Wet Locations To Have Outdoor Covers.	Aluminum w/Gasketed Cast Aluminum Outdoor Covers Crouse-Hinds FD, FS and DS or Equal

2.04 SUPPORT DEVICES

Single opening slotted channel supports shall be 2" deep x 1 5/8" wide. Double opening slotted channel supports shall be 4" deep x 1 5/8" wide. All slotted channel members shall be manufactured of ASTM 6063-T-6 aluminum. Furnish nuts, clamps, and hardware that shall be compatible with the slotted channel members.

Conduit clamps for use with slotted channel members shall consist of locking aluminum straps with aluminum hardware. All such straps and hardware shall be manufactured of hardened aluminum alloy with less than 0.5% copper content. After-set concrete inserts shall be expansion shield type with stainless steel hardware, 500 pounds minimum pull out resistance.

Beam clamps shall be hot-dipped galvanized malleable iron. Furnish right angle, edge, or parallel types as required. Nest back supports shall consist of one-hole pipe clamp with conduit wall spacer clamp back, all manufactured of hot dipped galvanized malleable iron. One-hole pipe clamps shall be manufactured of hot-dipped galvanized malleable iron. Surface mounted

swivel joints shall be double closed "U" brackets of plated malleable iron with attachment openings top and bottom.

Adjustable screw mounted swinging hangers shall be manufactured of plated steel. Mounting bracket shall have four screw holes. A ll thread rods shall be stainless steel, 3/8" diameter (min. size).

2.05 WIRE AND CABLE

Wire and cable shall be as follows:

A. Single Conductor - All single conductor wire for power and control 480 volts and below shall be stranded copper 600 volts U.L. type THW or THWN. Wire for 120 volt general lighting may be solid copper 600-volt type THW or THWN.

B. Multi-Conductor - Control cable shall be stranded copper 600-volt U.L. type TC 75 Degrees C wet, 90 degrees C dry and shall consist of individual color-coded conductors insulated with 15 mils pvc insulation and 4 mils clean nylon jacket, moisture resistant fillers, lapped core tape and overall pvc jacket.

C. Instrument Cable - Instrument cable for 4-20 man service unless specified otherwise herein or on drawings shall be single twisted pair stranded copper 90 degree C 600-volt U.L. with 21 m ils pvc insulation and nylon jacket, aluminum polyester shield tape and 45 mils overall jacket. Size shall be #16 AWG unless shown otherwise or on drawings.

D. High Voltage Cable - High voltage cable shall be as specified in another section of these specifications.

2.06 CONNECTORS

Mechanical connectors shall be copper alloy bolted pressure type with bronze hardware. Such connectors unless otherwise indicated shall be Square D, OZ/Gedney, T&B, or equal.

TYPE	MANUFACTURER
Single conductor to flat plate connector	Square Type LU OZ Type XLH, or equal
Multiple conductors to flat place connector	Square LU Series T&B Type 32000 DB, or equal
One-bolt parallel connector	Type T or equal
Split-bolt parallel connector	Square D Type CPS, T&B

Type TP or equal	
Two-bolt parallel connector	Square D Type K.R.,
OZ Type 5TS or equal	
Splice connector	Square D Type SS
OZ Type XW or equal	
Cross-connector	Square D Type XP
OZ Type T, or equal	
Ground rod connector	Square D Type CG
OZ Type ABG, or equal	
Flush floor connector	Square D Type GCJ
OZ Type VG, or equal	

Insulated spring wire connectors shall be plated spring steel with thermoplastic jacket. Connectors shall be rated at 150 degrees C continuous. Insulated set-screw connectors shall consist of copper body with flame retardant, 600-V class insulated shell that threads over set screw body.

Terminal connectors for flathead terminal screws shall be locking spade type with vinyl insulated compression indent tubular wire shaft. Terminal strip connectors shall be channel-mounted type with tin plated solderless box lugs contained within nylon insulated separable carriers. Furnish terminal strips complete with channels, channel mounting hardware, and closures, and fitments.

2.07 INSULATING PRODUCTS

General-purpose electrical tape shall be 7-mil thick stretchable vinyl plastic with pressure adhesive backing, 3M "Scotch #33, Plymouth "Slipknot Grey", or equal.

Insulating void filling tape shall be stretchable ethylene propylene rubber with high tack and fast fusing surfaces. Tape shall be rated for 90 degrees C continuous, 130 degrees C overload and it shall be moisture proof. Void filling tape shall be 3M "Scotch #23," Plymouth "Plysafe", or equal.

Arc-proof tape shall be flame retardant, self-extinguishing compound. Tape shall be resistant to ultraviolet, water, salt water, raw sewage and acids. Arc-proof tape shall be "3M" Scotch #7700, Plymouth "Plyarc", or equal.

Insulation putty filler tape shall be elastic, moisture proof rubber compound suitable for bedding and rounding out irregular surfaces. Conduit insulation putty shall be waterproof, stretchable, non-hardening compound suitable for duct seal.

2.08 IDENTIFYING AND TAGGING

Individual phases and routing of each power and control circuit shall be identified by appropriate identifying permanent tags, at points near each end of the cables. Yellow plastic tags 2 1/2" x 3 1/2" available from Tags Unlimited. New Orleans, LA or others shall be used for cable I.D. A Sanford Sharpie or equal fine point marker shall be used for writing.

All equipment and electrical devices shall be identified. The Contractor and manufacturer shall be responsible for properly identifying and tagging equipment as to safe operation under adverse conditions by personnel normally associated with the proposed facility. Additional signs as the Engineer may require for safety shall be furnished and installed by the contractor at no additional costs.

Voltage warning labels where shown or required by N.E.C or local codes shall be waterproof vinyl with permanent red letters "DANGER 480V (or 240V)", or with other voltage designations. Letters shall be at least 2" high.

2.09 WIRING DEVICES

All wiring devices shall be specification grade and shall meet NEMA WD1-1971 requirements. Furnish types of wiring devices as follows:

A. 2P/3W grounding, 20A/125V, NEMA 6-20R; Single receptacle: Hubbell #5361, Arrow Hart #5361, or equal.

B. GFCI receptacle shall be Square D "GFSR-115-B" with NEMA 5-15R style receptacle or "GFSR-120-B" with NEMA 6-20R style receptacle. GFCI receptacle shall be in duplex configuration; that is, top half shall contain test and reset button and bottom half shall contain protected receptacle.

C. Single-pole, single-throw 20A tumbler switch: Hubbell #1223, Arrow Hart #1992, or equal.

D. Single-pole, double-throw (three-way) 20A tumbler switch: Hubbell #1224, Arrow Hart #1993, or equal.

E. Double-pole, double-throw (four-way) 20A tumbler switch: Hubbell #1224, Arrow Hart #1994, or equal.

F. Double-pole, single-throw 20A, tumbler switch: Hubbell #1222, Arrow Hart #1992 or equal.

G. Single-pole, single-throw, momentary center-off 20A tumbler switch: Hubbell #1556, Arrow Hart #1995, or equal.

H. Manual motor starters shall be furnished complete with overloads and shall be Square D Type KO-Z, Westinghouse MS-TO1, or equal.

I. Furnish other types of wiring devices as may be indicated and specified on the drawings.

2.10 GROUNDING SYSTEM

The Contractor shall furnish and install a complete grounding system as shown on the drawings consisting primarily of bare copper conductor and copper clad steel ground rods. All electrical equipment shall be tied to this system either with cable shown or the metallic conduit system per N.E.C. Attach grounding system to metallic buildings as required by N.E.C. weather specifically shown on drawings or not.

2.11 OVERLOAD HEATERS

The Contractor shall submit to the Engineer a form entitled "Motor Overload Heaters and Circuit Breaker Data Sheet" which shall contain actual nameplate information on the motors and motor starters, which he shall inspect and record. He shall use the appropriate charts and tables supplied with the starting equipment and select, for approval by the Engineer, the manufacturer's recommended overload heaters and circuit breaker settings. Along with the data sheet he shall also submit a copy of the manufacturer's charts and tables. Motors shall not be started until overload heaters and the Engineer approves circuit-breaker settings.

2.12 FLOOR BOXES

Floor boxes where shown on the plans shall be Walker or equal Type RFB with RAKM11 flush access hatch with carpet trim (or tile trim where tile is used). Unless exact dimensions are shown on the drawings, the Engineer shall approve the exact location of the boxes after the furniture type is selected.

Floor boxes shall be complete with all required receptacle, telephone, intercom, computer, etc. internal brackets and divider plates.

2.13 CONNECTING LUGS

In many instances, due to the long distances between equipment and voltage drop limitation, larger wire sizes may be required that would normally be expected for some items of equipment. The Contractor and equipment vendor shall identify these requirements and provide proper lugs to match the wire sizes.

2.14 MANUFACTURING OF ELECTRIC CONTROL PANELS

All electrical control panels including unit motor starters shall be factory assembled. In no case shall the electrician assemble and wire internal components in the field. The only onsite wiring that will be allowed inside panels is connections of external wiring to factory installed terminal strips.

2.15 NAMEPLATES

The electrical contractor shall install nameplates on all electrical equipment and devices including a remote operating station that clearly identifies the device. Nameplates shall be sized appropriately for the device and shall be attached with stainless steel screws of double sided tape suitable for outdoor use, 3M Scotch Brand Very High Bond 4930 or equal. Tape shall cover the entire surface of the nameplate.

A nameplate schedule indicating proposed wording and sizes shall be submitted to the Engineer for approval.

2.16 MISCELLANEOUS MATERIAL

Empty raceway pull cords shall be glass fiber reinforced tape that is foot-marked along its length, Thomas "True Tape", Greenlee "Foot-Marked", or equal.

Conduit thread compound for use with joining dissimilar metals and aluminum threads shall be conductive, non-galling, and corrosion inhibiting lithium based compound.

Cable pulling compound shall be non-injurious to raceways, conductors, and insulation. Compound shall be non-toxic, non-hardening type.

Ground rods shall be copper clad steel in lengths and diameters as indicated and shall be Blackburn, Hubbard, or equal.

PART 3 – EXECUTION

3.01 EXCAVATION AND BACKFILLING

Do all excavating and backfilling necessary for the installation of the work. This shall include shoring and pumping in ditches to keep them dry until the work in question has been installed. All shoring required protecting the excavation and safeguard employees should be properly performed.

All excavations shall be made to the proper depth, with allowances made for floors, slabs, forms, beams, piping, finished grades, etc. Ground under conduits shall be well compacted before conduits are installed. All backfilling shall be made with selected soil, free of rocks and debris and shall be tamped as required to prevent settlement. All excavated material not suitable and not used in the backfill shall be removed to the on site disposal area. Area shall be as directed by the Engineer.

Field check and verify the locations of all underground utilities prior to any excavating. Avoid disturbing these as far as possible. In the event existing utilities are broken into or damaged, they shall be repaired so as to make their operation equal to that before the trenching was started.

Where the excavation required the opening of existing walks, drives, or other existing pavement, these facilities shall be cut as required to install new lines and to make connections to existing lines. The sizes of the cut shall be held to minimum consistent with the work to be installed. After installation of new work is completed and the excavation has been backfilled in accordance with above, repair existing walks, drives or other existing pavement to match existing installation.

3.02 DUCT LINES AND PULL BOXES

The Contractor shall excavate, backfill, remove excess soil, and furnish material for and install duct lines wherever shown on the plans. Conduit encased in concrete shall have three-inch minimum covering of concrete on outside walls of ducts bank, and one-inch minimum of concrete between the outside walls of adjacent conduits. The top of the ducts shall in general be 1'-6" below ground unless specifically shown otherwise on the drawings or is required to be deeper by N.E.C. or other codes.

It shall be the electrical contractor's responsibility to determine in advance any conflicts of duct banks with underground obstructions of electrical or any other disciplines and report these anticipated conflicts to the Engineer well in advance of operations such that the conflicts can be easily and economically resolved by all parties.

Conduit shall be firmly secured by driving reinforcing rod 12" in ground and tying with No. 10 wire.

Where excavation has been made to a greater depth than that required, backfill shall be tamped solid and level to the required depth. All concrete forms shall be removed after the concrete has set, and all trenches shall be backfilled and tamped.

Pull boxes shall be installed as shown on the plans.

3.03 CUTTING AND PATCHING

Cutting and patching required under this section shall be done in a neat workmanlike manner. Cutting lines shall be uniform and smooth.

Use concrete saws for large cuts in concrete and use core drills for small round cuts in concrete.

Where openings are cut through masonry walls, provide lintel or other structural supports to protect the remaining masonry. Adequate support shall be provided during the cutting operations to prevent damage to masonry.

Where large openings are cut through metal surfaces, attach metal angles around the opening.

Patch concrete openings that are to be filled with non-shrinking cementing compound. Finished concrete patching shall be trolled smooth and shall be uniform with surrounding surfaces.

3.04 WATERPROOFING

Provide waterproof flashing for each penetration of exterior walls and roofs.

Flashing for conduit penetrations through built-up roofs shall be made with pitch pans filled full with pitch. Conduit penetrations through poured concrete roofs shall be made with sleeves and annulus caulked.

Penetrations through walls at below ground elevations shall be waterproofed by conduit sealing fittings or other methods as indicated. This includes all conduits that is located and/or terminated in areas that can transport sewer gases from raw sewage to control panels and other equipment. All local control panels, control stations and motors shall have conduit-sealing fittings installed.

Interiors of raceways that are likely to have water ingress such as runs from hand holes into below grade installations shall have water stops installed to prevent water from entering into installations.

3.05 INSTALLATION

Except where specifically noted or shown, the locations and elevations of equipment are approximate and are subject to small revisions as may prove necessary or desirable at the time the work is installed. F inal locations shall be confirmed with the Engineer in advance of construction.

Where equipment is being furnished under another section, request from the Engineer accepted drawings that will show exact dimensions of required locations of connections. Install the required facilities to the exact requirements of the accepted drawings.

Qualified, careful electricians who are skilled in their trade shall do all work in the best and most workmanlike manner. The standards of work required throughout shall be of the first class only and electricians whose work is unsatisfactory to the Engineer shall be instantly dismissed from the work upon written notice from the Engineer. All work must meet the approval of the Engineer.

Unless shown in detail, the drawings are diagrammatic and do not give exact details as to elevations and routing of conduits, nor do they show all offsets and fittings; nevertheless, install the conduit system to conform to the structural and mechanical conditions of the construction. Unless locations and routing of exposed conduits are shown, confirm locations and routing prior to installation with the Engineer.

Holes for raceway penetration into sheet metal cabinets and boxes shall be accurately made with a hole punch. Cutting openings with a torch or other device that produces a jagged, rough-cut will not be acceptable.

Cabling inside equipment shall be carefully routed, trained and laced. Cables so placed that they obstruct equipment devices will not be acceptable.

Equipment shall be set level and plumb. Supporting devices installed shall be set and so braced that equipment is held in a rigid, tight fitting manner.

The Contractor shall verify the electrical capacities of all motors and electrical equipment furnished under other sections, or furnished by the Owner, and request wiring information from the Engineer if wiring requirements are different from that specified under this section. Do not make rough-ins until equipment verifications have been received.

The Contractor shall install all controllers, instruments, Distributed Control System Equipment (if specified), terminal boxes, pilot devices, and miscellaneous items of electrical equipment that are not integrally mounted with the equipment furnished under other sections. All such equipment shall be securely mounted and adequately supported in a neat and workmanlike manner.

3.06 PROTECTION

The Contractor shall provide suitable protection for all equipment, work and property against damage during construction.

The Contractor shall assume full responsibility for material and equipment stored at the site.

Conduit openings shall be closed with caps during installation. All outlet boxes and cabinets shall be kept free of concrete, plaster, dirt and debris.

Equipment shall be covered and tightly sealed against entrance of water, dust, dirt and debris.

All dry transformers prior to energization shall be protected against moisture and dirt absorption by a suitable covering. Also, maintain heat inside the covering by suitable means to prevent condensation.

Interiors of electrical equipment shall be kept clean and dry prior to energization.

3.07 COOPERATION

Cooperate with all other trades so as to facilitate the general progress of the work. Allow all other trades every reasonable opportunity for the installation of their work and the storage of

their materials.

The Work under this section shall follow the general building construction closely. Set all pipe sleeves, inserts, etc., and see that openings for cases, pipes, etc. are provided before concrete is placed or masonry installed.

Work with other trades in determining exact locations or outlets, conduits, fixtures, and pieces of equipment to avoid interference with lines as required to maintain proper installation of other work.

Make such progress in work that will not delay the work of other trades. Schedule the work so that completion dates as established by the Engineer are met. Furnish sufficient labor or work overtime to accomplish these requirements if necessary or directed to do so.

3.08 CLEAN-UP

Remove all temporary labels, dirt, paint, grease and stains from all exposed equipment. Upon completion of work clean equipment and the entire installation so as to present a first class job suitable for occupancy. No loose parts or scraps of equipment shall be left on the premises.

Equipment paint scars shall be repaired with paint kits supplied by the equipment manufacturer, or with an approved paint.

Clean the interiors of each item of electrical equipment. A t completion of work all equipment interior shall be free from dust.

3.09 TESTS

Each run of power and control wiring shall be tested prior to connection of line and load. Make tests with 1000V dc hand-crank megger. Each run of wiring shall be tested phase-to-phase and/or phase-to-neutral, and phase-to-ground. Test results for each test shall be equal to or greater than 5 megohms with 1000V dc applied. Defective wiring shall be replaced and retested. All tests shall be made in the presence of the Engineer.

High voltage cables, where used, shall be Hi-Pot tested in accordance with test procedures as outlined in other sections of these specifications or as directed.

All equipment shall be put through a trial run-in test to ascertain the performance complies with the intent of the specifications. A ll run-in tests shall be made in the presence of the Engineer.

3.10 RACEWAY INSTALLATION

Install the raceway system to provide the facility with the utmost degree of reliability and maintenance free operation. The raceway system shall have the appearance of having been installed by competent workmen. Kinked conduit, conduit inadequately supported or carelessly installed does not give such reliability and maintenance free operation and will not be accepted.

Raceway shall be installed for all wiring runs except as otherwise indicated.

Exposed raceways shall be installed with their lines parallel to the lines of the building or structure to which they are attached.

Conduit runs that enter bottom of floor-mounted enclosures that are open on the bottom shall be each equipped with grounding bushing on each conduit. Conduit entries into sheet metal enclosures located inside shall be made with double locknuts and capped with molded bake-lite grounding type bushings. Threaded penetration shall expose enough threads to adequately thread on bushing. Conduit entries into NEMA 3, 3R, 4 or 12 enclosures located outside and in wet or damp location inside, shall be made with field applied watertight hubs. Install locknut inside and cap each conduit with grounding bushing. Conduit runs into boxes, cabinets, and the like shall be set in a neat manner. Vertical runs shall be set plumb. Conduits set crooked or out of plumb shall be replaced.

Conduits entrances into enclosures shall be carefully planned. Cutting away of enclosure structure, torching and/or cutting away sills, braces and structural members of the enclosure will not be acceptable.

Use approved hole-cutting tools for entrances into sheet metal enclosures. Use of cutting torch or incorrect tools will not be acceptable. Holes shall be carefully planned and then cleanly cut and they shall be free from burrs, jagged edges, and torn metal.

Makeup of some conduit runs will require union fittings or split couplings. Install such fittings where required.

Liquid tight conduit shall be used for connections to motors, solenoids, pressure switches, limit switches, unit heaters, fans, motorized louvers, and other devices that may need to be removed for servicing. Each run of liquid tight flex shall be joined with liquid tight flex connectors. Make up each connection tightly; finished connector shall have minimum of 100 pounds pull out resistance.

Empty conduits shall have pull tape installed the length of each run. Identify each terminal as to location of other end. Use blank waterproof label with waterproof ink. Cap exposed open ends of empty conduits.

Conduit bodies shall be installed in exposed runs of conduit where indicated and also wherever required to overcome obstructions and to provide access to wires. Covers for such fittings shall be accessible and unobstructed by the adjacent construction.

All raceway systems shall be adequately and safely supported. Loose, sloppy and inadequately supported raceways will not be acceptable and shall be replaced. Supports shall be installed at intervals not greater than those set forth under Article 300 of N.E.C. unless shorter intervals are otherwise indicated; or, unless conditions require shorter intervals of supports.

3.11 WIRING INSTALLATION

Conductors for power and control wiring shall be sized as indicated and where no size is given, the conductor size shall be #12 AWG.

Color of power wire insulation and color of phase indicating tape shall be as follows:

Conductor	Wire Color	Tape Color
Phase A	Black or Red	Red
Phase B	Black or Red	Yellow
Phase C	Black or Red	Blue
Neutral	White	-
Equipment Ground	Green	-

All wiring shall be installed in raceways, except as otherwise specified. No wire or cable shall be drawn into a raceway until the raceway run has been completed, swabbed, and outfitted with specified bushings and fitments.

Do not exceed wire and cable manufacturer's recommended pulling tensions. Cable pulling compound shall be used as a lubricant for difficult pulls.

Carefully handle wire and cable, do not kink, scrape or damage conductors or their insulation.

Feeder and branch circuit wiring shall be installed from supply to load without splice, unless otherwise indicated. Branch circuits may be spliced for receptacle, lighting, and small appliance load inside appropriate junction boxes, and inside lighting fixtures.

Except as otherwise specified, taps and splices with #10 AWG, and smaller shall be made with insulated spring wire connectors. Such connectors in damp or wet locations shall have opening in wire nut filled with silicone rubber cement and then wrapped with a layer of EPR tape or spring wire connectors manufactured for this use shall be used.

Motor connections made with #10 AWG and smaller wire shall be made up with set-screw copper lugs and with threaded on set screw copper lugs and with threaded on insulating jacket. Where motors are located in damp or wet locations, fill opening under jacket with silicone rubber and cover connector with a layer of EPR tape.

Taps and splices in #8 AWG and larger wires shall be made up with copper alloy connectors. Apply over each connector a bedding of insulation putty. Then, apply at least four layers, half lapped each layer of EPR tape. Finally, apply at least four layers half lapped each layer of electrical tape.

Each wiring connection shall be made up tightly so that resistance of connection is as low as one-foot length of associated largest conductor resistance.

Numbered marking labels shall be installed to identify circuit numbers from panel boards and to identify control wiring. Install labels on each wire in each panel board, junction, and pullbox, and device connection. See "Identifying and Tagging" sections of these specifications.

Install numbered marking labels on each control wire termination at each terminal strip. Number selected shall correspond to manufacturer's terminal numbers.

Where control wiring terminates onto flat head type terminals, equip each such wire with crimp type locking spade connector.

All wiring inside enclosure shall be neatly trained and laced. Bundle wires into groups and lace with plastic tie wraps.

Install "DANGER 480V (or 240V)" labels on motor control equipment, and on other enclosures such as safety switches, wire-ways, and large enclosures that contain 480V (or 240V) wiring.

Install wiring devices where indicated. Each wiring device shall be set with axes plumb and installed with its yoke screws so as to adequately support device and provide grounding means to box. Where ganged devices are shown, install them into ganged boxes.

Each item of equipment shall be adequately and thoroughly grounded. Comply with Article 250 of N.E.C.

Equipment grounding conductors into equipment shall be grounded to equipment ground bus or ground lug. Where no ground lugs are provided install ground lug and bond EGC thereto.

Where grounding bushings are installed, bond EGC there to end and furthermore ground each bushing lug to equipment ground bus or ground lug.

END OF SECTION

APPENDIX

APPENDIX A

LEAD FREE FACT SHEET

DEPARTMENT OF HEALTH AND HOSPITALS

FACTS

Louisiana Lead Reduction

State of Louisiana Safe Drinking Water Program

Low lead requirements in plumbing and potable water distribution systems:

Concentrations of lead found in drinking water do not typically derive from natural sources. Instead, the most common cause of lead concentrations in potable water is contamination from the gradual corrosion of water supply pipes and plumbing fixtures as well as the solder, or flux, used for installation and repair. Most current regulatory efforts to control lead in drinking water focus primarily on reducing the lead content of these system components.

On June 29, 2011, Gov. Bobby Jindal signed Louisiana House Bill 471 and enacted Act Number 362. This Act takes effect January 1, 2013, and prohibits the use, installation, repair, introduction into commerce, or sale of pipes, fittings, fixtures, solder, or flux that are not "lead free" when used for conveying water for human consumption.

The Department of Health and Hospitals (DHH) has prepared this fact sheet to help clarify how Act 362 redefines "lead-free" and how these new, lowered lead limits will affect various components used in the construction of new and existing plumbing and water distribution projects. In addition, this fact sheet will describe the key components of implementation including code development, applicable performance and material standards, enforcement and exceptions.

Reduced Lead Requirements of Act 362 (effective January 1, 2013):

Under Act 362, the lead content of pipes, fittings and fixtures will be reduced from not more than 8.0 percent lead to not more than a weighted average of 0.25 percent lead when used with respect to the wetted surfaces of pipes, pipe fittings, plumbing fittings and fixtures.

All pipe, plumbing fittings and fixtures, solder or flux used in the installation or repair of any public water system or any plumbing in a facility providing water for human consumption must meet the new low lead requirements, except when necessary for the repair of leaded joints of cast iron pipes.

EXCEPTIONS: The following materials are not required to meet the reduced lead requirements of Act 362:

- Pipes, pipe fittings, plumbing fittings or fixtures, including backflow preventers, which are used exclusively for non-potable services such as manufacturing, fire sprinkler system, industrial processing, irrigation, outdoor watering or any other uses where the water is not anticipated to be used for human consumption; or
- Toilets, bidets, urinals, fill valves, flushometer valves, tub fillers, shower valves, showers, safety shower flushes, service saddles or water distribution main gate valves that are two inches in diameter or larger.
- Materials purchased or acquired by a public water system prior to January 1, 2013, can continue to be utilized until January 1, 2014.

In addition to the installation requirements, no person shall introduce into commerce any pipe, pipe or plumbing fitting or fixture intended to convey or dispense water for human consumption through drinking or cooking that is not lead-free, including kitchen faucets, bathroom faucets or any other end-use devices intended to convey or dispense water for human consumption through drinking or cooking.

Louisiana Administrative Code (LAC) Updates:

These new low-lead requirements will be published in Parts XII (Water Supplies) and XIV (Plumbing)

OVER

of LAC Title 51 (Sanitary Code). Under Parts XII and XIV, all applicable potable water piping, fixtures, pipe related products and materials that join or seal pipes shall be evaluated and listed as conforming with NSF/ANSI 372-Drinking Water System Components, Lead Content or shall be certified to be lead-free by an independent American National Standards Institute (ANSI)-accredited third party testing laboratory, inspection agency or other organization concerned with product evaluation.

Enforcement:

The enforcement of the lead reduction law will be handled during plan reviews, permit inspections, surveys, complaints, etc. For plumbing-related violations, the enforcement will typically be handled at the local level in accordance with their ordinances, laws or other regulations. When handled at the state level, the enforcement process will be in accordance with Part I of LAC Title 51.

Potential Health Effects of Lead Exposure:

- Lead is a neuro-toxic metal that accumulates in both soft tissue and bones. Even low-level exposure can lead to a range of adverse health effects, including brain, nervous system and blood disorders.
- Children and Infants— Exposure can result in delays in physical or mental development, reduced intelligence, learning disabilities, attention deficit disorder, behavioral problems, stunted growth, impaired hearing and kidney damage.
- Adults— Exposure can result in kidney problems, high blood pressure, nerve disorders, fertility problems, muscle and joint pain, irritability, memory and concentration problems. Pregnant women can pass lead contained in their bodies to their fetuses.

Highlighted Facts:

- Act 362 Becomes Effective January 1, 2013.
- Prohibits the use, installation or repair, introduction into commerce, or selling of pipes, fittings, fixtures, solder, or flux that is not "lead-free" when used for conveying water for human consumption.
- Pipes, fittings and fixtures that are used exclusively for non-potable services are not required to meet the reduced lead requirements of Act 362.
- Materials purchased or acquired by a public water system prior to January 1, 2013 can continue to be utilized until January 1, 2014.
- All applicable piping, fixtures, pipe-related products and materials that join or seal pipes shall be evaluated and listed as conforming with NSF/ANSI 372-Drinking Water System Components, Lead Content or shall be certified to be lead free by an independent ANSI-accredited third party testing laboratory.

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