



ST. TAMMANY PARISH

MICHAEL B. COOPER
PARISH PRESIDENT

NOTICE TO BIDDERS

ST. TAMMANY PARISH

Sealed bids will be received by the Department of Procurement, until **2:00 p.m., October 23, 2024**, and then opened and read publicly at that time by the Procurement Staff for the following project:

Bid # 24-45-2– S&J MHP and Tammany MHP Water Distribution Systems

Each paper bid must be submitted in a sealed envelope. The outside of the envelope shall show the Name and Address of the Bidder, the State Contractor's License Number of the Bidder (if the work is estimated at \$50k or more), the Bid Name and the Bid Number.

The project classification is:

Municipal & Public Work Construction

This bid package is available online at www.bidexpress.com or LaPAC <https://wwwcfprd.doa.louisiana.gov/osp/lapac/pubmain.cfm>. It is the Vendor's responsibility to check Bid Express, or LaPAC frequently for any possible addenda that may be issued. The Parish is not responsible for a Vendor's failure to download any addenda documents required to complete a submission.

Bids will be received at 21454 Koop Dr., Suite 2F, Mandeville, LA 70471 from each bidder or his agent and given a written receipt, by certified mail with return receipt requested, or electronically at www.bidexpress.com.

A Non-Mandatory pre-bid meeting will be held at St. Tammany Parish Government Office Complex, Building "B" 21454 Koop Dr. Mandeville, LA 70471, 3rd Floor Staff Conference Room on Thursday, October 3, 2024, from 2:00 PM to 4:00 PM. Attendance is strongly encouraged.

Procurement Department

BID PROPOSAL

ST. TAMMANY PARISH
GOVERNMENT



BID PACKAGE FOR

**S&J MHP AND TAMMANY MHP
WATER DISTRIBUTION SYSTEMS**

BID NO.: 24-45-2

August 19, 2024



Section 01

Table of Contents

Section 01	Table of Contents
Section 02	Instructions to Bidders
Section 03	Summary of Work
Section 04	LA Uniform Public Work Bid Form, Unit Price Form
Section 05	Affidavits, Louisiana (Pursuant to LSA-R.S. 38:2224, 38:2227 and 38:2212.10)
Section 06	Insurance Requirements
Section 07	Project Sign
Section 08	General Conditions
Section 09	Sample Corporate Resolution
Section 10	Sample Certificate of Insurance
Section 11	Sample Contract
Section 12	Federal Clauses
Section 13	Technical Specifications
Section 14	Drawings

Section 02

Instructions to Bidders

Bidders are urged to promptly review the requirements of this specification and submit questions for resolution as early as possible during the bid period. Questions or concerns must be submitted in writing to the Procurement Department no later than 2:00 CST seven (7) working days prior to the bid opening date. Otherwise, this will be construed as acceptance by the bidders that the intent of the specifications is clear and that competitive bids may be obtained as specified herein. Protests with regard to the specification documents will not be considered after bids are opened.

1. Bid security is required. Be sure that your bid includes such security as is necessary to meet Parish requirements and is properly signed. The bid must be fully completed. All applicable Louisiana license numbers must be affixed.
2. The Owner is the St. Tammany Parish Government (the "Parish").
3. The terms "he/his" and "it/its" may be used interchangeably.
4. The terms "Owner," the "Parish," and "St. Tammany Parish" may be used interchangeably.
5. The successful Bidder understands the limited contract time in the contract is **two hundred and ten (210) calendar days**, and shall submit any request for an extension of time in accordance with the General and Supplementary Conditions. Said request will reflect the days requested and the reason for same. No extension request is guaranteed or absolute.
6. Bidder specifically understands that acknowledgment of the General Conditions is required. Bidder specifically understands that signature of receipt of the General Conditions is mandated. **The Bidder's signature on the "Louisiana Uniform Public Work Bid Form" will serve as acknowledgment of the Bidder's receipt and understanding of the General Conditions as well as any Supplementary Conditions.**
7. ***If any additional work is performed by the contractor without written approval by owner, the cost of the work will be borne by the contractor and will not be reimbursed by the Parish.***
8. **Only** the Louisiana Uniform Public Bid Form, the Unit Price Form (if necessary), the bid security, and written evidence of authority of person signing the bid shall be submitted on or before the bid opening time and date provided for in the Bid Documents. Necessary copies of the Louisiana Uniform Public Work Forms and Unit Price Forms (if necessary) will be furnished for Bidding. Bound sets of the Contract Documents are for Bidder's information and should not be used in submitting Bids.
9. All other documents and information required are to be submitted by the low Bidder within ten (10) days after the opening of the bids, and at the same time of day and location as given for the opening of the bids in the Bid Documents.
10. Each Bid must be submitted in a sealed envelope, unless submitted electronically. The outside of the envelope shall show the name and address of the Bidder, the State Contractor's License Number of the Bidder (if work requires contractor's license), and the Project name and the Bid number. In the case of an electronic bid proposal, a contractor may submit an authentic digital signature on the electronic bid proposal accompanied by the contractor's license number, Project name and the Bid number.
11. The price quoted for the Work shall be stated in words and figures on the Bid Form, and in figures only on the Unit Price Form. The price in the Bid shall include all costs necessary for the complete performance of the Work in full conformity with the conditions of the Contract Documents, and shall include all applicable Federal, State, Parish, Municipal or other taxes. The price bid for the items listed on the Unit Price Form will include the cost of all related items not listed, but which are normally required to do the type of Work bid.

12. The Bid shall be signed by the Bidder. The information required on the Louisiana Uniform Public Work Bid Form must be provided. Evidence of agency, corporate, or partnership authority is required and shall be provided in conformance with LSA-R.S. 38:2212(B).
13. Only a Contractor licensed by the State to do the type of Work as indicated on the Notice to Bidders can submit a Bid. The Bidder's signature on the Bid Form certifies that he holds an active license under the provisions of Chapter 24 of Louisiana Revised Statutes Title 37. Failure to be properly licensed constitutes authority for the Owner to reject the Bid.
14. Bidders shall not attach any conditions or provisions to the Bid. Any conditions or provisions so attached may, at the sole option of the Owner, cause rejection of the Bid.
15. A Bid Guarantee of five percent (5%) of the amount of the total Bid, including Alternates, must accompany the Proposal and, at the option of the Bidder, may be a cashier's check, certified check or a satisfactory Bid Bond. The Bid Guarantee must be attached to the Louisiana Uniform Public Work Bid Form. No Bid will be considered unless it is so guaranteed. Cashier's check or certified check must be made payable to the order of the Owner. Cash deposits will not be accepted. The Owner reserves the right to cash or deposit the cashier's check or certified check. Such guarantees shall be made payable to the Parish of St. Tammany. In accordance with LSA-R.S. 38:2218(C), if a bid bond is used, it shall be written by a surety or insurance company currently on the U.S. Department of the Treasury Financial Management Service list of approved bonding companies which is published annually in the Federal Register, or by a Louisiana domiciled insurance company with at least an A- rating in the latest printing of the A.M. Best's Key Rating Guide to write individual bonds up to ten percent of policyholders' surplus as shown in the A.M. Best's Key Rating Guide or by an insurance company in good standing licensed to write bid bonds which is either domiciled in Louisiana or owned by Louisiana residents. It is **not** required to be on any AIA form.
16. Bid securities of the three (3) lowest Bidders will be retained by the Owner until the Contract is executed or until final disposition is made of the Bids submitted. Bid securities of all other Bidders will be returned promptly after the canvas of Bids. Bids shall remain binding for forty-five (45) days after the date set for Bid Opening. The Parish shall act within the forty-five (45) days to award the contract to the lowest responsible bidder or reject all bids. However, the Parish and the lowest responsible bidder, by mutual written consent, may agree to extend the deadline for award by one or more extensions of thirty (30) calendar days. In the event the Owner issued the Letter of Award during this period, or any extension thereof, the Bid accepted shall continue to remain binding until the execution of the Contract.
17. A Proposal may be withdrawn at any time prior to the scheduled closing time for receipt of Bids, provided the request is in writing, executed by the Bidder or its duly authorized representative and is filed with the Owner prior to that time. When such a request is received, the Proposal will be returned to the Bidder unopened. A bid withdrawn under the provisions of LSA-R.S. 38:2214(C) cannot be resubmitted.
18. Written communications, over the signature of the Bidder, to modify Proposals will be accepted and the Proposal corrected in accordance therewith if received by the Owner prior to the scheduled closing time for receipt of Bids. Oral, telephonic or telegraphic Modifications will not be considered.
19. No oral interpretation obligating the Owner will be made to any Bidder as to the meaning of the Drawings, Specifications and Contract Documents. Every request for such an interpretation shall be made in writing and addressed and forwarded to the Owner. Inquiries received within seven (7) days prior to the day fixed for opening of the Bids may not be given consideration. Every interpretation made to the Bidder shall be in the form of an addendum to the Specifications. All such Addenda shall become part of the Contract Documents. Failure of the Owner to send or failure of Bidder to receive any such interpretation shall not relieve any Bidder from any obligation under this Bid as submitted without Modification. All Addenda shall be issued in accordance with the Public Bid Law, LSA-R.S. 38:2212(O).
20. The Owner reserves the right to reject any or all Bids for just cause in accordance with the Public Bid Law, LSA-R.S. 38:2214(B). Incomplete, informal, illegible, or unbalanced Bids may be rejected. Reasonable grounds for belief that any one Bidder is concerned directly or indirectly with more than one Bid will cause rejection of all Bids wherein such Bidder

is concerned. If required, a Bidder shall furnish satisfactory evidence of its competence and ability to perform the Work stipulated in its Proposal. Incompetence will constitute cause for rejection. If the Parish determines that the bidder is not responsive or responsible for any reason whatsoever, the bid may be rejected in accordance with State law.

21. Contractor shall be liable without limitation to the Parish for any and all injury, death, damage, loss, destruction, damages, costs, fines, penalties, judgments, forfeitures, assessments, expenses (including attorney fees), obligations, and other liabilities of every name and description, which may occur or in any way arise out of any act or omission of Contractor, its owners, agents, employees, partners or subcontractors.
22. Upon notice of any claim, demand, suit, or cause of action against the Parish, alleged to arise out of or be related to this Contract, Contractor shall investigate, handle, respond to, provide defense for, and defend at its sole expense, even if the claim, demand, suit, or cause of action is groundless, false, or fraudulent. The Parish may, but is not required to, consult with or assist the Contractor, but this assistance shall not affect the Contractor's obligations, duties, and responsibilities under this section. Contractor shall obtain the Parish's written consent before entering into any settlement or dismissal.
23. It is understood and agreed that neither party can foresee the exigencies beyond the control of each party which arise by reason of an Act of God or force majeure; therefore, neither party shall be liable for any delay or failure in performance beyond its control resulting from an Act of God or force majeure. The Parish shall determine whether a delay or failure results from an Act of God or force majeure based on its review of all facts and circumstances. The parties shall use reasonable efforts, including but not limited to, use of continuation of operations plans (COOP), business continuity plans, and disaster recovery plans, to eliminate or minimize the effect of such events upon the performance of their respective duties under this Contract.
24. Contractor shall fully indemnify and hold harmless the Parish, without limitation, for any and all injury, death, damage, loss, destruction, damages, costs, fines, penalties, judgments, forfeitures, assessments, expenses (including attorney fees), obligations, and other liabilities of every name and description, which may occur or in any way arise out of any act or omission of Contractor, its owners, agents, employees, partners or subcontractors. The Contractor shall not indemnify for the portion of any loss or damage arising from the Parish's act or failure to act.
25. Contractor shall fully indemnify and hold harmless the Parish, without limitation, from and against damages, costs, fines, penalties, judgments, forfeitures, assessments, expenses (including attorney fees), obligations, and other liabilities in any action for infringement of any intellectual property right, including but not limited to, trademark, trade-secret, copyright, and patent rights.

When a dispute or claim arises relative to a real or anticipated infringement, the Contractor, at its sole expense, shall submit information and documentation, including formal patent attorney opinions, as required by the Parish.

If the use of the product, material, service, or any component thereof is enjoined for any reason or if the Contractor believes that it may be enjoined, Contractor, while ensuring appropriate migration and implementation, data integrity, and minimal delays of performance, shall at its sole expense and in the following order of precedence: (i) obtain for the Parish the right to continue using such product, material, service, or component thereof; (ii) modify the product, material, service, or component thereof so that it becomes a non-infringing product, material, or service of at least equal quality and performance; (iii) replace the product, material, service, or component thereof so that it becomes a non-infringing product, material, or service of at least equal quality and performance; or, (iv) provide the Parish monetary compensation for all payments made under the Contract related to the infringing product, material, service, or component, plus for all costs incurred to procure and implement a non-infringing product, material, or service of at least equal quality and performance. Until this obligation has been satisfied, the Contractor remains in default.

The Contractor shall not be obligated to indemnify that portion of a claim or dispute based upon the Parish's unauthorized: i) modification or alteration of the product, material or service; ii) use of the product, material or service in combination with other products not

furnished by Contractor; or, iii) use of the product, material or service in other than the specified operating conditions and environment.

26. Bidders shall familiarize themselves with and shall comply with all applicable Federal and State Laws, municipal ordinances and the rules and regulations of all authorities having jurisdiction over construction of the Project, which may directly or indirectly affect the Work or its prosecution. These laws and/or ordinances will be deemed to be included in the Contract, as though herein written in full.
27. Each Bidder shall visit the site of the proposed Work and fully acquaint itself with all surface and subsurface conditions as they may exist so that it may fully understand this Contract. Bidder shall also thoroughly examine and be familiar with drawings, Specifications and Contract Documents. The failure or omission of any Bidder to receive or examine any form, instrument, Drawing or document or to visit the site and acquaint itself with existing conditions shall in no way relieve any Bidder from any obligation with respect to its Bid and the responsibility in the premises.
28. The standard contract form enclosed with the Proposal documents is a prototype. It is enclosed with the Contract Documents for the guidance of the Owner and the Contractor. It has important legal consequences in all respects and consultation with an attorney is encouraged. Contractor shall be presumed to have consulted with its own independent legal counsel.
29. When one set of Contract plans show the Work to be performed by two or more prime Contractors, it is the responsibility of each Bidder to become knowledgeable of the Work to be performed by the other where the Work upon which this bid is submitted is shown to come into close proximity or in conflict with the Work of the other. In avoiding conflicts, pressure pipe lines must be installed to avoid conflict with gravity pipe lines and the Bidder of the smaller gravity pipe line in conflict with the larger gravity pipe line must include in his Bid the cost of a conflict box at these locations. The location of and a solution to the conflicts do not have to be specifically noted as such on the plans.
30. Bidder shall execute affidavit(s) attesting compliance with LSA-R.S. 38:2212.10, 38:2224, 38:2227, each as amended, and other affidavits as required by law, prior to execution of the contract.
31. In accordance with Louisiana Law, all Corporations (See LA R.S. 12:26.1) and Limited Liability Companies (See LA R.S. 12:1308.2) must be registered and in good standing with the Louisiana Secretary of State in order to hold a contract.
32. Sealed Bids shall be delivered to St. Tammany Parish Government at the office of **St. Tammany Parish Government, Department of Procurement, 21454 Koop Drive, Suite 2-F, Mandeville, LA 70471**, and a receipt given, until the time and date denoted in Notice to Bidders, at which time and place the Bids shall be publicly opened and read aloud to those present. In accordance with LSA-R.S. 38:2212(H), the designer's final estimated cost of construction shall be read aloud upon opening bids. Sealed Bids may also be mailed by certified mail to **St. Tammany Parish Government, Department of Procurement, 21454 Koop Drive, Suite 2-F, Mandeville, LA 70471**, and must be received before the bid opening. Bids may also be submitted electronically. Information concerning links for electronic bidding is contained in the Notice to Bidders. It is the responsibility of the Bidders to ensure that bids are delivered in a timely fashion. **Late bids, regardless of reason, will not be considered, and will be returned to bidder.**
33. Paper bids shall be placed in a sealed envelope, marked plainly and prominently as indicated in the Notice to Bidders, and these Instructions, and addressed:

**St. Tammany Parish Government
Department of Procurement
21454 Koop Drive, Suite 2-F
Mandeville, LA 70471**

34. See Notice to Bidders for availability of Drawings, Specifications and Contract Documents via electronic methods.

35. The successful Bidder shall be required to post in each direction a public information sign, 4' x 4' in size, at the location of the project containing information required by the Owner. The Owner shall supply this information.
36. The award of the Contract, if it is awarded, will be to the lowest responsible Bidder, in accordance with State Law. The lowest TOTAL BASE BID shall be calculated as the sum of any and all unit prices designated "Base Bid" on the Unit Price Form for BOTH Project No. TU23000163 (S&J MHP) AND Project No. TU23000164 (Tammany MHP). No award will be made until the Owner has concluded such investigations as it deems necessary to establish the responsibility and qualifications of the Bidder to do the Work in accordance with the Contract Documents to the satisfaction of the Owner within the time prescribed as established by the Department based upon the amount of work to be performed and the conditions of same. The written contract and bond shall be issued in conformance with LSA-R.S. 38:2216. If the Contract is awarded, the Owner shall give the successful Bidder written notice of the award within forty-five (45) calendar days after the opening of the Bids in conformance with LSA-R.S. 38:2215(A), or any extension as authorized thereunder.
37. At least three days prior to the execution of the Contract, the Contractor shall deliver to the Owner the required Bonds.
38. Failure of the successful Bidder to execute the Contract and deliver the required Bonds within ten (10) days of the Notice of the Award shall be just cause for the Owner to annul the award and declare the Bid and any guarantee thereof forfeited. Award may then be made to the next lowest responsible bidder.
39. In order to ensure the faithful performance of each and every condition, stipulation and requirement of the Contract and to indemnify and hold harmless the Owner from any and all damages, either directly or indirectly arising out of any failure to perform same, the successful Bidder to whom the Contract is awarded shall furnish a Performance and Payment Bond in an amount of at least equal to one hundred percent (100%) of the Contract Price. The Contract shall not be in force or binding upon the Owner until such satisfactory Bond has been provided to and approved by the Parish. The cost of the Bond shall be paid for by the Contractor unless otherwise stipulated in the Special Provisions.
40. No surety Company will be accepted as a bondsman which has no permanent agent or representative in the State upon whom notices referred to in the General Conditions of these Specifications may be served. Service of said notice on said agent or representative in the State shall be equal to service of notice on the President of the Surety Company, or such other officer as may be concerned.
41. In conformance with LSA-R.S. 38:2219(A)(1)(a), (b), and (c):

Any surety bond written for a public works project shall be written by a surety or insurance company currently on the U.S. Department of the Treasury Financial Management Service list of approved bonding companies which is published annually in the Federal Register, or by a Louisiana domiciled insurance company with at least an A- rating in the latest printing of the A.M. Best's Key Rating Guide, to write individual bonds up to ten percent of policyholders' surplus as shown in the A.M. Best's Key Rating Guide or by an insurance company that is either domiciled in Louisiana or owned by Louisiana residents and is licensed to write surety bonds.

For any public works project, no surety or insurance company shall write a bond which is in excess of the amount indicated as approved by the U.S. Department of the Treasury Financial Management Service list or by a Louisiana domiciled insurance company with an A- rating by A.M. Best up to a limit of ten percent of policyholders' surplus as shown by A.M. Best; companies authorized by this Paragraph who are not on the treasury list shall not write a bond when the penalty exceeds fifteen percent of its capital and surplus, such capital and surplus being the amount by which the company's assets exceed its liabilities as reflected by the most recent financial statements filed by the company with the Department of Insurance.

In addition, any surety bond written for a public works project shall be written by a surety or insurance company that is currently licensed to do business in the state of Louisiana. All contractors must comply with any other applicable provisions of LSA-R.S. 38:2219.

42. Should the Contractor's Surety, even though approved and accepted by the Owner, subsequently remove its agency or representative from the State or become insolvent, bankrupt, or otherwise fail, the Contractor shall immediately furnish a new Bond in another company approved by the Owner, at no cost to the Owner. The new Bond shall be executed under the same terms and conditions as the original Bond. The new bond shall be submitted within thirty (30) days of such time as the Owner notifies Contractor or from the time Contractor learns or has reason to know that the original surety is no longer financially viable or acceptable to the Parish, whichever occurs first. In the event that Contractor fails or refuses to timely secure additional surety, then the Owner may secure such surety and thereafter deduct such cost or expense from any sum due, or to become due to Contractor.
43. The Contractor's bondsman shall obligate itself to all the terms and covenants of these Specifications and of contracts covering the Work executed hereunder. The Owner reserves the right to do Extra Work or make changes by altering, adding to deducting from the Work under the conditions and in the manner herein before described without notice to the Contractor's surety and without in any manner affecting the liability of bondsman or releasing it from any of its obligations hereunder.
44. The Bond shall also secure for the Owner the faithful performance of the Contract in strict accordance with plans, specifications, and other Contract Documents. It shall protect the Owner against all lien laws of the State and shall provide for payment of reasonable attorney's fees for enforcement of Contract and institution or concursus proceedings, if such proceedings become necessary. Likewise, it shall provide for all additional expenses of the Owner occurring through failure of the Contractor to perform.
45. The surety of the Contractor shall be and does hereby declare and acknowledge itself by acceptance to be bound to the Owner as a guarantor, jointly and in solido, with the Contractor, for fulfillment of terms of the Contract.
46. The performance Bond and Labor and Material Bond forming part of this Contract shall be continued by Contractor and its Surety for a period of one (1) year from date of acceptance of the Work/Project by Owner to assure prompt removal and replacement of all defective material, equipment, components thereof, workmanship, etc., and to assure payment of any damage to property of Owner or others as a result of such defective materials, equipment, workmanship, etc.
47. Contractor authorizes Parish to deduct from any payment due herein costs and service fees for recordation of this Contract in full or an excerpt hereof, or any revisions or modifications thereof as required by law. Contractor agrees to execute an excerpt or extract of this agreement for recordation purposes. If Contractor fails to execute such an excerpt, then the Parish shall file and record the entire Contract and all attachments at the expense of Contractor and Parish is hereby authorized to deduct all related costs from any proceeds due to the Contractor.
48. Contractor shall secure and maintain at its expense such insurance that will protect it and the Parish from claims for injuries to persons or damages to property which may arise from or in connection with the performance of Services or Work hereunder by the Contractor, his agents, representatives, employees, and/or subcontractors. The cost of such insurance shall be included in Contractor's bid.
49. The Contractor shall not commence work until it has obtained all insurance as required for the Parish Project. If the Contractor fails to furnish the Parish with the insurance protection required and begins work without first furnishing Parish with a currently dated certificate of insurance, the Parish has the right to obtain the insurance protection required and deduct the cost of insurance from the first payment due the Contractor. Further deductions are permitted from future payments as are needed to protect the interests of the Parish including, but not limited to, renewals of all policies.
50. Payment of Premiums: The insurance companies issuing the policy or policies shall have no recourse against the Parish of St. Tammany for payment of any premiums or for assessments under any form of policy.
51. Deductibles: Any and all deductibles in the described insurance policies shall be assumed by and be at the sole risk of the Contractor.

52. Authorization of Insurance Company(ies) and Rating: All insurance companies must be authorized to do business in the State of Louisiana and shall have an A.M. Best rating of no less than A-, Category VII.
53. Policy coverages and limits must be evidenced by Certificates of Insurance issued by Contractor's carrier to the Parish and shall reflect:

Date of Issue: Certificate must have current date.

Named Insured: The legal name of Contractor under contract with the Parish and its principal place of business shall be shown as the named insured on all Certificates of Liability Insurance.

Name of Certificate Holder: St. Tammany Parish Government, Office of Risk Management, P. O. Box 628, Covington, LA 70434

Project Description: A brief project description, including Project Name, Project Number and/or Contract Number, and Location.

Endorsements and Certificate Reference: All policies must be endorsed to provide, and certificates of insurance must evidence the following:

Waiver of Subrogation: The Contractor's insurers will have no right of recovery or subrogation against the Parish of St. Tammany, it being the intention of the parties that all insurance policy(ies) so affected shall protect both parties and be the primary coverage for any and all losses covered by the below described insurance. *Policy endorsements required for all coverages.*

Additional Insured: The Parish of St. Tammany shall be named as additional named insured with respect to general liability, marine liability, pollution/environmental liability, automobile liability and excess liability coverages. *Policy endorsements required.*

Hold Harmless: Contractor's liability insurers shall evidence their cognizance of the Hold Harmless and Indemnification in favor of St. Tammany Parish Government by referencing same on the face of the Certificate(s) of Insurance.

Cancellation Notice: Producer shall provide thirty (30) days prior written notice to the Parish of policy cancellation or substantive policy change.

54. The types of insurance coverage the Contractor is required to obtain and maintain throughout the duration of the Contract shall be designated by a separate document issued by the Office of Risk Management.
55. It is the intent of these instructions that they are in conformance with State Bid Laws. Should there be any discrepancy or ambiguity in these provisions, the applicable State Bid Law shall apply.
56. The letting of any public contract in connection with funds that are granted or advanced by the United States of America shall be subject to the effect, if any, of related laws of said United States and valid rules and regulations of federal agencies in charge, or governing use and payment of such federal funds.
57. Protests based on alleged solicitation improprieties that are apparent before bid opening, or the time set for receipt of initial proposals must be filed with and received by the Procurement Department BEFORE these times. Any other protest shall be filed no later than ten (10) calendar days after: the opening of the bid; the basis of the protest is known; or the basis of the protest should have been known (whichever is earlier).
58. It is the Parish's policy to provide a method to protest exclusion from a competition or from the award of a contract, or to challenge an alleged solicitation irregularity. It is always better to seek a resolution within the Parish system before resorting to outside agencies and/or litigation to resolve differences. All protests must be made in writing, and shall be

concise and logically presented to facilitate review by the Parish. The written protest shall include:

The protester's name, address, and fax and telephone numbers and the solicitation, bid, or contract number;

A detailed statement of its legal and factual grounds, including a description of the resulting prejudice to the protester;

Copies of relevant documents;

All information establishing that the protester is an interested party and that the protest is timely; and

A request for a ruling by the agency; and a statement of the form of relief requested.

The protest shall be addressed to St. Tammany Parish Government Department of Procurement, P.O. Box 628, Covington, LA 70434

The protest review shall be conducted by the Parish Legal Department.

Only protests from interested parties will be allowed. Protests based on alleged solicitation improprieties that are apparent before bid opening, or the time set for receipt of initial proposals, must be filed with and received by the Department of Procurement BEFORE those deadlines.

Any other protest shall be filed no later than ten (10) calendar days after the basis of the protest is known, or should have been known (whichever is earlier).

The Parish will use its best efforts to resolve the protest within thirty (30) days of the date that it is received by the Parish. The written response will be sent to the protestor via mail and fax, if a fax number has been provided by the protestor. The protester can request additional methods of notification.

59. The last day to submit questions to Procurement shall be no later than 2:00 pm CST, seven (7) working days prior to the opening of bids, and verification on comparable products will be no later than 2:00 pm CST, fourteen (14) working days prior to the opening date of the bid/proposal due date. Further, any questions or inquiries must be submitted via fax to 985-898-5227, or via email to Procurement@stpgov.org. Any questions or inquiries received after the required deadline to submit questions or inquiries will not be answered.

Schedule of Events

	<u>Date</u>	<u>Time (CT)</u>
Bid Due Date	October 23, 2024	2:00 PM
Non-Mandatory Pre-Bid	October 3, 2024	2:00 PM
Inquiry Deadline	October 11, 2024	2:00 PM
Addendum Deadline	October 18, 2024	2:00 PM

60. St. Tammany Parish Government contracts to be awarded are dependent on the available funding and/or approval by members designated and/or acknowledged by St. Tammany Parish Government. At any time, St. Tammany Parish Government reserves the right to cancel the award of a contract if either or both of these factors is deficient.
61. Any action by the Parish to disqualify any Bidder on the grounds that they are not a responsible Bidder shall be conducted in accordance with LSA-R.S. 38:2212(X).
62. Failure to complete or deliver within the time specified or to provide the services as specified in the bid or response will constitute a default and may cause cancellation of the contract. Where the Parish has determined the contractor to be in default. The Parish reserves the right to purchase any or all products or services covered by the contract on the

open market and to charge the contractor with the cost in excess of the contract price. Until such assessed charges have been paid, no subsequent bid or response from the defaulting contractor will be considered.

63. If any part of the provisions contained herein and/or in the Specifications and Contract for the Work shall for any reason be held invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provisions of this Agreement or attachment, but it shall be construed as if such invalid, illegal, or unenforceable provision or part of a provision had never been contained herein.

Section 03

Summary of Work

I. Work to Include:

The work of this project comprises the construction of new 6-inch and 8-inch potable water distribution systems at S & J Mobile Home Park and Tammany Mobile Home Park (MHP).

STP Project Nos. below are used for funding allocations and broken down as such on the Unit Pricing Form.

Project Nos:

TU2300163 S & J MHP

TU2300164 Tammany MHP

II. Location of Work:

The work is located in St. Tammany Parish, east of Slidell, Louisiana along Highway 190.

Locations of MHPs :

- S&J Mobile Home Park is located at 41931 U.S. Hwy 190 East, Slidell, LA 70461.

- Tammany Mobile Home Park is located at 41662 U.S. Hwy 190 East, Slidell, LA 70461.

A project vicinity map is provided within the DRAWINGS, (Section 14)

III. Documents: Bid Documents dated August 19, 2024, and entitled:

S & J MHP and Tammany MHP Water Distribution Systems

BID No. 24-45-2

IV. OTHER REQUIREMENTS (as applicable)

When not otherwise specified herein, all work and materials shall conform to the requirements of the Louisiana Department of Transportation and Development hereafter called LDOTD (2016 Edition of Louisiana Standard Specifications for Roads and Bridges).

This project is federally grant funded and therefore requires the Contractor to have a Unique Entity Identification number (UEI). The Contractor should submit with their response their UEI number. If the Contractor does not have a UEI already, then they must register at the below link before an award can be made.

<https://sam.gov/content/entity-registration>

Table 3.1

Liquidated Damages	
Original Contract Amount	Daily Charge
Dollars	Dollars
0 - 250,000	500
250,000 – 1 Million	1,000
> 1 Million – 5 Million	1,500
> 5 Million – 10 Million	2,000
> 10 Million	3,000

- Parish reserves the right to increase the Daily charge rate due to additional provisions required in order to complete the project as described in the specifications

Section 04

LOUISIANA UNIFORM PUBLIC WORK BID FORM

TO: St. Tammany Parish Government
21454 Koop Dr., Suite 2F
Mandeville, La 70471

(Owner to provide name and address of owner)

BID FOR: S&J MHP and Tammany MHP Water
Distribution Systems

Project Nos: TU2300163, TUTU2300164
Bid No. 24-45-2

(Owner to provide name of project and other identifying information.)

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: Trigon Associates, LLC, 1515 Poydras Street, Suite 930, New Orleans, LA 70112 and dated: August 19, 2024.

(Owner to provide name of entity preparing bidding documents.)

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)

TOTAL BASE BID: For all work required by the Bidding Documents (including any and all unit prices designated "Base Bid" * on the Unit Price Form for BOTH Project No. TU23000163 (S&J MHP) AND Project No. TU23000164 (Tammany MHP), but not alternates) the sum of:

Dollars (\$)

ALTERNATES: For any and all work required by the Bidding Documents for Alternates including any and all unit prices designated as alternates in the unit price description.

Alternate No. 1 (Owner to provide description of alternate and state whether add or deduct) for the lump sum of:

N/A Dollars (\$)

Alternate No. 2 (Owner to provide description of alternate and state whether add or deduct) for the lump sum of:

N/A Dollars (\$)

Alternate No. 3 (Owner to provide description of alternate and state whether add or deduct) for the lump sum of:

N/A Dollars (\$)

NAME OF BIDDER:

ADDRESS OF BIDDER:

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 FOLLOWING ITEMS ARE TO BE INCLUDED WITH THE SUBMISSION OF THIS LOUISIANA UNIFORM PUBLIC WORK BID FORM:

* 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.

** A CORPORATE RESOLUTION OR WRITTEN EVIDENCE of the authority of the person signing the bid for the public work as prescribed by LA R.S. 38:2212(B)(5).

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

LOUISIANA UNIFORM PUBLIC WORK BID FORM UNIT PRICE FORM

TO:

St. Tammany Parish Government
 21454 Koop Drive, Suite 2F
 Mandeville, LA. 70471
(OWNER TO PROVIDE NAME AND ADDRESS OF OWNER)

BID FOR:

S&J MHP and Tammany MHP Water Distribution Systems
 Project No. TU23000163 (S&J MHP)
 Bid Number 24-45-2
(OWNER TO PROVIDE PROJECT NAME & OTHER IDENTIFYING INFO)

UNIT PRICES: This form shall be used for any & all work required by the Bidding Documents & described as unit prices. Amounts shall be stated in figures & only in figures.

Description:	<input checked="" type="checkbox"/> BASE BID	OR	<input type="checkbox"/> ALT #	MOBILIZATION/DEMOBILIZATION
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
1	1	LUMP SUM		
Description:	<input checked="" type="checkbox"/> BASE BID	OR	<input type="checkbox"/> ALT #	CLEARING/GRUBBING/SITE PREPARATION
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
2	1	LUMP SUM		
Description:	<input checked="" type="checkbox"/> BASE BID	OR	<input type="checkbox"/> ALT #	REMOVAL & DISPOSAL - CONCR. PAVEMENT, STRUCTURES & OBSTRUCTIONS
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
3	1	LUMP SUM		
Description:	<input checked="" type="checkbox"/> BASE BID	OR	<input type="checkbox"/> ALT #	TRAFFIC CONTROL AND REGULATION
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
4	1	LUMP SUM		

Wording for "description" is to be provided by the Owner. All Quantities Estimated. The Contractor will be paid based upon actual quantities as verified by the Owner.

UNIT PRICES: This form shall be used for any & all work required by the Bidding Documents & described as unit prices. Amounts shall be stated in figures & only in figures.

Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # FLAGMEN				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
5	1	LUMP SUM		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # ROAD REPAIR WITH ASPHALT PATCH (4-INCH THICK)				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
6	70	SQUARE YARD		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # REMOVE AND REPLACE GRAVEL DRIVEWAY				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
7	1800	SQUARE FEET		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # TRENCH SAFETY SYSTEM				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
8	470	LINEAR FEET		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # TOP SOIL PLACEMENT, GRADING, HYDROMULCH				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
9	600	SQUARE YARD		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # STORMWATER POLLUTION PREVENTION PLAN				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
10	1	LUMP SUM		

Wording for "description" is to be provided by the Owner. All Quantities Estimated. The Contractor will be paid based upon actual quantities as verified by the Owner.

UNIT PRICES: This form shall be used for any & all work required by the Bidding Documents & described as unit prices. Amounts shall be stated in figures & only in figures.

Description:	<input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT #	RELOCATION OF UNDERGROUND UTILITIES TO ADDRESS CONFLICTS		
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
11	1	LUMP SUM		
Description:	<input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT #	WATERLINE PAVEMENT MARKERS		
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
12	4	EACH		
Description:	<input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT #	REMOVE EXISTING CULVERTS		
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
13	0	LINEAR FEET		
Description:	<input checked="" type="checkbox"/> BASE BID OR <input checked="" type="checkbox"/> ALT #	12-INCH RCP DRAINAGE SYSTEM		
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
14	0	LINEAR FEET		
Description:	<input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT #	8-INCH DIAMETER WATER LINE (PVC C900), BY OPEN CUT CONSTRUCTION		
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
15	400	LINEAR FEET		
Description:	<input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT #	6-INCH DIAMETER WATER LINE (PVC C900), BY OPEN CUT CONSTRUCTION		
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
16	30	LINEAR FEET		

Wording for "description" is to be provided by the Owner. All Quantities Estimated. The Contractor will be paid based upon actual quantities as verified by the Owner.

UNIT PRICES: This form shall be used for any & all work required by the Bidding Documents & described as unit prices. Amounts shall be stated in figures & only in figures.

Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # 4-INCH DIAMETER WATER LINE (PVC C900), BY OPEN CUT CONSTRUCTION				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
17	40	LINEAR FEET		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # WATERLINE OFFSET				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
18	0	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # MAINLINE FITTINGS, DUCTILE IRON				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
19	400	POUNDS		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # CONNECTION TO WATER LINE ALONG HWY-190 AT TAMMANY MHP				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
20	0	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # CONNECTION TO WATER LINE ALONG HWY-190 AT S&J MHP				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
21	1	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # CONNECTION TO WATER LINE ALONG BLUE RIDGE DR AT S&J MHP				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
22	1	EACH		

Wording for "description" is to be provided by the Owner. All Quantities Estimated. The Contractor will be paid based upon actual quantities as verified by the Owner.

UNIT PRICES: This form shall be used for any & all work required by the Bidding Documents & described as unit prices. Amounts shall be stated in figures & only in figures.

Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # 8-INCH DIAMETER GATE VALVE, BOX, AND ACCESSORIES				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
23	0	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # 6-INCH DIAMETER GATE VALVE, BOX, AND ACCESSORIES				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
24	0	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # 4-INCH DIAMETER GATE VALVE, BOX, AND ACCESSORIES				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
25	2	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # SERVICE LINE AND CONNECTION FROM WATER LINE TO METER				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
26	4	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # SINGLE WATER METER BOX (3/4" METER)				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
27	0	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # DUPLEX WATER METER BOX (3/4" METER)				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
28	0	EACH		

Wording for "description" is to be provided by the Owner. All Quantities Estimated. The Contractor will be paid based upon actual quantities as verified by the Owner.

UNIT PRICES: This form shall be used for any & all work required by the Bidding Documents & described as unit prices. Amounts shall be stated in figures & only in figures.

Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # QUAD CONCRETE WATER METER BOX (3/4" METER)				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
29	3	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # SINGLE WATER METER BOX (2" METER)				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
30	0	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # SINGLE CONCRETE WATER METER BOX (4" METER)				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
31	1	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # WATER METER, 3/4" , FURNISHED AND INSTALLED				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
32	23	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # WATER METER, 3/4" , FURNISHED TO OWNER				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
33	6	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # WATER METER, 2" , FURNISHED AND INSTALLED				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
34	0	EACH		

Wording for "description" is to be provided by the Owner. All Quantities Estimated. The Contractor will be paid based upon actual quantities as verified by the Owner.

UNIT PRICES: This form shall be used for any & all work required by the Bidding Documents & described as unit prices. Amounts shall be stated in figures & only in figures.

Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # WATER METER, 4" , FURNISHED AND INSTALLED				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
35	1	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # SERVICE LINE & CONNECTION FROM METER TO WATER ACCESS RISER PIPE				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
36	13	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # WATER ACCESS RISER PIPE				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
37	6	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # CONNECTION FROM WATER ACCESS RISER PIPE TO EXISTING MOBILE HOME				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
38	12	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # BACKFLOW PREVENTER, 1-INCH				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
39	0	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # BACKFLOW PREVENTER, 2-INCH				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
40	1	EACH		

Wording for "description" is to be provided by the Owner. All Quantities Estimated. The Contractor will be paid based upon actual quantities as verified by the Owner.

UNIT PRICES: This form shall be used for any & all work required by the Bidding Documents & described as unit prices. Amounts shall be stated in figures & only in figures.

Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # BACKFLOW PREVENTER, 4-INCH				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
41	1	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # AUTOMATIC FLUSHING STATION				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
42	1	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # SAMPLE STATION				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
43	2	EACH		
Description: <input type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # FIRE HYDRANT				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
44	2	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # PLUG AND ABANDON EXISTING WATER WELL				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
45	1	EACH		

Wording for "description" is to be provided by the Owner. All Quantities Estimated. The Contractor will be paid based upon actual quantities as verified by the Owner.

LOUISIANA UNIFORM PUBLIC WORK BID FORM UNIT PRICE FORM

TO:

St. Tammany Parish Government

21454 Koop Drive, Suite 2F

Mandeville, LA. 70471

(OWNER TO PROVIDE NAME AND ADDRESS OF OWNER)

BID FOR:

S&J MHP and Tammany MHP Water Distribution Systems

Project No. TU23000164 (Tammany MHP)

Bid Number 24-45-2

(OWNER TO PROVIDE PROJECT NAME & OTHER IDENTIFYING INFO)

UNIT PRICES: This form shall be used for any & all work required by the Bidding Documents & described as unit prices. Amounts shall be stated in figures & only in figures.

Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # MOBILIZATION/DEMobilIZATION				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
1	1	LUMP SUM		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # CLEARING/GRUBBING/SITE PREPARATION				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
2	1	LUMP SUM		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # REMOVAL & DISPOSAL - CONCR. PAVEMENT, STRUCTURES & OBSTRUCTIONS				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
3	1	LUMP SUM		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # TRAFFIC CONTROL AND REGULATION				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
4	1	LUMP SUM		

Wording for "description" is to be provided by the Owner. All Quantities Estimated. The Contractor will be paid based upon actual quantities as verified by the Owner.

UNIT PRICES: This form shall be used for any & all work required by the Bidding Documents & described as unit prices. Amounts shall be stated in figures & only in figures.

Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # FLAGMEN				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
5	1	LUMP SUM		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # ROAD REPAIR WITH ASPHALT PATCH (4-INCH THICK)				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
6	290	SQUARE YARD		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # REMOVE AND REPLACE GRAVEL DRIVEWAY				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
7	29400	SQUARE FEET		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # TRENCH SAFETY SYSTEM				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
8	9390	LINEAR FEET		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # TOP SOIL PLACEMENT, GRADING, HYDROMULCH				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
9	10500	SQUARE YARD		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # STORMWATER POLLUTION PREVENTION PLAN				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
10	1	LUMP SUM		

Wording for "description" is to be provided by the Owner. All Quantities Estimated. The Contractor will be paid based upon actual quantities as verified by the Owner.

UNIT PRICES: This form shall be used for any & all work required by the Bidding Documents & described as unit prices. Amounts shall be stated in figures & only in figures.

Description:		<input checked="" type="checkbox"/> BASE BID	OR	<input type="checkbox"/> ALT #	RELOCATION OF UNDERGROUND UTILITIES TO ADDRESS CONFLICTS
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)	
11	1	LUMP SUM			
Description:		<input checked="" type="checkbox"/> BASE BID	OR	<input type="checkbox"/> ALT #	WATERLINE PAVEMENT MARKERS
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)	
12	124	EACH			
Description:		<input checked="" type="checkbox"/> BASE BID	OR	<input type="checkbox"/> ALT #	REMOVE EXISTING CULVERTS
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)	
13	1820	LINEAR FEET			
Description:		<input checked="" type="checkbox"/> BASE BID	OR	<input checked="" type="checkbox"/> ALT #	12-INCH RCP DRAINAGE SYSTEM
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)	
14	1820	LINEAR FEET			
Description:		<input checked="" type="checkbox"/> BASE BID	OR	<input type="checkbox"/> ALT #	8-INCH DIAMETER WATER LINE (PVC C900), BY OPEN CUT CONSTRUCTION
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)	
15	3810	LINEAR FEET			
Description:		<input checked="" type="checkbox"/> BASE BID	OR	<input type="checkbox"/> ALT #	6-INCH DIAMETER WATER LINE (PVC C900), BY OPEN CUT CONSTRUCTION
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)	
16	5580	LINEAR FEET			

Wording for "description" is to be provided by the Owner. All Quantities Estimated. The Contractor will be paid based upon actual quantities as verified by the Owner.

UNIT PRICES: This form shall be used for any & all work required by the Bidding Documents & described as unit prices. Amounts shall be stated in figures & only in figures.

Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # 4-INCH DIAMETER WATER LINE (PVC C900), BY OPEN CUT CONSTRUCTION				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
17	0	LINEAR FEET		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # WATERLINE OFFSET				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
18	9	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # MAINLINE FITTINGS, DUCTILE IRON				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
19	3200	POUNDS		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # CONNECTION TO WATER LINE ALONG HWY-190 AT TAMMANY MHP				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
20	2	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # CONNECTION TO WATER LINE ALONG HWY-190 AT S&J MHP				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
21	0	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # CONNECTION TO WATER LINE ALONG BLUE RIDGE DR AT S&J MHP				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
22	0	EACH		

Wording for "description" is to be provided by the Owner. All Quantities Estimated. The Contractor will be paid based upon actual quantities as verified by the Owner.

UNIT PRICES: This form shall be used for any & all work required by the Bidding Documents & described as unit prices. Amounts shall be stated in figures & only in figures.

Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # 8-INCH DIAMETER GATE VALVE, BOX, AND ACCESSORIES				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
23	6	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # 6-INCH DIAMETER GATE VALVE, BOX, AND ACCESSORIES				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
24	13	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # 4-INCH DIAMETER GATE VALVE, BOX, AND ACCESSORIES				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
25	1	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # SERVICE LINE AND CONNECTION FROM WATER LINE TO METER				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
26	124	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # SINGLE WATER METER BOX (3/4" METER)				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
27	20	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # DUPLEX WATER METER BOX (3/4" METER)				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
28	103	EACH		

Wording for "description" is to be provided by the Owner. All Quantities Estimated. The Contractor will be paid based upon actual quantities as verified by the Owner.

UNIT PRICES: This form shall be used for any & all work required by the Bidding Documents & described as unit prices. Amounts shall be stated in figures & only in figures.

Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # QUAD CONCRETE WATER METER BOX (3/4" METER)				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
29	0	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # SINGLE WATER METER BOX (2" METER)				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
30	1	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # SINGLE CONCRETE WATER METER BOX (4" METER)				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
31	0	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # WATER METER, 3/4" , FURNISHED AND INSTALLED				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
32	158	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # WATER METER, 3/4" , FURNISHED TO OWNER				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
33	69	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # WATER METER, 2" , FURNISHED AND INSTALLED				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
34	1	EACH		

Wording for "description" is to be provided by the Owner. All Quantities Estimated. The Contractor will be paid based upon actual quantities as verified by the Owner.

UNIT PRICES: This form shall be used for any & all work required by the Bidding Documents & described as unit prices. Amounts shall be stated in figures & only in figures.

Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # WATER METER, 4" , FURNISHED AND INSTALLED				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
35	0	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # SERVICE LINE & CONNECTION FROM METER TO WATER ACCESS RISER PIPE				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
36	227	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # WATER ACCESS RISER PIPE				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
37	123	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # CONNECTION FROM WATER ACCESS RISER PIPE TO EXISTING MOBILE HOME				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
38	163	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input checked="" type="checkbox"/> ALT # BACKFLOW PREVENTER, 1-INCH				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
39	1	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # BACKFLOW PREVENTER, 2-INCH				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
40	1	EACH		

Wording for "description" is to be provided by the Owner. All Quantities Estimated. The Contractor will be paid based upon actual quantities as verified by the Owner.

UNIT PRICES: This form shall be used for any & all work required by the Bidding Documents & described as unit prices. Amounts shall be stated in figures & only in figures.

Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # BACKFLOW PREVENTER, 4-INCH				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
41	0	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # AUTOMATIC FLUSHING STATION				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
42	1	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # SAMPLE STATION				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
43	8	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # FIRE HYDRANT				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
44	11	EACH		
Description: <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # PLUG AND ABANDON EXISTING WATER WELL				
REF NO.:	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times unit price)
45	1	EACH		

Wording for "description" is to be provided by the Owner. All Quantities Estimated. The Contractor will be paid based upon actual quantities as verified by the Owner.

Section 05

**AFFIDAVIT PURSUANT TO LSA-R.S. 38:2224 and 38:2227
FOR BIDDERS FOR PUBLIC WORKS CONTRACTS**

STATE OF _____

PARISH/COUNTY OF _____

BEFORE ME, the undersigned authority, in and for the above stated State and Parish (or County), personally came and appeared:

Print Name

who, after first being duly sworn, did depose and state:

1. That affiant is appearing on behalf of _____, who is seeking a public contract with St. Tammany Parish Government.
2. That affiant employed no person, corporation, firm, association, or other organization, either directly or indirectly, to secure the public contract under which he received payment, other than persons regularly employed by the affiant whose services in connection with the construction, alteration or demolition of the public building or project or in securing the public contract were in the regular course of their duties for affiant; and
3. That no part of the contract price received by affiant 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 in connection with the construction, alteration or demolition of the public building or project were in the regular course of their duties for affiant.
4. If affiant is a sole proprietor, that after July 2, 2010, he/she has not been convicted of, or has not entered a plea of guilty or *nolo contendere* to any of the crimes or equivalent federal crimes listed in LSA-R.S. 38:2227(B).
5. If affiant is executing this affidavit on behalf of a juridical entity such as a partnership, corporation, or LLC, etc., that no individual partner, incorporator, director, manager, officer, organizer, or member, who has a minimum of a ten percent ownership in the bidding entity, has been convicted of, or has entered a plea of guilty or *nolo contendere* to any

of the crimes or equivalent federal crimes listed in LSA-R.S. 38:2227(B).

6. If affiant is a sole proprietor, that neither affiant, nor his/her immediate family is a public servant of St. Tammany Parish Government or the Contract is not under the supervision or jurisdiction of the public servant's agency.

7. If affiant is executing this affidavit on behalf of a juridical entity such as a partnership, corporation, or LLC, etc., that no public servant of St. Tammany Parish Government, or his/her immediate family, either individually or collectively, has more than a 25% ownership interest in the entity seeking the Contract with St. Tammany Parish Government if the Contract will be under the supervision or jurisdiction of the public servant's agency.

Printed Name: _____

Title: _____

Entity name: _____

THUS SWORN TO AND SUBSCRIBED BEFORE ME,
THIS _____, DAY OF _____, 202__.

Notary Public

Print Name: _____

Notary I.D./Bar No.: _____

My commission expires: _____

**AFFIDAVIT PURSUANT TO LSA-R.S. 38:2212.10 CONFIRMING
REGISTRATION AND PARTICIPATION IN A STATUS VERIFICATION
SYSTEM**

STATE OF _____

PARISH/COUNTY OF _____

BEFORE ME, the undersigned authority, in and for the above stated State and Parish (or County), personally came and appeared:

Print Name

who, after first being duly sworn, did depose and state:

1. That affiant is appearing on behalf of _____, a private employer seeking a bid or a contract with St. Tammany Parish Government for the physical performance of services within the State of Louisiana.

2. That affiant is registered and participates in a status verification system to verify that all employees in the state of Louisiana are legal citizens of the United States or are legal aliens; and

3. That affiant shall continue, during the term of the contract, to utilize a status verification system to verify the legal status of all new employees in the state of Louisiana.

4. That affiant shall require all subcontractors to submit to the affiant a sworn affidavit verifying compliance with this law.

Printed Name: _____

Title: _____

Name of Entity: _____

**THUS SWORN TO AND SUBSCRIBED BEFORE ME,
THIS _____, DAY OF _____, 202__.**

Notary Public
Print Name: _____
Notary I.D./Bar No.: _____
My commission expires: _____



Section 06

INSURANCE REQUIREMENTS*

Construction Project: S&J MHP AND TAMMANY MHP WATER DISTRIBUTION SYSTEMS

Project/Quote/Bid#: 24-45-2

*****IMPORTANT – PLEASE READ*****

Prior to submitting your quote or bid, it is recommended that you review these insurance requirements with your insurance broker/agent.

These requirements modify portions of the insurance language found in the General Conditions and/or Supplementary General Conditions; however, there is no intention to remove all sections pertaining to insurance requirements and limits set forth in the General Conditions and/or Supplementary General Conditions, only to amend and specify those items particular for this Project.

- A. The Provider shall secure and maintain at its expense such insurance that will protect it and St. Tammany Parish Government (the "Parish") from claims for bodily injury, death or property damage as well as from claims under the Workers' Compensation Acts that may arise from the performance of services under this agreement. All certificates of insurance shall be furnished to the Parish and provide thirty (30) days prior notice of cancellation to the Parish, in writing, on all of the required coverage.
- B. All policies shall provide for and certificates of insurance shall indicate the following:
1. Waiver of Subrogation: The Provider's insurers will have no right of recovery or subrogation against the Parish of St. Tammany, it being the intention of the parties that all insurance policy(ies) so affected shall protect both parties and be the primary coverage for any and all losses covered by the below described insurance.
 2. Additional Insured: St. Tammany Parish Government shall be named as Additional Insured with respect to general liability, automobile liability and excess liability coverages, as well as marine liability and pollution/environmental liability, when those coverages are required or necessary.
 3. Payment of Premiums: The insurance companies issuing the policy or policies will have no recourse against St. Tammany Parish Government for payment of any premiums or for assessments under any form of policy.
 4. Project Reference: The project(s) and location(s) shall be referenced in the Comment or Description of Operations section of the Certificate of Insurance (Project ##-###, or Bid # if applicable, Type of Work, Location).
- C. Coverage must be issued by insurance companies authorized to do business in the State of Louisiana. Companies must have an A.M. Best rating of no less than A-, Category VII. St. Tammany Parish Risk Management Department may waive this requirement only for Workers Compensation coverage at their discretion.

Provider shall secure and present proof of insurance on forms acceptable to St. Tammany Parish Government, Office of Risk Management no later than the time of submission of the Contract to the Parish. However, should any work performed under this Contract by or on behalf of Provider include exposures that are not covered by those insurance coverages, Provider is not relieved of its obligation to maintain appropriate levels and types of insurance necessary to protect itself, its agents and employees, its subcontractors, St. Tammany Parish Government (Owner), and all other interested third parties, from any and all claims for damage or injury in connection with the services performed or provided throughout the duration of this Project, as well as for any subsequent periods required under this Contract.

The insurance coverages checked (✓) below are those required for this Contract.

- 1. **Commercial General Liability*** insurance – **Occurrence Form** - with a Combined Single Limit for bodily injury and property damage of at least \$1,000,000 per Occurrence / \$2,000,000 General Aggregate and \$2,000,000 Products-Completed Operations. Contracts over \$1,000,000 may require higher limits. The insurance shall provide for and the certificate(s) of insurance shall indicate the following coverages:
 - a) Premises - operations;
 - b) Broad form contractual liability;
 - c) Products and completed operations;
 - d) Personal/Advertising Injury;
 - e) Broad form property damage (for Projects involving work on Parish property);
 - f) Explosion, Collapse and Damage to underground property.
 - g) Additional Insured forms CG 2010 and CG 2037 in most current edition are required.

- 2. **Business Automobile Liability*** insurance with a Combined Single Limit of \$1,000,000 per Occurrence for bodily injury and property damage, and shall include coverage for the following:
 - a) Any auto;
 - or**
 - b) Owned autos; **and**
 - c) Hired autos; **and**
 - d) Non-owned autos.

- 3. **Workers' Compensation/Employers Liability insurance*** - Workers' Compensation coverage as required by State law. Employers' liability limits shall be a minimum of \$1,000,000 each accident, \$1,000,000 each disease, \$1,000,000 disease policy aggregate. When water activities are expected to be performed in connection with this project, coverage under the USL&H Act, Jones Act and/or Maritime Employers Liability (MEL) must be included. **Coverage for owners, officers and/or partners in any way engaged in the Project shall be included in the policy.** The names of any excluded individual must be shown in the Description of Operations/Comments section of the Certificate.

- 4. **Pollution Liability and Environmental Liability*** insurance in the minimum amount of \$1,000,000 per occurrence / \$2,000,000 aggregate including full contractual liability and third party claims for bodily injury and/or property damage, for all such hazardous waste, pollutants and/or environmental exposures that may be affected by this project stemming from pollution/environmental incidents as a result of Contractor's operations.

If coverage is provided on a claims-made basis, the following conditions apply:

- 1) the retroactive date must be prior to or coinciding with the effective date of the Contract, or prior to the commencement of any services provided by the Contractor on behalf of the Parish, whichever is earlier; AND
- 2) continuous coverage must be provided to the Parish with the same retro date for 24 months following acceptance or termination of the Project by the Parish either by
 - a) continued renewal certificates **OR**
 - b) a 24 month Extended Reporting Period

*The Certificate must indicate whether the policy is written on an occurrence or claims-made basis and, if claims-made, the applicable retro date must be stated.

5. **Contractor's Professional Liability/Errors and Omissions*** insurance in the sum of at least \$1,000,000 per claim / \$2,000,000 aggregate is required when work performed by Contractor or on behalf of Contractor includes professional or technical services including, but not limited to, construction administration and/or management, engineering services such as design, surveying, and/or inspection, technical services such as testing and laboratory analysis, and/or environmental assessments. An occurrence basis policy is preferred.

If coverage is provided on a claims-made basis, the following conditions apply:

- 1) the retroactive date must be prior to or coinciding with the effective date of the Contract, or prior to the commencement of any services provided by the Contractor on behalf of the Parish, whichever is earlier; AND
- 2) continuous coverage must be provided to the Parish with the same retro date for 24 months following acceptance or termination of the Project by the Parish either by
 - a) continued renewal certificates **OR**
 - b) a 24 month Extended Reporting Period

*The Certificate must indicate whether the policy is written on an occurrence or claims-made basis and, if claims-made, the applicable retro date must be stated.

6. **Marine Liability/Protection and Indemnity*** insurance is required for any and all vessel and/or marine operations in the minimum limits of \$1,000,000 per occurrence / \$2,000,000 per project general aggregate. The coverage shall include, but is not limited to, the basic coverages found in the Commercial General Liability insurance and coverage for third party liability

***Excess/Umbrella Liability** insurance may be provided to meet the limit requirements for any Liability coverage. For example: if the General Liability requirement is \$3,000,000 per occurrence, but the policy is only \$1,000,000 per occurrence, then the excess policy should be at least \$2,000,000 per occurrence thereby providing a combined per occurrence limit of \$3,000,000.)

7. **Owners Protective Liability (OPL)** shall be furnished by the Contractor and shall provide coverage in the minimum amount of \$3,000,000 CSL each occurrence / \$3,000,000 aggregate. **St. Tammany Parish Government, ATTN: Risk Management Department, P. O. Box 628, Covington, LA 70434 shall be the first named insured on the policy.**

8. **Builder's Risk Insurance** written as an "all-risk" policy providing coverage in an amount at or greater than one hundred percent (100%) of the completed value of the contracted project. Any contract modifications increasing the contract cost will require an increase in the limit of the Builder's Risk policy. Deductibles should not exceed \$5,000 and Contractor shall be responsible for all policy deductibles. This insurance shall cover materials at the site, stored off the site, and in transit. The Builder's Risk Insurance shall include the interests of the Owner, Contractor and Subcontractors and shall terminate only when the Project is accepted in writing. **St. Tammany Parish Government, ATTN: Risk Management Department, P. O. Box 628, Covington, LA 70434 shall be named as a Loss Payee on the policy.**

9. **Installation Floater Insurance**, on an "all-risk" form, shall be furnished by Contractor and carried for the full value of the materials, machinery, equipment and labor for each location. The Contractor shall be responsible for all policy deductibles. The Installation Floater Insurance shall provide coverage for property owned by others and include the interests of the Owner, Contractor and Subcontractors and shall terminate only when the Project is accepted in writing. **St. Tammany Parish Government, ATTN: Risk Management Department, P. O. Box 628, Covington, LA 70434 shall be named as a Loss Payee on the policy.**

- D. All policies of insurance shall meet the requirements of the Parish prior to the commencing of any work. The Parish has the right, but not the duty, to approve all insurance coverages prior to commencement of work. If any of the required policies are or become unsatisfactory to the Parish as to form or substance; or if a company issuing any policy is or becomes unsatisfactory to the Parish, the Provider shall promptly obtain a new policy, timely submit same to the Parish for approval, and submit a certificate thereof as provided above. The Parish agrees not to unreasonably withhold approval of any insurance carrier selected by Provider. In the event that Parish cannot agree or otherwise authorize a carrier, Provider shall have the option of selecting and submitting a new insurance carrier within 30 days of said notice by the Parish. In the event that the second submission is insufficient or is not approved, then the Parish shall have the unilateral opportunity to thereafter select a responsive and responsible insurance carrier all at the cost of Provider and thereafter deduct from Provider's fee the cost of such insurance.
- E. Upon failure of Provider to furnish, deliver and/or maintain such insurance as above provided, this contract, at the election of the Parish, may be declared suspended, discontinued or terminated. Failure of the Provider to maintain insurance shall not relieve the Provider from any liability under the contract, nor shall the insurance requirements be construed to conflict with the obligation of the Provider concerning indemnification.
- F. Provider shall maintain a current copy of all annual insurance policies and agrees to provide a certificate of insurance to the Parish on an annual basis or as may be reasonably requested for the term of the contract or any required Extended Reporting Period. Provider further shall ensure that all insurance policies are maintained in full force and effect throughout the duration of the Project and shall provide the Parish with annual renewal certificates of insurance evidencing continued coverage, without any prompting by the Parish.
- G. It shall be the responsibility of Provider to require that these insurance requirements are met by all contractors and sub-contractors performing work for and on behalf of Provider. Provider shall further ensure the Parish is named as an additional insured on all insurance policies provided by said contractor and/or sub-contractor throughout the duration of the project.
- H. Certificates of Insurance shall be issued as follows:

**St. Tammany Parish Government
Attn: Risk Management
P O Box 628
Covington, LA 70434**

To avoid contract processing delays, be certain the project name/number is included on all correspondence including Certificates of Insurance.

***NOTICE: St. Tammany Parish Government reserves the rights to remove, replace, make additions to and/or modify any and all of the insurance requirements at any time.**

Any inquiry regarding these insurance requirements should be addressed to:

**St. Tammany Parish Government
Office of Risk Management
P O Box 628
Covington, LA 70434
Telephone: 985-898-5226
Email: riskman@stpgov.org**

Section 07

Project Signs

1. General

- a. Work to include providing and installing two (2) project sign(s) at the beginning of the project. Some projects may require multiple signs.

2. Materials

- a. The printed project sign(s) shall be 3/8" primed Medium Density Overlay (MDO) **OR** 3-millimeter corrugated plastic secured to exterior plywood (4' x 4').
- b. Contractor shall not use previously provided templates and/or fonts.

3. Execution

- a. The sign(s) shall be printed on a project-by-project basis in black and white, using the template and font provided to the Contractor by the St. Tammany Parish Government Project Manager.
- b. All signage proofed and approved by State Tammany Parish Government before project sign(s) are to be produced by the Contractor.
- c. Exact placement of the project sign(s) must be coordinated with, and approved by, the St. Tammany Parish Government Project Manager prior to sign installation.
- d. The sign(s) is to be installed such that the bottom of the sign is a minimum of 5' above the existing ground elevation.
- e. Sign(s) is to be maintained throughout the period of construction. If sign(s) is damaged or destroyed, repair and/or replacement of sign(s) will be at Contractor's expense.
- f. Contractor is responsible for the removal of all project signs upon issuance of final acceptance by the St. Tammany Parish Government Project Manager at no direct pay.
- g. Cost to be included in "Mobilization/Demolition."

Blank Template of Parish Project Sign:

PROGRESS



MICHAEL B. COOPER
Parish President

Councilmember Name
Council District X

Total Dollar \$
amount specified here

\$XXX,XXX.XX

Project Name

Description of
Project Work

Name of Street, Bridge,
Subdivision, etc. stated here

Short Description of Project stated here
(if deemed applicable by the Parish)

Example of a Completed Parish Project Sign:

PROGRESS



MICHAEL B. COOPER
Parish President

RYKERT O. TOLEDANO, JR
Council District 5

\$514,444.40

Dove Park
Subdivision Drainage
Drainage Improvements along
Swallow St., Sparrow St.,
Partridge St. and Egret St.

Section 08

General Conditions for St. Tammany Parish Government

This index is for illustrative purposes only and is not intended to be complete nor exhaustive.

All bidders/contractors are presumed to have read and understood the entire document. Some information contained in these conditions may not be applicable to all projects.

GENERAL CONDITIONS INDEX

A.A.S.H.T.O	01.01
A.C.I.	01.02
ADDENDA	01.03, 01.05, 01.12, 02.13, 02.13, 06.02, 06.03
ADVERTISEMENT	01.04, 01.12, 02.21, 02.22, 02.23
AGREEMENT	01.05, 01.11, 01.12, 01.14, 01.15, 01.19, 03.02, 03.03, 03.04, 06.01, 06.02, 10.01, 11.03, 12.01, 14.02, 29.06, 32.01, 32.02, 33.06, 33.07
APPLICATION FOR PAYMENT	01.06, 29.07
A.S.T.M.	01.07
AWARD	03.00, 03.01, 03.04, 03.05
BID	01.08, 01.12, 01.26, 02.02, 02.04, 02.08, 02.09, 02.10, 02.13, 02.14, 02.17, 02.19, 02.21, 03.01, 03.04, 04.02, 14.03, 22.01, 23.01, 28.08
BIDDER	01.04, 01.08, 01.09, 01.26, 01.28, 02.02, 02.04, 02.06, 02.08, 02.09, 02.10, 02.12, 03.13, 02.14, 02.16, 02.17, 02.19, 02.20, 02.21, 02.24, 03.01, 03.04, 03.05, 23.01
BONDS	01.10, 01.12, 02.02, 02.09, 03.00, 03.03, 03.04, 03.05, 03.07, 03.08, 03.10, 03.12, 03.13, 27.06
CHANGE ORDER	01.11, 01.19, 04.01, 09.04, 11.07, 16.02, 16.06, 16.07, 21.06, 21.08, 21.10, 21.11, 29.06, 33.07
CLAIMS	02.15, 04.05, 09.05, 14.01, 16.04, 16.05, 21.16, 24.01
CLOSING ROADS	16.06, 16.07, 16.15
COMMENCE WORK	04.04, 07.04, 09.02, 11.02, 14.02, 16.13, 24.02
COMPLETION OF WORK OR PROJECT	01.14, 02.15, 08.03, 09.01, 09.04, 11.00, 11.03, 12.01, 13.01, 13.11, 20.01, 25.01, 28.02, 29.04
CONDITIONS AT JOB SITE	16.17
CONTRACT DOCUMENTS	01.03, 01.03, 01.10, 01.12, 01.13, 01.16, 01.17, 01.18, 01.19, 01.29, 01.22, 01.25, 01.30, 01.33, 02.02, 02.05, 02.13, 02.17, 02.18, 02.23, 03.01, 03.02, 04.01, 04.02, 04.03, 04.04, 04.05, 06.00, 06.01, 06.02, 06.03, 07.02, 07.03, 07.05, 08.01, 10.06, 11.03, 13.01, 13.02, 21.01, 21.09, 21.10, 21.11, 28.01, 28.04, 33.01
CONTRACT PRICE	01.11, 01.13, 03.05, 04.01, 12.01, 14.02, 21.06, 21.10, 21.11, 27.05, 28.01, 28.02, 28.03, 28.08

CONTRACT TIME	01.11, 01.14, 01.22, 10.06, 11.01, 21.06, 29.04
CONTRACTOR - (Defined)	01.15
DAMAGE	02.15, 03.05, 03.12, 04.05, 09.05, 11.09, 13.11, 14.01, 14.02, 16.01, 16.02, 16.03, 16.04, 16.05, 19.01, 19.03, 20.01, 20.08, 23.03, 24.01, 24.07, 24.12, 26.03, 28.05, 28.01, 28.10, 33.07
DEFECTIVE WORK	01.16, 10.03, 21.00, 21.01, 21.07, 21.08, 21.09, 21.10, 28.03
DELAYS	07.02, 11.05, 11.09, 12.01, 16.07, 18.02, 19.01, 28.04
DRAWINGS	01.12, 01.17, 02.13, 02.17, 02.23, 06.01, 06.02, 06.03, 13.15, 22.02, 01.27, 01.33, 03.12, 04.01, 06.02, 09.01, 10.01, 10.02, 11.07, 13.00, 13.01, 13.03, 13.05, 13.11, 13.12, 13.15, 14.02, 14.07, 14.08, 14.09, 16.09, 16.13, 21.01, 21.06, 21.07, 21.14, 24.07, 27.05, 27.07, 28.01, 28.05, 28.10, 29.03, 13.00, 13.11
ENGINEER STATUS (NOT APPLICABLE)	15.00
EXTRA WORK	03.09, 14.00, 14.03, 14.04, 14.05, 14.08, 14.09, 14.10, 14.11, 14.12, 16.01, 22.02
FAILURE OF CONTRACTOR	03.10, 04.05, 06.02, 09.05, 10.01, 10.03, 13.10, 16.03, 20.01, 24.09, 27.02, 28.10
FAILURE OF OWNER	02.13
FAILURE OF SUCCESSFUL BIDDER	02.13, 02.17, 03.04
FIELD ORDER	01.18
FORCE ACCOUNT	14.04, 14.05, 14.11, 14.12
FUNDING	33.09
INDEMNIFY / HOLD HARMLESS	02.15, 03.05, 04.05, 13.11, 16.04, 16.05, 20.02, 24.06, 24.09
INDEMNIFYING INFRINGEMENT CLAUSE	02.15
INJURIES	16.00, 16.01, 16.02, 19.01, 19.03, 20.01, 24.02, 24.07
INSPECTION FEES	13.12
INSPECTIONS, GENERALLY	01.16, 13.05, 16.13, 21.00, 21.03, 21.04, 21.05, 21.06, 21.14, 21.15, 28.04, 29.02, 29.03
INSURANCE	01.05, 14.05, 16.13, 24.00 - 12, 27.07, 28.05
INTENTION OF CONTRACT DOCUMENTS	06.00, 06.01
INTENTION OF GENERAL CONDITIONS	31.00

LABOR	01.33, 03.12, 09.01, 13.00, 13.01, 13.02, 13.08, 13.10, 13.11, 13.12, 14.05, 16.06, 16.07, 21.06, 21.07, 21.15, 27.01, 28.10, 29.03
LAWS	01.10, 01.20, 02.06, 02.13, 02.14, 02.16, 02.20, 03.01, 03.10, 13.12, 16.06, 16.07, 20.02, 21.02, 21.09, 27.01, 29.06, 33.00, 33.01, 33.08
LIQUIDATED DAMAGES	11.03, 12.00, 12.01, 29.04
MATERIALS	01.33, 03.12, 04.01, 06.02, 07.01, 09.01, 10.01, 10.02, 13.00, 13.01, 13.03, 13.04, 13.05, 13.12, 13.13, 13.15, 14.01, 14.11, 20.01, 12.01, 21.07, 21.14, 21.15, 23.03, 27.01, 27.05, 27.07, 28.01, 28.05, 28.07, 28.08, 28.10
MODIFICATIONS	01.12, 01.19, 02.12, 02.13, 06.01, 06.02, 24.07, 32.02
NOTICE OF AWARD	01.20, 03.01, 03.04, 04.01
NOTICE OF DEFAULT	12.01, 33.08
NOTICE TO BIDDER	2.21
NOTICE TO CONTRACTOR	01.12, 01.21, 21.11, 30.01
NOTICE TO OWNER	13.07, 24.06, 27.07
NOTICE TO PROCEED	01.22, 09.02, 11.01, 11.03
OBSTRUCTIONS	16.09, 16.11, 16.15, 23.00, 23.01, 23.02
OCCUPANCY	25.00
ORAL INTERPRETATIONS	02.13
OWNER - (Defined)	01.23
PAYMENT	01.30, 03.10, 03.12, 03.13, 04.12, 09.03, 11.04, 11.09, 14.04, 14.12, 16.02, 16.16, 19.02, 21.07, 21.08, 21.09, 21.10, 21.11, 21.16, 24.02, 24.03, 24.12, 27.01, 27.07, 28.00, 28.01, 28.02, 28.03, 28.04, 28.05, 28.06, 28.08, 28.09, 28.10, 29.00, 29.03, 29.05, 29.07
PERMITS	13.00, 13.12, 16.13, 28.08
PRICE	02.05, 14.02, 14.03, 14.04, 14.05, 22.01
PROGRESS PAYMENT	01.06, 28.06
PROGRESS SCHEDULE	09.03, 09.05, 21.11
PROGRESS OF WORK	09.00, 11.09, 13.07, 16.01, 16.12, 21.11, 21.12, 22.02, 27.02
PROJECT	01.24, 01.29, 01.30, 02.04, 03.07, 06.01, 07.03, 10.02, 11.04, 11.06, 13.08, 13.13, 14.08, 14.11, 16.15, 24.07, 24.11, 28.07, 29.03, 29.07

PROJECT REPRESENTATIVE	01.23, 21.16
PROPERTY	16.00, 16.01, 16.02, 16.03, 16.12, 16.13, 16.17, 18.01, 19.00, 19.01, 19.02, 19.03, 23.03, 24.01, 24.07, 26.03, 28.10, 29.08, 33.05
PROPOSAL	01.26, 02.00, 02.01, 02.03, 02.05, 02.06, 02.07, 02.08, 02.09, 02.10, 02.11, 02.12, 02.14, 02.18, 02.21, 02.22, 11.03, 12.01, 14.01, 14.02, 14.03, 19.02, 23.02, 28.08
PROTESTS	33.10
PUNCH LIST	29.03, 29.04
QUANTITIES OF ESTIMATES	14.00, 14.01, 14.02, 14.04
RAILROADS	16.13, 19.01
RECORD DRAWINGS	08.00, 18.01, 18.02, 18.03
RECORDATION OF DOCUMENTS	03.13, 28.03, 29.05, 29.06
REJECTION OF BIDS	02.03, 02.07, 02.08, 02.10, 02.14, 03.01
RENTAL OF EQUIPMENT	14.07, 14.09
RIGHTS OF WAY	18.00
SAFETY	16.01, 16.07, 16.14, 16.17
SANITARY PROVISIONS	13.01, 17.00
SCHEDULE OF WORK	09.03, 09.04, 9.05, 11.06, 13.09
SEVERABILITY	32.01, 32.02
SHOP DRAWINGS	01.27, 06.03, 07.00, 07.01, 07.02, 07.03, 07.04, 07.05
SITE	02.17, 7.04, 13.05, 13.07, 13.11, 14.06, 16.09, 21.08, 21.09, 21.12, 22.02, 23.01, 24.07
SOLICITATION OF EMPLOYMENT	13.14
SPECIFICATIONS	01.01, 01.02, 01.05, 01.07, 01.12, 01.28, 02.13, 02.17, 02.23, 03.06, 03.09, 03.10, 03.13, 06.01, 06.02, 06.03, 07.04, 07.05, 11.03, 13.05, 13.15, 20.01, 21.12, 22.02, 28.01, 28.04, 32.01
SUBCONTRACTOR	01.27, 01.29, 04.01, 04.02, 04.03, 04.04, 04.05, 16.02, 16.04, 16.05, 20.01, 20.02, 21.07, 24.01, 24.07, 27.01, 28.07
SUBCONTRACTS	04.00, 13.09
SUBSURFACE CONDITIONS	02.17, 22.00, 22.01, 22.02
SUBSTANTIAL COMPLETION	01.30, 11.04, 21.09, 28.04, 29.01, 29.02, 29.03, 29.04, 29.06
SUPERINTENDENT	01.21, 01.31, 13.07, 14.05

SUPERVISION	13.01, 13.06
SURETY	01.05, 01.10, 02.09, 03.05, 03.06, 03.07, 03.08, 03.09, 03.11, 03.12, 04.05, 05.01, 14.03, 27.03, 27.05
SURVEY	13.02, 26.00, 26.01
TAXES	02.05, 13.00, 13.12, 13.13, 14.05, 28.07, 28.08, 28.10
TERMINATION OF CONTRACT	13.10, 24.09, 27.00, 27.01, 27.02, 27.03, 27.04, 27.05, 27.06, 27.07
TESTS, GENERALLY	21.00, 21.02, 21.03, 21.04, 21.05, 21.06
TIME	01.32
TRAFFIC	16.06, 16.07, 16.10, 16.15, 16.16
TRAFFIC HAZARDS	16.16
TREES AND SHRUBS	19.02
VERBAL INSTRUCTIONS	21.16
WAIVERS	24.06, 29.03, 33.08
WARNING DEVICES	16.13, 16.14, 16.15
WARRANTY	21.01, 21.08, 21.09, 33.04, 33.06
WORK	01.31, 20.01
WORK BY OTHERS	10.03, 10.04, 10.05
WORK BY OWNER	10.02, 10.04, 10.05
WORK FOR OTHER, RESTRICTIONS	16.12
WORK ORDER	28.01

01.00 DEFINITIONS OF TERMS

Whenever used in these General Conditions or in other Contract Documents, the following terms shall have the meanings indicated, and these shall be applicable to both the singular and plural thereof.

- 01.01 A.A.S.H.T.O American Association of State Highway and Transportation Officials. When A.A.S.H.T.O. is referred to in these Specifications it takes the meaning of the specification for materials and methods of testing specified by this association and the specification stated is considered to be a part of the Specifications as if written herein in full.
- 01.02 A.C.I American Concrete Institute. When A.C.I. is referred to in these Specifications it takes the meaning of the specification for materials and methods of testing specified by this institute and the specification stated is considered to be a part of the Specifications as if written herein in full.
- 01.03 Addenda Written or graphic instruments issued prior to the opening of bids which clarify, correct, modify or change the bidding or Contract Documents.
- 01.04 Advertisement The written instrument issued by the Owner at the request of the Owner used to notify the prospective bidder of the nature of the Work. It becomes part of the Contract Documents.
- 01.05 Agreement The written agreement or contract between the Owner and the Contractor covering the Work to be performed and the price that the Owner will pay. Other documents, including the Proposal, Addenda, Specifications, plans, surety, insurance, etc., are made a part thereof.
- 01.06 Application for Payment The form furnished by the Owner which is to be used by the Contractor in requesting incremental (progress) payments and which is to include information required by Section 28.01 and an affidavit of the Contractor. The affidavit shall stipulate that progress payments theretofore received from the Owner on account of the Work have been applied by Contractor to discharge in full of all Contractor's obligations reflected in prior applications for payment.
- 01.07 A.S.T.M. American Society of Testing Materials. When A.S.T.M. is referred to in these Specifications it takes the meaning of the specification for materials and methods of testing specified by this society and the specification stated is considered to be a part of the Specifications as if written herein in full.
- 01.08 Bid The offer or Proposal of the Bidder submitted on the prescribed form setting forth all the prices for the Work to be performed.
- 01.09 Bidder Any person, partnership, firm or corporation submitting a Bid for the Work.
- 01.10 Bonds Bid, performance and payment bonds and other instruments of security, furnished by the Contractor and its surety in accordance with the Contract Documents and Louisiana law.
- 01.11 Change Order A written order to the Contractor signed by the Owner authorizing an addition, deletion or revision in the Work, or an adjustment in the Contract Price or the Contract Time after execution of the Agreement.
- 01.12 Contract Documents The Agreement, Addenda, Contractor's Bid and any documentation accompanying or post-bid documentation when attached as an exhibit, the Bonds, these General Conditions, the Advertisement for Bid, Notice to Contractor, all supplementary conditions, the Specifications, the Drawings, together with all Modifications issued after the execution of the Agreement.
- 01.13 Contract Price The total monies payable to the Contractor under the Contract Documents.

- 01.14 Contract Time The number of consecutive calendar days stated in the Agreement for the completion of the Work.
- 01.15 Contractor The person, firm, corporation or provider with whom the Owner has executed the Agreement.
- 01.16 Defective Work When work which is unsatisfactory, faulty or deficient for any reason whatsoever, or does not conform to the Contract Documents, or does not meet the requirements of any inspection, test or approval referred to in the Contract Documents, or has been damaged prior to the Owner's recommendation or acceptance.
- 01.17 Drawings The Drawings and plans which show the character and scope of the Work to be performed and which have been prepared or approved by the Owner and are referred to in the Contract Documents.
- 01.18 Field Order A written order issued by the Owner or his agent which clarifies or interprets the Contract Documents.
- 01.19 Modification (a) A written amendment of the Contract Documents signed by both parties, (b) A Change Order, (c) A written clarification or interpretation issued by the Owner or his agent. Modification may only be issued after execution of the Agreement.
- 01.20 Notice of Award The written notice by Owner to the lowest responsible Bidder stating that upon compliance of the conditions enumerated in the Notice of Award, or enumerated in the Bid documents, the Owner will deliver the Contract Documents for signature. The time for the delivery of the Contract Documents can be extended in conformance with Louisiana Law.
- 01.21 Notice to Contractor Instructions, written or oral given by Owner to Contractor and deemed served if given to the Contractor's superintendent, foreman or mailed to Contractor at his last known place of business.
- 01.22 Notice to Proceed A written notice given by the Owner fixing the date on which the Contract Time will commence, and on which date the Contractor shall start to perform his obligation under the Contract Documents. Upon mutual consent by both parties, the Notice to Proceed may be extended.
- 01.23 Owner St. Tammany Parish Government, acting herein through its duly constituted and authorized representative, including but not limited to the Office of the Parish President or its designee, its Chief Administrative Officer, and/or Legal Counsel. St. Tammany Parish Government (hereinafter, the "Parish") and Owner may be used interchangeably.
- 01.24 Project The entire construction to be performed as provided in the Contract Documents.
- 01.25 Project Representative The authorized representative of the Owner who is assigned to the Project or any parts thereof.
- 01.26 Proposal The Bid submitted by the Bidder to the Owner on the Proposal form setting forth the Work to be done and the price for which the Bidder agrees to perform the Work.
- 01.27 Shop Drawings All drawings, diagrams, illustrations, brochures, schedules and other data which are prepared by the Contractor, Subcontractor, Manufacturer, Supplier or Distributor and which illustrate the equipment, material or some portion of the Work.
- 01.28 Specifications The Instructions to Bidders, these General Conditions, the Special Conditions and the Technical Provisions. All of the documents listed in the "Table of Contents."
- 01.29 Subcontractor An individual, firm or corporation having a direct Contract with the Contractor or with any other Subcontractor for the performance of a part of the Project Work.
- 01.30 Substantial Completion The date as certified by the Owner or its agent when the construction of the Project or a specified part thereof is sufficiently complete in accordance with the Contract Documents so that the Project or specified part can be utilized for the

purposes for which it was intended; or if there is no such certification, the date when final payment is due in accordance with Section 28.

- 01.31 Superintendent Contractor's site representative. The person on the site who is in full and complete charge of the Work.
- 01.32 Time Unless specifically stated otherwise, all time delays shall be calculated in calendar days.
- 01.33 Work Any and all obligations, duties and responsibilities necessary to the successful completion of the Project assigned to or undertaken by the Contractor under the Contract Documents, usually including the furnishing of all labor, materials, equipment and other incidentals.
- 01.34 The terms "he/himself" may be used interchangeably with "it/itself."

02.00 PROPOSAL

- 02.01 All papers bound with or attached to the Proposal Form are a necessary part thereof and must not be detached.
- 02.02 For submitting Bids, the only forms allowed shall be the "Louisiana Uniform Public Work Bid Form", "Louisiana Uniform Public Works Bid Form Unit Price Form" (if necessary), the Bid Bond, and written evidence of authority of person signing the bid. Necessary copies of the Louisiana Uniform Public Work Forms will be furnished for Bidding. Bound sets of the Contract Documents are for Bidder's information and should not be used in submitting Bids.
- 02.03 Proposal forms must be printed in ink or typed, unless submitted electronically. Illegibility or ambiguity therein may constitute justification for rejection of the Bid.
- 02.04 Each Bid must be submitted in a sealed envelope, unless submitted electronically. The outside of the envelope shall show the name and address of the Bidder, the State Contractor's License Number of the Bidder (if work requires contractor's license), and the Project name and number for which the Bid is submitted, along with the Bid number.
- 02.05 The price quoted for the Work shall be stated in words and figures on the Bid Form, and in numbers only on the Unit Price Form. The price in the Proposal shall include all costs necessary for the complete performance of the Work in full conformity with the conditions of the Contract Documents, and shall include all applicable Federal, State, Parish, Municipal or other taxes. The price bid for the items listed on the Unit Price Form will include the cost of all related items not listed, but which are normally required to do the type of Work bid.
- 02.06 The Bid shall be signed by the Bidder. The information required on the Louisiana Uniform Public Work Bid Form must be provided. Evidence of agency, corporate, or partnership authority is required and shall be provided in conformance with LSA-R.S. 38:2212(B).
- 02.07 Only the Contractors licensed by the State to do the type of Work involved can submit a Proposal for the Work. The envelope containing the Proposal shall have the Contractor's license number on it. Failure to be properly licensed constitutes authority by the Owner for rejection of Bid.
- 02.08 Bidders shall not attach any conditions or provisions to the Proposal. Any conditions or provisions so attached may, at the sole option of the Owner, cause rejection of the Bid or Proposal.
- 02.09 A Bid Guarantee of five percent (5%) of the amount of the total Bid, including Alternates, must accompany the Proposal and, at the option of the Bidder, may be a cashier's check, certified check or a satisfactory Bid Bond. The Bid Guarantee must be attached to the Louisiana Uniform Public Work Bid Form. No Bid will be considered unless it is so guaranteed. Cashier's check or certified check must be made payable to the order of the Owner. Cash deposits will not be accepted. The Owner reserves the right to cash or deposit the cashier's check or certified check. Such guarantees shall be made payable to the Parish

of St. Tammany. In accordance with LSA-R.S. 38:2218(C), if a bid bond is used, it shall be written by a surety or insurance company currently on the U.S. Department of the Treasury Financial Management Service list of approved bonding companies which is published annually in the Federal Register, or by a Louisiana domiciled insurance company with at least an A- rating in the latest printing of the A.M. Best's Key Rating Guide to write individual bonds up to ten percent of policyholders' surplus as shown in the A.M. Best's Key Rating Guide, or by an insurance company in good standing licensed to write bid bonds which is either domiciled in Louisiana or owned by Louisiana residents. It is **not** required to be on any AIA form.

- 02.10 Bid securities of the three (3) lowest Bidders will be retained by the Owner until the Contract is executed or until final disposition is made of the Bids submitted. Bid securities of all other Bidders will be returned promptly after the canvas of Bids. Bids shall remain binding for forty-five (45) days after the date set for Bid Opening. The Parish shall act within the forty-five (45) days to award the contract to the lowest responsible bidder or reject all bids as permitted by Public Bid Law. However, the Parish and the lowest responsible bidder, by mutual written consent, may agree to extend the deadline for award by one or more extensions of thirty (30) calendar days. In the event the Owner issued the Letter of Award during this period, or any extension thereof, the Bid accepted shall continue to remain binding until the Execution of the Contract.
- 02.11 A Proposal may be withdrawn at any time prior to the scheduled closing time for receipt of Bids, provided the request is in writing, executed by the Bidder or its duly authorized representative and is filed with the Owner prior to that time. When such a request is received, the Proposal will be returned to the Bidder unopened.
- 02.12 Written communications, over the signature of the Bidder, to modify Proposals will be accepted and the Proposal corrected in accordance therewith if received by the Owner prior to the scheduled closing time for receipt of Bids. Oral, telephonic or telegraphic Modifications will not be considered.
- 02.13 No oral interpretation obligating the Owner will be made to any Bidder as to the meaning of the Drawings, Specifications and Contract Documents. Every request for such an interpretation shall be made in writing and addressed and forwarded to the Owner. No inquiry received within seven (7) days prior to the day fixed for opening of the Bids shall be given consideration. Every interpretation made to the Bidder shall be in the form of an addendum to the Specifications. All such Addenda shall become part of the Contract Documents. Failure of Bidder to receive any such interpretation shall not relieve any Bidder from any obligation under this Bid. All Addenda shall be issued in accordance with the Public Bid Law, LSA-R.S. 38:2212(O)(2)(a) and (b).
- 02.14 The Owner reserves the right to reject any or all Bids for just cause in accordance with the Public Bid Law, LSA-R.S. 38:2214(B). Incomplete, informal or unbalanced Bids may be rejected. Reasonable grounds for belief that any one Bidder is concerned directly or indirectly with more than one Bid will cause rejection of all Bids wherein such Bidder is concerned. If required, a Bidder shall furnish satisfactory evidence of its competence and ability to perform the Work stipulated in its Proposal. Incompetence will constitute cause for rejection. If the Parish determines that the bidder is not responsive or responsible for any reason whatsoever, the bid may be rejected in accordance with State law.
- 02.15 The Contractor shall indemnify and hold harmless the Owner from any and all suits, costs, penalties or claims for infringement by reason of use or installation of any patented design, device, material or process, or any trademark and copyright in connection with the Work agreed to be performed under this Contract, and shall indemnify and hold harmless the Owner for any costs, expenses and damages which it may be obliged to pay by reason of any such infringement at any time during the prosecution or after completion of the Work.
- 02.16 Bidders shall familiarize themselves with and shall comply with all applicable Federal and State Laws, municipal ordinances and the rules and regulations of all authorities having jurisdiction over construction of the Project, which may directly or indirectly affect the Work or its prosecution. These laws and/or ordinances will be deemed to be included in the Contract, as though herein written in full.
- 02.17 Each Bidder shall visit the site of the proposed Work and fully acquaint itself with all surface and subsurface conditions as they may exist so that it may fully understand this

Contract. Bidder shall also thoroughly examine and be familiar with drawings, Specifications and Contract Documents. The failure or omission of any Bidder to receive or examine any form instrument, Drawing or document or to visit the site and acquaint itself with existing conditions, shall in no way relieve any Bidder from any obligation with respect to its Bid and the responsibility in the premises.

- 02.18 The standard contract form enclosed with the Proposal documents is a prototype. It is enclosed with the Contract Documents for the guidance of the Owner and the Contractor. It has important legal consequences in all respects and consultation with an attorney is encouraged. Contractor shall be presumed to have consulted with its own independent legal counsel.
- 02.19 When one set of Contract plans show the Work to be performed by two or more prime Contractors, it is the responsibility of each Bidder to become knowledgeable of the Work to be performed by the other where the Work upon which this bid is submitted is shown to come into close proximity or into conflict with the Work of the other. In avoiding conflicts, pressure pipe lines must be installed to avoid conflict with gravity pipe lines and the Bidder of the smaller gravity pipe line in conflict with the larger gravity pipe line must include in his Bid the cost of a conflict box at these locations. The location of and a solution to the conflicts do not have to be specifically noted as such on the plans.
- 02.20 Bidder shall execute affidavit(s) attesting compliance with LSA-R.S. 38:2212.10, 38:2224, 38:2227, each as amended, and other affidavits as required by law, prior to execution of the contract.
- 02.21 Sealed Proposals (Bid) shall be received by St. Tammany Parish Government at the office of St. Tammany Parish Government, Department of Procurement, 21454 Koop Drive, Suite 2-F, Mandeville, LA 70471, until the time and date denoted in Notice to Bidders, at which time and place the Proposals (Bids), shall be publicly opened and read aloud to those present. In accordance with LSA-R.S. 38-2212(A)(3)(c)(i), the designer's final estimated cost of construction shall be read aloud upon opening bids. Sealed Proposals (Bids) may also be mailed by certified mail to St. Tammany Parish Government, Department of Procurement, 21454 Koop Drive, Suite 2-F, Mandeville, LA 70471, and must be received before the bid opening. Bids may also be submitted electronically. Information concerning links for electronic bidding is contained in the Notice to Bidders.
- 02.22 Proposals (Bids) shall be executed on Forms furnished and placed in a sealed envelope, marked plainly and prominently as indicated in the Notice to Bidders, and these General Conditions, and addressed:

St. Tammany Parish Government
Department of Procurement
21454 Koop Drive, Suite 2-F
Mandeville, LA 70471

- 02.23 See Notice to Bidders for availability of Drawings, Specifications and Contract Documents via electronic methods.
- 02.24 The successful Bidder shall be required to post in each direction a public information sign, 4' x 4' in size, at the location of the project containing information required by the Owner. The Owner shall supply this information.

03.00 AWARD, EXECUTION OF DOCUMENTS, BONDS, ETC.

- 03.01 The award of the Contract, if it is awarded, will be to the lowest responsible Bidder, in accordance with State Law. No award will be made until the Owner has concluded such investigations as it deems necessary to establish the responsibility, qualifications and financial ability and stability of the Bidder to do the Work in accordance with the Contract Documents to the satisfaction of the Owner within the time prescribed as established by the Department based upon the amount of work to be performed and the conditions of same. The written contract and bond shall be issued in conformance with LSA-R.S. 38:2216. The Owner reserves the right to reject the Bid of any Bidder in accordance with the Public Bid Law, LSA-R.S. 38:2214. If the Contract is awarded, the Owner shall give the successful Bidder written notice of the award within forty-five (45) calendar days after

the opening of the Bids in conformance with LSA-R.S. 38:2215(A), or any extension as authorized thereunder.

- 03.02 At least three counterparts of the Agreement and of such other Contract Documents as practicable shall be signed by the Owner and the Contractor. The Owner shall identify those portions of the Contract Documents not so signed and such identification shall be binding on both parties. The Owner and the Contractor shall each receive an executed counterpart of the Contract Documents.
- 03.03 Prior to the execution of the Agreement, the Contractor shall deliver to the Owner the required Bonds.
- 03.04 Failure of the successful Bidder to execute the Agreement and deliver the required Bonds within twenty (20) days of the Notice of the Award shall be just cause for the Owner to annul the award and declare the Bid and any guarantee thereof forfeited.
- 03.05 In order to ensure the faithful performance of each and every condition, stipulation and requirement of the Contract and to indemnify and save harmless the Owner from any and all damages, either directly or indirectly arising out of any failure to perform same, the successful Bidder to whom the Contract is awarded shall furnish a surety Bond in an amount of at least equal to one hundred percent (100%) of the Contract Price. The Contract shall not be in force or binding upon the Owner until such satisfactory Bond has been provided to and approved by the Parish. The cost of the Bond shall be paid for by the Contractor unless otherwise stipulated in the Special Provisions.
- 03.06 No surety Company will be accepted as a bondsman who has no permanent agent or representative in the State upon whom notices referred to in the General Conditions of these Specifications may be served. Services of said notice on said agent or representative in the State shall be equal to service of notice on the President of the Surety Company, or such other officer as may be concerned.
- 03.07 In conformance with LSA-R.S. 38:2219(A)(1)(a), (b), and (c):

Any surety bond written for a public works project shall be written by a surety or insurance company currently on the U.S. Department of the Treasury Financial Management Service list of approved bonding companies which is published annually in the Federal Register, or by a Louisiana domiciled insurance company with at least an A- rating in the latest printing of the A.M. Best's Key Rating Guide, to write individual bonds up to ten percent of policyholders' surplus as shown in the A.M. Best's Key Rating Guide or by an insurance company that is either domiciled in Louisiana or owned by Louisiana residents and is licensed to write surety bonds.

For any public works project, no surety or insurance company shall write a bond which is in excess of the amount indicated as approved by the U.S. Department of the Treasury Financial Management Service list or by a Louisiana domiciled insurance company with an A- rating by A.M. Best up to a limit of ten percent of policyholders' surplus as shown by A.M. Best; companies authorized by this Paragraph who are not on the treasury list shall not write a bond when the penalty exceeds fifteen percent of its capital and surplus, such capital and surplus being the amount by which the company's assets exceed its liabilities as reflected by the most recent financial statements filed by the company with the Department of Insurance.

In addition, any surety bond written for a public works project shall be written by a surety or insurance company that is currently licensed to do business in the state of Louisiana. All contractors must comply with any other applicable provisions of LSA-R.S. 38:2219.

- 03.08 Should the Contractor's Surety, even though approved and accepted by the Owner, subsequently remove its agency or representative from the State or become insolvent, bankrupt, or otherwise fail, the Contractor shall immediately furnish a new Bond in another company approved by the Owner, at no cost to the Owner. The new Bond shall be executed under the same terms and conditions as the original Bond. The new bond shall be submitted within thirty (30) days of such time as the Owner notifies Contractor or from the time Contractor learns or has reason to know that the original surety is no longer financially viable or acceptable to the Parish, whichever occurs first. In the event that Contractor fails

or refuses to timely secure additional surety, then the Owner may secure such surety and thereafter deduct such cost or expense from any sum due or to become due Contractor.

- 03.09 The Contractor's bondsman shall obligate itself to all the terms and covenants of these Specifications and of contracts covering the Work executed hereunder. The Owner reserves the right to do Extra Work or make changes by altering, adding to deducting from the Work under the conditions and in the manner herein before described without notice to the Contractor's surety and without in any manner affecting the liability of bondsman or releasing it from any of its obligations hereunder.
- 03.10 The Bond shall also secure for the Owner the faithful performance of the Contract in strict accordance with plans and Specifications. It shall protect the Owner against all lien laws of the State and shall provide for payment of reasonable attorney fees for enforcement of Contract and institution or concursus proceedings, if such proceedings become necessary. Likewise, it shall provide for all additional expenses of the Owner occurring through failure of the Contractor to perform.
- 03.11 The surety of the Contractor shall be and does hereby declare and acknowledge itself by acceptance to be bound to the Owner as a guarantor, jointly and in solido, with the Contractor, for fulfillment of terms of Section 03.00.
- 03.12 The performance Bond and Labor and Material Bond forming part of this Contract shall be continued by Contractor and its Surety for a period of one (1) year from date of acceptance of this Contract by Owner to assure prompt removal and replacement of all defective material, equipment, components thereof, workmanship, etc., and to assure payment of any damage to property of Owner or others as a result of such defective materials, equipment, workmanship, etc.
- 03.13 Contractor shall pay for the cost of recording the Contract and Bond and the cost of canceling same. Contractor shall also secure and pay for all Clear Lien and Privilege Certificates (together with any updates) which will be required before any final payment is made, and that may be required before any payment, at the request of the Owner, its representative, agent, architect, engineer and the like. All recordation and Clear Lien and Privilege Certificate requirements shall be in accordance with those requirements noted herein before in contract Specifications.

04.00 SUBCONTRACTS

- 04.01 Contractor shall be fully responsible for all acts and omissions of its Subcontractors and of persons and organizations for whose acts any of them may be liable to the same extent that it is responsible for the acts and omissions of persons directly employed by it. Nothing in the Contract Documents shall create any contractual relationship between Owner and any Subcontractor or other person or organization having a direct Contract with Contractor, nor shall it create any obligation on the part of the Owner to pay or to see to the payment of any monies due any Subcontractor.
- 04.02 Nothing in the Contract Documents shall be construed to control the Contractor in dividing the Work among approved Subcontractors or delineating the Work to be performed by any trade.
- 04.03 The Contractor agrees to specifically bind every Subcontractor to all of the applicable terms and conditions of the Contract Documents prior to commencing Work. Every Subcontractor, by undertaking to perform any of the Work, shall thereby automatically be deemed bound by such terms and conditions.
- 04.04 The Contractor shall indemnify and hold harmless the Owner 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 Contractor's failure to bind every Subcontractor and Contractor's surety to all of the applicable terms and conditions of the Contract Documents.

05.00 ASSIGNMENT

05.01 Neither party to this Contract shall assign or sublet its interest in this Contract without prior written consent of the other, nor shall the Contractor assign any monies due or to become due to it under this Contract without previous written consent of the Owner, nor without the consent of the surety unless the surety has waived its right to notice of assignment.

06.00 CORRELATION, INTERPRETATION AND INTENT OF CONTRACT DOCUMENTS.

06.01 It is the intent of the Specifications and Drawings to describe a complete Project to be constructed in accordance with the Contract Documents. The Contract Documents comprise the entire Agreement between Owner and Contractor. Alterations, modifications and amendments shall only be in writing between these parties.

06.02 The Contract Documents are intended to be complimentary and to be read *in pari materii*, and what is called for by one is as binding as if called for by all. If Contractor finds a conflict, error or discrepancy in the Contract Documents, it shall call it to the Owner's attention, in writing, at once and before proceeding with the Work affected thereby; however, it shall be liable to Owner for its failure to discover any conflict, error or discrepancy in the Specifications or Drawings. In resolving such conflicts, errors and discrepancies, the documents shall be given precedence in the following order: Agreement, Modifications, Addenda, Special Conditions, General Conditions, Construction Specifications and Drawings. The general notes on the plans shall be considered special provisions. Figure dimensions on Drawings shall govern over scale dimensions and detail Drawings shall govern over general Drawings. Where sewer connections are shown to fall on a lot line between two lots, the Contractor shall determine this location by measurement not by scale. Any Work that may reasonably be inferred from the Specifications or Drawings as being required to produce the intended result shall be supplied whether or not it is specifically called for. Work, materials or equipment described herein which so applied to this Project are covered by a well-known technical meaning or specification shall be deemed to be governed by such recognized standards unless specifically excluded.

06.03 Unless otherwise provided in the Contract Documents, the Owner will furnish to the Contractor (free of charge not to exceed ten (10) copies) Drawings and Specifications for the execution of Work. The Drawings and Specifications are the property of the Owner and are to be returned to it when the purpose for which they are intended have been served. The Contractor shall keep one copy of all Drawings and Specifications, including revisions, Addenda, details, Shop Drawings, etc. on the Work in good order and available to the Owner or the regulatory agency of the governmental body having jurisdiction in the area of the Work.

07.00 SHOP DRAWINGS, BROCHURES AND SAMPLES

07.01 After checking and verifying all field measurements, Contractor shall submit to Owner for approval, five copies (or at Owner's option, one reproducible copy) of all Shop Drawings, which shall have been checked by and stamped with the approval of Contractor and identified as Owner may require. The data shown on the Shop Drawings will be complete with respect to dimensions, design criteria, materials of construction and the like to enable Owner to review the information as required.

07.02 Contractor shall also submit to Owner, for review with such promptness as to cause no delay in Work, all samples as required by the Contract Documents. All samples will have been checked by and stamped with the approval of Contractor identified clearly as to material, manufacturer, any pertinent catalog numbers and the use for which intended. At the time of each submission, Contractor shall in writing call Owner's attention to any deviations that the Shop Drawings or samples may have from the requirements of the Contract Documents.

07.03 Owner will review with reasonable promptness Shop Drawings and samples, but its review shall be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents. The review of a separate item as such will not indicate approval of the assembly in which the item functions. Contractor shall make any corrections required by Owner and shall return the required number of

corrected copies of Shop Drawings and resubmit new samples for review. Contractor shall direct specific attention in writing or on resubmitted Shop Drawings to revisions other than the corrections called for by Owner on previous submissions. Contractor's stamp of approval on any Shop Drawing or sample shall constitute a representation to Owner that Contractor has determined and verified all quantities, dimensions, field construction criteria, materials catalog numbers and similar data and thereafter assumes full responsibility for doing so, and that it has reviewed or coordinated each Shop Drawing or sample with the requirements of the Work and the Contract Documents.

07.04 Where a Shop Drawing or sample submission is required by the Specifications, no related Work shall be commenced until the submission has been reviewed by Owner. A copy of each reviewed shop Drawing and each inspected sample shall be kept in good order by Contractor at the site and shall be available to Owner.

07.05 Owner's review of Shop Drawings or samples shall not relieve Contractor from its responsibility for any deviations from the requirements of the Contract Documents unless Contractor has in writing called Owner's attention to such deviation at the time of submission and Owner has given written approval to the specific deviation, nor shall any review by Owner relieve Contractor from responsibility for errors or omissions in the Shop Drawings. The mere submittal of shop drawings which contain deviations from the requirements of plans, specifications and/or previous submittals in itself does not satisfy this requirement.

08.00 RECORD DRAWINGS

08.01 The Contractor shall keep an accurate record in a manner approved by the Owner of all changes in the Contract Documents during construction. In Work concerning underground utilities, the Contractor shall keep an accurate record in a manner approved by the Owner of all valves, fittings, etc. Before the Work is accepted by the Owner, and said acceptance is recorded, the Contractor shall furnish the Owner a copy of this record.

08.02 Contractor shall keep an accurate drawing measured in the field to the nearest 0.1' of the location of all sewer house connections. The location shown shall be the end of the connection at the property line measured along the main line of pipe from a manhole.

08.03 Contractor shall keep an accurate drawing of the storm water drainage collection system. Inverts to the nearest 0.01' and top of castings shall be shown as well as location of all structures to the nearest 0.1'. Upon completion of the Work, the plan will be given to the Owner.

09.00 PROGRESS OF WORK

09.01 Contractor shall conduct the Work in such a professional manner and with sufficient materials, equipment and labor as is considered necessary to ensure its completion within the time limit specified.

09.02 The Owner shall issue a Notice to Proceed to the Contractor within twenty (20) calendar days from the date of execution of the Contract. Upon mutual consent by both parties, the Notice to Proceed may be extended. The Contractor is to commence Work under the Contract within ten (10) calendar days from the date the Notice to Proceed is issued by the Owner.

09.03 The Contractor, immediately after being awarded the Contract, shall prepare and submit for the Owner's approval an estimated progress schedule for the work to be performed, as well as a construction signing layout for all roads within the project area. The Contractor shall not start work or request partial payment until the work schedule has been submitted to the Owner for approval.

09.04 Revisions to the original schedule will be made based on extension of days granted for inclement weather or change orders issued under the contract. No other revision shall be made which affects the original completion or updated completion date, whichever is applicable.

09.05 Failure of the Contractor to submit an estimated progress schedule or to complete timely and on schedule the Work shown on the progress schedule negates any and all causes or claims by the Contractor for accelerated completion damages. These accelerated damage claims shall be deemed forfeited.

09.06 Meetings will be held as often as necessary to expedite the progress of the job. Meetings will be held during normal working hours at the jobsite and shall be mandatory for the Contractor and all Sub-Contractors working on the project. Meetings may be requested by the Owner at any time and at the discretion of the Owner.

10.00 OWNER'S RIGHT TO PROCEED WITH PORTIONS OF THE WORK

10.01 Upon failure of the Contractor to comply with any notice given in accordance with the provisions hereof, the Owner shall have the alternative right, instead of assuming charge of the entire Work, to place additional forces, tools, equipment and materials on parts of the Work. The cost incurred by the Owner in carrying on such parts of the Work shall be payable by the Contractor. Such Work shall be deemed to be carried on by the Owner on account of the Contractor. The Owner may retain all amounts of the cost of such Work from any sum due Contractor or those funds that may become due to Contractor under this Agreement.

10.02 Owner may perform additional Work related to the Project by itself or it may let any other direct contract which may contain similar General Conditions. Contractor shall afford the other contractors who are parties to such different contracts (or Owner, if it is performing the additional Work itself) reasonable opportunity for the introduction and storage of materials and equipment and the execution of Work, and shall properly connect and coordinate its Work with the subsequent work.

10.03 If any part of Contractor's Work depends upon proper execution or results upon the Work of any such other contractor (or Owner), Contractor shall inspect and promptly report to Owner in writing any defects or deficiencies in such Work that render it unsuitable for such proper execution and results. Failure to so report shall constitute an acceptance of the other Work as fit and proper for the relationship of its Work except as to defects and deficiencies which may appear in the other Work after the execution of its Work.

10.04 Whatever Work is being done by the Owner, other Contractors or by this Contractor, the parties shall respect the various interests of the other parties at all times. The Owner may, at its sole discretion, establish additional rules and regulations concerning such orderly respect of the rights of various interests.

10.05 Contractor shall do all cutting, fitting and patching of its Work that may be required to integrate its several parts properly and fit to receive or be received by such other Work. Contractor shall not endanger any Work of others by cutting, excavating or otherwise altering Work and will only alter Work with the written consent of Owner and of the other contractors whose Work will be affected.

10.06 If the performance of additional Work by other contractors or Owner is not noted in the Contract Documents, written notice thereof shall be given to Contractor prior to starting any such additional Work. If Contractor believes that the performance of such additional Work by Owner or others may cause additional expense or entitles an extension of the Contract Time, the Contractor may make a claim therefor. The claim must be in writing to the Owner within thirty (30) calendar days of receipt of notice from the Owner of the planned additional Work by others.

11.00 TIME OF COMPLETION

11.01 The Notice to Proceed will stipulate the date on which the Contractor shall begin work. That date shall be the beginning of the Contract Time charges.

11.02 Contractor shall notify the Owner through its duly authorized representative, in advance, of where Contractor's work shall commence each day. A daily log shall be maintained by Contractor to establish dates, times, persons contacted, and location of work. Specific notice shall be made to the Owner if the Contractor plans to work on Saturday, Sunday, or

a Parish approved holiday. If notice is not received, no consideration will be given for inclement weather and same shall be considered a valid work day.

11.03 The Work covered by the Plans, Specifications and Contract Documents must be completed sufficiently for acceptance within the number of calendar days specified in the Proposal and/or the Contract, commencing from the date specified in the Notice to Proceed. It is hereby understood and mutually agreed, by and between the Contractor and the Owner, that the time of completion is an essential condition of this Contract, and it is further mutually understood and agreed that if the Contractor shall neglect, fail or refuse to complete the Work within the time specified, or any proper extension thereof granted by the Owner, then the Contractor does hereby agree, as partial consideration for the awarding of this Contract, to pay the Owner based on **Table 3.1** as specified in the Contract, not as a penalty, but as liquidated damages for such breach of contract for each and every calendar day that the Contractor shall be in default after the time stipulated in the Contract for completing the Work. It is specifically understood that the Owner shall also be entitled to receive a reasonable attorney fee and all costs in the event that Contractor fails to adhere to this agreement and this contract is referred to counsel for any reason whatsoever. Reasonable attorney fees shall be the prevailing hourly rate of the private sector, and in no event shall the hourly rate be less than \$175.00 per hour. All attorney fees shall be paid to the operating budget of the Office of the Parish President.

11.04 Prior to final payment, the Contractor may, in writing to the Owner, certify that the entire Project is substantially complete and request that the Owner or its agent issue a certificate of Substantial Completion. See Section 29.00.

11.05 The Owner may grant an extension(s) of time to the Contractor for unusual circumstances which are beyond the control of the Contractor and could not reasonably be foreseen by the Contractor prior to Bidding. Any such request must be made in writing to the Owner within seven (7) calendar days following the event occasioning the delay. The Owner shall have the exclusive and unilateral authority to determine, grant, and/or deny the validity of any such claim.

11.06 Extensions of time for inclement weather shall be processed as follows:

Commencing on the start date of each job, the Parish Inspector assigned to same shall keep a weekly log, indicating on each day whether inclement weather has prohibited the Contractor from working on any project within the specific job, based upon the following:

1. Should the Contractor prepare to begin work on any day in which inclement weather, or the conditions resulting from the weather, prevent work from beginning at the usual starting time, and the crew is dismissed as a result, the Contractor will not be charged for a working day whether or not conditions change during the day and the rest of the day becomes suitable for work.
2. If weather conditions on the previous day prevent Contractor from performing work scheduled, provided that no other work can be performed on any project within the package. The Parish Inspector shall determine if it is financially reasonable to require the Contractor to deviate from the schedule and relocate to another location.
3. If the Contractor is unable to work at least 60% of the normal work day due to inclement weather, provided that a normal working force is engaged on the job.

Any dispute of weather conditions as related to a specific job shall be settled by records of the National Weather Service.

11.07 Extensions of time for change orders

When a change order is issued, the Owner and Contractor will agree on a reasonable time extension, if any, to implement such change. Consideration shall be given for, but not limited to, the following:

1. If material has to be ordered;
2. Remobilization and or relocation of equipment to perform task; and
3. Reasonable time frame to complete additional work.

Time extensions for change orders shall be reflected on the official document signed by the Owner and Contractor.

- 11.08 At the end of each month, the Owner or its agent will furnish to the Contractor a monthly statement which reflects the number of approved days added to the contract. The Contractor will be allowed fourteen (14) calendar days in which to file a written protest setting forth in what respect the monthly statement is incorrect; otherwise, the statement shall be considered accepted by the Contractor as correct.
- 11.09 Apart from extension of time for unavoidable delays, no payment or allowance of any kind shall be made to the Contractor as compensation for damages because of hindrance or delay for any cause in the progress of the Work, whether such delay be avoidable or unavoidable.

12.00 LIQUIDATED DAMAGES

- 12.01 In case the Work is not completed in every respect within the time that may be extended, it is understood and agreed that per diem deductions per **Table 3.1** for liquidated damages, as stipulated in the Proposal and/or Contract, shall be made from the total Contract Price for each and every calendar day after and exclusive of the day on which completion was required, and up to the completion of the Work and acceptance thereof by the Owner. It is understood and agreed that time is of the essence to this Contract, and the above sum being specifically herein agreed upon in advance as the measure of damages to the Owner on account of such delay in the completion of the Work. It is further agreed that the expiration of the term herein assigned or as may be extended for performing the Work shall, *ipso facto*, constitute a putting in default, the Contractor hereby waiving any and all notice of default. The Contractor agrees and consents that the Contract Price, reduced by the aggregate of the entire damages so deducted, shall be accepted in full satisfaction of all Work executed under this Contract. It is further understood and agreed that Contractor shall be liable for a reasonable attorney fee and all costs associated with any breach of this agreement, including but not limited to this subsection. In the event that any dispute or breach herein causes referrals to counsel, then Contractor agrees to pay a reasonable attorney fee at the prevailing hourly rate of the private sector. In no event shall the hourly rate be less than \$175.00 per hour.

13.00 LABOR, MATERIALS, EQUIPMENT, SUPERVISION, PERMITS AND TAXES

- 13.01 The Contractor shall provide and pay for all labor, materials, equipment, supervision, subcontracting, transportation, tools, fuel, power, water, sanitary facilities and all incidentals necessary for the completion of the Work in substantial conformance with the Contract Documents.
- 13.02 The Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. It shall at all times maintain good discipline and order at the site.
- 13.03 Unless otherwise specifically provided for in the Specifications, all workmanship, equipment, materials, and articles incorporated in the Work covered by this Contract are to be new and of the best grade of their respective kinds for the purpose intended. Samples of materials furnished under this Contract shall be submitted for approval to the Owner when and as directed.
- 13.04 Whenever a material or article required is specified or shown on the plans by using the name of a proprietary product or of a particular manufacturer or vendor, any material or article which shall perform adequately the duties imposed by the general design will be considered equal, and satisfactory, providing the material or article so proposed is of equal substance and function and that all technical data concerning the proposed substitution be approved by the Owner prior to the Bidding. The Owner shall have the exclusive and unilateral discretion to determine quality and suitability in accordance with LSA-R.S. 38:2212(T)(2).

- 13.05 Materials shall be properly and securely stored so as to ensure the preservation of quality and fitness for the Work, and in a manner that leaves the material accessible to inspection. Materials or equipment may not be stored on the site in a manner such that it will interfere with the continued operation of streets and driveways or other contractors working on the site.
- 13.06 The Contractor, by entering into the Contract for this Work, sets itself forth as an expert in the field of construction and it shall supervise and direct the Work efficiently and with its best skill and attention. It shall be solely responsible for the means, methods, techniques, sequences and procedures of construction.
- 13.07 Contractor shall keep on the Work, at all times during its progress, a competent resident Superintendent, who shall not be replaced without written Notice to Owner 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 the Superintendent shall be as binding as if given to the Contractor. Owner specifically reserves the right to approve and/or disapprove the retention of a new superintendent, all to not be unreasonably withheld.
- 13.08 Any foreman or workman employed on this Project who disregards orders or instructions, does not perform his Work in a proper and skillful manner, or is otherwise objectionable, shall, at the written request of the Owner, be removed from the Work and shall be replaced by a suitable foreman or workman.
- 13.09 The Contractor and/or its assigned representative shall personally ensure that all subcontracts and divisions of the Work are executed in a proper and workmanlike manner, on scheduled time, and with due and proper cooperation.
- 13.10 Failure of the Contractor to keep the necessary qualified personnel on the Work shall be considered cause for termination of the Contract by the Owner.
- 13.11 Only equipment in good working order and suitable for the type of Work involved shall be brought onto the job and used by the Contractor. The Contractor is solely responsible for the proper maintenance and use of its equipment and shall hold the Owner harmless from any damages or suits for damages arising out of the improper selection or use of equipment. No piece of equipment necessary for the completion of the Work shall be removed from the job site without approval of the Owner.
- 13.12 All Federal, State and local taxes due or payable during the time of Contract on materials, equipment, labor or transportation, in connection with this Work, must be included in the amount bid by the Contractor and shall be paid to proper authorities before acceptance. The Contractor shall furnish all necessary permits and certificates and comply with all laws and ordinances applicable to the locality of the Work. The cost of all inspection fees levied by any governmental entity whatsoever shall be paid for by the Contractor.
- 13.13 In accordance with St. Tammany Police Jury Resolution 86-2672, as amended, the Contractor must provide in a form suitable to the Owner an affidavit stating that all applicable sales taxes for materials used on this project have been paid.
- 13.14 During the period that this Contract is in force, neither party to the Contract shall solicit for employment or employ an employee of the other.
- 13.15 All materials or equipment shown on the Drawings or included in these specifications shall be furnished unless written approval of a substitute is obtained from the Designer, or Owner if no separate designer.
- 13.16 If a potential supplier wishes to submit for prior approval a particular product other than a product specified in the contract documents, he shall do so no later than fourteen working days prior to the opening of bids. Within ten days, exclusive of holidays and weekends, after such submission, the prime design professional shall furnish to both the public entity and the potential supplier written approval or denial of the product submitted. The burden of proof of the equality of the proposed substitute is upon the proposer and only that information formally submitted shall be used by the Designer in making its decision.

13.17 The decision of the Designer/Owner shall be given in good faith and shall be final.

14.00 QUANTITIES OF ESTIMATE, CHANGES IN QUANTITIES, EXTRA WORK

14.01 Whenever the estimated quantities of Work to be done and materials to be furnished under this Contract are shown in any of the documents, including the Proposal, such are given for use in comparing Bids and the right is especially reserved, except as herein otherwise specifically limited, to increase or diminish same not to exceed twenty-five percent (25%) by the Owner to complete the Work contemplated by this Contract. Such increase or diminution shall in no way vitiate this Contract, nor shall such increase or diminution give cause for claims or liability for damages.

14.02 The Owner shall have the right to make alterations in the line, grade, plans, form or dimensions of the Work herein contemplated, provided such alterations do not change the total cost of the Project, based on the originally estimated quantities, and the unit prices bid by more than twenty-five percent (25%) and provided further that such alterations do not change the total cost of any major item, based on the originally estimated quantities and the unit price bid by more than twenty-five (25%). (A major item shall be construed to be any item, the total cost of which is equal to or greater than ten percent (10%) of the total Contract Price, computed on the basis of the Proposal quantity and the Contract unit price). Should it become necessary, for the best interest of the Owner, to make changes in excess of that herein specified, the same shall be covered by supplemental agreement either before or after the commencement of the Work and without notice to the sureties. If such alterations diminish the quantity of Work to be done, such shall not constitute a claim for damages for anticipated profits for the Work dispensed with, but when the reduction in amount is a material part of the Work contemplated, the Contractor shall be entitled to only reasonable compensation as determined by the Owner for overhead and equipment charges which it may have incurred in expectation of the quantity of Work originally estimated, unless specifically otherwise provided herein; if the alterations increase the amount of Work, the increase shall be paid according to the quantity of Work actually done and at the price established for such Work under this Contract except where, in the opinion of the Owner, the Contractor is clearly entitled to extra compensation.

14.03 Without invalidating the Contract, the Owner may order Extra Work or make changes by altering, adding to, or deducting from the Work, the Contract sum being adjusted accordingly. The consent of the surety must first be obtained when necessary or desirable, all at the exclusive discretion of the Owner. All the Work of the kind bid upon shall be paid for at the price stipulated in the Proposal, and no claims for any Extra Work or material shall be allowed unless the Work is ordered in writing by the Owner.

14.04 Extra Work for which there is no price or quantity included in the Contract shall be paid for at a unit price or lump sum to be agreed upon in advance in writing by the Owner and Contractor. Where such price and sum cannot be agreed upon by both parties, or where this method of payment is impracticable, the Owner may, at its exclusive and unilateral discretion, order the Contractor to do such Work on a Force Account Basis.

14.05 In computing the price of Extra Work on a Force Account Basis, the Contractor shall be paid for all foremen and labor actually engaged on the specific Work at the current local rate of wage for each and every hour that said foremen and labor are engaged in such Work, plus ten percent (10%) of the total for superintendence, use of tools, overhead, direct & indirect costs/expenses, pro-rata applicable payroll taxes, pro-rata applicable workman compensation benefits, pro-rata insurance premiums and pro-rata reasonable profit. The Contractor shall furnish satisfactory evidence of the rate or rates of such insurance and tax. The Contractor will not be able to collect any contribution to any retirement plans or programs.

14.06 For all material used, the Contractor shall receive the actual cost of such material delivered at the site of the Work, as shown by original receipted bill, to which shall be added five percent (5%). There will be absolutely no additional surcharges or additional fees attached hereto with respect to this subsection.

14.07 For any equipment used that is owned by the Contractor, the Contractor shall be allowed a rental based upon the latest prevailing rental price, but not to exceed a rental price as determined by the Associated Equipment Distributors (A.E.D. Green Book).

- 14.08 The Contractor shall also be paid the actual costs of transportation for any equipment which it owns and which it has to transport to the Project for the Extra Work. There will be absolutely no additional surcharges or additional fees attached hereto with respect to this subsection.
- 14.09 If the Contractor is required to rent equipment for Extra Work, but not required for Contract items, it will be paid the actual cost of rental and transportation of such equipment to which no percent shall be added. The basis upon which rental cost are to be charged shall be agreed upon in writing before the Work is started. Actual rental and transportation costs shall be obtained from receipted invoices and freight bills.
- 14.10 No compensation for expenses, fees or costs incurred in executing Extra Work, other than herein specifically mentioned herein above, will be allowed.
- 14.11 A record of Extra Work on Force Account basis shall be submitted to the Owner on the day following the execution of the Work, and no less than three copies of such record shall be made on suitable forms and signed by both the Owner or his representative on the Project and the Contractor. All bids for materials used on extra Work shall be submitted to the Owner by the Contractor upon certified statements to which will be attached original bills covering the costs of such materials.
- 14.12 Payment for Extra Work of any kind will not be allowed unless the same has been ordered in writing by the Owner.
- 15.00 STATUS OF THE ENGINEER (NOT APPLICABLE)
- 16.00 INJURIES TO PERSONS AND PROPERTY
- 16.01 The Contractor shall be held solely and exclusively responsible for all injuries to persons and for all damages to the property of the Owner or others caused by or resulting from the negligence of itself, its employees or its agents, during the progress of or in connection with the Work, whether within the limits of the Work or elsewhere under the Contract proper or as Extra Work. This requirement will apply continuously and not be limited to normal working hours or days. The Owner's construction review is for the purpose of checking the Work product produced and does not include review of the methods employed by the Contractor or to the Contractor's compliance with safety measures of any nature whatsoever. The Contractor agrees to pay a reasonable attorney fee and other reasonable attendant costs of the Owner in the event it becomes necessary for the Owner to employ an attorney to enforce this section or to protect itself against suit over the Contractor's responsibilities. Attorney fees shall be at the prevailing hourly rate of the private sector. The attorney fee hourly rate shall not be less than \$175.00 per hour. All attorney fees collected shall be paid to the operating budget of the Office of the Parish President.
- 16.02 The Contractor must protect and support all utility infrastructures or other properties which are liable to be damaged during the execution of its Work. It shall take all reasonable and proper precautions to protect persons, animals and vehicles or the public from the injury, and wherever necessary, shall erect and maintain a fence or railing around any excavation, and place a sufficient number of lights about the Work and keep same burning from twilight until sunrise, and shall employ one or more watchmen as an additional security whenever needed. The Contractor understands and agrees that the Owner may request that security be placed on the premises to ensure and secure same. The Owner shall have exclusive authority to request placement of such security. Contractor agrees to retain and place security as requested, all at the sole expense of Contractor. Additional security shall not be considered a change order or reason for additional payment by the Owner. The Contractor must, as far as practicable and consistent with good construction, permit access to private and public property and leave fire hydrants, catch basins, streets, etc., free from encumbrances. The Contractor must restore at its own expense all injured or damaged property caused by any negligent act of omission or commission on its part or on the part of its employees or subcontractors, including, but not limited to, sidewalks, curbing, sodding, pipes conduits, sewers, buildings, fences, bridges, retaining walls, tanks, power lines, levees or any other building or property whatsoever to a like condition as existed prior to such damage or injury.

- 16.03 In case of failure on the part of the Contractor to restore such property or make good such damage, the Owner may upon forty-eight (48) hours' notice proceed to repair or otherwise restore such property as may be deemed necessary, and the cost thereof will be deducted from any monies due or which may become due under its Contract.
- 16.04 Contractor agrees to protect, defend, indemnify, save, and hold harmless St. Tammany Parish Government, its elected and appointed officials, departments, agencies, boards and commissions, their officers, agents servants, employees, including volunteers, from and against any and all claims, demands, expense and liability arising out of injury or death to any person or the damage, loss or destruction of any property to the extent caused by any negligent act or omission or willful misconduct of Contractor, its agents, servants, employees, and subcontractors, or any and all costs, expense and/or attorney fees incurred by St. Tammany Parish Government as a result of any claim, demands, and/or causes of action that results from the negligent performance or non-performance by Contractor, its agents, servants, employees, and subcontractors of this contract. Contractor agrees to investigate, handle, respond to, provide defense for and defend any such claims, demand, or suit at its sole expense and agrees to bear all other costs and expenses related thereto caused by any negligent act or omission or willful misconduct of Contractor, its agents, servants, employees, and subcontractors.
- 16.05 As to any and all claims against Owner, its agents, assigns, representatives or employees by any employee of Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts as may be liable, the indemnification obligation under Paragraph 16.04 shall not be limited in any way or by any limitation on the amount or type of damages, compensation or benefits payable by or for Contractor or any Subcontractor under workmen's compensation acts, disability benefit acts or other employee benefit acts.
- 16.06 No road shall be closed by the Contractor to the public except by written permission of the Owner. If so closed, the Contractor shall maintain traffic over, through and around the Work included in his Contract, with the maximum practical convenience, for the full twenty-four hours of each day of the Contract, whether or not Work has ceased temporarily. The Contractor shall notify the Owner at the earliest possible date after the Contract has been executed and, in any case, before commencement of any construction that might in any way inconvenience or endanger traffic, in order that necessary and suitable arrangements may be determined. Any and all security, maintenance, labor or costs associated with traffic control herein shall be at the sole expense of Contractor. This expense shall be paid directly by the Contractor. This expense shall not be considered as a change order nor shall it allow the Contractor any additional cost reimbursement whatsoever. All traffic deviations herein shall be coordinated with the appropriate law enforcement officials of this Parish.
- 16.07 The convenience of the general public and residents along the Works shall be provided for in a reasonable, adequate and satisfactory manner. Where existing roads are not available as detours, and unless otherwise provided, all traffic shall be permitted to pass through the Work. In all such cases, the public shall have precedence over Contractor's vehicles insofar as the traveling public's vehicles shall not be unduly delayed for the convenience of the Contractor. In order that all unnecessary delay to the traveling public may be avoided, the Contractor shall provide and station competent flagmen whose sole duties shall consist of directing and controlling the movement of public traffic either through or around the Work. Any and all security, maintenance, labor or costs associated with traffic control herein shall be at the sole expense of Contractor. This expense shall be paid directly by the Contractor. This expense shall not be considered as a change order nor shall it allow the Contractor any additional cost reimbursement whatsoever. All traffic deviations herein shall be coordinated with the appropriate law enforcement officials of this Parish.
- 16.08 The Contractor shall arrange its Work so that no undue or prolonged blocking of business establishments will occur.
- 16.09 Material and equipment stored on the right of way or work site shall be so placed and the Work at times shall be so conducted as to ensure minimum danger and obstruction to the traveling public.
- 16.10 During grading operations when traffic is being permitted to pass through construction, the Contractor shall provide a smooth, even surface that will provide a satisfactory passageway

for use of traffic. The road bed shall be sprinkled with water if necessary to prevent a dust nuisance, provided the dust nuisance is a result of the Work.

- 16.11 Fire hydrants shall be accessible at all times to the Fire Department. No material or other obstructions shall be placed closer to a fire hydrant than permitted by ordinances, rules or regulations or within fifteen (15) feet of a fire hydrant, in the absence of such ordinance, rules or regulations.
- 16.12 The Contractor shall not, without the written permission of the Owner, do Work for a resident or property owner abutting the Work at the time that this Work is in progress.
- 16.13 No Work of any character shall be commenced on railroad right-of-way until the Railroad Company has issued a permit to the Owner and has been duly notified by the Contractor in writing (with a copy forwarded to the Owner) of the date it proposes to begin Work, and until an authorized representative of the Railroad Company is present, unless the Railroad Company waives such requirements. All Work performed by the Contractor within the right-of-way limits of the railroad shall be subject to the inspection and approval of the chief engineer of the Railroad Company or its authorized representative. Any precautions considered necessary by said chief engineer to safeguard the property, equipment, employees and passengers of the Railroad Company shall be taken by the Contractor without extra compensation. The Contractor shall, without extra compensation, take such precautions and erect and maintain such tell-tale or warning devices as the Railroad Company considers necessary to safeguard the operation of its trains. The temporary vertical and horizontal clearance specified by the chief engineer of the Railroad Company in approving these shall be maintained at all times. No steel, brick, pipe or any loose material shall be left on the ground in the immediate vicinity of the railway track. Before any Work is done within Railroad right of way, the Contractor shall provide and pay all costs of any special insurance requirements of the Railroad.
- 16.14 The Contractor, shall, without extra compensation, provide, erect, paint and maintain all necessary barricades. Also, without extra compensation, the Contractor shall provide suitable and sufficient lights, torches, reflectors or other warning or danger signals and signs, provide a sufficient number of watchmen and flagmen and take all the necessary precautions for the protection of the Work and safety of the Public.
- 16.15 The Contractor shall erect warning signs beyond the limits of the Project, in advance of any place on the Project where operations interfere with the use of the road by traffic, including all intermediate points where the new Work crosses or coincides with the existing road. All barricades and obstructions shall be kept well painted and suitable warning signs shall be placed thereon. All barricades and obstructions shall be illuminated at night and all lights or devices for this purpose shall be kept burning from sunset to sunrise.
- 16.16 Whenever traffic is maintained through or over any part of the Project, the Contractor shall clearly mark all traffic hazards. No direct payment will be made for barricades, signs and illumination therefore or for watchmen or flagmen.
- 16.17 The Contractor will be solely and completely responsible for conditions on the job site, including safety of all persons and property during performance of the Work. This requirement will apply continuously and not be limited to normal working hours. The duty of the Owner to conduct construction review of the Contractor's performance is not intended to include review of the adequacy of the Contractor's safety measures, in, or near the construction site.

17.00 SANITARY PROVISIONS

- 17.01 The Contractor shall provide and maintain in a neat, sanitary condition such accommodations for the use of its employees as may be necessary to comply with the rules and regulations of the State Health Agency or of the other authorities having jurisdiction and shall permit no public nuisance.

18.00 RIGHTS OF WAY

18.01 The Owner will furnish the Contractor with all necessary rights-of-way for the prosecution of the Work. The rights of way herein referred to shall be taken to mean only permission to use or pass through the locations or space in any street, highway, public or private property in which the Contractor is to prosecute the Work.

18.02 It is possible that all lands and rights of way may not be obtained as herein contemplated before construction begins, in which event the Contractor shall begin its Work upon such land and rights of way as the Owner may have previously acquired. Any delay in furnishing these lands by the Owner can be deemed proper cause for adjustment in the Contract amount and/or in the time of completion.

19.00 PROTECTION AND RESTORATION OF PROPERTY AND LANDSCAPE

19.01 The Contractor shall not enter upon private property for any purpose without first obtaining permission from the Owner, as well as the private property owner and/or and private property Lessees. The Contractor shall use every precaution necessary for the preservation of all public and private property, monuments, highway signs, telephone lines, other utilities, etc., along and adjacent to the Work; the Contractor shall use every precaution necessary to prevent damage to pipes, conduits, and other underground structures; and shall protect carefully from disturbance or damage all land monuments and property marks until an authorized agent has witnessed or otherwise referenced their location and shall not remove them until directed. The street and highway signs and markers that are to be affected by the Work shall be carefully removed when the Work begins and stored in a manner to keep them clean and dry. The Contractor must obtain all necessary information in regard to existing utilities and shall give notice in writing to the owners or the proper authorities in charge of streets, gas, water, pipes, electric, sewers and other underground structures, including conduits, railways, poles and pole lines, manholes, catch basins, fixtures, appurtenances, and all other property that may be affected by the Contractor's operations, at least forty-eight (48) hours before its operations will affect such property. The Contractor shall not hinder or interfere with any person in the protection of such Work or with the operation of utilities at any time. When property, the operation of railways, or other public utilities are endangered, the Contractor shall at its own expense, maintain flagmen or watchmen and any other necessary precautions to avoid interruption of service or damage to life or property, and it shall promptly repair, restore, or make good any injury or damage caused by its negligent operations in an acceptable manner. The Contractor must also obtain all necessary information in regard to the installation of new cables, conduits, and transformers, and make proper provisions and give proper notifications, in order that same can be installed at the proper time without delay to the Contractor or unnecessary inconvenience to the Owner.

19.02 The Contractor shall not remove, cut or destroy trees, shrubs, plants, or grass that are to remain in the streets or those which are privately owned, without the proper authority. Unless otherwise provided in the Special Provisions or the Proposal, the Contractor shall replace and replant all plants, shrubs, grass and restore the grounds back to its original good condition to the satisfaction of the Owner and/or the property owner. The Contractor shall assume the responsibility of replanting and guarantees that plants, shrubs, grass will be watered, fertilized and cultivated until they are in a growing condition. No direct payment will be made for removing and replanting of trees, shrubs, plants or grass unless such items are set forth in the Proposal.

19.03 When or where direct damage or injury is done to public or private property by or on account of any negligent act, omission, neglect or otherwise of the Contractor, it shall make good such damage or injury in an acceptable manner.

20.00 CONTRACTORS RESPONSIBILITY FOR WORK

20.01 Until final acceptance of the Work by the Owner as evidence by approval of the final estimate, the Work shall be in the custody and under the charge and care of the Contractor and it shall take every necessary precaution against injury or damage to any part thereof by the action of the elements or from the non-execution of the Work; unless otherwise provided for elsewhere in the Specifications or Contract. The Contractor shall rebuild, repair, restore and make good, without extra compensation, all injuries or damages to any portion of the Work occasioned by any of the above causes before its completion and

acceptance, and shall bear the expenses thereof. In case of suspension of the Work from any cause whatever, the Contractor shall be responsible for all materials and shall properly and securely store same, and if necessary, shall provide suitable shelter from damage and shall erect temporary structures where necessary. If in the exclusive discretion of the Owner, any Work or materials shall have been damaged or injured by reason of failure on the part of the Contractor or any of its Subcontractors to so protect the Work, such materials shall be removed and replaced at the sole expense of the Contractor. Such amount shall be deducted from any sum due or to be due Contractor.

20.02 The Contractor shall give all notice and comply with all Federal, State, and local laws, ordinances, and regulations in any manner affecting the conduct of the Work, and all such orders and decrees as exist, or may be enacted by bodies or tribunals having any jurisdiction or authority over the Work, and shall indemnify and hold harmless the Owner against any claim or liability arising from, or based on, the violation of any such law, ordinance, regulation, order or decree, whether by itself, its employees or Subcontractors.

21.00 TESTS AND INSPECTIONS CORRECTION & REMOVAL OF DEFECTIVE WORK

21.01 Contractor warrants and guarantees to Owner that all materials and equipment will be new unless otherwise specified and that all Work will be of good quality and free from faults or defects and in accordance with the requirements of the Contract Documents. All unsatisfactory Work, all faulty or Defective Work and all Work not conforming to the requirements of the Contract Documents at the time of acceptance shall be considered Defective. Prompt and reasonable notice of all defects shall be given to the Contractor.

21.02 If the Contract Documents, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any Work to specifically be inspected, tested or approved by some public body, Contractor shall assume full responsibility therefor, pay all costs in connection therewith and furnish Owner the required certificates of inspection, testing or approval. All other inspections, tests and approval required by the Contract Documents shall be performed by organizations acceptable to Owner and Contractor and the costs thereof shall be borne by the Contractor unless otherwise specified.

21.03 Contractor shall give Owner timely notice of readiness of the Work for all inspections, tests or approvals. If any such Work required to be inspected, tested or approved is covered without written approval of Owner, it must, if requested by Owner, be uncovered for observation, and such uncovering shall be at Contractor's expense unless Contractor has given Owner timely notice of its intention to cover such Work and Owner has not acted with reasonable promptness in response to such notice.

21.04 Neither observations by Owner nor inspections, tests or approvals shall relieve Contractor from its obligations to perform the Work in accordance with the requirements of the Contract Document.

21.05 Owner and its representatives will at reasonable times have access to the Work. Contractor shall provide proper and safe facilities for such access and observation of the Work and also for any inspection or testing thereof by others.

21.06 If any Work is covered contrary to the written request of Owner, it must, be uncovered for Owner's observation and replaced at Contractor's expense. If any Work has been covered which Owner has not specifically requested to observe prior to its being covered, or if Owner considers it necessary or advisable that covered Work be inspected or tested by others, the Contractor, at Owner's request, shall uncover, expose or otherwise make available for observations, inspections or testing as Owner may require, that portion of the Work in question, furnishing all necessary labor, material and equipment. If it is found that such Work is Defective, Contractor shall bear all the expenses of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction, including compensation for additional professional services, and an appropriate deductive Change Order shall be issued. If, however, such Work is not found to be Defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction.

- 21.07 If the Work is Defective, or Contractor fails to supply sufficient skilled workmen or suitable materials or equipment, or if the Contractor fails to make prompt payments to Subcontractors or for labor, materials or equipment, Owner may order Contractor to stop the Work, or any portion thereof, until the cause of such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor or any other party.
- 21.08 Prior to approval of final payment, Contractor shall promptly, without cost to Owner and as specified by Owner, either correct any Defective Work, whether or not fabricated, installed or completed, or if the Work has been rejected by Owner, remove it from the site and replace it with non-defective Work. If Contractor does not correct such Defective Work or remove and replace such rejected Work within a reasonable time, all as specified in a written notice from Owner, Owner may have the deficiency corrected or the rejected Work removed and replaced. All direct or indirect costs of such correction or removal and replacement including compensation for additional professional services shall be paid by Contractor, and an appropriate deductive Change Order shall be issued. Contractor shall also bear the expense of making good all Work of others destroyed or damaged by its correction, removal or replacement of its Defective Work.
- 21.09 If, after the approval of final payment and prior to the expiration of one year after the date of Substantial Completion or such longer period of time as may be prescribed by law or by the terms of any applicable special guarantee required by the Contract Documents, any Work is found to be Defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions, either correct such Defective Work or if it has been rejected by Owner, remove it from the site and replace it with non-defective Work. If Contractor does not promptly comply with the terms of such instructions, Owner may have the Defective Work corrected or the rejected Work removed and replaced, and all direct and indirect costs of such removal and replacement, including compensation for additional professional services, shall be paid by Contractor. The Contractor agrees to pay a reasonable attorney fee and other reasonable attendant costs of the Owner in the event it becomes necessary for the Owner to employ an attorney to enforce this section or to protect itself against suit over the Contractor's responsibilities. Attorney fees shall be at the prevailing hourly rate of the private sector. The attorney fee hourly rate shall not be less than \$175.00 per hour. All attorney fees collected shall be paid to the operating budget of the Office of the Parish President.
- 21.10 If, instead of requiring correction or removal and replacement of Defective Work, Owner (and prior to approval of final payment) prefers to accept it, the Owner may do so. In such case, if acceptance occurs prior to approval of final payment, a Change Order shall be issued incorporating the necessary revisions in the Contract Documents, including appropriate reduction in the Contract Price, or, if the acceptance occurs after approval of final payment, an appropriate amount shall be paid by Contractor to Owner.
- 21.11 If Contractor should fail to progress the Work in accordance with the Contract Documents, including any requirements of the Progress Schedule, Owner, after seven (7) days written Notice to Contractor, may, without prejudice to any other remedy Owner may have, make good such deficiencies and the cost thereof including compensation for additional professional services shall be charged against Contractor. In such cases, a Change Order shall be issued incorporating the necessary revisions in the Contract Documents including an appropriate reduction in the Contract Price. If the payments then or thereafter due Contractor are not sufficient to cover such amount, Contractor shall pay the difference to Owner.
- 21.12 The Owner may appoint representatives to make periodic visits to the site and observe the progress and quality of the executed Work. These representatives shall be governed by the same restrictions placed on the Owner by these Specifications. The governing body of the Federal, State or local government exercising authority in the area of the Work may appoint representatives to observe the progress and quality of the Work. Contractor shall cooperate with and assist these representatives in the performance of their duties.
- 21.13 The Contractor shall be responsible for the faithful execution of its Contract and the presence or absence of the Owner's or Government's Representative is in no way or manner to be presumed or assumed to relieve in any degree the responsibility or obligation of the Contractor.

- 21.14 The Contractor shall notify the Owner and the Governmental Agency having jurisdiction as to the exact time at which it is proposed to begin Work so the Owner may provide for inspection of all materials, foundations, excavations, equipment, etc., and all or any part of the Work and to the preparation or manufacture of materials to be used whether within the limits of the Work or at any other place.
- 21.15 The Owner or its representatives shall have free access to all parts of the Work and to all places where any part of the materials to be used are procured, manufactured or prepared. The Contractor shall furnish the Owner all information relating to the Work and the material therefor, which may be deemed necessary or pertinent, and with such samples of materials as may be required. The Contractor, at its own expense, shall supply such labor and assistance as may be necessary in the handling of materials for proper inspection or for inspection of any Work done by it.
- 21.16 No verbal instructions given to the Contractor by the Owner, Project Representative or any of their agents shall change or modify the written Contract. Contractors shall make no claims for additional payments or time based upon verbal instructions.

22.00 SUBSURFACE CONDITIONS

- 22.01 It is understood and agreed that the Contractor is familiar with the subsurface conditions that will be encountered and its price bid for the Work includes all of the costs involved for Work in these conditions and it is furthermore agreed that it has taken into consideration, prior to its Bid and acceptance by Owner, all of the subsurface conditions normal or unusual that might be encountered in the location of the Work.
- 22.02 Should the Contractor encounter during the progress of the Work subsurface conditions at the site materially differing from those shown on the Drawings or indicated in the Specifications, the attention of the Owner shall be directed to such conditions before the conditions are disturbed. If the Owner finds that the conditions materially differ from those shown on the Drawings or indicated in the Specifications, it shall at once make such changes in the Drawings or Specifications as it may find necessary, and any increase or decrease in cost or extension of time resulting from such changes shall be adjusted in the same manner as provided for changes for Extra Work. The Contractor shall submit breakdowns of all costs in a manner as instructed and approved by the Owner.

23.00 REMOVAL AND DISPOSAL OF STRUCTURES AND OBSTRUCTIONS

- 23.01 Bidder shall thoroughly examine the site of the Work and shall include in its Bid the cost of removing all structures and obstructions in the way of the Work.
- 23.02 The Contractor shall remove any existing structures or part of structures, fence, building or other encumbrances or obstructions that interfere in any way with the Work. Compensations for the removal of any structure shall be made only if the item(s) to be removed was/were listed as pay item(s) on the Proposal.
- 23.03 If called for in the Special Conditions, all privately and publicly owned materials and structures removed shall be salvaged without damage and shall be piled neatly and in an acceptable manner upon the premises if it belongs to an abutting property owner, otherwise at accessible points along the improvements. Materials in structures which is the property of the Owner or property of any public body, private body or individual which is fit for use elsewhere, shall remain property of the original Owner. It shall be carefully removed without damage, in sections which may be readily transported; same shall be stored on or beyond the right of way. The Contractor will be held responsible for the care and preservation for a period of ten (10) days following the day the last or final portion of the materials stored at a particular location are placed thereon. When privately owned materials are stored beyond the right of way, the Contractor will be held responsible for such care and preservation for a period of ten (10) days responsibility period for care and preservation of the materials begins. The Contractor must furnish the Owner with evidence satisfactory that the proper owner of the materials has been duly notified by the Contractor that the said owner must assume responsibility for its materials on the date following the Contractor's ten (10) day responsibility.

24.00 INSURANCE

- 24.01 Contractor shall secure and maintain at its expense such insurance that will protect it and the Parish from claims for injuries to persons or damages to property which may arise from or in connection with the performance of Services or Work hereunder by the Contractor, his agents, representatives, employees, and/or subcontractors. The cost of such insurance shall be included in Contractor's bid.
- 24.02 The Contractor shall not commence work until it has obtained all insurance as required for the Parish Project. If the Contractor fails to furnish the Parish with the insurance protection required and begins work without first furnishing Parish with a currently dated certificate of insurance, the Parish has the right to obtain the insurance protection required and deduct the cost of insurance from the first payment due the Contractor. Further deductions are permitted from future payments as are needed to protect the interests of the Parish including, but not limited to, renewals of all policies.
- 24.03 Payment of Premiums: The insurance companies issuing the policy or policies shall have no recourse against the Parish of St. Tammany for payment of any premiums or for assessments under any form of policy.
- 24.04 Deductibles: Any and all deductibles in the described insurance policies shall be assumed by and be at the sole risk of the Contractor.
- 24.05 Authorization of Insurance Company(ies) and Rating: All insurance companies must be authorized to do business in the State of Louisiana and shall have an A.M. Best rating of no less than A-, Category VII.
- 24.06 Policy coverages and limits must be evidenced by Certificates of Insurance issued by Contractor's carrier to the Parish and shall reflect:

Date of Issue: Certificate must have current date.

Named Insured: The legal name of Contractor under contract with the Parish and its principal place of business shall be shown as the named insured on all Certificates of Liability Insurance.

Name of Certificate Holder: St. Tammany Parish Government, Office of Risk Management, P. O. Box 628, Covington, LA 70434

Project Description: A brief project description, including Project Name, Project Number and/or Contract Number, and Location.

Endorsements and Certificate Reference: All policies must be endorsed to provide, and certificates of insurance must evidence the following:

Waiver of Subrogation: The Contractor's insurers will have no right of recovery or subrogation against the Parish of St. Tammany, it being the intention of the parties that all insurance policy(ies) so affected shall protect both parties and be the primary coverage for any and all losses covered by the below described insurance. *Policy endorsements required for all coverages.*

Additional Insured: The Parish of St. Tammany shall be named as additional named insured with respect to general liability, marine liability, pollution/environmental liability, automobile liability and excess liability coverages. *Policy endorsements required.*

Hold Harmless: Contractor's liability insurers shall evidence their cognizance of the Hold Harmless and Indemnification in favor of St. Tammany Parish Government by referencing same on the face of the Certificate(s) of Insurance.

Cancellation Notice: Producer shall provide thirty (30) days prior written notice to the Parish of policy cancellation or substantive policy change.

24.07 The types of insurance coverage the Contractor is required to obtain and maintain throughout the duration of the Contract, include, but is not limited to:

1. Commercial General Liability insurance with a Combined Single Limit for bodily injury and property damage of at least \$1,000,000 per Occurrence/\$3,000,000 General Aggregate/Products-Completed Operations Per Project. The insurance shall provide for and the certificate(s) of insurance shall indicate the following coverages:
 - a) Premises - operations;
 - b) Broad form contractual liability;
 - c) Products and completed operations;
 - d) Personal Injury;
 - e) Broad form property damage;
 - f) Explosion and collapse.
2. Marine Liability/Protection and Indemnity insurance is required for any and all vessel and/or marine operations in the minimum limits of \$1,000,000 per occurrence/\$2,000,000 per project general aggregate. The coverage shall include, but is not limited to, the basic coverages found in the Commercial General Liability insurance and coverage for third party liability.
3. Contractors' Pollution Liability and Environmental Liability insurance in the minimum amount of \$1,000,000 per occurrence, \$2,000,000 general aggregate and include coverage for full contractual liability and for all such environmental and/or hazardous waste exposures affected by this project.
4. Business Automobile Liability insurance with a Combined Single Limit of \$1,000,000 per Occurrence for bodily injury and property damage, and shall include coverage for the following:
 - a) Any automobiles;
 - b) Owned automobiles;
 - c) Hired automobiles;
 - d) Non-owned automobiles;
 - e) Uninsured motorist.
5. Workers' Compensation/Employers Liability insurance: worker's compensation insurance coverage and limits as statutorily required; Employers' Liability Coverage shall be not less than \$1,000,000 each accident, \$1,000,000 each disease, \$1,000,000 disease policy aggregate, except when projects include exposures covered under the United States Longshoremen and Harbor Workers Act, Maritime and/or Jones Act and/or Maritime Employers Liability (MEL) limits shall be not less than \$1,000,000/\$1,000,000/\$1,000,000. *Coverage for owners, officers and/or partners shall be included in the policy and a statement of such shall be made by the insuring producer on the face of the certificate.*
6. Owners Protective Liability (OPL) (formerly Owners and Contractors Protective Liability (OCP) Insurance) shall be furnished by the Contractor naming St. Tammany Parish Government as the Named Insured and shall provide coverage in the minimum amount of \$1,000,000 combined single limit (CSL) each occurrence, \$2,000,000 aggregate. Any project valued in excess of \$3,000,000 shall be set by the Office of Risk Management. The policy and all endorsements shall be addressed to St. Tammany Parish Government, Office of Risk Management, P. O. Box 628, Covington, LA 70434.
7. Builder's Risk Insurance shall be required on buildings, sewage treatment plants and drainage pumping stations, and shall be written on an "all-risk" or equivalent policy form in the amount of the full value of the initial Contract sum, plus value of subsequent Contract modifications and cost of materials supplied or installed by others, comprising 100% total value for the entire project including foundations. Deductibles should not exceed \$5,000 and Contractor shall be responsible for any and all policy deductibles. This insurance shall cover portions of the work stored off the site, and also portions of the work in transit. In addition, Installation Floater

Insurance, on an “all-risk” form, will be carried on all pumps, motors, machinery and equipment on the site or installed. Both the Builder’s Risk Insurance and the Installation Floater Insurance shall include the interests of the Owner, Contractor, Subcontractors, and Sub-subcontractors and shall terminate only when the Project has been accepted. St. Tammany Parish Government, P. O. Box 628, Covington, LA 70434 shall be the first named insured on the Builder’s Risk and Installation Floater Insurance.

8. Professional Liability (errors and omissions) insurance in the sum of at least One Million Dollars (\$1,000,000) per claim with Two Million Dollars (\$2,000,000) annual aggregate.
 9. An umbrella policy or excess policy may be required and/or allowed to meet minimum coverage limits, subject to the review and approval by St. Tammany Parish Government, Office of Risk Management.
- 24.08 All policies of insurance shall meet the requirements of the Parish of St. Tammany prior to the commencing of any work. The Parish of St. Tammany has the right, but not the duty, to approve all insurance policies prior to commencing of any work. If at any time, it becomes known that any of the said policies shall be or becomes unsatisfactory to the Parish of St. Tammany as to form or substance; or if a company issuing any such policy shall be or become unsatisfactory to the Parish of St. Tammany, the Contractor shall promptly obtain a new policy, timely submit same to the Parish of St. Tammany for approval and submit a certificate thereof as provided above. The Parish agrees to not unreasonably withhold approval of any insurance carrier selected by Contractor. In the event that Parish cannot agree or otherwise authorize said carrier, Contractor shall have the option of selecting and submitting new insurance carrier within 30 days of said notice by the Parish. In the event that the second submission is insufficient or is not approved, then the Parish shall have the unilateral opportunity to thereafter select a responsive and responsible insurance carrier all at the cost of Contractor and thereafter deduct from Contractor's fee the cost of such insurance.
- 24.09 Upon failure of Contractor to furnish, deliver and/or maintain such insurance as above provided, the contract, at the election of the Parish of St. Tammany, may be forthwith declared suspended, discontinued or terminated. Failure of the Contractor to maintain insurance shall not relieve the Contractor from any liability under the contract, nor shall the insurance requirements be construed to conflict with the obligation of the Contractor concerning indemnification.
- 24.10 Contractor shall maintain a current copy of all annual insurance policies and provide same to the Parish of St. Tammany as may be reasonably requested.
- 24.11 It shall be the responsibility of Contractor to require that these insurance requirements are met by all contractors and sub-contractors performing work for and on behalf of Contractor. Contractor shall further ensure the Parish is named as additional insured on all insurance policies provided by said contractor and/or sub-contractor throughout the duration of the project, and that renewal certificates for any policies expiring prior to the Parish’s final acceptance of the project shall be furnished to St. Tammany Parish Government, Department of Legal, Office of Risk Management, without prompting.

NOTICE:

These are only an indication of the coverages that are generally required. Additional coverages and/or limits may be required for projects identified as having additional risks or exposures. Please note that some requirements listed may not necessarily apply to your specific services. St. Tammany Parish Government reserves the right to remove, replace, make additions to and/or modify any and all of the insurance requirement language upon review of the final scope of services presented to Office of Risk Management prior to execution of a contract for services.

For inquiries regarding insurance requirements, please contact:

**St. Tammany Parish Government
Office of Risk Management
P. O. Box 628
Covington, LA 70434
Telephone: 985-898-5226
Email: riskman@stpgov.org**

24.12 Nothing contained in these insurance requirements is to be construed as limiting the extent of the Contractor's Responsibility for payment of damages resulting from its operations under this Contract.

25.00 OWNER'S RIGHT TO OCCUPANCY

25.01 The Owner shall have the right to use, at any time, any and all portions of the Work that have reached such a stage of completion as to permit such occupancy, provided such occupancy does not hamper the Contractor or prevent its efficient completion of the Contract or be construed as constituting an acceptance of any part of the Work.

25.02 The Owner shall have the right to start the construction of houses, structures or any other building concurrent with the Contractor's Work.

26.00 SURVEY HORIZONTAL AND VERTICAL CONTROL

26.01 The Owner shall provide surveys for construction to establish reference points which in its judgment are necessary to enable Contractor to layout and proceed with its Work. Contractor shall be responsible for surveying and laying out the Work and shall protect and preserve the established reference points and shall make no changes or relocations without the prior written approval of the Owner. Contractor shall report to Owner whenever any reference point is lost or destroyed and the Owner shall decide if the reference point shall be replaced by its or the Contractor's forces.

26.02 The Contractor shall establish lines and grades with its own forces in sufficient number and location for the proper execution of the Work.

26.03 If the Contractor, during the construction, damages the established property corners and/or other markers and thereafter requests the Owner to re-stake same in order to complete the project, this expense will be borne solely by the Contractor.

27.00 TERMINATION OF THE CONTRACT, OWNER'S AND CONTRACTORS RIGHT TO STOP WORK.

27.01 If the Contractor should be adjudged bankrupt (voluntarily or involuntarily) or if it should make a general assignment for the benefit of its creditors, or if a receiver should be appointed on account of its insolvency, or if it should persistently or repeatedly refuse or should fail (except in cases for which extension of time is provided) to supply enough properly skilled workmen or proper materials, or if it should fail to make prompt payment to Subcontractors or for material or labor, or persistently disregard laws, ordinances or the instructions of the Owner, or otherwise be guilty of a substantial violation of any provision of the Contract, then the Owner, upon the certificate of the Owner that, in its unilateral

discretion and judgment, believes sufficient cause exists to justify such action, may, without prejudice to any other right or remedy and after giving the Contractor ten (10) calendar days written notice, terminate the employment of the Contractor and take possession of the premises and of all materials, tools and appliances thereon and finish the Work by whatever method the Owner may deem expedient.

- 27.02 Failure of the Contractor to start the Work within the time limit specified herein or substantial evidence that the progress being made by the Contractor is sufficient to complete the Work within the specified time shall be grounds for termination of the Contract by the Owner.
- 27.03 Before the Contract is terminated, the Contractor and its surety will first be notified in writing by the Owner of the conditions which make termination of the Contract imminent. When after ten (10) calendar days' notice is given and if satisfactory effort has not been made by the Contractor or its surety to correct the conditions, the Owner may declare, in its exclusive discretion, that the Contract is terminated and so notify the Contractor and its surety accordingly.
- 27.04 Upon receipt of notice from the Owner that the Contract has been terminated, the Contractor shall immediately discontinue all operations. The Owner may then proceed with the Work in any lawful manner that it may elect until Work is finally completed.
- 27.05 The exclusive right is reserved to the Owner to take possession of any machinery, implements, tools or materials of any description that shall be found upon the Work, to account for said equipment and materials, and to use same to complete the Project. When the Work is finally completed, the total cost of same will be computed. If the total cost is less than the Contract Price, the difference will not be paid to the Contractor or its surety.
- 27.06 In case of termination, all expenses incident to ascertaining and collecting losses under the Bond, including legal services, shall be assessed against the Bond.
- 27.07 If the Work should be stopped under any order of any court or public authority for period of sixty (60) calendar days, through no act or fault of the Contractor or anyone employed by it, or if the Owner shall fail to pay the Contractor within a reasonable time any sum certified by the Owner, then the Contractor may, upon ten (10) calendar days written notice to the Owner, stop Work or terminate this Contract and recover from the Owner payment for all Work properly and professionally executed in a workmanlike manner. This loss specifically includes actual cost of materials and equipment, together with all wages inclusive of all federal, state, and local tax obligations. This loss specifically includes reimbursement of all insurances on a pro-rata basis from the date of termination to date of policy period. This loss excludes and specifically does not include recovery by the Contractor for lost profit, indirect & direct expenses, overhead, and the like.

28.00 PAYMENTS TO THE CONTRACTOR

- 28.01 Monthly certificates for partial payment, in a form approved by the Owner, shall be transmitted to the Owner upon receipt from the Contractor and acceptance by the Owner. In accordance with LSA-R.S. 38:2248(A), when the Contract Price is less than five hundred thousand dollars, these certificates shall be equal to ninety percent (90%) of both the Work performed and materials stored at the site; and when the Contract Price is five hundred thousand dollars or more, these certificates shall be equal to ninety-five percent (95%) of both the Work performed and materials stored at the site. Partial payment certificates shall include only Work, materials and equipment that are included in official Work Order and which meet the requirements of plans, Specifications and Contract Documents. These monthly estimates shall show the amount of the original estimate for each item, the amount due on each item, the gross total, the retained percentage, the amount previously paid and the net amount of payment due.
- 28.02 After final completion and acceptance by the Owner of the entire Work, and when the Contract Price is less than five hundred thousand dollars, the Owner shall issue to the Contractor Certificate of Payment in sum sufficient to increase total payments to ninety percent (90%) of the Contract Price. After final completion and acceptance by the Owner of the entire Work, and when the Contract Price is five hundred thousand dollars or more,

the Owner shall issue to the Contractor Certificate of Payment in sum sufficient to increase total payments to ninety-five percent (95%) of the Contract Price.

- 28.03 When the Contract Price is less than five hundred thousand dollars, the final payment certificate of the remaining ten percent (10%) of the Contract Price, minus any deduction for deficient or Defective Work or other applicable deductions, will be issued by the Owner forty-five (45) days after filing acceptance in the Mortgage Office of the Parish and a Clear Liens and Privilege Certificate has been secured. When the Contract Price is five hundred thousand dollars or more, the final payment certificate of the remaining five percent (5%) of the Contract Price, minus any deduction for deficient or Defective Work or other applicable deductions, will be issued by the Owner forty-five (45) days after filing acceptance in the Mortgage Office of the Parish and a Clear Liens and Privilege Certificate has been secured. Before issuance of the final payment certificate, the Contractor shall deposit with the Owner a certificate from the Clerk of Court and Ex-Officio Recorder of Mortgages from the Parish in which the Work is performed to the effect that no liens have been registered against Contract Work.
- 28.04 When, in the opinion of the Contractor, the Work provided for and contemplated by the Contract Documents has been substantially completed, the Contractor shall notify the Owner in writing that the Work is substantially complete and request a final inspection. The Owner shall proceed to perform such final inspection accompanied by the Contractor. Any and all Work found by this inspection to be Defective or otherwise not in accordance with the plans and Specifications shall be corrected to the entire satisfaction of the Owner and at the sole expense of the Contractor. If the Contract is found to be incomplete in any of its details, the Contractor shall at once remedy such defects, and payments shall be withheld and formal acceptance delayed until such Work has been satisfactorily completed.
- 28.05 If payment is requested on the basis of materials and equipment not incorporated in the Work, but delivered and suitably stored and protected from damage and theft at the site, the Request for Payment shall also be accompanied by such data, satisfactory to the Owner, as will establish Owner's title to the material and equipment and protect its interest therein, including applicable insurance.
- 28.06 Each subsequent Request for Payment shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied to discharge in full all of Contractor's obligations reflected in prior Request for Payment.
- 28.07 Each subsequent request for payment shall include an affidavit by Contractor that Contractor, all subcontractors, agents, material suppliers and all other persons supplying material to the project upon which State of Louisiana and/or St. Tammany sales taxes are lawfully due have paid these taxes and that all supplies and materials purchased for this project and for which Contractor has been paid have had all lawfully due State and/or St. Tammany sales taxes paid.
- 28.08 The Bid Proposal, unless otherwise modified in writing, and the Contract constitute the complete Project. The Contract Prices constitute the total compensation payable to Contractor and the cost of all of the Work and materials, taxes, permits and incidentals must be included into the Bid submitted by the Contractor and included into those items listed on the Proposal.
- 28.09 Any additional supporting data required by the Owner in order to substantiate Contractor's request for payment shall be furnished by Contractor at no cost to the Owner.
- 28.10 Owner may withhold from payment to Contractor as may be necessary to protect itself from loss on account of:
- (1) Defective and/or inferior work;
 - (2) Damage to the property of Owner or others caused by Contractor;
 - (3) Failure by Contractor to make payments properly to sub-contractors or to pay for labor, materials or equipment used on this project;
 - (4) Failure by Contractor to pay taxes due on materials used on this project;
 - (5) Damage by Contractor to another Contractor;
 - (6) Insolvency;
 - (7) Bankruptcy, voluntary or involuntary;
 - (8) Revocation of corporate status;

- (9) Failure to follow corporate formalities;
- (10) Unprofessional activities;
- (11) Unworkmanlike performance;
- (12) Fraud and/or misrepresentation of any kind.

29.00 ACCEPTANCE AND FINAL PAYMENT(S)

- 29.01 Upon receipt of written notice from Contractor that the work is substantially complete and usable by Owner or the Public in suitable manner, the Owner and the Contractor shall jointly inspect the work.
- 29.02 If the Owner by inspection determines that the work is not substantially complete in a suitable manner for use by the Owner or the Public, then the Owner shall so notify the Contractor in writing stating such reason. All reasons need not be disclosed unless actually known. The Owner is afforded an opportunity to amend said notices as are reasonably possible.
- 29.03 If the Owner by its inspection determines that the work is substantially complete, it shall prepare a list of all items not satisfactorily completed and shall notify the Contractor and Owner in writing that the work is substantially complete and subject to satisfactory resolution of those items on the list (punch list). Punch lists may be amended from time to time by Owner in the event that additional deficiencies are discovered. In accordance with LSA-R.S. 38:2248(B), any punch list generated during a construction project shall include the cost estimates for the particular items of work the design professional has developed based on the mobilization, labor, material, and equipment costs of correcting each punch list item. The design professional shall retain his working papers used to determine the punch list items cost estimates should the matter be disputed later. The contract agency shall not withhold from payment more than the value of the punch list. Punch list items completed shall be paid upon the expiration of the forty-five (45) day lien period. The provisions of this Section shall not be subject to waiver.
- 29.04 Upon determination of substantial completeness with the punch list, the Contract Time is interrupted and the Contractor is given a reasonable time not to exceed thirty (30) consecutive calendar days to effect final completion by correcting or completing all of those items listed on the punch list. If the items on the punch list are not completed in a satisfactory manner within the thirty day period, then the Contract Time will begin to run again and will include for purposes of determining liquidated damages the thirty day period the grace period being withdrawn.
- 29.05 Upon receipt by Owner of written determination that all work embraced by the contract has been completed in a satisfactory manner, the Owner shall provide a written acceptance to Contractor who shall record Owner's written acceptance with the recorder of Mortgages, St. Tammany Parish. The Contractor shall properly prepare, submit and pay for all costs associated with said Acceptance. The Contractor is also responsible for preparation, re-submission and payment of any and all updated certificates.
- 29.06 Retainage monies, minus those funds deducted in accordance to the requirements of this agreement including but not limited to Paragraph 28.10, shall be due Contractor not earlier than forty-six (46) calendar days after recordation of certificate of Owner's acceptance provided the following:
- (1) Contractor shall prepare, secure, pay for and submit clear lien and privilege certificate, signed and sealed by Clerk of Court or Recorder of Mortgages, Parish of St. Tammany and dated at least forty-six (46) days after recordation of certificate of acceptance;
 - (2) Ensure that the official representative of the Owner has accepted as per LSA-R.S. 38:2241.1, *et seq.* and that all following sub-sections have been properly satisfied as per law;
 - (3) Ensure that all signatures are affixed and that there exists the requisite authority for all signatures;
 - (4) Ensure accurate and proper legal descriptions;

- (5) Properly identify all parties and/or signatories;
- (6) Properly identify all mailing addresses;
- (7) Correctly set for the amount of the contract, together with all change orders;
- (8) Set out a brief description of the work performed;
- (9) Reference to any previously recorded contract, lien or judgment inscription that may affect the property;
- (10) Certification that substantial completion has occurred, together with any applicable date(s);
- (11) Certification that no party is in default and/or that the project has been abandoned.

29.07 After securing the clear lien and privilege certificate the Contractor shall prepare its final application for payment and submit to Owner. The Owner shall approve application for payment, or state its objections in writing and forward to Contractor for resolution.

30.00 NOTICE AND SERVICE THEREOF

30.01 Any Notice to Contractor from the Owner relative to any part of this Contract shall be in writing and shall be considered delivered and the service thereof completed when said notice is posted; by certified mail, return receipt requested to the said Contractor at its last given address, or delivered in person to said Contractor or its authorized representative on the Work.

31.00 INTENTION OF THESE GENERAL CONDITIONS

31.01 These General Conditions shall be applicable to all contracts entered into by and between the Owner and Contractors, except as may be altered or amended with the consent of the Owner, and/or provided for in the Special Conditions of each contract. Contractor shall be presumed to have full knowledge of these General Conditions which shall be applicable to all contracts containing these General Conditions, whether Contractor has obtained a copy thereof or not.

32.00 SEVERABILITY

32.01 If any one or more or part of any of the provisions contained herein and/or in the Specifications and Contract for the Work shall for any reason be held invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provisions of this Agreement or attachment, but it shall be construed as if such invalid, illegal, or unenforceable provision or part of a provision had never been contained herein.

32.02 **CHANGING THESE CONDITIONS:** Owner reserves the right to change or modify these General Conditions as it deems best, or as required by law. The General Conditions may also be modified for a particular project by the use of Special Conditions prior to the issuance of the Advertisement for Bid. However, once an advertisement for bid is made for any specific project, any changes to the General Conditions as they affect that specific project must be made in writing and issued via an addendum in accordance with State Law.

33.00 LAW OF THE STATE OF LOUISIANA

33.01 The Contract Documents shall be governed by the Law of the State of Louisiana.

33.02 The Contractor agrees to pay reasonable attorney's fees and other reasonable attendant costs, in the event that it becomes necessary for the Owner to employ an attorney in order to enforce compliance with or any remedy relating to any covenants, obligations, or

conditions imposed upon the Contractor by this Agreement. Attorney fees shall be based upon the prevailing hourly rate of attorney rates in the private sector. In no case shall the hourly rate be less than \$175.00 per hour. All attorney fees collected shall be paid the operating budget of the Office of the Parish President.

- 33.03 The jurisdiction and venue provisions shall apply to all contractors, sureties, and subcontractors. The 22nd Judicial District for the Parish of St. Tammany shall be the court of exclusive jurisdiction and venue for any dispute arising from these General Conditions and/or any contract executed in conjunction with these General Conditions. All parties specifically waive any rights they have or may have for removal of any disputes to Federal Court, or transfers to different State District Court.
- 33.04 Contractor warrants that it has and/or had received a copy of these General Conditions at all times material hereto; Contractor further agrees that it has read and fully and completely understands each and every condition herein.
- 33.05 The property description will be more fully set out by an attached exhibit.
- 33.06 The Contractor warrants that it has the requisite authority to sign and enter this agreement.
- 33.07 It is specifically understood and agreed that in the event Contractor seeks contribution from the Parish or pursues its legal remedies for any alleged breach of this agreement by the Parish, then the following list of damages SHALL NOT BE RECOVERABLE BY CONTRACTOR. This list includes, but is not limited to:

1. indirect costs and/or expenses;
2. direct costs and/or expenses;
3. time-related costs and/or expenses;
4. award of extra days;
5. costs of salaries or other compensation of Contractor's personnel at Contractor's principal office and branch offices;
6. expenses of Contractor's principal, branch and/or field offices;
7. any part of Contractor's capital expenses, including any interest on Contractor's capital employed for the work;
8. any other charges related to change orders;
9. overhead and general expenses of any kind or the cost of any item not specifically and expressly included in Cost of Work.

33.08 DEFAULT AND WAIVERS

It is understood that time is of the essence. It is specifically understood between the parties that Contractor waives any and all notice to be placed in default by the Owner. This subsection shall supersede and prime any other subsection herein above that is in conflict. The Owner specifically reserves its right and specifically does not waive the requirement to be placed in default by the Contractor as per law.

- 33.09 St. Tammany Parish Government contracts to be awarded are dependent on the available funding and/or approval by members designated and/or acknowledged by St. Tammany Parish Government. At any time St. Tammany Parish Government reserves the right to cancel the award of a contract if either or both of these factors is deficient.
- 33.10 It is the Parish's policy to provide a method to protest exclusion from a competition or from the award of a contract, or to challenge an alleged solicitation irregularity. It is always better to seek a resolution within the Parish system before resorting to outside agencies and/or litigation to resolve differences. All protests must be made in writing, and shall be concise and logically presented to facilitate review by the Parish. The written protest shall include:
1. The protester's name, address, and fax and telephone numbers and the solicitation, bid, or contract number;
 2. A detailed statement of its legal and factual grounds, including a description of the resulting prejudice to the protester;
 3. Copies of relevant documents;

4. All information establishing that the protester is an interested party and that the protest is timely; and
5. A request for a ruling by the agency; and a statement of the form of relief requested.

The protest shall be addressed to Director of Procurement, St. Tammany Parish Government, P.O. Box 628, Covington, LA 70434.

The protest review shall be conducted by the Parish Procurement Department.

Only protests from interested parties will be allowed. Protests based on alleged solicitation improprieties that are apparent before bid opening, or the time set for receipt of initial proposals must be filed with and received by the Procurement Department BEFORE those deadlines.

Any other protest shall be filed no later than ten (10) calendar days after the basis of the protest is known, or should have been known (whichever is earlier).

The Parish will use its best efforts to resolve the protest within thirty (30) days of the date that it is received by the Parish. The written response will be sent to the protestor via mail and, fax, if a fax number has been provided by the protestor. The protester can request additional methods of notification.

CORPORATE RESOLUTION

EXCERPT FROM MINUTES OF MEETING OF THE BOARD OF DIRECTORS OF INCORPORATED.

AT THE MEETING OF DIRECTORS OF _____ INCORPORATED, DULY NOTICED AND HELD ON _____, A QUORUM BEING THERE PRESENT, ON MOTION DULY MADE AND SECONDED. IT WAS:

RESOLVED THAT _____, BE AND IS HEREBY APPOINTED, CONSTITUTED AND DESIGNATED AS AGENT AND ATTORNEY-IN-FACT OF THE CORPORATION WITH FULL POWER AND AUTHORITY TO ACT ON BEHALF OF THIS CORPORATION IN ALL NEGOTIATIONS, BIDDING, CONCERNS AND TRANSACTIONS WITH THE PARISH OF ST. TAMMANY OR ANY OF ITS AGENCIES, DEPARTMENTS, EMPLOYEES OR AGENTS, INCLUDING BUT NOT LIMITED TO, THE EXECUTION OF ALL BIDS, PAPERS, DOCUMENTS, AFFIDAVITS, BONDS, SURETIES, CONTRACTS AND ACTS AND TO RECEIVE ALL PURCHASE ORDERS AND NOTICES ISSUED PURSUANT TO THE PROVISIONS OF ANY SUCH BID OR CONTRACT, THIS CORPORATION HEREBY RATIFYING, APPROVING, CONFIRMING, AND ACCEPTING EACH AND EVERY SUCH ACT PERFORMED BY SAID AGENT AND ATTORNEY-IN-FACT.

I HEREBY CERTIFY THE FOREGOING TO BE A TRUE AND CORRECT COPY OF AN EXCERPT OF THE MINUTES OF THE ABOVE DATED MEETING OF THE BOARD OF DIRECTORS OF SAID CORPORATION, AND THE SAME HAS NOT BEEN REVOKED OR RESCINDED.

SECRETARY-TREASURER

DATE

Certificate of Insurance Instructions

The below information is intended to guide Contractors on what information is needed to be listed on the Certificate of Insurance. All Insurance limit requirements can be found in Attachment D.

- **Certificate Holder** – STPG must be listed as the certificate holder, and it must include our address of: P.O. Box 628, Covington, LA 70434
 - Reason: the certificate holder is where cancellations of coverage, or updated certificates are mailed. If a vendor terminates a policy, we will be notified.
- **Additional Insured** – We must be named as an additional insured so that if there is a lawsuit against the vendor for a project, their coverage will cover STPG as well if we are named in the lawsuit.
 - We must be named in the Description of Operations box – reason: there could be other additional insureds, and we want to have no doubt that we are one of the additional insureds.
 - We must be named as additional insured on the following coverages: General liability, Auto Liability, Umbrella/Excess Liability, Environmental/Pollution Liability.
 - Professional Liability policies do not allow for an additional insured by most carriers.
- **Project Name & Contract #** - We need this listed in the Description of Operations, again so that if there is a lawsuit, we have proof that coverage was active for that project.
- **Waiver of Subrogation** – This can either be listed in the Description of Operations or checked off in the appropriate columns.

From the Insurance Requirement form:

Waiver of Subrogation: The Provider's insurers will have no right of recovery or subrogation against the Parish of St. Tammany, it being the intention of the parties that all insurance policy(ies) so affected shall protect both parties and be the primary coverage for any and all losses covered by the below described insurance.

- **Owners Protective Liability (OPL) or (OCP)** – Certificate of Insurance for OCP names St. Tammany Parish Government as the Insured and the Certificate Holder.
- Sample of Certificate of Insurance (COI) can be found on page 2.
- Please refer to this section in the package labeled “Insurance Requirements” for limits required for this project

Any questions regarding insurance requirements please contact the Risk Department at 985-898-5226 or email riskman@stpgov.org



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME:		
	PHONE (A/C, No. Ext):	FAX (A/C, No):	
	E-MAIL ADDRESS:		
	INSURER(S) AFFORDING COVERAGE		NAIC #
INSURED	INSURER A :		
	INSURER B :		
	INSURER C :		
	INSURER D :		
	INSURER E :		
	INSURER F :		

COVERAGES

CERTIFICATE NUMBER:

REVISION NUMBER:

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

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
	GENERAL LIABILITY						EACH OCCURRENCE \$
	<input type="checkbox"/> COMMERCIAL GENERAL LIABILITY						DAMAGE TO RENTED PREMISES (Ea occurrence) \$
	<input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> OCCUR						MED EXP (Any one person) \$
							PERSONAL & ADV INJURY \$
							GENERAL AGGREGATE \$
	GEN'L AGGREGATE LIMIT APPLIES PER:						PRODUCTS - COMP/OP AGG \$
	<input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC						\$
	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident) \$
	<input type="checkbox"/> ANY AUTO						BODILY INJURY (Per person) \$
	<input type="checkbox"/> ALL OWNED AUTOS	<input type="checkbox"/>	<input type="checkbox"/>				BODILY INJURY (Per accident) \$
	<input type="checkbox"/> HIRED AUTOS	<input type="checkbox"/>	<input type="checkbox"/>				PROPERTY DAMAGE (Per accident) \$
							\$
	UMBRELLA LIAB						EACH OCCURRENCE \$
	<input type="checkbox"/> EXCESS LIAB						AGGREGATE \$
	<input type="checkbox"/> OCCUR						\$
	<input type="checkbox"/> CLAIMS-MADE						
	DED						
	RETENTION \$						
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY						WC STATUTORY LIMITS
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)						OTHER
	If yes, describe under DESCRIPTION OF OPERATIONS below	<input type="checkbox"/> Y / <input type="checkbox"/> N	<input type="checkbox"/> N / <input type="checkbox"/> A				E.L. EACH ACCIDENT \$
							E.L. DISEASE - EA EMPLOYEE \$
							E.L. DISEASE - POLICY LIMIT \$

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

Project Name:
Contract #:

(Name St. Tammany Parish Government as an additional insured).

CERTIFICATE HOLDER**CANCELLATION**St. Tammany Parish Government
P.O. Box 628
Covington, LA 70434

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Bond No.: _____

**CONTRACT AGREEMENT
BETWEEN PARISH AND CONTRACTOR**

BY: ST. TAMMANY PARISH GOVERNMENT

**UNITED STATES OF
AMERICA**

WITH:

**STATE OF LOUISIANA
ST. TAMMANY PARISH**

This agreement is entered into this _____ day of _____,
20___, by and between: «txtREQCompanyName», hereinafter called the "Contractor", whose
business address is «txtREQAddress», «txtREQCity», «txtREQState» «txtREQZip» and the St.
Tammany Parish Government, hereinafter called the "Parish", whose business address is P.O.
Box 628, Covington, LA 70434 (collectively, the "Parties") for «txtPROJECTNAME» project.
Witnessed that the Contractor and the Parish, in consideration of premises and the mutual
covenants, consideration and agreement herein contained, agree as follows:

1. SCOPE OF SERVICES

The Contractor shall furnish all labor and materials and perform all of the work required to build, construct and/or complete in a thorough and workmanlike manner:

«txtScopeSummary»

2. CONSTRUCTION DOCUMENTS

It is recognized by the Parties herein that said Construction Documents, including by way of example and not of limitation, the plans and Specifications, General Conditions, Supplementary General Conditions, any addenda thereto, the drawings (if any), and the bid, quote or other procurement documents impose duties and obligations upon the Parties herein, and said Parties thereby agree that they shall be bound by said duties and obligations. For these purposes, all of the provisions contained in the aforementioned Construction Documents are incorporated herein by reference with the same force and effect as though said Construction Documents were herein set out in full. Copies of the aforementioned Construction Documents are in the possession of both the Contractor and the Parish for reference.

3. TIME FOR COMPLETION

The work shall be commenced on a date to be specified in a written order of the Parish and shall be completed within «intCompletionTime» calendar days from and after said date.

4. COMPENSATION TO BE PAID TO THE CONTRACTOR

The Parish will pay and the Contractor will accept in full consideration for the performance of the Contract the sum of «curREQGrandTotal» dollars.

5. PERFORMANCE AND PAYMENT BOND

To these presents personally came and intervened _____,
(Name of Attorney in Fact)
herein acting for _____, a corporation organized
(Surety)
and existing under the laws of the State of _____, and duly authorized to transact business in the State of Louisiana, as surety, who declared that having taken cognizance of this Contract and of the Construction Documents mentioned herein, he hereby in his capacity as its Attorney in Fact obligates his company, as surety for the said Contractor, unto the said Parish, up to the sum of «curREQGrandTotal». The condition of this performance and payment bond

shall be that should the Contractor herein not perform the Contract in accordance with the terms and conditions hereof, or should said Contractor not fully indemnify and save harmless the Parish from all costs and damages which he may suffer by said Contractor's non-performance or should said Contractor not pay all persons who have fulfilled obligations to perform labor and/or furnish materials in the prosecution of the work provided for herein, including by way of example, workmen, laborers, mechanics, and furnishers of materials, machinery, equipment and fixtures, then said surety agrees and is bound to so perform the Contract and make said payment(s).

Contractor and Parish specifically agree to and recognize (1) the statutory employer relationship existing between the Parish and any employees performing work under this Contract as employees of the Contractor or employees of the "Sub-Contractor", and (2) that the work performed by the employees of the Contractor and the employees of the "Sub-Contractor" is part of the Parish's business, occupation or trade and is essential to the ability of the Parish to generate their products or services, all of which is in accordance with LSA-R.S. 23:1061, and as may be amended.

6. LIABILITY AND INDEMNIFICATION

A. Duty to Defend

Upon notice of any claim, demand, suit, or cause of action against the Parish, alleged to arise out of or be related to this Contract, Contractor shall investigate, handle, respond to, provide defense for, and defend at its sole expense, even if the claim, demand, suit, or cause of action is groundless, false, or fraudulent. The Parish may, but is not required to, consult with or assist the Contractor, but this assistance shall not affect the Contractor's obligations, duties, and responsibilities under this section. Contractor shall obtain the Parish's written consent before entering into any settlement or dismissal.

B. Contractor Liability

Contractor shall be liable without limitation to the Parish for any and all injury, death, damage, loss, destruction, damages, costs, fines, penalties, judgments, forfeitures, assessments, expenses (including attorney fees), obligations, and other liabilities of every name and description, which may occur or in any way arise out of any act or omission of Contractor, its owners, agents, employees, partners or subcontractors.

C. Force Majeure

It is understood and agreed that neither party can foresee the exigencies beyond the control of each party which arise by reason of an Act of God or force majeure; therefore, neither party shall be liable for any delay or failure in performance beyond its control resulting from an Act of God or force majeure. The Parish shall determine whether a delay or failure results from an Act of God or force majeure based on its review of all facts and circumstances. The parties shall use reasonable efforts, including but not limited to, use of continuation of operations plans (COOP), business continuity plans, and disaster recovery plans, to eliminate or minimize the effect of such events upon the performance of their respective duties under this Contract.

D. Indemnification

Contractor shall fully indemnify and hold harmless the Parish, without limitation, for any and all injury, death, damage, loss, destruction, damages, costs, fines, penalties, judgments, forfeitures, assessments, expenses (including attorney fees), obligations, and other liabilities of every name and description, which may occur or in any way arise out of any act or omission of Contractor, its

owners, agents, employees, partners or subcontractors. The Contractor shall not indemnify for the portion of any loss or damage arising from the Parish's act or failure to act.

E. Intellectual Property Indemnification

Contractor shall fully indemnify and hold harmless the Parish, without limitation, from and against damages, costs, fines, penalties, judgments, forfeitures, assessments, expenses (including attorney fees), obligations, and other liabilities in any action for infringement of any intellectual property right, including but not limited to, trademark, trade-secret, copyright, and patent rights.

When a dispute or claim arises relative to a real or anticipated infringement, the Contractor, at its sole expense, shall submit information and documentation, including formal patent attorney opinions, as required by the Parish.

If the use of the product, material, service, or any component thereof is enjoined for any reason or if the Contractor believes that it may be enjoined, Contractor, while ensuring appropriate migration and implementation, data integrity, and

minimal delays of performance, shall at its sole expense and in the following order of precedence: (i) obtain for the Parish the right to continue using such product, material, service, or component thereof; (ii) modify the product, material, service, or component thereof so that it becomes a non-infringing product, material, or service of at least equal quality and performance; (iii) replace the product, material, service, or component thereof so that it becomes a non-infringing product, material, or service of at least equal quality and performance; or, (iv) provide the Parish monetary compensation for all payments made under the Contract related to the infringing product, material, service, or component, plus for all costs incurred to procure and implement a non-infringing product, material, or service of at least equal quality and performance. Until this obligation has been satisfied, the Contractor remains in default.

The Contractor shall not be obligated to indemnify that portion of a claim or dispute based upon the Parish's unauthorized: i) modification or alteration of the product, material or service; ii) use of the product, material or service in combination with other products not furnished by Contractor; or, iii) use of the

product, material or service in other than the specified operating conditions and environment.

7. MODIFICATION OF CONTRACT TERMS

Provided that any alterations which may be made in the terms of the Contract or in the work to be done under it, or the giving by the Parish of any extensions of time for the performance of the Contract, or any other forbearance on the part of either the Parish or the Contractor to the other shall not in any way release the Contractor or the Surety from their liability hereunder, notice to the Surety of any such alterations, extensions or other forbearance being hereby waived.

8. TERMINATION, CANCELLATION, AND SUSPENSION

A. Termination

The term of this Contract shall be binding upon the Parties hereto until the work has been completed by the Provider and accepted by the Parish, and all payments required to be made to the Provider have been made. But, this Contract may be terminated upon thirty (30) days written notice under any or all of the following conditions:

- 1) By mutual agreement and consent of the Parties hereto;
- 2) By the Parish as a consequence of the failure of the Provider to comply with the terms, progress, or quality of the work in a satisfactory manner, proper allowances being made for circumstances beyond the control of the Provider;
- 3) By either party upon failure of the other party to fulfill its obligations as set forth in this Contract;
- 4) By the Parish with less than thirty (30) days' notice due to budgetary reductions and changes in funding priorities by the Parish;
- 5) In the event of the abandonment of the project by the Parish.

Upon termination, the Provider shall be paid for actual work performed prior to the Notice of Termination, either based upon the established hourly rate for services actually performed, or on a pro-rata share of the basic fee based upon the phase or percentage of work actually completed, depending on the type of compensation previously established under this Contract.

Upon Termination, the Provider shall deliver to the Parish all original documents, notes, drawings, tracings, computer files, and other files pertaining to this Contract or the Work performed, except for the Provider's personal and administrative files.

B. Cancellation

The continuation of this Contract is contingent upon the appropriation of funds to fulfill the requirements of the Contract by the Parish. If the Parish fails to appropriate sufficient monies to provide for the continuation of this or any other Contract, or if such appropriation is reduced by the veto of Parish President by any means provided in the appropriations Ordinance to prevent the total appropriation for the year from exceeding revenues for that year, or for any other lawful purpose, and the effect of such reduction is to provide insufficient monies for the continuation of the Contract, the Contract shall terminate on the date of the beginning of the first fiscal year for which funds are not appropriated. It is understood and agreed that paragraph (9)(C) below may preempt this paragraph, all at the exclusive and unilateral option of the Parish.

C. Suspension

Should the Parish desire to suspend the work, but not definitely terminate the Contract, the Parish shall supply the Provider with thirty (30) days' notice. The Parish will also

supply Provider thirty (30) days' notice that the work is to be reinstated and resumed in full force. Provider shall receive no additional compensation during the suspension period. The Parties may revisit the terms of this Contract during the suspension period. The suspension shall not exceed six (6) months, unless mutually agreed upon between the Parties.

- D.** Failure to complete or deliver within the time specified or to provide the services as specified in the bid or response will constitute a default and may cause cancellation of the contract. Where the Parish has determined the contractor to be in default. The Parish reserves the right to purchase any or all products or services covered by the contract on the open market and to charge the contractor with the cost in excess of the contract price. Until such assessed charges have been paid, no subsequent bid or response from the defaulting contractor will be considered.
- E.** In the event of a default and/or breach of this agreement and this matter is forwarded to legal counsel, then the prevailing party may be entitled to collect a reasonable attorney fees and all costs associated therewith whether or not litigation is initiated. Attorney fees shall be based upon the current, reasonable prevailing rate for counsel in the private

sector. The Parties agree to be responsible for such attorney fees, together for all with legal interest from date of agreement breach, plus all costs of collection.

- F.** Termination or cancellation of this agreement will not affect any rights or duties arising under any term or condition herein.
- G.** As to the filing of voluntary or involuntary bankruptcy by Provider, Provider agrees that if any execution or legal process is levied upon its interest in this Contract, or if any liens or privileges are filed against its interest, or if a petition in bankruptcy is filed against it, or if it is adjudicated bankrupt in involuntary proceedings, or if it should breach this Contract in any material respect, the Parish shall have the right, at its unilateral option, to immediately cancel and terminate this Contract. In the event that Provider is placed in any chapter of bankruptcy, voluntarily or involuntarily, or otherwise triggers any provision of the preceding sentence herein, it is understood and agreed that all materials, goods and/or services provided shall be and remain the property of the Parish. All rights of Provider as to goods, wares, products, services, materials and the like supplied to Parish shall be deemed forfeited.

9. RECORDATION OF CONTRACT

Contractor authorizes Parish to deduct from any payment due herein costs and service fees for recordation of this Contract in full or an excerpt hereof, or any revisions or modifications thereof as required by law.

10. AUTHORITY TO ENTER CONTRACT

The undersigned representative of Contractor warrants and personally guarantees that he/she has the requisite and necessary authority to enter and sign this Contract on behalf of the corporate entity, partnership, etc. The undersigned Parties warrant and represent that they each have the respective authority and permission to enter this Contract. In the event that Contractor is a member of a corporation, partnership, L.L.C., L.L.P., or any other juridical entity, the Parish requires, as an additional provision, that Contractor supply a certified copy of a corporate resolution authorizing the undersigned to enter and sign this Contract. Another option to fulfill this additional provision he/she can supply Louisiana Secretary of State Business filings confirming that he/she is a managing member of a

corporation, partnership, L.L.C., L.L.P., or any other juridical entity which authorizes the undersigned to enter and sign this Contract.

In Witness thereof, the Parties hereto on the day and year first above written have executed this Contract in One (1) counterparts, each of which shall, without proof or accountancy for the other counterparts, be deemed an original thereof.

WITNESSES:

CONTRACTOR:

Signature

Signature

Print Name

Print Name

Signature

Title

Print Name

Date

Bond No.: _____

WITNESSES:

**ST. TAMMANY PARISH
GOVERNMENT:**

Signature

Michael B. Cooper
Parish President

Print Name

Date

Signature

Print Name

APPROVED BY:

Assistant District Attorney- Civil (Surety)
Division

Signature

Date

Print Name

Section 12

**Department of the Treasury (DOT) & American Rescue Plan Act (ARPA)
Federal Contract Clauses
WATER SECTOR PROGRAM
31 CFR Part 35 Subpart A**

1. EQUAL EMPLOYMENT OPPORTUNITY

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, sexual orientation, gender identity, 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, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following:

Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided 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, sexual orientation, gender identity, or national origin.

(3) The contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.

(4) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(5) The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(6) The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(7) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of 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 or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(8) The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 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 administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance:

Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States. The applicant further agrees that it will be bound by the above equal opportunity clause with respect to its own employment practices when it participates in federally assisted construction work: *Provided*, That if the applicant so participating is a State or local government, the above equal opportunity clause is not applicable to any agency, instrumentality or subdivision of such government which does not participate in work on or under the contract.

The applicant agrees that it will assist and cooperate actively with the administering agency and the Secretary of Labor in obtaining the compliance of contractors and subcontractors with the equal opportunity clause and the rules, regulations, and relevant orders of the Secretary of Labor, that it will furnish the administering agency and the Secretary of Labor such information as they may require for the supervision of such compliance, and that it will otherwise assist the administering agency in the discharge of the agency's primary responsibility for securing compliance.

The applicant further agrees that it will refrain from entering into any contract or contract modification subject to Executive Order 11246 of September 24, 1965, with a contractor debarred from, or who has not demonstrated eligibility for, Government contracts and federally assisted construction contracts pursuant to the Executive Order and will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon

contractors and subcontractors by the administering agency or the Secretary of Labor pursuant to Part II, Subpart D of the Executive Order. In addition, the applicant agrees that if it fails or refuses to comply with these undertakings, the administering agency may take any or all of the following actions: Cancel, terminate, or suspend in whole or in part this grant (contract, loan, insurance, guarantee); refrain from extending any further assistance to the applicant under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such applicant; and refer the case to the Department of Justice for appropriate legal proceedings.

2. DAVIS-BACON ACT, as amended (40 U.S.C. 3141-3148). When required by Federal program legislation, all prime construction contracts in excess of \$2,000 awarded by non-Federal entities must include a provision for compliance with the Davis-Bacon Act (40 U.S.C. 3141-3144, and 3146-3148) as supplemented by Department of Labor regulations (29 CFR Part 5, "Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction"). In accordance with the statute, contractors must be required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, contractors must be required to pay wages not less than once a week. The non-Federal entity must place a copy of the current prevailing wage determination issued by the Department of Labor in each solicitation. The decision to award a contract or subcontract must be conditioned upon the acceptance of the wage determination. The non-Federal entity must report all suspected or reported violations to the Federal awarding agency. The contracts must also include a provision for compliance with the Copeland "Anti-Kickback" Act (40 U.S.C. 3145), as supplemented by Department of Labor regulations (29 CFR Part 3, "Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States"). The Act provides that each contractor or subrecipient must be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled. The non-Federal entity must report all suspected or reported violations to the Federal awarding agency.

3. COMPLIANCE WITH THE CONTRACT WORK HOURS AND SAFETY STANDARDS ACT.

(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 therefor 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 \$27 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 Parish shall upon its own action or upon written request of an authorized representative of the Department of Labor or U.S. Treasury 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.

4. RIGHTS TO INVENTIONS MADE UNDER A CONTRACT OR AGREEMENT

If the Federal award meets the definition of “funding agreement” under 37 CFR § 401.2 (a) and the recipient or subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that “funding agreement,” the recipient or subrecipient must comply with the requirements of 37 CFR Part 401, “Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements,” and any implementing regulations issued by the awarding agency.

5. CLEAN AIR ACT

(1) The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. § 7401 *et seq.*

(2) The Contractor agrees to report each violation to the Parish and understands and agrees that the Parish will, in turn, report each violation as required to assure notification to the federal awarding agency, and the appropriate Environmental Protection Agency Regional Office.

(3) The Contractor agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with Federal assistance provided by ARPA.

6. FEDERAL WATER POLLUTION CONTROL ACT

(1) The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. § 7401 *et seq.*

(2) The Contractor agrees to report each violation to the Parish and understands and agrees that the Parish will, in turn, report each violation as required to assure notification to the Federal awarding agency, and the appropriate Environmental Protection Agency Regional Office.

(3) The Contractor agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with Federal assistance provided by ARPA.

7. SUSPENSION AND DEBARMENT

(1) This contract is a covered transaction for purposes of 2 C.F.R. pt. 180 and 2 C.F.R. pt. 3000. As such, the contractor is required to verify that none of the contractor's principals (defined at 2 C.F.R. § 180.995) or its affiliates (defined at 2 C.F.R. § 180.905) are excluded (defined at 2 C.F.R. § 180.940) or disqualified (defined at 2 C.F.R. § 180.935).

(2) The contractor must comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, and must include a requirement to comply with these regulations in any lower tier covered transaction it enters into.

(3) This certification is a material representation of fact relied upon by the Parish. If it is later determined that the contractor did not comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, in addition to remedies available to the Parish, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment.

(4) The bidder or proposer agrees to comply with the requirements of 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.

8. BYRD ANTI-LOBBYING ACT

The Contractor will be expected to comply with Federal statutes required in the Anti-Lobbying Act. Contractors who apply or bid for an award of more than \$100,000 shall file the required certification. Each tier certifies to the tier above that it will not and has not used federally appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant, or any other award covered by 31 U.S.C. § 1352. Each tier shall also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any federal award. Such disclosures are forwarded from tier to tier up to the recipient who in turn will forward the certification(s) to the federal awarding agency.

9. PROCUREMENT OF RECOVERED MATERIALS

In the performance of this Contract, the Contractor shall make maximum use of products containing recovered materials that are EPA-designated items unless the product cannot be acquired—

- i. Competitively within a timeframe providing for compliance with the Contract performance schedule;
- ii. Meeting Contract performance requirements; or
- iii. At a reasonable price.

Information about this requirement, along with the list of EPA-designate items, is available at EPA's Comprehensive Procurement Guidelines web site, <https://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program>.

10. PROHIBITION ON CONTRACTING FOR COVERED TELECOMMUNICATIONS EQUIPMENT OR SERVICES.

(a) *Definitions.* As used in this clause, the terms backhaul; covered foreign country; covered telecommunications equipment or services; interconnection arrangements; roaming; substantial or essential component; and telecommunications equipment or services have the meaning as defined in Public Law 115-232, section 889, Prohibitions on Expending ARPA Award Funds for Covered Telecommunications Equipment or Services (Interim), as used in this clause—

(b) *Prohibitions.*

(1) Section 889(b) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019, Pub. L. No. 115-232, and 2 C.F.R. § 200.216 prohibit the head of an executive agency on or after Aug. 13, 2020, from obligating or expending grant, cooperative agreement, loan, or loan guarantee funds on certain telecommunications products or from certain entities for national security reasons.

(2) Unless an exception in paragraph (c) of this clause applies, the contractor and its subcontractors may not use grant, cooperative agreement, loan, or loan guarantee funds from a federal Agency to:

- (i) Procure or obtain any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology of any system;
- (ii) Enter into, extend, or renew a contract to procure or obtain any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology of any system;
- (iii) Enter into, extend, or renew contracts with entities that use covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system as described in Public Law 115-232, section 889, covered telecommunications equipment is telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities). (a) For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities). (b) Telecommunications or video surveillance services provided by such entities or using such equipment. (c) Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country;
- (iv) Provide, as part of its performance of this contract, subcontract, or other contractual instrument, any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system.

(3) In implementing the prohibition under Public Law 115-232, section 889, subsection (f), paragraph (1), heads of executive agencies administering loan, grant, or subsidy programs shall prioritize available funding and technical support to assist affected businesses, institutions and organizations as is reasonably necessary for those affected entities to transition from covered communications equipment and services, to procure replacement equipment and services, and to ensure that communications service to users and customers is sustained.

(4) See Public Law 115-232, section 889 for additional information.

(5) See also § 200.471.

(c) *Exceptions.*

(1) This clause does not prohibit contractors from providing—

- (i) A service that connects to the facilities of a third-party, such as backhaul, roaming, or interconnection arrangements; or
- (ii) Telecommunications equipment that cannot route or redirect user data traffic or permit visibility into any user data or packets that such equipment transmits or otherwise handles.

(2) By necessary implication and regulation, the prohibitions also do not apply to:

- (i) Covered telecommunications equipment or services that:
 - i. Are *not used* as a substantial or essential component of any system; *and*
 - ii. Are *not used* as critical technology of any system.
- (ii) Other telecommunications equipment or services that are not considered covered telecommunications equipment or services.

(d) *Reporting requirement.*

(1) In the event the contractor identifies covered telecommunications equipment or services used as a substantial or essential component of any system, or as critical technology as part of any system, during contract performance, or the contractor is notified of such by a subcontractor at any tier or by any other source, the contractor shall report the information in paragraph (d)(2) of this clause to the recipient or subrecipient, unless elsewhere in this contract are established procedures for reporting the information.

(2) The Contractor shall report the following information pursuant to paragraph (d)(1) of this clause:

(i) Within one business day from the date of such identification or notification: The contract number; the order number(s), if applicable; supplier name; supplier unique entity identifier (if known); supplier Commercial and Government Entity (CAGE) code (if known); brand; model number (original equipment manufacturer number, manufacturer part number, or wholesaler number); item description; and any readily available information about mitigation actions undertaken or recommended.

(ii) Within 10 business days of submitting the information in paragraph (d)(2)(i) of this clause: Any further available information about mitigation actions undertaken or recommended. In addition, the contractor shall describe the efforts it undertook to prevent use or submission of covered telecommunications equipment or services, and any additional efforts that will be incorporated to prevent future use or submission of covered telecommunications equipment or services.

(e) *Subcontracts*. The Contractor shall insert the substance of this clause, including this paragraph (e), in all subcontracts and other contractual instruments.

11. DOMESTIC PREFERENCES FOR PROCUREMENTS.

As appropriate, and to the extent consistent with law, the contractor should, to the greatest extent practicable, provide a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States. This includes, but is not limited to iron, aluminum, steel, cement, and other manufactured products.

For purposes of this clause:

Produced in the United States means, for iron and steel products, that all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.

Manufactured products mean items and construction materials composed in whole or in part of non-ferrous metals such as aluminum; plastics and polymer-based products such as polyvinyl chloride pipe; aggregates such as concrete; glass, including optical fiber; and lumber.

12. COMPLIANCE WITH FEDERAL EXECUTIVE ORDERS

This is an acknowledgement that American Rescue Plan Act will be used to fund the Contract only. The Contractor will comply with all applicable federal law, regulations, executive orders, policies, procedures, and directives.

13. NO OBLIGATION BY THE FEDERAL GOVERNMENT

The Federal Government is not a party to this Contract and is not subject to any obligations or liabilities to the non-Federal entity, Contractor, or any other party pertaining to any matter resulting from the Contract.

14. PROGRAM FRAUD AND FALSE OR FRAUDULENT STATEMENTS OR RELATED ACTS

The Contractor acknowledges that 31 U.S.C. Chap. 38 (Administrative Remedies for False Claims and Statements) applies to the Contractor's actions pertaining to this contract.

15. CONTRACTING WITH SMALL AND MINORITY BUSINESSES, WOMEN'S BUSINESS ENTERPRISES, AND LABOR SURPLUS AREA FIRMS.

(a) Any party to this contract must take all necessary affirmative steps to assure that minority businesses, women's business enterprises, and labor surplus area firms are used when possible. These steps are also required for the hiring of any subcontractors under this contract.

(b) Affirmative steps must include:

(1) Placing qualified small and minority businesses and women's business enterprises on solicitation lists;

(2) Assuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;

(3) Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses, and women's business enterprises;

- (4) Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority businesses, and women's business enterprises; and
- (5) Using the services and assistance, as appropriate, of such organizations as the Small Business Administration and the Minority Business Development Agency of the Department of Commerce.

16. COPYRIGHT AND DATA RIGHTS

The Contractor grants to the Parish, a paid-up, royalty-free, nonexclusive, irrevocable, worldwide license in data first produced in the performance of this contract to reproduce, publish, or otherwise use, including prepare derivative works, distribute copies to the public, and perform publicly and display publicly such data. For data required by the contract but not first produced in the performance of this contract, the Contractor will identify such data and grant to the Parish or acquires on its behalf a license of the same scope as for data first produced in the performance of this contract. Data, as used herein, shall include any work subject to copyright under 17 U.S.C. § 102, for example, any written reports or literary works, software and/or source code, music, choreography, pictures or images, graphics, sculptures, videos, motion pictures or other audiovisual works, sound and/or video recordings, and architectural works. Upon or before the completion of this contract, the Contractor will deliver to the Parish data first produced in the performance of this contract and data required by the contract but not first produced in the performance of this contract in formats acceptable by the Parish.

Note:

Davis-Bacon Act is NOT applicable to this project.

Section 13 Technical Specifications

SECTION 00 01 00 – TABLE OF CONTENTS

DIVISION 01 GENERAL REQUIREMENTS

01 11 00	Summary of Work.....	01 11 00-1 to 01 11 00-8
01 14 00	Work Restrictions	01 14 00-1 to 01 14 00-4
01 22 16	Measurement and Payment	01 22 16-1 to 01 22 16-18
01 25 00	Products, Materials, Equipment, and Substitutions	01 25 00-1 to 01 25 00-6
01 31 13	Project Coordination	01 31 13-1 to 01 31 13-4
01 32 13	Scheduling and Reporting	01 32 13-1 to 01 32 13-4
01 33 00	Submittal Procedures	01 33 00-1 to 01 33 00-10
01 42 13	Abbreviations and Acronyms.....	01 42 13-1 to 01 42 13-4
01 42 19	Reference Standards.....	01 42 19-1 to 01 42 19-2
01 45 00	Quality Control.....	01 45 00-1 to 01 45 00-2
01 51 00	Temporary Facilities and Controls.....	01 51 00-1 to 01 51 00-6
01 57 19	Temporary Environmental Controls.....	01 57 19-1 to 01 57 19-6
01 71 13	Mobilization.....	01 71 13-1 to 01 71 13-2
01 76 00	Protection of Existing Facilities	01 76 00-1 to 01 76 00-6
01 77 00	Project Closeout	01 77 00-1 to 01 77 00-2

DIVISION 02 EXISTING CONDITIONS

02 21 13	Site Conditions Surveys	02 21 13-1 to 02 21 13-2
02 41 00	Demolition and Reconstruction.....	02 41 00-1 to 02 41 00-10

DIVISION 03 CONCRETE

03 30 00	Cast-in-Place Concrete	03 30 00-1 to 03 30 00-24
03 60 00	Grouting.....	03 60 00-1 to 03 60 00-10

DIVISION 05 METALS

05 50 13	Miscellaneous Metal Fabrications	05 50 13-1 to 05 50 13-6
----------	--	--------------------------

DIVISION 09 FINISHES

09 90 00	Painting and Coating	09 90 00-1 to 09 90 00-10
----------	----------------------------	---------------------------

DIVISION 31 EARTHWORK

31 06 20.16	Backfill Materials.....	31 06 20.16-1 to 31 06 20.16-10
31 23 00	Excavation and Backfill for Utilities	31 23 00-1 to 31 23 00-18

DIVISION 32 EXTERIOR IMPROVEMENTS

32 31 00	Fences and Gates	32 31 00-1 to 32 31 00-4
32 92 23	Seeding and Sodding	32 92 23-1 to 32 92 23-8

DIVISION 33 UTILITIES

33 14 16	Water Utility Distribution Piping	33 14 16-1 to 33 14 16-28
----------	---	---------------------------

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01 11 00 - SUMMARY OF WORK

PART 1 -- GENERAL

1.01 THE REQUIREMENT

- A. Furnish all plant, tools, equipment, materials, supplies, and manufactured articles, labor, transportation, and services, including fuel, power, water, and essential communications, and performing all work or other operations required for the fulfillment of the Contract in strict accordance with the Contract Documents. Furnish all work, materials, and services not expressly indicated or called for in the Contract Documents which may be necessary for the complete and proper construction of the WORK in good faith as though originally so indicated, at no increase in cost to the OWNER. These actions constitute the WORK of this Contract.
- B. Instructions to the CONTRACTOR: Throughout these Technical Specifications, Instructions to the CONTRACTOR are generally written in active voice, imperative mood. The subject of imperative sentences is understood to be "the CONTRACTOR." The ENGINEER and OWNER's responsibilities are generally written in passive voice, indicative mood. Phrases such as "as approved," "unless otherwise approved," "upon approval," "as directed," "as verified," "as ordered," and "as determined" refer to actions of the ENGINEER or OWNER unless otherwise stated, and it is understood that the directions, orders, or instructions to which they relate are within the limitations of and authorized by the Contract Documents.

1.02 SITE CONDITION

- A. The location of the work of this contract is on the grounds of S&J Mobile Home Park (MHP) and Tammany Mobile Home Park. CONTRACTOR shall perform all work in a way that minimizes interferences with the Parish's Department of Utility's (DU) operation of the facility and the public. All schedules and methods of work are subject to approval by the ENGINEER. It will be assumed that all prospective bidders have inspected the site(s) and have acquainted themselves with the local conditions.
- B. The WORK is located in St. Tammany Parish, east of Slidell, Louisiana along Highway 190. A project vicinity map is provided within the DRAWINGS.
- C. Because of the location of the job site on the grounds of the S&J MHP and Tammany MHP, it is imperative that CONTRACTOR schedule and conduct work in such a manner so as not to interfere in any way with the operation of the facility. Trucking through the facility, delivering and storing materials and equipment, shall be done with the approval of the ENGINEER. CONTRACTOR's personnel will be allowed to enter the facility and park private vehicles on site; however, he will be allowed to bring equipment and company vehicles only into the facility as necessary in the execution of this contract but may be required to remove them if their presence interferes with the operations of the Department of Utilities, all at the discretion of the ENGINEER.
- D. All work of this contract MUST be coordinated with the Department of Utilities (DU) through the ENGINEER, with proper advanced notice.

- E. The existing Mobile Home Parks MUST remain operational throughout the length of this contract. Any outage of this facility and/or other damages due to CONTRACTOR's negligence shall be repaired immediately by CONTRACTOR at no additional cost to the contract. CONTRACTOR shall inform the DU at least 72 hours in advance for any coordination required for tie-in the existing facility to the new facility, weather permitting. No work shall begin without express written approval of the DU. Waste water spillage, if any, shall be remediated immediately to the satisfaction of DU at no additional cost to the contract.

1.03 BIDDERS TO EXAMINE LOCATION AND DRAWINGS

- A. Each BIDDER shall make a personal examination of the location of the proposed work and of the surrounding area. BIDDER shall thoroughly acquaint themselves with the details of the work to be done and all the conditions and obstacles likely to be encountered, including soil conditions, in the performance and completion of work. BIDDER shall inform themselves as to the facilities for the transportation, handling, and storage of equipment and materials.
- B. Each BIDDER shall carefully study the Drawings, specifications and other contract documents and thoroughly satisfy themselves as to the conditions under which the work is to be done, and as to the character, qualities and quantities of work to be performed, and materials to be furnished, and be prepared to execute a finished job in every particular.

1.04 ORDER OF PRECEDENCE

- A. In case of a conflict between the Contract Documents, the ENGINEER shall be the sole authority in determining which of the two shall take precedence. Such conflict shall not be a basis for an extra expense to the OWNER.
- B. The CONTRACTOR is hereby cautioned to base his/her price and work upon the more costly item in event of conflict as no claim for extra expense will be entertained on this basis.

1.05 JOB SITE DRAWINGS AND SPECIFICATIONS

- A. CONTRACTOR shall maintain a complete and current set of contract drawings and specifications (including any addenda) on the job site.
- B. CONTRACTOR shall maintain one (1) copy of all approved shop drawings, equipment or material drawings, etc. on the job site.

1.06 WORK COVERED BY CONTRACT DOCUMENTS

- A. The WORK of this Contract comprises the construction of new 6-inch and 8-inch potable water distribution systems at S&J MHP and Tammany MHP. Major items of the WORK include, but are not limited to the following:
 - 1. Construction of 8-inch potable water main and appurtenances at S&J MHP using

open-cut construction;

2. Connection of new 8-inch water main to new water main (installed by Others) on US Highway 190 near S&J MHP and new water main (installed by Others) on Blue Ridge Dr.;
 3. Construction of 8-inch and 6-inch potable water mains and appurtenances at Tammany MHP using open-cut construction;
 4. Connection of new 8-inch to water main to new (installed by Others) water main on US Highway 190 near Tammany MHP (two locations);
 5. Installation of service connections, water meters, and all appurtenances to each mobile home location, whether occupied or not, at S&J MHP and Tammany MHP;
 6. Pressure testing and disinfection of the new water mains at S&J MHP and Tammany MHP;
 7. Surface restoration of disturbed areas, including asphalt roads, gravel driveways, concrete, and sod;
 8. Replacement of drainage features damaged during the course of the WORK;
 9. Plug and abandon existing water well at S&J MHP and existing water well at Tammany MHP. Remove and dispose of above grade features of abandoned water system and cap/plug abandoned water system at those locations.
- B. The CONTRACTOR's attention is directed to the fact that the work is to be constructed near the right – of – way of a federally recognized highway owned and maintained by the State of Louisiana Department of Transportation and Development, and which is eligible for the receipt of Federal Aid as a part of the National Highway System (NHS). At no time may the CONTRACTOR encroach upon the highway except as specifically permitted by the Utility Permit.

1.07 CONTRACT METHOD

- A. The WORK hereunder will be constructed under a single unit-price contract.

1.08 EXPLANATION OF ALTERNATES

- A. No Bid Alternates will be considered.

1.09 WORK BY OTHERS

- A. Where 2 or more contracts are being performed at one time on the same Site or adjacent land in such manner that work under one contract may interfere with work under another, the OWNER will determine the sequence and order of the Work in either or both contracts. When the Site of one contract is the necessary or convenient means of access for performance of work under another, the OWNER may grant privilege of access or

other reasonable privilege to the contractor so desiring, to the extent, amount, and in manner and at time that the OWNER may determine. No OWNER determination of method or time or sequence or order of the work or access privilege will be the basis for a claim for delay or damage except under provisions of the General Conditions for temporary suspensions of the work.

- B. Conduct operations so as to cause a minimum of interference with the work of such other contractors and cooperate fully with such contractors to allow continued safe access to their respective portions of the Site, as required to perform work under their respective contracts.

1.10 INTERFERENCE WITH WORK ON UTILITIES

- A. 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.
- B. Schedule the WORK so as to minimize interference with said relocation, altering, or other rearranging of facilities.

1.11 CONTRACTOR USE OF SITE

- A. Per agreement between OWNER and the respective Mobile Home Park owners, CONTRACTOR has the right to perform the WORK on the property that is S&J Mobile Home Park and on the property that is Tammany Mobile Home Park.
- B. Limit use of the site to construction operations, including on-Site storage of materials, on-Site fabrication facilities, and field offices.

1.12 ROADWAY CLOSURE REQUESTS

- A. Modifications to existing facilities, the construction of new facilities, and the connection of new to existing facilities may require the temporary closure of existing Parish - maintained roadways and private driveways. In such cases, coordinate the WORK with the ENGINEER as described below. Submit a detailed closure request and time schedule for all construction activities which will make it necessary to completely or partially close a roadway, driveway, or walkway to the public.
- B. Submit the closure request to the ENGINEER a minimum of two (2) weeks in advance of the time that such closure is required. Coordinate the closure request with the construction schedule and the restrictions and conditions of these specifications. Within the closure request, describe the CONTRACTOR's temporary traffic control plan, the length of time to complete the operation, and the manpower, plant, and equipment to ensure that WORK requiring the closure is completed within the scheduled time for the closure. Assume and pay for all costs for preparing, implementing, maintaining, and removing the closure plan as part of the WORK.
- C. Do not enact a roadway, driveway, or sidewalk closure until written approval has been granted by the ENGINEER in each case. Should the CONTRACTOR enact a closure

without approval of the ENGINEER, the ENGINEER will direct the CONTRACTOR to take whatever measures are necessary to re – open the affected roadway, driveway, or sidewalk closure at the CONTRACTOR's expense. Should the CONTRACTOR refuse, the OWNER may take required measures and such costs will be withheld from future progress payments to the CONTRACTOR.

- D. The ENGINEER will coordinate the CONTRACTOR's planned closure with the OWNER's personnel. The ENGINEER has the authority to modify any proposed closure plans should the closure unnecessarily adversely impact the public.
- E. Notify the ENGINEER in writing at least one week in advance of the required closure if the schedule for performing the work has changed or if revisions to the closure plan are required. Provide written confirmation of the closure date and time two (2) working days prior to the actual closure.
- F. Closures of US Highway 190 are not permitted except which may be allowed by the Utility Permit.

1.13 OWNER USE OF THE SITE

- A. The OWNER will utilize all or part of the existing facilities during the entire period of construction for the conduct of the OWNER's normal operations and service to customers. Cooperate and coordinate with the OWNER to facilitate the OWNER's operations and to minimize interference with the CONTRACTOR's operations at the same time. In any event, allow the OWNER access to the Site during the period of construction.

1.14 PROJECT MEETINGS

A. Preconstruction Conference:

1. Prior to the commencement of WORK at the Site, a preconstruction conference will be held at a mutually agreed time and place. Ensure that the conference is attended by the CONTRACTOR'S Project Manager, its superintendent, and its subcontractors as the CONTRACTOR deems appropriate. Other attendees will be:
 - a. ENGINEER and the Resident Project Representative.
 - b. Representatives of OWNER.
 - c. Governmental representatives as appropriate.
 - d. Others as requested by CONTRACTOR, OWNER, or ENGINEER.
2. 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 complete agenda will be furnished to the CONTRACTOR prior to the meeting date. However, the CONTRACTOR should be prepared to discuss all of the items listed below.

- a. Status of CONTRACTOR's insurance and bonds.
 - b. CONTRACTOR's tentative schedules.
 - c. Transmittal, review, and distribution of CONTRACTOR's submittals.
 - d. Processing applications for payment.
 - e. Maintaining record documents.
 - f. Critical work sequencing.
 - g. Field decisions and Change Orders.
 - h. Use of Site, office and storage areas, security, housekeeping, and OWNER's needs.
 - i. Major equipment deliveries and priorities.
 - j. CONTRACTOR's field personnel and contact information.
 - k. CONTRACTOR's Emergency Telephone Numbers at which company officers and/or responsible persons can be contacted at night, weekends and holidays in case of emergencies.
3. The ENGINEER will preside at the preconstruction conference and will arrange for keeping and distributing the minutes to all persons in attendance.
 4. The CONTRACTOR and its subcontractors should plan on the conference taking no less than one half of one full working day.

B. Progress Meetings:

1. The ENGINEER will schedule and hold regular on-Site progress meetings as requested by CONTRACTOR or OWNER or as required by progress of the WORK. Ensure that the CONTRACTOR's Project Manager, superintendent, and pertinent subcontractors attend each meeting. CONTRACTOR may, at its discretion, request attendance by representatives of its suppliers, manufacturers, and other subcontractors.
2. The ENGINEER will preside at the progress meetings and will arrange for keeping and distributing the minutes. The purpose of the meetings is to review the progress of the WORK, maintain coordination of efforts, discuss changes in scheduling, and resolve other problems which may develop. During each meeting, present any issues that may impact its progress with a view to resolve these issues expeditiously.

PART 2 -- PRODUCTS (NOT USED)

PART 3 -- EXECUTION (NOT USED)

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01 14 00 – WORK RESTRICTIONS

PART 1 -- GENERAL

1.01 THE SUMMARY

- A. Schedule, sequence, and perform the WORK in a manner which minimizes disruption to the public and to the operation and maintenance of existing facilities along the pipeline alignment.
- B. Incorporate the construction and schedule constraints of this Section in preparing the construction schedules required under Section 01 32 13 - Scheduling and Reporting.
- C. Refer to Section 01 11 00 – Summary of Work for requirements related to access to the State right of way.

1.02 OPERATION OF OWNER'S FACILITIES

- A. Operational functions or shutdown of existing facilities required to facilitate CONTRACTOR's operation will be done by the OWNER's personnel only.
- B. The OWNER's operation and maintenance personnel will cooperate in every way that is practical to facilitate CONTRACTOR's operation. However, certain shutdown and connections may only be permissible at times other than normal working hours such as nights or weekends. No additional payment will be made to the CONTRACTOR for any night, weekend, or holiday premium or overtime payments.
- C. If it becomes necessary for the proper operation or maintenance of portions of the existing systems, the OWNER may require the CONTRACTOR to reschedule an approved shutdown. Reschedule operations so there will be no conflict with necessary operations or maintenance. Within two (2) days, furnish the ENGINEER a revised outage request and a plan for rescheduling the shutdown in accordance with the requirements of the construction schedule.

1.03 OUTAGE REQUESTS

- A. Unless the Contract Documents indicate otherwise, do not remove from service, de-energize, or modify settings for any existing operating pipeline, valve, fire hydrant, equipment, structures, roads, or any other facility without permission from the ENGINEER. Night work or work outside of normal operating hours may be required to perform tie ins to the existing system.
 - 1. The maximum duration of any outage is four (4) hours.
- B. Modifications to existing facilities, the construction of new facilities, and the connection of new to existing facilities may require the temporary outage of pipelines. In such cases, coordinate WORK with the ENGINEER as described below. Submit a detailed outage plan and time schedule for construction activities which will make it necessary to remove any facility from service.

- C. Submit outage plans to the ENGINEER for acceptance a minimum of two (2) weeks in advance of the time that such outages are required. Coordinate the outage plans with the construction schedule and ensure that the outage plans meet the restrictions and conditions of this Section. Describe the length of time required to complete the operation; and the manpower, plant, and equipment which the CONTRACTOR will provide. Costs for preparing and implementing the outage plans are responsibility of the CONTRACTOR as part of the WORK. Include all costs for preparing and implementing the outage plans in the Bid Price.
- D. Do not begin an alteration affecting existing facilities until specific written approval has been granted by the ENGINEER in each case.
- E. The ENGINEER will coordinate the CONTRACTOR's planned procedure with the operations personnel. The ENGINEER has the authority to modify any proposed shutdown procedures if such procedures would adversely impact the distribution system.
- F. Notify the ENGINEER in writing at least one week in advance of the required outage if the schedule for performing the WORK has changed or if revisions to the outage plan are required.
- G. Provide written confirmation of the shutdown date and time two (2) working days prior to the actual shutdown.

1.04 CONSTRUCTION SEQUENCING

- A. Schedule construction activities to ensure continuous operation of the existing water systems.

1.05 PERMITS

- A. Abide by the conditions of all permits and obtain proof of satisfaction of conditions from issuers of permits, where so required, prior to acceptance of the WORK by the OWNER.
- B. Conditions affecting the CONTRACTOR are found in the following permit. Copies of permit conditions are included as attachments to these specifications.

1. Louisiana Department of Health Permit No. P23-09-103-140.

1.06 LONG LEAD ITEMS

- A. CONTRACTOR shall order items with long delivery schedules as soon as the Notice to Proceed has been issued. Contract substantial completion date shall not be extended due to CONTRACTOR's negligence in ordering material and/or equipment in timely manner.

1.07 SCHEDULE CONSTRAINTS

- A. General: It is the CONTRACTOR's responsibility to coordinate and plan the construction

activities to integrate each schedule constraint into performance of the overall WORK.

- B. The listing of schedule constraints below does not mean that every constraint or special condition has been identified. The list does not substitute for the CONTRACTOR's coordination and planning for completion of the WORK within the Contract Times.
- C. The following constraints affect the construction schedule.
 - 1. Do not perform work on holidays observed by the OWNER.
 - 2. Testing/sampling is performed by the Louisiana Department of Health on Mondays through Thursdays only.
 - 3. Do not connect any new water distribution pipeline to any existing water distribution pipeline until the new water distribution pipeline has been constructed, pressure tested, disinfected, and accepted by the OWNER.
 - 4. Do not initiate work on any public road prior to the initial installation of temporary traffic control devices.

PART 2 -- PRODUCTS (NOT USED)

PART 3 -- EXECUTION (NOT USED)

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK



State of Louisiana
Louisiana Department of Health
Office of Public Health

October 6, 2023

St Tammany Parish Government Department of Utilities
620 N. Tyler Street
Covington, LA 70433

c/o Barry Breaux, P.E.
Trigon Associates
1515 Poydras Street, Suite 930
New Orleans, LA 70112

Re: *Water Sector Commission Project Round 2 Application No. 845*
LDH Tracking ID #60004493

S&J MHP and Tammany MHP Water Distribution System

- Replacement of water main, service connections, valve, hydrants, and sampling points.
- Population 771
- 4, 6, 8 inch PVC PVC AWWA C900 DR-18 Line, Valves, and Appurtenances
- Project No: TU23000163 (S&J MHP)
Project No. TU23000164 (Tammany MHP)

Slidell, LA
St. Tammany Parish
LDH/OPH Permit No. P23-09-103-140

Dear Applicant:

Plans and specifications of the above named project have been reviewed and found to be in substantial conformity with applicable provisions of the Louisiana Administrative Code. The design is, therefore, approved.

This approval refers to sanitary features of the design only, and is not to be taken as an approval of structural details, except insofar as they may affect sanitation.

This approval is issued with the stipulation that this water system will be owned, operated, and maintained by:

St Tammany Parish Government Department of Utilities
620 N. Tyler Street
Covington, LA 70433

October 6th, 2023

Page 2 of 3

Re: S & J, St. Tammany MHP Water Distribution System
St. Tammany Parish

Proposed project will connect to:
Cross Gates Water System
PWS_ID#1103053

The plans and specifications are being sent to the St Tammany Parish Health Unit.

This approval is automatically canceled if construction of the project has not been started within two (2) years after the date of this letter.

After construction is completed, the engineer(s) and contractor(s) responsible for the design and construction of the project shall complete and submit the Certification of Construction Form to this Office (Southeast Region IX Office of Public Health, 42354 West Club Deluxe Road, Suite #12, Hammond, LA 70403) certifying that the project was constructed in accordance with the plans and specifications approved (or to which “no objection” was issued) by this Office. As of February 1, 2007, this Certification of Construction Form shall be required prior to occupancy. Please be reminded that this permit is not considered final until the completed Certification of Construction Form is received by this office.

If construction commences before a permit is granted, a Notice of Violation will be issued for the project. A letter of “no objection” will not be issued on any pre-constructed project unless the project fully complies with the requirements of the Sanitary Code.

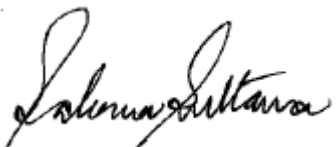
In the event that it is determined at some point in the future that a design error escaped our detection during our review of these plans and specifications, that oversight shall not relieve you, the applicant, of the responsibility for complete compliance with the requirements of the Louisiana Administrative Code [particularly, LAC 51 (Public Health-Sanitary Code) and LAC 48 (Public Health-General)], specifically including correcting the violations inadvertently overlooked.

Please be reminded that it is the responsibility of the owner of the public water system to obtain all necessary permits and rights-of-way for the proposed water distribution system.

Please be reminded that mandatory containment practices, including but not limited to backflow prevention methods or devices, shall be utilized to protect water supply customers and on-site users of the water system against potential contamination, as required by LAC 51:XII.344.

If you have any questions or require additional information, please call me at (225) 342-7363.

Respectfully,



Salowa Sultana, PE, PTOE
District Engineer (District II)

ec: Mike Hanberry, Parish Sanitarian Manager, LDH/OPH

October 6th, 2023

Page 3 of 3

Re: S & J, St. Tammany MHP Water Distribution System
St. Tammany Parish

Corey Harris, P.E., LDH/OPH Region 9 Engineer
Lisa De La Fuente, P.E., LDH/OPH Region 9 Engineer
Jennifer Dewitt, P.E., LDH/OPH Region 9 Engineer

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01 22 16 – MEASUREMENT AND PAYMENT

PART 1 -- GENERAL

1.01 SCOPE

- A. This Section specifies administrative and procedural requirements governing the prices set forth in the Bid Form and the Contractor's Applications for Payment.
- B. Payment for each of the items of the Bid Form shall include compensation to be received by the CONTRACTOR for furnishing all tools, equipment, supplies, and manufactured articles, and for all labor, operations, and incidentals appurtenant to the items of work being described, as necessary to complete the various items of the WORK all in accordance with the requirements of the Contract Documents, including all appurtenances thereto, and including all costs of permits and cost of compliance with the regulations of public agencies having jurisdiction, including Safety and Health Requirements of the U.S. Department of Labor and Occupational Safety & Health Administration (OSHA).
- C. The Total Base Bid and sum of all Alternates shall cover all work required by the Contract Documents. All costs in connection with the proper and successful completion of the Work, including furnishing all materials, equipment, supplies and appurtenances; providing all construction equipment and tools; and performing all necessary labor and supervision to fully complete the Work, shall be included in the prices bid. All work not specifically set forth as a pay item in the Bid Form shall be considered a subsidiary obligation of the Contractor and all costs in connection therewith shall be included in the prices bid.
- D. All Work shall be in accordance with the lump sum and unit prices set forth in the Bid Form.
- E. No separate payment will be made for any item that is not specifically set forth in the Bid Form. Therefore, include all costs of the WORK in the prices named in the Bid Form for the various appurtenant items of WORK.
- F. Payment Applications shall be in the format required by the OWNER. Supporting documentation shall be provided as required by the OWNER.

1.02 SCHEDULE OF VALUES

- A. Submit Preliminary Schedule of Values at the Preconstruction Conference.
- B. Submit Schedule of Values incorporating comments provided by ENGINEER with or prior to the Initial Application for Payment.
- C. Schedule of Values shall be based on the accepted Bid Form. Schedule of Values may break down a Bid Item into more than one Schedule of Values item for ease of field verification of quantities.

- D. For items on which progress payments will be requested for stored materials, break down the value into:
 - 1. The total installed and operational value, with CONTRACTOR'S overhead and profit and less item 2. as defined below
 - 2. The cost of the materials, delivered and unloaded, with taxes paid.
- E. The sum of any Bid Item that has been broken into more than one Schedule of Values item shall total the amount of the Bid Item.
- F. The sum of the values of all items listed in the Schedule of Values shall equal the agreed final Contract Amount.
- G. The Bid Form shall serve as the basis for the Schedule of Values. The Schedule of Values shall serve as the basis for the Application for Payment.
- H. The first progress payment will not be made until the next pay cycle following the approval of the Schedule of Values.

1.03 APPLICATIONS FOR PAYMENT

A. Format and data required:

- 1. Submit payment requests in the form required by ENGINEER with itemized data typed on 8.5" by 11" white paper continuation sheets.
- 2. Provide itemized data on continuation sheet.
- 3. Format, schedules, pay items.

B. SUBMITTAL PROCEDURE

- 1. Number: Original and one (1) copy of each Application and attachments.
- 2. Each Application for Payment shall be consistent with previous applications and payments paid by the OWNER.
- 3. The initial Application for Payment, the Application for Payment at time of Substantial Completion, and the final Application for Payment involve additional requirements.
- 4. Payment Application Times. The date for each progress payment is on or around the 10th day of each month. The period of construction Work covered by each Application for Payment is the period ending on the last day of the month for each progress payment and starting the day following the end of the preceding period.
- 5. Payment Application Forms. Use only AIA Document G702 and Continuation Sheets G703 as the form for Application for Payment.
- 6. Application Preparation. Complete every entry on the form, including execution by a person authorized to sign legal documents on behalf of the Contractor.

Incomplete applications will be returned without action.

- a. Entries shall match data on the Schedule of Values and CONTRACTOR's Construction Schedule. Use updated schedules if revisions have been made.
 - b. Include amounts of Change Orders and Construction Change Directives issued prior to the last day of the construction period covered by the application.
7. Transmittal: Submit executed copies of each Application for Payment to the ENGINEER; all copies shall be complete, including waivers of lien and similar attachments, when required.
 - a. Transmit each copy with a transmittal letter listing attachments, and recording appropriate information related to the application.
8. Initial Application for Payment: Provide the following, if applicable, administrative actions and submittals prior to or with the first Application for Payment:
 - a. List of subcontractors.
 - b. List of principal suppliers and fabricators.
 - c. CONTRACTOR's Construction Schedule (preliminary if not final).
 - d. Schedule of Values.
 - e. Submittal Schedule (preliminary if not final).
 - f. List of Contractor's staff assignments.
 - g. Copies of building permits.
 - h. Initial progress report.
 - i. Report of pre-construction meeting.
9. Application for Payment at Substantial Completion. Following issuance of the Certificate of Substantial Completion. Provide the following prior to or with this application:
 - a. Warranties (guarantees) and maintenance agreements.
 - b. Final cleaning.
 - c. List of incomplete Work, recognized as exceptions to OWNER's Certificate of Substantial Completion.
10. Final Payment Application. Provide the following administrative actions and

submittals prior to or with submittal of the final payment Application for Payment:

- a. Completion of Project closeout requirements.
- b. Completion of items specified for completion after Substantial Completion.
- c. Assurance that unsettled claims will be settled.
- d. Assurance that Work not complete and accepted will be completed without undue delay.
- e. Transmittal of required Project construction records to OWNER.
- f. Removal of temporary facilities and services.
- g. Removal of surplus materials, rubbish and similar elements.
- h. Maintenance instructions.

1.04 ACCURACY

- A. The ENGINEER will be the judge of the accuracy of measurements, or approximations made in lieu of accurate determinations and these decisions will be binding upon both the CONTRACTOR and the OWNER.
- B. The ENGINEER will utilize an accepted Schedule of Values for the purpose of estimating the value of WORK completed for the evaluation of requests for payment unless otherwise directed.
- C. In computing volumes of excavation, the average end area method or other acceptable methods will be used.
- D. When United States standard units are used, the pound or the ton will be the standard units of weight. The term "ton," in the United States standard, will mean the short ton of 2,000 pounds avoirdupois. Weigh materials measured or proportioned by weight on approved scales by qualified personnel at designated locations. If material is shipped by rail, the car weight may be accepted provided the weight of material only will be paid for; however, car weights will not be acceptable for material to be passed through mixing plants. Weigh trucks used to haul material being paid by measured weight empty at such times as directed; and provide each truck a plainly legible identification mark.
- E. Haul materials specified to be measured by volume in hauling vehicles in approved vehicles that will be measured at the point of delivery on the project. Vehicles may be of any acceptable size or type, provided the body is of such shape that the volume can be readily and accurately determined. Load vehicles to at least a predetermined permanently fixed mark, which defines a known volume, upon arrival at the point of delivery. Vehicles will be measured in increments of 0.5 cubic yards, except that when

tailgate spreader-boxes are used to place aggregate materials for asphaltic surface treatment, the volume of the spreader-box will be added to the volume of the vehicle. When materials are measured by weight and converted to volume for payment, conversion will be made to the nearest 0.1 cubic yard. Where materials are measured by weight or by volume and converted to the other, the following table will be used:

Material	Tons to Cubic Yards, Factor
Limestone	1.95
Sandstone	1.82
Porous Limestone	1.76
Lime Treated Sand Clay Gravel	1.89
Recycled Portland Cement Concrete	1.82
Reclaimed Asphalt Pavement	1.80

- F. Where decimal places are included in the estimated quantities shown in the Bid Form, the ENGINEER will round quantities to the same number of decimal places shown in the estimated quantities on the Bid Form.
- G. The terms "lump sum, each, or unit" when used as a unit of measure for payment will mean complete payment for the work described in the contract. Portions of lump sum items may be paid where deemed acceptable by the ENGINEER and OWNER based upon an estimate of the proportion of the WORK of the lump sum item acceptably completed in accordance with the Contract Documents. The ENGINEER may utilize an accepted Schedule of Values to make such determinations. Provide all supporting documentation requested by the ENGINEER in this regard.

1.05 MOBILIZATION/DEMobilIZATION (BID ITEM NO. 1)

- A. Measurement: No measurement will be made for this item.
- B. Payment: Payment for this item will be made at the lump sum price on the Bid Form, or in portions thereof in accordance with the table below. Payment of said price listed on the Bid Form constitutes full compensation to be paid to the CONTRACTOR for this item, inclusive of all labor, products and materials, equipment, and services necessary for the successful mobilization and demobilization to and from the site, all in accordance with the requirements of the Contract Documents.

Percent of Total Contract Amount Earned	Allowable Percent of Lump Sum Price for Mobilization/Demobilization
1st Application for Payment	25
10	50
25	75
50	100

1.06 CLEARING/GRUBBING/SITE PREPARATION (BID ITEM NO. 2)

- A. Measurement: No measurement will be made for this item.
- B. Payment: Payment for this item will be made in portions of the lump sum price named in the Bid Form in accordance with the following table. Payment of the lump sum price listed in the Bid Form shall constitute full compensation for all equipment, materials, tools, labor, and incidentals necessary for clearing/grubbing/site preparation in accordance with the requirements of the Contract Documents.

Percent of Total Contract Amount Earned	Allowable Percent of Lump Sum Price for Site Preparation
1st Application for Payment	40
50	100

1.07 REMOVAL AND DISPOSAL OF CONCRETE PAVEMENT, STRUCTURES AND OBSTRUCTIONS (BID ITEM NO. 3)

- A. Measurement: No measurement will be made for this item.
- B. Payment: Payment for this item will be made in portions of the lump sum price named in the Bid Form in accordance with the following table. Payment of the lump sum price listed in the Bid Form shall constitute full compensation for all equipment, materials, tools, labor, and incidentals necessary for removal and disposal of concrete pavement, structures and obstructions in accordance with the requirements of the Contract Documents.

Percent of Total Contract Amount Earned	Allowable Percent of Lump Sum Price for removal and disposal of concrete pavement, structures and obstructions
1st Application for Payment	40
25	60
50	80
75	95
100	100

1.08 TRAFFIC CONTROL AND REGULATION (BID ITEM NO. 4)

- A. Measurement: No measurement will be made for this item.
- B. Payment: Payment for this item will be made in portions of the lump sum price named in the Bid Form in accordance with the following table. Payment of said price listed on the Bid Form constitutes full compensation to be paid to the CONTRACTOR for this item, inclusive of all labor, products and materials, equipment, and services necessary for the development, implementation, maintenance, adjustment, and removal of all temporary traffic controls, all in accordance with the requirements of the Contract Documents.

Percent of Total Contract Amount Earned	Allowable Percent of Lump Sum Price for Traffic Control
1st Application for Payment	40
25	60
50	80
75	95
100	100

1.09 FLAGMEN (BID ITEM NO. 5)

- A. Measurement: No measurement will be made for this item.
- B. Payment: Payment for this item will be made in portions of the lump sum price named in the Bid Form in accordance with the following table. Payment of said price listed on the Bid Form constitutes full compensation to be paid to the CONTRACTOR for this item, inclusive of all labor, products and materials, equipment, and services necessary for flagmen, all in accordance with the requirements of the Contract Documents.

Percent of Total Contract Amount Earned	Allowable Percent of Lump Sum Price for Flagmen
1st Application for Payment	40
25	60
50	80
75	95
100	100

1.10 ROAD REPAIR WITH ASPHALT PATCH (4-INCH THICK) (BID ITEM NO. 6)

- A. Measurement: Measurement for payment for this item shall be based upon the square yard of asphaltic concrete pavement patched as determined by field measurement.
- B. Payment: Payment for this item will be made at the unit price per square yard named in the Bid Form. Payment of said price listed on the Bid Form constitutes full compensation for equipment, materials, tools, labor and incidentals necessary for the patching of asphaltic pavement including sawcutting, excavation and disposal of excess material, compaction of subgrade, spreading, finishing, and compacting the asphaltic concrete, and site restoration as indicated on the drawings and as specified, all in accordance with the requirements of the Contract Documents.

1.11 REMOVE AND REPLACE GRAVEL DRIVEWAY (ALL THICKNESSES) (BID ITEM NO. 7)

- A. Measurement: Measurement for payment for this item shall be based upon the square foot of gravel driveway installed as determined by field measurement.
- B. Payment: Payment for this item will be made at the unit price per square foot named in the Bid Form. Payment of said price listed on the Bid Form constitutes full compensation for equipment, materials, tools, labor and incidentals necessary for the

removal and replacement of gravel driveways including excavation and disposal of excess material, compaction of subgrade, spreading, finishing, and compacting gravel, and site restoration as indicated on the drawings and as specified, all in accordance with the requirements of the Contract Documents.

1.12 TRENCH SAFETY SYSTEM (BID ITEM NO. 8)

- A. Measurement: Measurement for payment for this item shall be based upon the number of linear feet of trench safety system installed as determined by field measurement.
- B. Payment: Payment for this item will be made at the unit price per linear foot named in the Bid Form. Payment of said price listed on the Bid Form constitutes full compensation for equipment, materials, tools, labor and incidentals necessary for the installation of trench safety system, all in accordance with the requirements of the Contract Documents.

1.13 TOP SOIL PLACEMENT, GRADING, HYDROMULCH (BID ITEM NO. 9)

- A. Measurement: Measurement for payment for this item shall be based upon the square yard of surface restoration as determined by field measurement.
- B. Payment: Payment for this item will be made at the unit price per square yard named in the Bid Form. Payment of said price listed on the Bid Form constitutes full compensation for equipment, materials, tools, labor and incidentals necessary for top soil placement, grading, and hydromulch, all in accordance with the requirements of the Contract Documents.

1.14 STORM WATER POLLUTION PREVENTION PLAN (SWPPP) (BID ITEM NO. 10)

- A. Measurement: No measurement will be made for this item.
- B. Payment: Payment for this item will be made at the lump sum price named in the Bid Form, or in portions thereof in accordance with the table below. Payment of said price listed on the Bid Form constitutes full compensation for equipment, materials, tools, labor and incidentals necessary for storm water pollution prevention controls and structures, all in accordance with the requirements of the Contract Documents.

Percent of Total Contract Amount Earned	Allowable Percent of Lump Sum Price for SWPPP
1st Application for Payment	40
25	60
50	80
75	95
100	100

1.15 RELOCATION OF UNDERGROUND UTILITIES TO ADDRESS CONFLICTS (BID ITEM NO. 11)

- A. Measurement: No measurement will be made for this item.

- B. Payment: Payment for this item will be made at the lump sum price named in the Bid Form, or in portions thereof in accordance with the table below. Payment of said price listed on the Bid Form constitutes full compensation for equipment, materials, tools, labor and incidentals necessary for the relocation of all underground utilities to address conflicts including reconnection to service, all in accordance with the requirements of the Contract Documents.

Percent of Total Contract Amount Earned	Allowable Percent of Lump Sum Price for Utility Relocation
1st Application for Payment	40
25	60
50	80
75	95
100	100

1.16 WATER LINE PAVEMENT MARKERS (BID ITEM NO. 12)

- A. Measurement: Measurement for payment for this item shall be based upon the number of such markers furnished and installed in place.
- B. Payment: Payment for this item will be made at the unit price named in the Bid Form. Payment of said price listed on the Bid Form constitutes full compensation for equipment, materials, tools, labor and incidentals necessary for the installation of the marker, inclusive but not limited to production of the marker, excavation, backfill, placement and orientation of the marker, all in accordance with the requirements of the Contract Documents.

1.17 REMOVE EXISTING CULVERTS (BID ITEM NO. 13)

- A. Measurement: Measurement for payment for this item shall be based upon the number of linear feet of such pipe actually removed as determined by measurement along the centerline of such pipe as measured between outside of structures, not inclusive of the length of fittings and valves.
- B. Payment: Payment for this item will be made at the unit price named in the Bid Form. Payment of said price listed on the Bid Form constitutes full compensation for equipment, materials, tools, labor and incidentals necessary for the removal of culverts, inclusive but not limited to excavation and disposal of culverts and ancillary materials, all in accordance with the requirements of the Contract Documents.

1.18 12-INCH RCP DRAINAGE SYSTEM (BID ITEM NO. 14)

- A. Measurement: Measurement for payment for this item shall be based upon the number of linear feet of such pipe actually placed as determined by measurement along the centerline of such pipe as measured between outside of structures, not inclusive of the length of fittings.
- B. Payment: Payment for this item will be made at the unit price named in the Bid Form.

Payment of said price listed on the Bid Form constitutes full compensation for equipment, materials, tools, labor and incidentals necessary for the installation of drainage pipeline, inclusive but not limited to excavation, shoring for excavation safety, provision and placement of bedding material, provision, placement and joining of pipe, joining of pipe to structures, fittings, and backfilling and all other work, all in accordance with the requirements of the Contract Documents.

1.19 8-INCH DIAMETER WATER LINE RESTRAINED PIPE, AWWA C900 PVC, BY OPEN CUT CONSTRUCTION (BID ITEM NO. 15)

- A. Measurement: Measurement for payment for this item shall be based upon the number of linear feet of such pipe actually placed as determined by measurement along the centerline of such pipe as measured between outside of structures, not inclusive of the length of fittings and valves.
- B. Payment: Payment for this item will be made at the unit price named in the Bid Form. Payment of said price listed on the Bid Form constitutes full compensation for equipment, materials, tools, labor and incidentals necessary for the installation of water main pipeline, inclusive but not limited to excavation, shoring for excavation safety, provision and placement of bedding material, provision, placement and joining of pipe, provision and installation of pipe restraints, pressure testing and disinfection including bacteriological testing, joining of pipe to structures, valves, and fittings, and backfilling and all other work, all in accordance with the requirements of the Contract Documents.

1.20 6-INCH DIAMETER WATER LINE RESTRAINED PIPE, AWWA C900 PVC, BY OPEN CUT CONSTRUCTION (BID ITEM NO. 16)

- A. Measurement: Measurement for payment for this item shall be based upon the number of linear feet of such pipe actually placed as determined by measurement along the centerline of such pipe as measured between outside of structures, not inclusive of the length of fittings and valves.
- B. Payment: Payment for this item will be made at the unit price named in the Bid Form. Payment of said price listed on the Bid Form constitutes full compensation for equipment, materials, tools, labor and incidentals necessary for the installation of water main pipeline, inclusive but not limited to excavation, shoring for excavation safety, provision and placement of bedding material, provision, placement and joining of pipe, provision and installation of pipe restraints, pressure testing, and disinfection including bacteriological testing, joining of pipe to structures, valves, and fittings, and backfilling and all other work, all in accordance with the requirements of the Contract Documents.

1.21 4-INCH DIAMETER WATER LINE RESTRAINED PIPE, AWWA C900 PVC, BY OPEN CUT CONSTRUCTION (BID ITEM NO. 17)

- A. Measurement: Measurement for payment for this item shall be based upon the number of linear feet of such pipe actually placed as determined by measurement along the centerline of such pipe as measured between outside of structures, not inclusive of the length of fittings and valves.

- B. Payment: Payment for this item will be made at the unit price named in the Bid Form. Payment of said price listed on the Bid Form constitutes full compensation for equipment, materials, tools, labor and incidentals necessary for the installation of water main pipeline, inclusive but not limited to excavation, shoring for excavation safety, provision and placement of bedding material, provision, placement and joining of pipe, provision and installation of pipe restraints, pressure testing, and disinfection including bacteriological testing, joining of pipe to structures, valves, and fittings, and backfilling and all other work, all in accordance with the requirements of the Contract Documents.

1.22 WATER LINE OFFSET (BID ITEM NO. 18)

- A. Measurement: Measurement for payment for this item shall be based upon the number of such offsets installed in place.
- B. Payment: Payment for this item will be made at the unit price named in the Bid Form. Payment of said price listed on the Bid Form constitutes full compensation for equipment, materials, tools, labor and incidentals necessary for the furnishing and placing all such offsets, including but not limited to at least four (4) bends required to adjust the vertical alignment of the pipe over/under the conflict and return it to the alignment, installation of retainer glands for the fitting, pipe jointing, pressure testing, and disinfection including bacteriological testing and all other work, all in accordance with the requirements of the Contract Documents.

1.23 MAINLINE FITTINGS, AWWA C110/C153 DUCTILE IRON, HORIZONTAL AND/OR VERTICAL, ALL ANGLES, FULLY RESTRAINED (BID ITEM NO. 19)

- A. Measurement: Measurement for payment for this item shall be made per pound for acquisition and complete installation of materials as shown in the schedule below and as indicated in the Drawings.
- B. Payment: Payment for this item will be made at the unit price named in the Bid Form. Payment of said price listed on the Bid Form constitutes full compensation for equipment, materials, tools, labor and incidentals necessary for the furnishing and placing all such fittings, including but not limited to all earthwork, including excavation, dewatering, backfill, compaction, provision and installation of retainer glands for the fitting, pipe jointing, provision and installation of pipe restraints, pressure testing, and disinfection including bacteriological testing and all other work, all in accordance with the requirements of the Contract Documents.

Mainline Fitting Schedule		
Ductile Iron Fitting and Appurtenances	Quantity	Approximate Weight Per Each (lbs)
6x6x6-Inch Tee	7	65
8x8x4-Inch Tee	3	65
8x8x6-Inch Tee	16	75
8x8x8-Inch Tee	2	90
8x6-Inch Reducer	1	55

Mainline Fitting Schedule (cont.)		
Ductile Iron Fitting and Appurtenances	Quantity	Approximate Weight Per Each (lbs)
6-Inch 22.5° Bend	12	35
8-Inch 22.5° Bend	8	45
6-Inch 45° Bend	3	40
8-Inch 45° Bend	2	50
6-Inch 90° Bend	1	45
8-Inch 90° Bend	2	65

1.24 CONNECTION TO WATER LINE ALONG HWY-190 AT TAMMANY MOBILE HOME PARK (BID ITEM NO. 20)

- A. Measurement: Measurement for payment for this item shall be based upon the number of such connections installed in place.
- B. Payment: Payment for this item will be made at the unit price named in the Bid Form. Payment of said price listed on the Bid Form constitutes full compensation for equipment, materials, tools, labor and incidentals necessary for the sheeting, shoring, and bracing, excavation, installation of connection fittings, required transition sleeve, pressure testing, disinfection including bacteriological testing, and backfilling, all in accordance with the requirements of the Contract Documents.

1.25 CONNECTION TO WATER LINE ALONG HWY-190 AT S&J MOBILE HOME PARK (BID ITEM NO. 21)

- A. Measurement: Measurement for payment for this item shall be based upon the number of such connections installed in place.
- B. Payment: Payment for this item will be made at the unit price named in the Bid Form. Payment of said price listed on the Bid Form constitutes full compensation for equipment, materials, tools, labor and incidentals necessary for the sheeting, shoring, and bracing, excavation, installation of connection fittings, required transition sleeve, pressure testing, disinfection including bacteriological testing, and backfilling, all in accordance with the requirements of the Contract Documents.

1.26 CONNECTION TO WATER LINE ALONG BLUE RIDGE DR AT S&J MOBILE HOME PARK (BID ITEM NO. 22)

- A. Measurement: Measurement for payment for this item shall be based upon the number of such connections installed in place.
- B. Payment: Payment for this item will be made at the unit price named in the Bid Form. Payment of said price listed on the Bid Form constitutes full compensation for equipment, materials, tools, labor and incidentals necessary for the sheeting, shoring, and bracing, excavation, installation of connection fittings, required transition sleeve, pressure testing, disinfection including bacteriological testing, and backfilling, all in accordance with the requirements of the Contract Documents.

1.27 8-INCH DIAMETER GATE VALVE, BOX, AND ACCESSORIES (BID ITEM NO. 23)

- A. Measurement: Measurement for payment for this item shall be based upon the number of such valves installed in place.
- B. Payment: Payment for this item will be made at the unit price named in the Bid Form. Payment of said price listed on the Bid Form constitutes full compensation for equipment, materials, tools, labor and incidentals necessary for the installation of the valve, inclusive but not limited to excavation, shoring for excavation safety, provision and placement of bedding material, provision and installation of the valve including retainer glands for full restraint of the valve, valve actuator, extension stem, soil pipe, valve casting, and concrete pad (or manhole cover for buried valves in pavement), and backfilling, all in accordance with the requirements of the Contract Documents.

1.28 6-INCH DIAMETER GATE VALVE, BOX, AND ACCESSORIES (BID ITEM NO. 24)

- A. Measurement: Measurement for payment for this item shall be based upon the number of such valves installed in place.
- B. Payment: Payment for this item will be made at the unit price named in the Bid Form. Payment of said price listed on the Bid Form constitutes full compensation for equipment, materials, tools, labor and incidentals necessary for the installation of the valve, inclusive but not limited to excavation, shoring for excavation safety, provision and placement of bedding material, provision and installation of the valve including retainer glands for full restraint of the valve, valve actuator, extension stem, soil pipe, valve casting, and concrete pad (or manhole cover for buried valves in pavement), and backfilling, all in accordance with the requirements of the Contract Documents.

1.29 4-INCH DIAMETER GATE VALVE, BOX, AND ACCESSORIES (BID ITEM NO. 25)

- A. Measurement: Measurement for payment for this item shall be based upon the number of such valves installed in place.
- B. Payment: Payment for this item will be made at the unit price named in the Bid Form. Payment of said price listed on the Bid Form constitutes full compensation for equipment, materials, tools, labor and incidentals necessary for the installation of the valve, inclusive but not limited to excavation, shoring for excavation safety, provision and placement of bedding material, provision and installation of the valve including retainer glands for full restraint of the valve, valve actuator, extension stem, soil pipe, valve casting, and concrete pad (or manhole cover for buried valves in pavement), and backfilling, all in accordance with the requirements of the Contract Documents.

1.30 SERVICE LINE AND CONNECTION FROM WATER LINE TO METER (BID ITEM NO. 26)

- A. Measurement: Measurement for payment for this item shall be based upon the number of connections installed in place.

- B. Payment: Payment for this item will be made at the unit price named in the Bid Form. Payment of said price listed on the Bid Form constitutes full compensation for equipment, materials, tools, labor and incidentals necessary for the sheeting, shoring, and bracing, excavation, installation of connection fittings, required transition sleeve, pressure testing, disinfection including bacteriological testing, and backfilling, all in accordance with the requirements of the Contract Documents.
- 1.31 SINGLE WATER METER BOX (3/4" METER) (BID ITEM NO. 27)
- A. Measurement: Measurement for payment for this item shall be based upon the number of such water meter boxes installed in place.
 - B. Payment: Payment for this item will be made at the unit price named in the Bid Form. Payment of said price listed on the Bid Form constitutes full compensation for equipment, materials, tools, labor and incidentals necessary for the excavation, installation of water meter box and all necessary appurtenances for a complete working system, and backfilling, all in accordance with the requirements of the Contract Documents.
- 1.32 DUPLEX WATER METER BOX (3/4" METER) (BID ITEM NO. 28)
- A. Measurement: Measurement for payment for this item shall be based upon the number of such water meter boxes installed in place.
 - B. Payment: Payment for this item will be made at the unit price named in the Bid Form. Payment of said price listed on the Bid Form constitutes full compensation for equipment, materials, tools, labor and incidentals necessary for the excavation, installation of water meter box and all necessary appurtenances for a complete working system, and backfilling, all in accordance with the requirements of the Contract Documents.
- 1.33 QUAD CONCRETE WATER METER BOX (3/4" METER) (BID ITEM NO. 29)
- A. Measurement: Measurement for payment for this item shall be based upon the number of such water meter boxes installed in place.
 - B. Payment: Payment for this item will be made at the unit price named in the Bid Form. Payment of said price listed on the Bid Form constitutes full compensation for equipment, materials, tools, labor and incidentals necessary for the excavation, installation of water meter box and all necessary appurtenances for a complete working system, and backfilling, all in accordance with the requirements of the Contract Documents.
- 1.34 SINGLE WATER METER BOX (2" METER) (BID ITEM NO. 30)
- A. Measurement: Measurement for payment for this item shall be based upon the number of such water meter boxes installed in place.
 - B. Payment: Payment for this item will be made at the unit price named in the Bid Form.

Payment of said price listed on the Bid Form constitutes full compensation for equipment, materials, tools, labor and incidentals necessary for the excavation, installation of water meter box and all necessary appurtenances for a complete working system, and backfilling, all in accordance with the requirements of the Contract Documents.

1.35 SINGLE CONCRETE WATER METER BOX (4" METER) (BID ITEM NO. 31)

- A. Measurement: Measurement for payment for this item shall be based upon the number of such water meter boxes installed in place.
- B. Payment: Payment for this item will be made at the unit price named in the Bid Form. Payment of said price listed on the Bid Form constitutes full compensation for equipment, materials, tools, labor and incidentals necessary for the excavation, installation of water meter box and all necessary appurtenances for a complete working system, and backfilling, all in accordance with the requirements of the Contract Documents.

1.36 WATER METER 3/4", FURNISHED AND INSTALLED (BID ITEM NO. 32)

- A. Measurement: Measurement for payment for this item shall be based upon the number of such water meter installed in place.
- B. Payment: Payment for this item will be made at the unit price named in the Bid Form. Payment of said price listed on the Bid Form constitutes full compensation for equipment, materials, tools, labor and incidentals necessary for the installation of water meter, testing and put in-service, all in accordance with the requirements of the Contract Documents.

1.37 WATER METER 3/4", FURNISHED TO OWNER (BID ITEM NO. 33)

- A. Measurement: Measurement for payment for this item shall be based upon the number of such water meter furnished to OWNER.
- B. Payment: Payment for this item will be made at the unit price named in the Bid Form. Payment of said price listed on the Bid Form constitutes full compensation for equipment, materials, tools, labor and incidentals necessary for furnishing water meter, all in accordance with the requirements of the Contract Documents.

1.38 WATER METER 2", FURNISHED AND INSTALLED (BID ITEM NO. 34)

- A. Measurement: Measurement for payment for this item shall be based upon the number of such water meter installed in place.
- B. Payment: Payment for this item will be made at the unit price named in the Bid Form. Payment of said price listed on the Bid Form constitutes full compensation for equipment, materials, tools, labor and incidentals necessary for the installation of water meter, testing and put in-service, all in accordance with the requirements of the Contract Documents.

- 1.39 WATER METER 4", FURNISHED AND INSTALLED (BID ITEM NO. 35)
- A. Measurement: Measurement for payment for this item shall be based upon the number of such water meter installed in place.
 - B. Payment: Payment for this item will be made at the unit price named in the Bid Form. Payment of said price listed on the Bid Form constitutes full compensation for equipment, materials, tools, labor and incidentals necessary for the installation of water meter, testing and put in-service, all in accordance with the requirements of the Contract Documents.
- 1.40 SERVICE LINE AND CONNECTION FROM METER TO WATER ACCESS RISER PIPE, INSTALLED BY LICENSED PLUMBER (BID ITEM NO. 36)
- A. Measurement: Measurement for payment for this item shall be based upon the number of connections installed in place.
 - B. Payment: Payment for this item will be made at the unit price named in the Bid Form. Payment of said price listed on the Bid Form constitutes full compensation for equipment, materials, tools, labor and incidentals necessary for the sheeting, shoring, and bracing, excavation, installation of connection fittings, required transition sleeve, pressure testing, disinfection including bacteriological testing, and backfilling, all in accordance with the requirements of the Contract Documents.
- 1.41 WATER ACCESS RISER PIPE, INSTALLED BY LICENSED PLUMBER (BID ITEM NO. 37)
- A. Measurement: Measurement for payment for this item shall be based upon the number of water access riser pipes installed in place.
 - B. Payment: Payment for this item will be made at the unit price named in the Bid Form. Payment of said price listed on the Bid Form constitutes full compensation for equipment, materials, tools, labor and incidentals necessary for the sheeting, shoring, and bracing, excavation, installation of fittings, installation of riser pipe, pressure testing, disinfection including bacteriological testing, and backfilling, all in accordance with the requirements of the Contract Documents.
- 1.42 CONNECTION FROM WATER ACCESS RISER PIPE TO EXISTING MOBILE HOME, INSTALLED BY LICENSED PLUMBER (BID ITEM NO. 38)
- A. Measurement: Measurement for payment for this item shall be based upon the number of connections installed in place.
 - B. Payment: Payment for this item will be made at the unit price named in the Bid Form. Payment of said price listed on the Bid Form constitutes full compensation for equipment, materials, tools, labor and incidentals necessary for the sheeting, shoring, and bracing, excavation, installation of connection fittings, required transition sleeve, pressure testing, disinfection including bacteriological testing, and backfilling, all in

accordance with the requirements of the Contract Documents.

1.43 BACKFLOW PREVENTER, 1-INCH (BID ITEM NO. 39)

- A. Measurement: Measurement for payment for this item shall be based upon the number of such backflow preventers installed in place.
- B. Payment: Payment for this item will be made at the unit price named in the Bid Form. Payment of said price listed on the Bid Form constitutes full compensation for equipment, materials, tools, labor and incidentals necessary for the sheeting, shoring, and bracing, excavation, installation of fittings, installation of backflow preventers, pressure testing, disinfection including bacteriological testing, and backfilling, all in accordance with the requirements of the Contract Documents.

1.44 BACKFLOW PREVENTER, 2-INCH (BID ITEM NO. 40)

- A. Measurement: Measurement for payment for this item shall be based upon the number of such backflow preventers installed in place.
- B. Payment: Payment for this item will be made at the unit price named in the Bid Form. Payment of said price listed on the Bid Form constitutes full compensation for equipment, materials, tools, labor and incidentals necessary for the sheeting, shoring, and bracing, excavation, installation of fittings, installation of backflow preventers, pressure testing, disinfection including bacteriological testing, and backfilling, all in accordance with the requirements of the Contract Documents.

1.45 BACKFLOW PREVENTER, 4-INCH (BID ITEM NO. 41)

- A. Measurement: Measurement for payment for this item shall be based upon the number of such backflow preventers installed in place.
- B. Payment: Payment for this item will be made at the unit price named in the Bid Form. Payment of said price listed on the Bid Form constitutes full compensation for equipment, materials, tools, labor and incidentals necessary for the sheeting, shoring, and bracing, excavation, installation of fittings, installation of backflow preventers, pressure testing, disinfection including bacteriological testing, and backfilling, all in accordance with the requirements of the Contract Documents.

1.46 AUTOMATIC FLUSHING STATION (BID ITEM NO. 42)

- A. Measurement: Measurement for payment for this item shall be based upon the number of automatic flushing stations installed in place.
- B. Payment: Payment for this item will be made at the unit price named in the Bid Form. Payment of said price listed on the Bid Form constitutes full compensation for equipment, materials, tools, labor and incidentals necessary for the sheeting, shoring, and bracing, excavation, installation of fittings, installation of automatic flushing stations, pressure testing, disinfection including bacteriological testing, and backfilling, all in accordance with the requirements of the Contract Documents.

1.47 SAMPLE STATION (BID ITEM NO. 43)

- A. Measurement: Measurement for payment for this item shall be based upon the number of sample stations installed in place.
- B. Payment: Payment for this item will be made at the unit price named in the Bid Form. Payment of said price listed on the Bid Form constitutes full compensation for equipment, materials, tools, labor and incidentals necessary for the sheeting, shoring, and bracing, excavation, installation of fittings, installation of sample stations, pressure testing, disinfection including bacteriological testing, and backfilling, all in accordance with the requirements of the Contract Documents.

1.48 FIRE HYDRANT (BID ITEM NO. 44)

- A. Measurement: Measurement for payment for this item shall be based upon the number of fire hydrants installed in place.
- B. Payment: Payment for this item will be made at the unit price named in the Bid Form. Payment of said price listed on the Bid Form constitutes full compensation for equipment, materials, tools, labor and incidentals necessary for the sheeting, shoring, and bracing, excavation, installation of fittings, installation of fire hydrants per NFPA standards, pipe connections, testing, disinfection, and backfilling, all in accordance with the requirements of the Contract Documents.

1.49 PLUG AND ABANDON EXISTING WATER WELL (BID ITEM NO. 45)

- A. Measurement: Measurement for payment for this item shall be based upon the number of water wells plugged and abandoned in place.
- B. Payment: Payment for this item will be made at the unit price named in the Bid Form. Payment of said price listed on the Bid Form constitutes full compensation for equipment, materials, tools, labor and incidentals necessary for the plugging and abandoning water wells in place, all in accordance with the requirements of the Contract Documents.

PART 2 -- PRODUCTS (NOT USED)

PART 3 -- EXECUTION (NOT USED)

END OF SECTION

flatbed trucks will be refused and any additional storage or delivery charges shall be the responsibility of the CONTRACTOR. All freight and insurance charges shall be included in the Bid Price. Risk of loss due to damage of any kind shall be borne by the CONTRACTOR until receipt and unloading by the OWNER.

1.04 TRANSPORTATION AND HANDLING

- A. Products shall be transported by methods to avoid damage and shall be delivered in undamaged condition in MANUFACTURER's unopened containers and packaging.
- B. The CONTRACTOR shall provide equipment and personnel to handle products, materials, and equipment by methods to prevent soiling and damage.
- C. The CONTRACTOR shall provide additional protection during handling to prevent marring and otherwise damaging products, packaging, and surrounding surfaces.
- D. All components shall be adequately secured and bolted or otherwise made fast to prevent movement and/or damages during shipment.
- E. All openings shall be completely covered and protected for shipment.
- F. Special notice is hereby given to all Contractors that the terms stipulated in this Section will be strictly interpreted and rigidly enforced.

1.05 STORAGE AND PROTECTION

- A. Products shall be stored in accordance with MANUFACTURER's written instructions and with seals and labels intact and legible. Sensitive products shall be stored in weather-tight climate-controlled enclosures and temperature and humidity ranges shall be maintained within tolerances required by MANUFACTURER's recommendations.
- B. For exterior storage of fabricated products, products shall be placed on sloped supports above ground. Products subject to deterioration shall be covered with impervious sheet covering and ventilation shall be provided to avoid condensation.
- C. Loose granular materials shall be stored on solid flat surfaces in a well-drained area and shall be prevented from mixing with foreign matter.
- D. Storage shall be arranged to provide access for inspection. The CONTRACTOR shall periodically inspect to assure products are undamaged and are maintained under required conditions.
- E. Storage shall be arranged in a manner to provide access for maintenance of stored items and for inspection.

1.06 MAINTENANCE OF PRODUCTS IN STORAGE

- A. Stored products shall be periodically inspected on a scheduled basis. The

CONTRACTOR shall maintain a log of inspections and shall make the log available on request.

- B. The CONTRACTOR shall comply with MANUFACTURER's product storage requirements and recommendations.
- C. The CONTRACTOR shall maintain MANUFACTURER -required environmental conditions continuously.
- D. The CONTRACTOR shall ensure that surfaces of products exposed to the elements are not adversely affected and that weathering of finishes does not occur.
- E. For mechanical and electrical equipment, the CONTRACTOR shall provide a copy of the MANUFACTURER's service instructions with each item and the exterior of the package shall contain notice that instructions are included.
- F. Products shall be serviced on a regularly scheduled basis, and a log of services shall be maintained and submitted as a record document prior to final acceptance by the OWNER in accordance with the Contract Documents.

1.07 PROPOSED SUBSTITUTIONS OR "OR-EQUAL" ITEM

- A. Whenever materials or equipment are indicated in the Contract Documents by using the name of a proprietary item or the name of a particular MANUFACTURER, the naming of the item is intended to establish the type, function, and quality required. If the name is followed by the words "or equal" indicating that a substitution is permitted, materials or if equipment of other MANUFACTURERS may be accepted if sufficient information is submitted equipment of other MANUFACTURERS may be accepted if sufficient information is submitted by the CONTRACTOR to allow the ENGINEER to determine that the material or equipment proposed is equivalent or equal to that named, subject to the following requirements:
 - 1. The burden of proof as to the type, function, and quality of any such substitution product, material or equipment shall be upon the CONTRACTOR.
 - 2. The ENGINEER will be the sole judge as to the type, function, and quality of any such substitution and the ENGINEER's decision shall be final.
 - 3. The ENGINEER may require the CONTRACTOR to furnish additional data about the proposed substitution.
 - 4. The OWNER may require the CONTRACTOR to furnish a special performance guarantee or other surety with respect to any substitution.
 - 5. Acceptance by the ENGINEER of a substitution item proposed by the CONTRACTOR shall not relieve the CONTRACTOR of the responsibility for full compliance with the Contract Documents and for adequacy of the substitution.

6. The CONTRACTOR shall pay all costs of implementing accepted substitutions, including redesign and changes to WORK necessary to accommodate the substitution.
- B. The procedure for review by the ENGINEER will include the following:
1. If the CONTRACTOR wishes to provide a substitution item, the CONTRACTOR shall make written application to the ENGINEER on the "Substitution Request Form."
 2. Unless otherwise provided by law or authorized in writing by the ENGINEER, the "Substitution Request Form(s)" shall be submitted within the 35-day period after award of the Contract.
 3. Wherever a proposed substitution item has not been submitted within said 35-day period, or wherever the submission of a proposed substitution material or equipment has been judged to be unacceptable by the ENGINEER, the CONTRACTOR shall provide the material or equipment indicated in the Contract Documents.
 4. The CONTRACTOR shall certify by signing the form that the list of paragraphs on the form are correct for the proposed substitution.
 5. The ENGINEER will evaluate each proposed substitution within a reasonable period of time.
 6. As applicable, no shop drawing submittals shall be made for a substitution item nor shall any substitution item be ordered, installed, or utilized without the ENGINEER'S prior written acceptance of the CONTRACTOR'S "Substitution Request Form."
 7. The ENGINEER will record the time required by the ENGINEER in evaluating substitutions proposed by the CONTRACTOR and in making changes by the CONTRACTOR in the Contract Documents occasioned thereby.
- C. The CONTRACTOR's application shall address the following factors which will be considered by the ENGINEER in evaluating the proposed substitution:
1. Whether the evaluation and acceptance of the proposed substitution will prejudice the CONTRACTOR's achievement of Substantial Completion on time.
 2. Whether acceptance of the substitution for use in the WORK will require a change in any of the Contract Documents to adapt the design to the proposed substitution.
 3. Whether incorporation or use of the substitution in connection with the WORK is subject to payment of any license fee or royalty.
 4. Whether all variations of the proposed substitution from the items originally specified are identified.
 5. Whether available maintenance, repair, and replacement service are indicated.

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01 31 13 – PROJECT COORDINATION

PART 1 -- GENERAL

1.01 THE REQUIREMENT

- A. WORK shall be scheduled, sequenced, and performed in a manner that minimizes disruption to the operation and maintenance of existing facilities.
- B. The CONTRACTOR shall incorporate the construction and schedule constraints of this Section in preparing the construction schedules required under Section 01 32 13 - Scheduling and Reporting. The schedules shall include the CONTRACTOR's activities necessary to satisfy all constraints of the Contract Documents.

1.02 PERMITS

- A. The CONTRACTOR shall abide by the conditions of all permits and shall obtain proof of satisfaction of conditions from issuers of permits prior to acceptance of the WORK by the OWNER.

1.03 SCHEDULE CONSTRAINTS

- A. General: It is the CONTRACTOR's responsibility to coordinate and plan the construction activities to integrate each schedule constraint into performance of the overall work.
 - 1. The maximum outage time of any facility shall be four (4) hours, unless permission for longer outages is obtained from the ENGINEER.
 - 2. Normal working hours shall be scheduled between 7:00 A.M. and 6:00 P.M., Monday through Friday. Hours requested outside normal working hours should be requested in writing at least 72 hours in advance. CONTRACTOR shall be required to pay resident inspection fees for work outside normal working hours. Night, weekend or holiday work requiring the presence of an ENGINEER or inspector will be permitted only in cases of emergency, and then only to such an extent as is absolutely necessary and with the written permission of the OWNER through the ENGINEER. In the event such work becomes necessary, no extra payment will be made.

PART 2 -- PRODUCTS (NOT USED)

PART 3 -- EXECUTION

3.01 HIGHWAY LIMITATIONS

- A. The CONTRACTOR shall make its own investigation of the condition of available public and private roads and of clearances, restrictions, bridge load limits, and other limitations affecting transportation and ingress and egress to the site of the WORK. It shall be the CONTRACTOR's responsibility to construct and maintain any haul roads required for its construction operations.

3.02 TEMPORARY CROSSINGS

- A. General: Continuous, unobstructed, safe, and adequate pedestrian and vehicular access shall be provided to fire hydrants, commercial and industrial establishments, churches, schools, parking lots, service stations, motels, fire and police stations, and hospitals. Safe and adequate public transportation stops and pedestrian crossings at intervals not exceeding 300 feet shall be provided. The CONTRACTOR shall cooperate with parties involved in the delivery of mail and removal of trash and garbage so as to maintain existing schedules for such services. Vehicular access to residential driveways shall be maintained to the property line except when necessary construction precludes such access for reasonable periods of time.
- B. Temporary Bridges: Wherever necessary, to maintain vehicular crossings, the CONTRACTOR shall provide suitable temporary bridges or steel plates over unfilled excavations, except in such cases as the CONTRACTOR shall secure the written consent of the responsible individuals or authorities to omit such temporary bridges or steel plates, which written consent shall be delivered to the ENGINEER prior to excavation. All such bridges or steel plates shall be maintained in service until access is provided across the backfilled excavation. Temporary bridges or steel plates for street and highway crossing shall conform to the requirements of the authority having jurisdiction in each case, and the CONTRACTOR shall adopt designs furnished by said authority for such bridges or steel plates, or shall submit designs to said authority for approval, as may be required.
- C. Street Use: Nothing herein shall be construed to entitle the CONTRACTOR to the exclusive use of any public street, alleyway, or parking area during the performance of the WORK hereunder, and it shall conduct its operations to not interfere unnecessarily with the authorized work of utility companies or other agencies in such streets, alleyways, or parking areas. No street shall be closed to the public without first obtaining permission of the ENGINEER and proper governmental authority. Where excavation is being performed in primary streets or highways, one lane in each direction shall be kept open to traffic at all times unless otherwise indicated. Toe boards shall be provided to retain excavated material if required by the ENGINEER or the agency having jurisdiction over the street or highway. Fire hydrants on or adjacent to the WORK shall be kept accessible to fire-fighting equipment at all times. Temporary provisions shall be made by the CONTRACTOR to assure the use of sidewalks and the proper functioning of all gutters, storm drain inlets, and other drainage facilities.
- D. Traffic Control: For the protection of traffic in public or private streets and ways, the CONTRACTOR shall provide, place, and maintain all necessary barricades, traffic cones, warning signs, lights, and other safety devices in accordance with the requirements of the "Manual of Uniform Traffic Control Devices, Part 6, Temporary Traffic Control," published by U.S. Department of Transportation, Federal Highway Administration (ANSI D6.1).
 - 1. The CONTRACTOR shall take all necessary precautions for the protection of the WORK and the safety of the public. Barricades and obstructions shall be

illuminated at night, and all lights shall be kept burning from sunset until sunrise. The CONTRACTOR shall station such guards or flaggers and shall conform to such special safety regulations relating to traffic control as may be required by the public authorities within their respective jurisdictions. Signs, signals, and barricades shall conform to the requirements of Subpart G, Part 1926, of the OSHA Safety and Health Standards for Construction.

2. The CONTRACTOR shall submit 3 copies of a traffic control plan to the ENGINEER for approval a minimum of 2 weeks prior to construction. The ENGINEER shall be allowed access to observe these traffic control plans in use and to make any changes as field conditions warrant. Any changes required by the ENGINEER shall supersede these plans and be done solely at the CONTRACTOR's expense.
 3. The CONTRACTOR shall remove traffic control devices when no longer needed, repair all damage caused by installation of the devices, and shall remove post settings and backfill the resulting holes to match grade.
- E. Temporary Street Closure: If closure of any street is required during construction, the CONTRACTOR shall apply in writing to the ENGINEER and any other jurisdictional agency at least 30 days in advance of the required closure. A Detour and Traffic Control Plan shall accompany the application.
- F. Temporary Driveway Closure: The CONTRACTOR shall notify the owner or occupant (if not owner-occupied) of the closure of the driveways to be closed more than one eight- hour work day at least 3 working days prior to the closure. The CONTRACTOR shall minimize the inconvenience and minimize the time period that the driveways will be closed. The CONTRACTOR shall fully explain to the owner/occupant how long the closure will take and when closure will start.

3.03 CONTRACTOR'S WORK AND STORAGE AREA

- A. The OWNER will designate and arrange for the CONTRACTOR's use, a portion of the property adjacent to the WORK for its exclusive use during the term of the Contract as a storage and shop area for its construction operations on the WORK. At completion of WORK, the CONTRACTOR shall return this area to its original condition, including grading and landscaping.
- B. The CONTRACTOR shall make its own arrangements for any necessary off-Site storage or shop areas necessary for the proper execution of the WORK.
- C. Lands to be furnished by the OWNER for camp sites, construction operation, concrete aggregate pits, roads and other purposes are indicated. Should the CONTRACTOR find it necessary to use any additional land for its camp or for other purposes during the construction of the WORK, it shall arrange for the use of such lands at its own expense.
- D. The CONTRACTOR shall construct and use a separate storage area for hazardous materials used in constructing the WORK.

1. For the purpose of this paragraph, hazardous materials to be stored in the separate area are all products labeled with any of the following terms: Warning, Caution, Poisonous, Toxic, Flammable, Corrosive, Reactive, or Explosive. In addition, whether or not so labeled, the following materials shall be stored in the separate area: diesel fuel, gasoline, new and used motor oil, hydraulic fluid, cement, paints and paint thinners, two-part epoxy coatings, sealants, asphaltic products, glues, solvents, wood preservatives, sand blast materials, and spill absorbent.
2. Hazardous materials shall be stored in groupings according to the Material Safety Data Sheets.
3. The CONTRACTOR shall develop and submit to the ENGINEER a plan for storing and disposing of the materials above.
4. The CONTRACTOR shall obtain and submit to the ENGINEER a single EPA number for wastes generated at the Site.
5. The separate storage area shall meet all the requirements of all authorities having jurisdiction over the storage of hazardous materials.
6. The separate storage area shall be inspected by the ENGINEER prior to construction of the area, upon completion of construction of the area, and upon cleanup and removal of the area.
7. All hazardous materials that are delivered in containers shall be stored in the original containers until use. Hazardous materials that are delivered in bulk shall be stored in containers that meet the requirements of authorities having jurisdiction.

3.04 PARKING

1. The CONTRACTOR shall direct its employees to park in areas as directed by the OWNER.
2. Traffic and parking areas shall be maintained in a sound condition, free of excavated material, construction equipment, mud, and construction materials. The CONTRACTOR shall repair breaks, potholes, low areas which collect standing water, and other deficiencies.
3. The WORK under this contract is to be executed in close proximity of the S&J MHP and Tammany MHP and other businesses. The CONTRACTOR will be allowed to bring construction equipment and construction vehicles onto the site as necessary in the execution of this contract but may be required to relocate them if their presence interferes with the operations of the MHPs or businesses. All roadways must remain open throughout the entire construction period.

END OF SECTION

SECTION 01 32 13 - SCHEDULING AND REPORTING

PART 1 -- GENERAL

1.01 GENERAL

- A. The scheduling of the WORK under the Contract shall be performed by the CONTRACTOR in accordance with the requirements of this Section.

1.02 INITIAL SCHEDULE SUBMITTALS

- A. The CONTRACTOR shall submit two short term schedule documents at the Preconstruction Conference which shall serve as the CONTRACTOR's Plan of Operation for the initial 60 day period of the Contract Time and to identify the manner in which the CONTRACTOR intends to complete all work within the Contract Time. The CONTRACTOR shall submit (1) a 60 day Plan of Operation bar chart, and (2) a project overview bar chart type plan for all work as indicated below.

1. Sixty-Day Plan of Operation: During the initial 60 days of the Contract Time, the CONTRACTOR shall conduct Contract operations in accordance with the 60 day bar chart Plan of Operation. The bar chart so prepared and submitted shall show the accomplishment of the CONTRACTOR's early activities including mobilization, permits, submittals necessary for early material and equipment procurement, submittals necessary for long lead equipment procurement, initial site work and other submittals and activities required in the first 60 days.
2. Project Overview Bar Chart: The overview bar chart shall indicate the major components of the project work and the sequence relations between major components and subdivisions of major components. The overview bar chart shall indicate the relationships and time frames in which the various components of the WORK will be made substantially complete and placed into service in order to meet the project milestones. Sufficient detail shall be included for the identification of subdivisions of major components into such activities as: (1) major structural work; (2) major mechanical work; (3) major electrical work; (4) instrumentation and control work; and (5) other important work for each major facility within the overall project scope. Planned durations and start dates shall be indicated for each work item subdivision. Each major component and subdivision component shall be accurately plotted on time scale sheets. Not more than four sheets shall be employed to represent this overview information.

- B. The ENGINEER and the CONTRACTOR shall meet to review and discuss the 60-day plan of operations and project overview bar chart within 5 days after they have been submitted to the ENGINEER. The ENGINEER's review and comment on the schedules shall be limited to Contract conformance (with the sequencing and milestone requirements as stated in Section 01 11 00 – Summary of Work). The CONTRACTOR shall make corrections to the schedules necessary to comply with the Contract requirements and shall adjust the schedules to incorporate any missing information requested by the ENGINEER.

1.03 PROJECT STATUS REPORTING

- A. In addition to the submittal requirements identified in this Section, the CONTRACTOR shall provide monthly project status reports (Overview Bar Chart and a written narrative report) to be submitted in conjunction with the request for pay application. Status reporting shall be in the form specified below.
- B. The CONTRACTOR shall prepare and submit monthly an Overview Bar Chart schedule of the major project components. The overview bar chart schedule shall be a summary of the current schedule (original and as updated and adjusted throughout the entire construction period). It shall be limited to not more than four sheets which shall not exceed 36-inch by 60-inch. The major project components shall be represented as time bars, which shall be subdivided into various types of work, including demolition, concrete construction, mechanical, electrical, and instrumentation installations. Major components shall include each new structure by area designation, sitework, modifications to existing structures, tie-ins to existing facilities, and plant startups.
- C. The CONTRACTOR shall prepare monthly written narrative reports of the status of the project for submission to the ENGINEER. Written status reports shall include:
 - 1. The status of major project components (Percent Complete, amount of time ahead or behind schedule) and an explanation of how the project will be brought back on schedule if delays have occurred.
 - 2. The progress made on critical activities indicated on the schedule.
 - 3. Explanations for any lack of work on critical path activities planned to be performed during the last month.
 - 4. Explanations for any schedule changes, including changes to the logic or to activity durations.
 - 5. A list of the critical activities scheduled to be performed in the next two-month period.
 - 6. The status of major material and equipment procurement.
 - 7. The value of materials and equipment properly stored at the site, but not yet incorporated into the work-in-place.
 - 8. Any delays encountered during the reporting period.
 - 9. An assessment of inclement weather delays and impacts to the progress of the WORK.
- D. The CONTRACTOR may include any other information pertinent to the status of the project. The CONTRACTOR shall include additional status information requested by the ENGINEER.

PART 2 -- PRODUCTS (NOT USED)

PART 3 --EXECUTION (NOT USED)

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01 33 00 – SUBMITTAL PROCEDURES

PART 1 -- GENERAL

1.01 GENERAL

- A. Wherever submittals are required in the Contract Documents, submit them to the ENGINEER.

1.02 PRECONSTRUCTION CONFERENCE SUBMITTALS

- A. At the preconstruction conference required by Section 01 11 00 - Summary of Work, the CONTRACTOR shall submit the following items to the ENGINEER for review:
 - 1. A preliminary schedule of Shop Drawings, Samples, and proposed Substitute ("Or-Equal") submittals listed in the Bid.
 - 2. A list of permits and licenses the CONTRACTOR shall obtain, indicating the agency required to grant the permit, the expected date of submittal for the permit, and required date for receipt of the permit.
 - 3. A preliminary schedule of values in accordance with Section 01 22 16 - Measurement and Payment.
 - 4. A 60-day plan of operation in accordance with Section 01 32 13 – Scheduling and Reporting.
 - 5. A project overview bar chart in accordance with Section 01 32 13 - Scheduling and Reporting.

1.03 SHOP DRAWINGS

- A. Wherever called for in the Contract Documents or where required by the ENGINEER, the CONTRACTOR shall furnish to the ENGINEER for review, two (2) copies plus one reproducible copy, of each Shop Drawing submittal. Shop Drawings may include detail design calculations, shop-prepared drawings, fabrication and installation drawings, erection drawings, lists, graphs, catalog sheets, data sheets, and similar items. Whenever the CONTRACTOR is required to submit design calculations as part of a submittal, such calculations shall bear the signature and seal of an engineer registered in the appropriate branch and in the state wherein the project is located, unless otherwise indicated.
- B. Shop Drawing submittals shall be accompanied by the ENGINEER's standard submittal transmittal form, a reproducible copy of which is available from the ENGINEER. A submittal without the form or where applicable items on the form are not completed will be returned for resubmittal.
- C. Organization

1. A single submittal transmittal form shall be used for each technical specification section or item or class of material or equipment for which a submittal is required. A single submittal covering multiple sections will not be acceptable, unless the primary specification references other sections for components. Example: if a pump section references other sections for the motor, shop-applied protective coating, anchor bolts, local control panel, and variable frequency drive, a single submittal would be acceptable. A single submittal covering vertical turbine pumps and horizontal split case pumps would not be acceptable.
2. On the transmittal form, index the components of the submittal and insert tabs in the submittal to match the components. Relate the submittal components to specification paragraph and subparagraph, Drawing number, detail number, schedule title, room number, or building name, as applicable.
3. Unless indicated otherwise, terminology and equipment names and numbers used in submittals shall match those used in the Contract Documents.

D. Format

1. Minimum sheet size shall be 8.5-inches by 11-inches. Maximum sheet size shall be 24-inches by 36-inches. Every page in a submittal shall be numbered in sequence. Each copy of a submittal shall be collated and stapled or bound, as appropriate. The ENGINEER will not collate sheets or copies.
2. Where product data from a manufacturer is submitted, clearly mark which model is proposed, with complete pertinent data capacities, dimensions, clearances, diagrams, controls, connections, anchorage, and supports. Sufficient level of detail shall be presented for assessment of compliance with the Contract Documents.
3. Each submittal shall be assigned a unique number. Submittals shall be numbered sequentially, and the submittal numbers shall be clearly noted on the transmittal. Original submittals shall be assigned a numeric submittal number followed by a letter of the alphabet to distinguish between the original submittal and each resubmittal. For example, if submittal 25 requires a resubmittal, the first resubmittal will bear the designation "25-A" and the second resubmittal will bear the designation "25-B" and so on.

E. Disorganized submittals that do not meet the requirements of the Contract Documents will be returned without review.

F. Except as may otherwise be indicated, the ENGINEER will return prints of each submittal to the CONTRACTOR with comments noted thereon, within 30 Days following receipt by the ENGINEER. It is considered reasonable that the CONTRACTOR will make a complete and acceptable submittal to the ENGINEER by the first resubmittal on an item. The OWNER reserves the right to withhold monies due to the CONTRACTOR to cover additional costs of the ENGINEER's review beyond the first resubmittal. The ENGINEER'S maximum review period for each submittal or resubmittal will be 30 Days. Thus, for a submittal that requires 2 resubmittals before it is complete, the maximum review period could be 90 Days.

- G. If a submittal is returned to the CONTRACTOR marked "NO EXCEPTIONS TAKEN," formal revision and resubmission will not be required.
- H. If a submittal is returned marked "MAKE CORRECTIONS NOTED," CONTRACTOR shall make the corrections on the submittal, but formal revision and resubmission will not be required.
- I. If a submittal is returned marked "AMEND-RESUBMIT," the CONTRACTOR shall revise it and shall resubmit the required number of copies to the ENGINEER for review. Resubmittal of portions of multi-page or multi-drawing submittals will not be allowed. For example, if a Shop Drawing submittal consisting of 10 drawings contains one drawing noted as "AMEND - RESUBMIT," the submittal as a whole is deemed "AMEND - RESUBMIT," and 10 drawings are required to be resubmitted.
- J. If a submittal is returned marked "REJECTED-RESUBMIT," it shall mean either that the proposed material or product does not satisfy the specification, the submittal is so incomplete that it cannot be reviewed, or is a substitution request not submitted in accordance with Section 01 25 00 – Products, Materials, Equipment, and Substitutions. The CONTRACTOR shall prepare a new submittal and shall submit the required number of copies to the ENGINEER for review.
- K. Resubmittal of rejected portions of a previous submittal will not be allowed. Every change from a submittal to a resubmittal or from a resubmittal to a subsequent resubmittal shall be identified and flagged on the resubmittal.
- L. Fabrication of an item may commence only after the ENGINEER has reviewed the pertinent submittals and returned copies to the CONTRACTOR marked either "NO EXCEPTIONS TAKEN" or "MAKE CORRECTIONS NOTED." Corrections indicated on submittals shall be considered as changes necessary to meet the requirements of the Contract Documents and shall not be taken as changes to the contract requirements.
- M. Submittals shall be carefully reviewed by an authorized representative of the CONTRACTOR prior to submission to the ENGINEER. Each submittal shall be dated and signed by the CONTRACTOR as being correct and in strict conformance with the Contract Documents. In the case of Shop Drawings, each sheet shall be so dated and signed. Any deviations from the Contract Documents shall be noted on the transmittal sheet. The ENGINEER will only review submittals that have been so verified by the CONTRACTOR. Non-verified submittals will be returned to the CONTRACTOR without action taken by the ENGINEER, and any delays caused thereby shall be the total responsibility of the CONTRACTOR.
- N. Corrections or comments made on the CONTRACTOR's Shop Drawings during review do not relieve the CONTRACTOR from compliance with Contract Drawings and Specifications, and correctness of details and dimensions. Review is for conformance to the design concept and general compliance with the Contract Documents only. The CONTRACTOR is responsible for confirming and correlating quantities and dimensions, any misfits due to any errors in submittals, the design of adequate connections and details, fabrication processes and techniques, coordinating WORK with the trades, and satisfactory and safe performance of the WORK.

1.04 CONTRACTORS'S SCHEDULE

- A. The CONTRACTOR's construction schedules and reports shall be prepared and submitted to the ENGINEER in accordance with Section 01 32 13 - Scheduling and Reporting.

1.05 SAMPLES

- A. Whenever in the Specifications samples are required, the CONTRACTOR shall submit no less than three (3) samples of each item or material to the ENGINEER for acceptance.
- B. Unless otherwise noted, samples shall be submitted no less than twenty-one (21) days prior to ordering such material.
- C. Samples shall be individually and indelibly labeled or tagged, indicating the specified physical characteristics and manufacturer's name. Upon acceptance by the ENGINEER, one (1) set of the samples will be stamped and dated by the ENGINEER and returned to the CONTRACTOR, one (1) set of samples will be retained by the ENGINEER, and one (1) set shall remain at the Site until completion of the WORK.
- D. Unless indicated otherwise, all colors and textures of items presented in sample submittals shall be from the manufacturer's standard colors and standard materials, products, or equipment lines. If certain samples represent non-standard colors, materials, products, or equipment lines and their selection will require an increase in Contract Times or Price, the CONTRACTOR shall clearly state so on the transmittal page of the submittal.
- E. The CONTRACTOR shall schedule sample submittals such that:
 - 1. Sample submittals for color and texture selection are complete and orderly which allows the ENGINEER 45 Days to assemble color panels and select color and texture dependent products and materials without delay to the construction schedule, and
 - 2. After the ENGINEER selects colors and textures, the CONTRACTOR has sufficient time to provide the products or materials without delay to the construction schedule. The Contract Times will not be extended for the CONTRACTOR's failure to allow enough review and approval or selection time, failure to submit all samples requiring color or texture selection, or failure to submit complete or approvable samples.

1.06 TECHNICAL MANUAL

- A. The CONTRACTOR shall submit technical operation and maintenance information for each item of mechanical, electrical, and instrumentation equipment in an organized manner in the Technical Manual. It shall be written so that it can be used and understood by the OWNER's operation and maintenance staff.

B. The Technical Manual shall be subdivided first by specification section number; second, by equipment item; and last, by "Category." The following "Categories" shall be addressed (as applicable):

1. Category 1 - Equipment Summary

- a. Summary: A table shall indicate the equipment name, equipment number, and process area in which the equipment is installed.
- b. Form: The ENGINEER will supply an Equipment Summary Form for each item of mechanical, electrical, and instrumentation equipment in the WORK. The CONTRACTOR shall fill in the relevant information on the form and include it in Part 1.

2. Category 2 - Operational Procedures

- a. Procedures: Manufacturer-recommended procedures on the following shall be included in Part 2:
 - 1) Installation.
 - 2) Adjustment.
 - 3) Startup.
 - 4) Location of controls, special tools, equipment required, or related instrumentation needed for operation.
 - 5) Operation procedures.
 - 6) Load changes.
 - 7) Calibration.
 - 8) Shutdown.
 - 9) Troubleshooting.
 - 10) Disassembly.
 - 11) Reassembly.
 - 12) Realignment.
 - 13) Testing to determine performance efficiency.
 - 14) Tabulation of proper settings for pressure relief valves, low and high pressure switches, and other protection devices.

15) List of all electrical relay settings including alarm and contact settings.

3. Category 3 - Preventive Maintenance Procedures

- a. Procedures: Preventive maintenance procedures shall include manufacturer-recommended procedures to be performed on a periodic basis, both by removing and replacing the equipment or component, and by maintaining the equipment in place.
- b. Schedules: Recommended frequency of preventive maintenance procedures shall be included. Lubrication schedules, including lubricant SAE grade, type, and temperature ranges, shall be covered.

4. Category 4 - Parts List

- a. Parts List: A complete parts list shall be furnished, including a generic description and manufacturer's identification number for each part. Addresses and telephone numbers of the nearest supplier and parts warehouse shall be included.
- b. Drawings: Cross-sectional or exploded view drawings shall accompany the parts list. Part numbers shall appear on the drawings with arrows to the corresponding part.

5. Category 5 - Wiring Diagrams

- a. Diagrams: Category 5 shall include complete internal and connection wiring diagrams for electrical equipment items.

6. Category 6 - Shop Drawings

- a. Drawings: This category includes approved shop or fabrication drawings with ENGINEER comments and corrections incorporated, complete with dimensions.

7. Category 7 - Safety

- a. Procedures: This category describes the safety precautions to be taken when operating and maintaining the equipment or working near it.

8. Category 8 - Documentation:

- a. Equipment warranties, affidavits, certifications, calibrations, laboratory test results, etc. required by the Technical Specifications shall be placed in this category.

C. Format

- 1. The CONTRACTOR shall furnish to the ENGINEER seven (7) identical Technical

Manuals. Each set shall consist of one or more volumes, each of which shall be bound in a standard size, 3-ring, looseleaf, vinyl plastic hard cover binder suitable for bookshelf storage. Binder ring size shall not exceed 2.5 inches. A table of contents indicating all equipment in the manuals shall be prepared.

D. SCHEDULE

1. Manuals shall be submitted in final form to the ENGINEER no later than seventy-five percent (75%) of construction completion date. All discrepancies found by the ENGINEER shall be corrected within 30 days from the date of the written notification by the ENGINEER.

- E. Incomplete or unacceptable manuals at the seventy-five (75) percent construction completion point shall constitute sufficient justification to retain the amount in paragraph "Technical Manual Submittals" of Section 01 77 00 – Project Closeout, from any monies due to the CONTRACTOR.

1.07 SPARE PARTS LIST

- A. The CONTRACTOR shall furnish to the ENGINEER five (5) identical sets of spare parts information for mechanical, electrical, and instrumentation equipment. The spare parts list shall include those spare parts that each manufacturer recommends be maintained by the OWNER in inventory.

1. Sources and Pricing: The spare parts list shall include a current list price of each spare part. Each manufacturer or supplier shall indicate the name, address, and telephone number of its nearest outlet of spare parts to assist the OWNER in ordering.
2. Format: The CONTRACTOR shall cross-reference spare parts lists to the equipment numbers designated in the Contract Documents. The spare parts lists shall be bound in standard size, 3-ring, loose-leaf, vinyl plastic hard cover binders suitable for bookshelf storage. Binder ring size shall not exceed 2.5 inches.

1.08 PROJECT RECORD DOCUMENTS

- A. Maintain on site one set of the following record documents; record actual revisions to the Work:
 1. Drawings.
 2. Specifications.
 3. Addenda.
 4. Change Orders and other modifications to the Contract.
 5. Reviewed Shop Drawings, Product Data, and Samples.

6. Manufacturer's instruction for assembly, installation, and adjusting.
- B. Ensure entries are complete and accurate, enabling future reference by OWNER.
 - C. Store record documents separate from documents used for construction.
 - D. Record information concurrent with construction progress, not less than weekly.
 - E. Record drawings shall be accessible to the ENGINEER at all times during the construction period.
 - F. Mark every project condition, location, configuration, and any other change or deviation which may differ from the Contract Drawings, including buried or concealed construction and utility features that are revealed during the course of construction. Special attention shall be given to recording the horizontal and vertical location of buried utilities that differ from the locations indicated, or that were not indicated on the Contract Drawings. Said record drawings shall be supplemented by any detailed sketches as necessary or as CONTRACTOR is directed, to fully indicate the WORK as actually constructed. These record drawings are the CONTRACTOR's representation of as-built conditions, shall include revisions made by addenda and change orders, and shall be maintained up-to-date during the progress of the WORK. Red ink shall be used for alterations and notes. Notes shall identify relevant Change Orders by number and date.
 - G. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
 1. Manufacturer's name and product model and number.
 2. Product substitutions or alternates utilized.
 3. Changes made by Addenda and modifications.
 - H. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
 1. Measured depths of foundations in relation to finish floor datum.
 2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
 4. Field changes of dimension and detail.
 5. Details not on original Contract Drawings.
 - I. Upon Substantial Completion of the WORK and prior to final acceptance, the

CONTRACTOR shall finalize and deliver a complete set of record documents to the ENGINEER for transmittal to the OWNER, conforming to the construction records of the CONTRACTOR. This set of drawings shall consist of corrected Drawings showing the reported location of the WORK. The information submitted by the CONTRACTOR and incorporated by the ENGINEER into the record drawings will be assumed to be correct, and the CONTRACTOR shall be responsible for the accuracy of such information, and for any errors or omissions that may appear on the record drawings as a result.

- J. Final payment will not be acted upon until the record drawings have been completed and delivered to the ENGINEER.
- K. There will be no direct payment for furnishing project record documents as specified above.

PART 2 -- PRODUCTS (NOT USED)

PART 3 -- EXECUTION (NOT USED)

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01 42 13 - ABBREVIATIONS AND ACRONYMS

PART 1 -- GENERAL

1.01 GENERAL

- A. Wherever in these Specifications references are made to the standards, specifications, or other published data of the various international, national, regional, or local organizations, such organizations may be referred to by their acronym or abbreviation only. As a guide to the user of the Specifications, the following acronyms or abbreviations which may appear shall have the meanings indicated herein.

1.02 ABBREVIATIONS

AA	Aluminum Association
AAMA	American Architectural Manufacturers Association
AASHTO	American Association of State Highway and Transportation Officials
AATCC	American Association of Textile Chemists and Colorists
ABMA	American Bearing Manufacturer's Association
ACGIH	American Conference of Governmental Industrial Hygienists
ACI	American Concrete Institute
AF&PA	American Forest and Paper Association
AGA	American Gas Association
AGMA	American Gear Manufacturers Association
AHA	American Hardboard Association
AHAM	Association of Home Appliance Manufacturers
AI	The Asphalt Institute
AIA	American Institute of Architects
AIHA	American Industrial Hygiene Association
AIIM	Association for Information and Image Management
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
AMCA	Air Movement and Control Association International, Inc.
ANS	American Nuclear Society
ANSI	American National Standards Institute, Inc.
APA	The Engineered Wood Association
API	American Petroleum Institute
APWA	American Public Works Association
ARI	Air-Conditioning and Refrigeration Institute
ASA	Acoustical Society of America
ASAE	American Society of Agricultural Engineers
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating, and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASNT	American Society of Nondestructive Testing
ASQ	American Society for Quality
ASSE	American Society of Sanitary Engineers
ASTM	American Society for Testing and Materials

AWCI	American Wire Cloth Institute
AWI	Architectural Woodwork Institute
AWPA	American Wood Preservers Association
AWPI	American Wood Preservers Institute
AWS	American Welding Society
AWWA	American Water Works Association
BBC	Basic Building Code, Building Officials and Code Administrators International
BHMA	Builders Hardware Manufacturer's Association
CABO	Council of American Building Officials
CDA	Copper Development Association
CEMA	Conveyors Equipment Manufacturer's Association
CGA	Compressed Gas Association
CLFMI	Chain Link Fence Manufacturer's Institute
CLPCA	California Lathing and Plastering Contractors Association
CMAA	Construction Management Association of America
CRSI	Concrete Reinforcing Steel Institute
DCDMA	Diamond Core Drilling Manufacturer's Association
DHI	Door and Hardware Institute
DIPRA	Ductile Iron Pipe Research Association
EI	Energy Institute
EIA	Electronic Industries Alliance
EPA	Environmental Protection Agency
ETL	Electrical Test Laboratories
FCC	Federal Communications Commission
FCI	Fluid Controls Institute
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FM	Factory Mutual System
FPL	Forest Products Laboratory
HI	Hydronics Institute, Hydraulic Institute
HSWA	Federal Hazardous and Solid Waste Amendments
IAPMO	International Association of Plumbing and Mechanical Officials
ICBO	International Conference of Building Officials
IBC	International Building Code
ICC	International Code Council
ICEA	Insulated Cable Engineers Association
ICCEC	International Code Council Electrical Code
ICC-ES	International Code Council Evaluation Service
IEEE	Institute of Electrical and Electronics Engineers
IESNA	Illuminating Engineering Society of North America
IFC	International Fire Code
IFGC	International Fuel Gas Code
IMC	International Mechanical Code
IME	Institute of Makers of Explosives
IPC	International Plumbing Code, Association Connecting Electronic Industries
IRC	International Residential Code
ISA	Instrument Society of America
ISDI	Insulated Steel Door Institute

ISEA	Industrial Safety Equipment Association
ISO	International Organization for Standardization
ITE	Institute of Traffic Engineers
ITU-T	Telecommunications Standardization Sector of the International Telecommunications Union
LPI	Lightning Protection Institute
LRQA	Lloyd's Register Quality Assurance
MBMA	Metal Building Manufacturer's Association
MIL	Military Standards (DoD)
MPTA	Mechanical Power Transmission Association
MSS	Manufacturers Standardization Society
NAAMM	National Association of Architectural Metal Manufacturer's
NACE	National Association of Corrosion Engineers
DASMA	Door and Access Systems Manufacturers Association International
NAPF	National Association of Pipe Fabricators
NBBPVI	National Board of Boiler and Pressure Vessel Inspectors
NCCLS	National Committee for Clinical Laboratory Standards
NCMA	National Concrete Masonry Association
NEC	National Electrical Code
NEMA	National Electrical Manufacturer's Association
NETA	International Electrical Testing Association
NFPA	National Fire Protection Association or National Fluid Power Association
NISO	National Information Standards Organization
NIST	National Institute of Standards and Technology
NLGI	National Lubricating Grease Institute
NRCA	National Roofing Contractors Association
NSF	National Sanitation Foundation
NWWDA	National Wood Window and Door Association
OSHA	Occupational Safety and Health Administration
PCA	Portland Cement Association
PCI	Precast/Prestressed Concrete Institute
PPI	Plastic Pipe Institute
RCRA	Resource Conservation and Recovery Act
RIS	Redwood Inspection Service, a division of the California Redwood Association (CRA)
RMA	Rubber Manufacturers Association
RVIA	Recreational Vehicle Industry Association
RWMA	Resistance Welder Manufacturer's Association
SAE	Society of Automotive Engineers
SBCCI	Southern Building Code Congress International
SDI	Steel Door Institute, Steel Deck Institute
SMA	Screen Manufacturers Association
SMACNA	Sheet Metal and Air Conditioning Contractors National Association
SPFA	Steel Plate Fabricator's Association
SPIB	Southern Pine Inspection Bureau
SSBC	Southern Standard Building Code
SSPC	Society for Protective Coating
SSPWC	Standard Specifications for Public Works Construction
STLE	Society of Tribologists and Lubricating Engineers

TAPPI	Technical Association of the Worldwide Pulp, Paper, and Converting Industry
TFI	The Fertilizer Institute
TIA	Telecommunications Industries Association
TPI	Truss Plate Institute
UBC	Uniform Building Code
UL	Underwriters Laboratories, Inc.
WCLIB	West Coast Lumber Inspection Bureau
WDMA	National Window and Door Manufacturers Association
WEF	Water Environment Federation
WI	Woodwork Institute
WRI	Wire Reinforcement Institute, Inc.
WWPA	Western Wood Products Association

PART 2 -- PRODUCTS (NOT USED)

PART 3 -- EXECUTION (NOT USED)

END OF SECTION

SECTION 01 42 19 - REFERENCE STANDARDS

PART 1 -- GENERAL

1.01 GENERAL

- A. Titles of Sections and Paragraphs: Titles and subtitles accompanying specification sections and paragraphs are for convenience and reference only, and do not form a part of the Specifications.
- B. Applicable Publications: Whenever in these Specifications references are made to published specifications, codes, standards, or other requirements, it shall be understood that wherever no date is specified, only the latest specifications, standards, or requirements of the respective issuing agencies which have been published as of the date that the Contract is advertised for bids shall apply; except to the extent that said standards or requirements may be in conflict with applicable laws, ordinances, or governing codes. No requirements set forth in the Specifications or shown on the Drawings will be waived because of any provision of, or omission from, said standards or requirements.
- C. Specialists, Assignments: In certain instances, specification text requires (or implies) that specific work is to be assigned to specialists or expert entities, who must be engaged for the performance of that work. Such assignments shall be recognized as special requirements over which the CONTRACTOR has no choice or option. These requirements shall not be interpreted so as to conflict with the enforcement of building codes and similar regulations governing the WORK; also they are not intended to interfere with local union jurisdiction settlements and similar conventions. Such assignments are intended to establish which party or entity involved in a specific unit of work is recognized as "expert" for the indicated construction processes or operations. Nevertheless, the final responsibility for fulfillment of the entire set of contract requirements remains with the CONTRACTOR.

1.02 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

- A. The CONTRACTOR shall construct the WORK in accordance with the Contract Documents and the referenced portions of those referenced codes, standards, and specifications.
- B. References to "Building Code" or "Standard Building Code" shall mean the Standard Building Code of the Southern Building Code Congress International (SBCCI). Similarly, references to "Mechanical Code" or "Uniform Mechanical Code," "Plumbing Code" or "Uniform Plumbing Code," "Fire Code" or "Uniform Fire Code," shall mean Uniform Mechanical Code, Uniform Plumbing Code and Uniform Fire Code of the International Conference of the Building Officials (ICBO).] "Electric Code" or "National Electric Code (NEC)" shall mean the National Electric Code of the National Fire Protection Association (NFPA). The latest edition of the codes as approved by the Municipal Code and used by the local agency as of the date that the WORK is advertised for bids, as adopted by the agency having jurisdiction, shall apply to the WORK herein, including all addenda, modifications, amendments, or other lawful

changes thereto.

- C. In case of conflict between codes, reference standards, drawings, and the other Contract Documents, the most stringent requirements shall govern. All conflicts shall be brought to the attention of the ENGINEER for clarification and directions prior to ordering or providing any materials or furnishing labor. The CONTRACTOR shall bid for the most stringent requirements.
- D. References herein to "OSHA Regulations for Construction" shall mean Title 29, Part 1926, Construction Safety and Health Regulations, Code of Federal Regulations (OSHA), including all changes and amendments thereto.
- E. References herein to "OSHA Standards" shall mean Title 29, Part 1910, Occupational Safety and Health Standards, Code of Federal Regulations (OSHA), including all changes and amendments thereto.

1.03 REGULATIONS RELATED TO HAZARDOUS MATERIALS

- A. The CONTRACTOR shall be responsible that all work included in the Contract Documents, regardless if shown or not, shall comply with all EPA, OSHA, RCRA, NFPA, and any other Federal, State, and Local Regulations governing the storage and conveyance of hazardous materials, including petroleum products.
- B. Where no specific regulations exist, chemical, hazardous, and petroleum product piping and storage in underground locations shall be installed with double containment piping and tanks, or in separate concrete trenches and vaults, or with an approved lining which cannot be penetrated by the chemicals, unless waived in writing by the OWNER.

PART 2 -- PRODUCTS (NOT USED)

PART 3 -- EXECUTION (NOT USED)

END OF SECTION

SECTION 01 45 00 - QUALITY CONTROL

PART 1 -- GENERAL

1.01 DEFINITION

- A. Specific quality control requirements for the WORK are indicated throughout the Contract Documents. The requirements of this Section are primarily related to performance of the WORK beyond furnishing of manufactured products. The term "Quality Control" includes inspection, sampling and testing, and associated requirements.

1.02 INSPECTION AT PLACE OF MANUFACTURE

- A. Unless otherwise indicated, all products, materials, and equipment shall be subject to inspection by the ENGINEER at the place of manufacture.
- B. The presence of the ENGINEER at the place of manufacturer, however, shall not relieve the CONTRACTOR of the responsibility for providing products, materials, and equipment that comply with all requirements of the Contract Documents. Compliance is a duty of the CONTRACTOR, and said duty shall not be avoided by any act or omission on the part of the ENGINEER.

1.03 SAMPLING AND TESTING

- A. Unless otherwise indicated, all sampling and testing will be in accordance with the methods prescribed in the current standards of the ASTM, as applicable to the class and nature of the article or materials considered; however, the OWNER reserves the right to use any generally-accepted system of sampling and testing which, in the opinion of the ENGINEER will assure the OWNER that the quality of the workmanship is in full accord with the Contract Documents.
- B. Any waiver by the OWNER of any specific testing or other quality assurance measures, whether or not such waiver is accompanied by a guarantee of substantial performance as a relief from the testing or other quality assurance requirements originally indicated, and whether or not such guarantee is accompanied by a performance bond to assure execution of any necessary corrective or remedial WORK, shall not be construed as a waiver of any requirements of the Contract Documents.
- C. Notwithstanding the existence of such waiver, the ENGINEER reserves the right to make independent investigations and tests, and failure of any portion of the WORK to meet any of the requirements of the Contract Documents, shall be reasonable cause for the ENGINEER to require the removal or correction and reconstruction of any such WORK in accordance with the General Conditions.

1.04 INSPECTION AND TESTING SERVICE

- A. Inspection and testing laboratory service shall comply with the following:

1. Unless indicated otherwise by the Technical Specifications, the CONTRACTOR will employ and pay for services of an independent firm to perform inspection and testing. The independent firm shall be from the OWNER's pre-approved list.
2. The OWNER or independent firm will perform inspections, tests, and other services as required by the ENGINEER under Paragraph 1.03 of this Section.
3. Reports of testing, regardless of whether the testing was the OWNER's or the CONTRACTOR'S responsibility, will be submitted to the ENGINEER in duplicate, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.
4. The CONTRACTOR shall cooperate with the OWNER or independent firm and furnish samples of materials, design mix, equipment, tools, storage, and assistance as requested.
5. The CONTRACTOR shall notify ENGINEER twenty-four (24) hours prior to the expected time for operations requiring inspection and laboratory testing services.
6. Re-testing required because of non-conformance to requirements shall be performed by the same independent firm on instructions by the ENGINEER. The CONTRACTOR shall bear all costs from such re-testing.
7. For samples and tests required for CONTRACTOR's use, the CONTRACTOR shall make arrangements with an independent firm for payment and scheduling of testing. The cost of sampling and testing for the CONTRACTOR'S use shall be the CONTRACTOR'S responsibility.

PART 2 -- PRODUCTS (NOT USED)

PART 3 -- EXECUTION

3.01 INSTALLATION

- A. Inspection: The CONTRACTOR shall inspect materials or equipment upon the arrival on the job site and immediately prior to installation, and reject damaged and defective items.
- B. Measurements: The CONTRACTOR shall verify measurements and dimensions of the WORK, as an integral step of starting each installation.
- C. Manufacturer's Instructions: Where installations include manufactured products, the CONTRACTOR shall comply with manufacturer's applicable instructions and recommendations for installation, to whatever extent these are more explicit or more stringent than applicable requirements indicated in Contract Documents.

END OF SECTION

SECTION 01 51 00 - TEMPORARY FACILITIES AND CONTROLS

PART 1 -- GENERAL

1.01 GENERAL REQUIREMENTS

- A. Provide and maintain administrative Field Office facilities within the construction area at the designated site.
- B. Types: The types of utility services required for general temporary use at the Site may include the following:
 - 1. Water service (potable for certain uses)
 - 2. Sanitary sewer
 - 3. Electric power service

1.02 JOB CONDITIONS

- A. Scheduled Uses: The CONTRACTOR shall, in conjunction with establishment of job progress schedule, establish a schedule for implementation and termination of service for each temporary utility at the earliest feasible time, and when acceptable to OWNER and ENGINEER, change over from use of temporary utility service to permanent service.

PART 2 -- PRODUCTS

2.01 MATERIALS

- A. The CONTRACTOR shall provide either new or used materials and equipment, which are in substantially undamaged condition and without significant deterioration and which are recognized in the construction industry, by compliance with appropriate standards, as being suitable for intended use in each case. Where a portion of temporary utility is provided by utility company, the CONTRACTOR shall provide the remaining portion with matching and compatible materials and equipment and shall comply with recommendations of utility company.

PART 3 -- EXECUTION

3.01 FIELD OFFICES AND SHEDS

- A. On-site job trailers, tool sheds, equipment, supplies and material must be secured at all times. Office and material trailers shall be anchored. Use of tie-downs and anchors will be in accordance with manufacturer's recommendations and will meet all local building regulations. In the event of a hurricane, secure work site. Equipment that cannot be secured must be removed from site at no cost to the OWNER.

- B. Field Office: Weather tight, with lighting, electrical outlets, heating, cooling and ventilating equipment, and equipped with sturdy furniture, conference room, drawing rack, and drawing display table.
- C. Provide space for Project meetings, with table and chairs to accommodate minimum of 15 persons and maximum of 20.
- D. Provide dedicated office within the Field Office, similarly equipped and furnished, for use of Engineer.
- E. Locate offices and sheds at the Contractor staging indicated on the Drawings.
- F. Permanent facilities shall not be used for field offices or for storage.
- G. Construction: Portable or mobile buildings, or buildings constructed with floors raised above ground, securely fixed to foundations with steps and landings at entrance doors.
 - 1. Construction: Structurally sound, secure, weather tight enclosures for office and storage spaces. Maintain during progress of Work; remove at completion of Work.
 - 2. Temperature transmission resistance of floors, walls, and ceilings: Compatible with occupancy and storage requirements.
 - 3. Exterior materials: Weather-resistant, finished in one color acceptable to Engineer.
 - 4. Interior Materials in Offices: Sheet type materials for walls and ceilings, pre-finished or painted; resilient floors and bases.
 - 5. Lighting for offices: 50 ft C (538 lx) at desktop height, exterior lighting at entrance doors.
 - 6. Fire extinguishers: Appropriate type fire extinguisher at each office and each storage area.
 - 7. Interior Materials in Storage Sheds: As required to provide specified conditions for storage of products.
- H. Environmental control:
 - 1. Heating, cooling, and ventilating for offices: Automatic equipment to maintain comfort conditions. 68°F (20°C) heating and 76°F (24°C) cooling.
 - 2. Storage spaces: Heating and ventilation as needed to maintain products in accordance with Contract Documents; adequate lighting for maintenance and inspection of products.
- I. Storage areas and sheds: Size to storage requirements for products of individual Sections, allowing for access and orderly provision for maintenance and for inspection

of products.

J. Preparation: Fill and grade sites for temporary structures to provide drainage away from buildings.

K. Installation:

1. Install office spaces ready for occupancy 15 days after date fixed in Notice to Proceed.
2. Parking: 2 hard surfaced parking spaces for use by the OWNER and ENGINEER connected to office by hard surfaced and gravel walk.
3. Employee residential occupancy: Not allowed on Project Site.

L. Maintenance and cleaning:

1. Weekly janitorial services for offices; periodic cleaning and maintenance for office and storage areas.
2. Maintain approach walks free of mud, water, and snow.

M. Removal: At completion of Work remove buildings, foundations, utility services, and debris. Restore areas.

3.02 INSTALLATION OF TEMPORARY UTILITY SERVICES

A. General: Wherever feasible, the CONTRACTOR shall engage the utility company to install temporary service to project, or as a minimum, to make connection to existing utility service; locate services where they will not interfere with total project construction WORK, including installation of permanent utility services; and maintain temporary services as installed for required period of use; and relocate, modify or extend as necessary from time to time during that period as required to accommodate total project construction WORK.

B. Approval of Electrical Connections: Temporary connections for electricity shall be subject to approval of the ENGINEER and the power company representative, and shall be removed in like manner at the CONTRACTOR's expense prior to final acceptance of the WORK.

C. Separation of Circuits: Unless otherwise permitted by the ENGINEER, circuits used for power purposes shall be separate from lighting circuits.

D. Construction Wiring: Wiring for temporary electric light and power shall be properly installed and maintained and shall be securely fastened in place. Electrical facilities shall conform to the requirements of Subpart K of the OSHA Safety and Health Standards for Construction.

3.02 INSTALLATION OF POWER DISTRIBUTION SYSTEM

- A. Power: The CONTRACTOR shall provide power required for its operations under the Contract, and shall provide and maintain all temporary power lines required to perform the WORK in a safe and satisfactory manner.
- B. Temporary Power Distribution: The CONTRACTOR shall provide a weatherproof, grounded, temporary power distribution system sufficient for performance of entire WORK of project, including temporary electrical heating where indicated, operation of test equipment and test operation of building equipment and systems which cannot be delayed until permanent power connections are operable, temporary operation of other temporary facilities, including permanent equipment and systems which must be placed in operation prior to use of permanent power connections (pumps, HVAC equipment, elevators, and similar equipment), and power for temporary operation of existing facilities (if any) at the Site during change-over to new permanent power system. Provide circuits of adequate size and proper power characteristics for each use; run circuit wiring generally overhead, and rise vertically in locations where it will be least exposed to possible damage from construction operations and will result in minimal interference with performance of the WORK; provide rigid steel conduit or equivalent raceways for wiring which must be exposed on grade, floors, decks, or other exposures to damage or abuse.

3.03 INSTALLATION OF LIGHTING

- A. Construction Lighting: WORK conducted at night or under conditions of deficient daylight shall be suitably lighted to ensure proper WORK and to afford adequate facilities for inspection and safe working conditions.
- B. Temporary Lighting: The CONTRACTOR shall provide a general, weatherproof, grounded temporary lighting system in every area of construction work, as soon as overhead floor/roof deck structure has been installed to provide sufficient illumination for safe work and traffic conditions. Run circuit wiring generally overhead, and rise vertically in locations where it will be least exposed to possible damage from construction operations on grade, floors, decks, or other areas of possible damage or abuse.

3.04 WATER SUPPLY

- A. General: The CONTRACTOR shall coordinate with the Plant or Pump Station Superintendent for obtaining water service connection. The CONTRACTOR shall provide all facilities necessary to convey the water from the source to the points of use in accordance with the requirements of the Contract Documents.

The water capacity charge and the wet tap fees will be paid by the OWNER. The CONTRACTOR shall pay the fee for water meter and all other charges for water use.

- B. The CONTRACTOR shall provide and operate all pumping facilities, pipelines, valves, hydrants, storage tanks, and all other equipment necessary for the adequate development and operation of the water supply system. Water used for domestic purposes shall be free of contamination and shall conform to the requirements of the

State and local authorities for potable water. The CONTRACTOR shall be solely responsible for the adequate functioning of its water supply system and shall be solely liable for any claims arising from the use of same, including discharge or waste of water therefrom.

- C. Water Connections: The CONTRACTOR shall not make connection to or draw water from any fire hydrant or pipeline without first obtaining permission of the authority having jurisdiction over the use of said fire hydrant or pipeline and from the agency owning the affected water system. For each such connection made, the CONTRACTOR shall first attach to the fire hydrant or pipeline a valve and a meter, if required by the said authority, of a size and type acceptable to said authority and agency. The CONTRACTOR shall pay all permit and water charges.

3.05 INSTALLATION OF SANITARY FACILITIES

- A. Toilet Facilities: Fixed or portable chemical toilets shall be provided wherever needed for the use of CONTRACTOR's employees. Toilets at construction job sites shall conform to the requirements of Subpart D, Section 1926.51 of the OSHA Standards for Construction.
- B. Sanitary and Other Organic Wastes: The CONTRACTOR shall establish a regular daily collection of all sanitary and organic wastes. All wastes and refuse from sanitary facilities provided by the CONTRACTOR or organic material wastes from any other source related to the CONTRACTOR's operations shall be disposed of away from the Site in a manner satisfactory to the ENGINEER and in accordance with all laws and regulations pertaining thereto.

3.06 INSTALLATION OF FIRE PROTECTION

- A. Fire Protection: The construction plant and all other parts of the WORK shall be connected with the CONTRACTOR's temporary water supply system and shall be adequately protected against damage by fire. Hose connections and hose, water casks, chemical equipment, or other sufficient means shall be provided for fighting fires in the temporary structures and other portions of the WORK, and responsible persons shall be designated and instructed in the operation of such fire apparatus so as to prevent or minimize the hazard of fire. The CONTRACTOR's fire protection program shall conform to the requirements of Subpart F of the OSHA Standards for Construction.

3.07 OPERATIONS AND TERMINATIONS

- A. Inspections: Prior to placing temporary utility services into use, the CONTRACTOR shall inspect and test each service and arrange for governing authorities' required inspection and tests, and obtain required certifications and permits for use thereof.
- B. Protection: The CONTRACTOR shall maintain distinct markers for underground lines, and protect from damage during excavating operations.
- C. Termination and Removal: When need for a temporary utility service or a substantial portion thereof has ended, or when its service has been replaced by use of permanent

services, or not later than time of substantial completion, the CONTRACTOR shall promptly remove installation unless requested by ENGINEER to retain it for a longer period. The CONTRACTOR shall complete and restore WORK which may have been delayed or affected by installation and use of temporary utility, including repairs to construction and grades and restoration and cleaning of exposed surfaces.

- D. Removal of Water Connections: Before final acceptance of the WORK on the project, all temporary connections and piping installed by the CONTRACTOR shall be entirely removed, and all affected improvements shall be restored to original condition or better, to the satisfaction of the ENGINEER and to the agency owning the affected utility.

END OF SECTION

SECTION 01 57 19 - TEMPORARY ENVIRONMENTAL CONTROLS

PART 1 – GENERAL

1.01 THE REQUIREMENT

- A. Comply with federal, state, and local laws and regulations controlling pollution of the environment, including air, water, and noise.
- B. Prevent pollution of waters and wetlands with fuels, oils, asphalts, chemicals, wastewater, chlorinated or chlorinated water, or other harmful materials.

1.02 REFERENCE STANDARDS

- A. Louisiana Department of Environmental Quality (LDEQ)
 - LAR 100000 Master General Permit for Discharges of Storm Water from Construction Activities – Five Acres or More
 - LAR 200000 Storm Water General Permit for Small Construction Activities
- B. Occupational Safety Hazard Administration (OSHA)
Part 1926 Safety and Health Regulations for Construction
- C. United States Environmental Protection Agency (US EPA) Storm Water Management for Construction Activities

1.03 CONTRACTOR SUBMITTALS

- A. Provide submittals, samples for testing, and testing of materials in accordance with Section 01 33 00 – Submittal Procedures.
- B. Submittals:
 - 1. Where a storm water pollution prevention plan is required, submit to the ENGINEER as specified herein. Submit all activity reports as required by permits as applicable.
 - 2. Where certificates, inspection reports, or other items are required, submit to the ENGINEER as specified herein.
- C. Sampling: No materials are anticipated to be sampled under this Section.
- D. Testing: No testing laboratory tests are anticipated under this Section.

1.04 DUST ABATEMENT

- A. Prevent operations from producing dust in amounts damaging to property, cultivated vegetation, and domestic animals. Prevent operations from producing dust causing a nuisance to persons living in or occupying buildings in the vicinity of the Site. Assume

complete responsibility for any damage resulting from dust originating from its operations. Continue dust abatement measures until relieved of further responsibility by the ENGINEER.

- B. Storage Piles: Enclose, cover, water (as needed), or apply non-toxic soil binders according to manufacturer's specifications on material piles (i.e. gravel, sand, dirt) with a silt content of 5 percent or greater.
- C. Active Areas of Site: Water active construction areas and unpaved roads as needed and as directed by ENGINEER.
- D. Inactive Areas of Site: Apply non-toxic soil stabilizers according to manufacturer's specifications to inactive construction areas, or water as needed to maintain adequate dust control.
- E. Vehicle Loads: Cover or maintain at least 2-feet of freeboard vertical distance between the top of the load and the top of the trailer sides on trucks hauling dirt, sand, soil, or other loose materials off of the Site.
- F. Roads: Prevent construction materials, including sand, soils, from accumulating on public and private roads.
 - 1. When there is visible track-out onto a paved public road, install wheel washers where the vehicles exit and enter onto the paved roads and wash the undercarriage of trucks and any equipment leaving the Site on each trip.
 - 2. Sweep the paved street at the end of each shift with a water spray pick-up broom-type street sweeper as necessary or as directed.
- G. Vehicle Speeds: Reduce vehicle speeds as required for control of dust if watering of unpaved roads is not sufficient to control dust.

1.05 SEDIMENTATION ABATEMENT FOR WORK DISTURBING LESS THAN ONE ACRE

- A. For work disturbing one acre or less, no formal Storm Water Pollution Prevention Plan is required. Collect, store, haul, and dispose of spoil, silt, and waste materials in compliance with federal, state, and local rules and regulations and the Contract Documents.
- B. Storm Water Control Measures (SCMs): The Storm Water Control Measures (SCMs) are techniques, processes, activities, or structures used to reduce the pollutant content of a storm water or non-storm water discharge. SCMS may include simple, non-structural methods such as good housekeeping, staff training, and preventative maintenance. Additionally, SCMs may include structural modifications such as the installation of berms, canopies, or treatment control.
- C. For work disturbing one acre or less, Storm Water Control Measures (SCMs) must be in place. There will be no Notice of Intent (NOI) required. Complete inspection reports and submit copies to ENGINEER.

- D. Install and maintain erosion and sediment control measures, such as swales, grade stabilization structures, berms, dikes, waterways, filter fabric fences, and sediment basins.
 - E. Install and maintain filter fabric barrier systems, if used, in such a manner that surface runoff will percolate through the system in sheet flow fashion and allow sediment to be retained and accumulated.
 - F. Remove and dispose of sediment deposits at the designated spoil area. If a spoil area is not indicated, dispose of sediment off-Site at a legally permitted disposal facility. Sediment to be placed at the spoil area should be spread evenly, compacted, and stabilized. Do not allow sediment to flush into a stream, drainage structure, or drainage way.
 - G. Maintain erosion and sediment control measures until final acceptance or until directed by the ENGINEER to remove it.
- 1.06 STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND SEDIMENTATION ABATEMENT FOR WORK DISTURBING MORE THAN ONE ACRE
- A. Prepare, implement, and maintain a Storm Water Pollution Prevention Plan (SWPPP), for work disturbing one acre or greater. Within the plan, describe in specific details the CONTRACTOR's program to prevent contamination of the storm water collection system for this project.
 - B. A suggested Template and Sample SWPPP Inspection Report, as well as other valuable information can be found at EPA's website: <http://cfpub.epa.gov/npdes/stormwater/swppp.cfm>.
 - C. Comprise the plan of all relevant components specified in the U.S. Environmental Protection Agency document entitled, "Storm Water Management for Construction Activities".
 - D. Implement, maintain, and inspect all erosion and sediment controls identified in the SWPPP. Address both common construction activities and extraordinary events. Remove all temporary SCMs, such as silt fences, catch basin filters, wash areas, etc. at the end of construction.
 - E. Include Water Pollution Control Drawings (WPCD) in the SWPPP to illustrate the locations, applications, and deployment of the Storm Water Control Measures (SCMs) identified in the SWPPP. Include WPCD's as an attachment to the SWPPP.
 - F. Comply with laws, rules, and regulations of the State of Louisiana and agencies of the United States Government prohibiting the pollution of lakes, wetlands, streams, or river waters from the dumping of contaminants, refuse, rubbish, or debris.
 - G. Submit copies of the SWPPP a minimum of 10 working days prior to beginning construction, to the ENGINEER. Update the SWPPP as necessary during the work to prevent contamination of the storm water collection system.

- H. Before the start of work, train all employees and Subcontractors on the approved SWPPP and related WPCD. Provide the ENGINEER with written documentation of said training.
- I. For work disturbing one to five acres, Storm Water Control Measures (SCMs) must be in place. Prepare SWPPP and post prominently on the job site. Post the LAR 200000 General Permit posted on the job site. No Notice of Intent (NOI) will be required. Complete all required reports and submit them to OWNER.
- J. For work disturbing five acres or more, Storm Water Control Measures (SCMs) must be in place. The CONTRACTOR must have Notice of Intent (NOI) completed, sent to DEQ, and posted. Prepare a SWPPP and post prominently on the site. Have the LAR 100000 General Permit posted on site with DEQ permit number for specific site. Complete a Notice of Termination (NOT) upon completion of the WORK and submit it to LDEQ with a copy to the OWNER and ENGINEER.

1.07 RUBBISH CONTROL

- A. Keep the Site and adjacent areas in a neat and clean condition and free from any accumulation of rubbish. Dispose of rubbish and waste materials of any nature and establish regular intervals of collection and disposal of such materials and waste. Keep haul roads free from dirt, rubbish, and unnecessary obstructions resulting from its operations. Dispose of rubbish and surplus materials be off the Site in accordance with local codes and ordinances governing locations and methods of disposal and in conformance with applicable safety laws and the requirements of Part 1926 of the OSHA Safety and Health Standards for Construction.

1.08 CHEMICALS

- A. When chemicals are used for the WORK or furnished for facility operation, whether defoliant, soil sterilant, herbicide, pesticide, disinfectant, polymer, reactant, or of other classification, use or provide chemicals which show approval of either the U.S. Environmental Protection Agency or the U.S. Department of Agriculture. Use such chemicals and dispose of residues thereof in strict accordance with the printed instructions of the manufacturer.

1.09 ARCHAEOLOGICAL AND HISTORICAL FINDINGS

- A. If cultural artifacts or archaeological or historical sites are discovered, discontinue operations. The ENGINEER will contact the proper authorities in order that an appropriate assessment may be made to determine the disposition thereof and necessary actions relative to the site. When directed, excavate the site to preserve the artifacts encountered. Such excavation will be paid for as extra work, including an appropriate adjustment in contract time. Borrow and muck disposal areas furnished by the CONTRACTOR will be subject to such assessment prior to use.

1.10 SEWAGE SPILL

- A. For public areas that have come in contact with overflowed sewage, CONTRACTOR

shall take reasonable action to implement disinfection procedures. Generally, these procedures will involve an application of an oxidizing agent such as a diluted chlorine solution on constructed surfaces (streets, driveways, walls, etc.) and a lime application on organic surfaces (lawns, soil areas, etc.). The level and extent of disinfection will be determined in the field. It is not the intent of this disinfection procedure to infer that total pathogen destruction has been achieved, nor that any other level of disinfection has been achieved.

- B. CONTRACTOR shall develop a plan to report, contain/by-pass and clean up all sewage spills or unanticipated hazards that would adversely affect the health of the community.
- C. REPORT: A report shall be given immediately to the DU Compliance Office (985-893-1717). The information communicated in the report must include location, nature of problem, name of project, name of company performing work, name of the individual making the call, time of incident, volume of spill (gallons), method of remediation and clean up, and other pertinent data as necessary.

1.11 NOISE AND SOUND ISSUE

- A. CONTRACTOR's attention shall be given specifically to St. Tammany Parish Ordinance, Article IV – Noise and Sound, which in part states that the sound measured by a performer taken at least 25 feet from the source of the noise cannot exceed 70 decibels between Noon and 9 p.m. Between 9 p.m. and Noon, the sound measurement taken at least 25 feet from the source of the noise cannot exceed 55 decibels.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01 71 13 - MOBILIZATION

PART 1 -- GENERAL

1.01 GENERAL

- A. CONTRACTOR shall mobilize as required for the proper performance and completion of the WORK and in accordance with the Contract Documents.
- B. Mobilization shall include the obtaining of all permits; moving onto the site of all materials and equipment; furnishing and erecting plants, temporary buildings, field office, and other construction facilities; and implementing security requirements; all as required for the proper performance and completion of the WORK. Mobilization shall include at least the following items:
 - 1. Moving onto the Site of CONTRACTOR's plant and equipment necessary for the first month of operations.
 - 2. Installing two (2) project signs, one at the entrance to S&J MHP and one at the entrance to Tammany MHP.
 - 3. Installing field office.
 - 4. Installing temporary construction power, wiring, and lighting facilities.
 - 5. Establishing fire protection system.
 - 6. Developing construction water supply.
 - 7. Providing on-Site communication facilities.
 - 8. Providing on-Site sanitary facilities and potable water facilities.
 - 9. Arranging for and erection of CONTRACTOR's WORK and storage yards.
 - 10. Obtaining required permits.
 - 11. Having OSHA required notices and establishing safety programs.
 - 12. Having the CONTRACTOR's superintendent at the Site full time.
 - 13. Submitting initial submittals.

1.02 PAYMENT FOR MOBILIZATION

- A. The CONTRACTOR's attention is directed to the condition that two percent (2%) of the Contract Price will be deducted from any money due the CONTRACTOR as progress payments until mobilization items listed above have been completed. The aforementioned amount will be retained by the OWNER as the agreed, estimated

value of completing the mobilization items listed. Any such retention of money for failure to complete such mobilization items shall be in addition to the retention from any payments due to the CONTRACTOR in accordance with Article 28 of the General Conditions.

- B. As soon as practicable after receipt of the Notice to Proceed, the CONTRACTOR shall submit a breakdown to the ENGINEER for approval, which shall show the estimated value of each major component of mobilization. When approved by the ENGINEER, the breakdown will be the basis for initial progress payments in which mobilization is included.

PART 2 -- PRODUCTS (NOT USED)

PART 3 --EXECUTION (NOT USED)

END OF SECTION

SECTION 01 76 00 - PROTECTION OF EXISTING FACILITIES

PART 1 -- GENERAL

1.01 GENERAL

- A. The CONTRACTOR shall protect all existing utilities and improvements not designated for removal and shall restore damaged or temporarily relocated utilities and improvements to a condition equal to or better than prior to such damage or temporary relocation, all in accordance with the Contract Documents.

1.02 RIGHTS-OF-WAY

- A. The CONTRACTOR shall not do any WORK that would affect any oil, gas, sewer, or water pipeline; any telephone, telegraph, or electric transmission line; any fence; or any other structure, nor shall the CONTRACTOR enter upon the rights-of-way involved until notified that the OWNER has secured authority therefor from the proper party.
- B. After authority has been obtained, the CONTRACTOR shall give said party due notice of its intention to begin work, if required by said party, and shall remove, shore, support, or otherwise protect such pipeline, transmission line, ditch, fence, or structure, or replace the same.

1.03 PROTECTION OF STREET OR ROADWAY MARKERS

- A. The CONTRACTOR shall not destroy, remove, or otherwise disturb any existing survey markers or other existing street or roadway markers without proper authorization. No pavement breaking or excavation shall be started until all survey or other permanent marker points that will be disturbed by the construction operations have been properly referenced. Survey markers or points disturbed by the CONTRACTOR shall be accurately restored after street or roadway resurfacing has been completed.

1.04 RESTORATION OF PAVEMENT

- A. General: All paved areas including asphaltic concrete berms cut or damaged during construction shall be replaced with similar materials of equal thickness to match the existing adjacent undisturbed areas, except where specific resurfacing requirements have been called for in the Contract Documents or in the requirements of the agency issuing the permit. The pavement restoration requirement to match existing sections shall apply to all components of existing sections, including sub-base, base, and pavement. Temporary and permanent pavement shall conform to the requirements of the affected pavement owner. Pavements which are subject to partial removal shall be neatly saw cut in straight lines.
- B. Temporary Resurfacing: Wherever required by the public authorities having jurisdiction, the CONTRACTOR shall place temporary surfacing promptly after backfilling and shall maintain such surfacing for the period of time fixed by said authorities before proceeding with the final restoration of improvements.

- C. Permanent Resurfacing: In order to obtain a satisfactory junction with adjacent surfaces, the CONTRACTOR shall saw cut back and trim the edge so as to provide a clean, sound, vertical joint before permanent replacement of an excavated or damaged portion of pavement. Damaged edges of pavement along excavations and elsewhere shall be trimmed back by saw cutting in straight lines. All pavement restoration and other facilities restoration shall be constructed to finish grades compatible with adjacent undisturbed pavement.
- D. Restoration of Sidewalks or Private Driveways: Wherever sidewalks or private roads have been removed for purposes of construction, the CONTRACTOR shall place suitable temporary sidewalks or roadways promptly after backfilling and shall maintain them in satisfactory condition for the period of time fixed by the authorities having jurisdiction over the affected portions. If no such period of time is so fixed, the CONTRACTOR shall maintain said temporary sidewalks or roadways until the final restoration thereof has been made.

1.05 EXISTING UTILITIES AND IMPROVEMENTS

- A. General: The CONTRACTOR shall protect underground utilities and other improvements which may be impaired during construction operations, regardless of whether or not the utilities are indicated on the Drawings. The CONTRACTOR shall take all possible precautions for the protection of unforeseen utility lines to provide for uninterrupted service and to provide such special protection as may be necessary.
- B. The locations of all utilities shown on the DRAWINGS are approximate. CONTRACTOR shall field verify all utilities and their tie-in prior to any work commences.
- C. Any damages to any utility line due to lack of the CONTRACTOR's field verification shall be repaired immediately to the satisfaction of the ENGINEER, all at no cost to the OWNER.
- D. Except where the Drawings indicate, utilities have been field located during design or certain utility locations shall be exposed as part of the WORK, the CONTRACTOR shall be responsible for exploratory excavations as it deems necessary to determine the exact locations and depths of utilities which may interfere with its work. All such exploratory excavations shall be performed as soon as practicable after Notice to Proceed and, in any event, a sufficient time in advance of construction to avoid possible delays to the CONTRACTOR's progress. When such exploratory excavations show the utility location as shown on the Drawings to be in error, the CONTRACTOR shall so notify the ENGINEER.
- E. The number of exploratory excavations required shall be that number which is sufficient to determine the alignment and grade of the utility.
- F. Utilities to be Moved: In case it shall be necessary to move the property of any public utility or franchise holder, such utility company or franchise holder will, upon request of the CONTRACTOR, be notified by the OWNER to move such property within a specified reasonable time. When utility lines that are to be removed are encountered within the area of operations, the CONTRACTOR shall notify the ENGINEER a sufficient time in

advance for the necessary measures to be taken to prevent interruption of service.

- G. Utilities to be Removed: Where the proper completion of the WORK requires the temporary or permanent removal and/or relocation of an existing utility or other improvement which is indicated, the CONTRACTOR shall remove and, without unnecessary delay, temporarily replace or relocate such utility or improvement in a manner satisfactory to the ENGINEER and the owner of the facility. In all cases of such temporary removal or relocation, restoration to the former location shall be accomplished by the CONTRACTOR in a manner that will restore or replace the utility or improvement as nearly as possible to its former locations and to as good or better condition than found prior to removal.
- H. OWNER's Right of Access: The right is reserved to the OWNER and to the owners of public utilities and franchises to enter at any time upon any public street, alley, right-of-way, or easement for the purpose of making changes in their property made necessary by the WORK of this Contract.
- I. Underground Utilities Indicated: Existing utility lines that are indicated or the locations of which are made known to the CONTRACTOR prior to excavation and that are to be retained, and all utility lines that are constructed during excavation operations shall be protected from damage during excavation and backfilling and, if damaged, shall be immediately repaired or replaced by the CONTRACTOR, unless otherwise repaired by the owner of the damaged utility. If the owner of the damaged facility performs its own repairs, the CONTRACTOR shall reimburse said owner for the costs of repair.
- J. Underground Utilities Not Indicated: In the event that the CONTRACTOR damages existing utility lines that are not indicated or the locations of which are not made known to the CONTRACTOR prior to excavation, a verbal report of such damage shall be made immediately to the ENGINEER and a written report thereof shall be made promptly thereafter. The ENGINEER will immediately notify the owner of the damaged utility. If the ENGINEER is not immediately available, the CONTRACTOR shall notify the utility owner of the damage. If directed by the ENGINEER, repairs shall be made by the CONTRACTOR under the provisions for changes and extra work contained in Article 14 of the General Conditions.
- K. Costs of locating and repairing damage not due to failure of the CONTRACTOR to exercise reasonable care, and removing or relocating such utility facilities not indicated in the Contract Documents with reasonable accuracy, and for equipment on the project which was actually working on that portion of the WORK which was interrupted or idled by removal or relocation of such utility facilities, and which was necessarily idled during such work will be paid for as extra work in accordance with the provisions of Article 14 of the General Conditions.
- L. Approval of Repairs: All repairs to a damaged utility or improvement are subject to inspection and approval by an authorized representative of the utility or improvement owner before being concealed by backfill or other work.
- M. Maintaining in Service: Unless indicated otherwise, oil and gasoline pipelines, power,

and telephone or the communication cable ducts, gas and water mains, irrigation lines, sewer lines, storm drain lines, poles, and overhead power and communication wires and cables encountered along the line of the WORK shall remain continuously in service during all the operations under the Contract, unless other arrangements satisfactory to the ENGINEER are made with the owner of said pipelines, duct, main, irrigation line, sewer, storm drain, pole, or wire or cable. The CONTRACTOR shall be responsible for and shall repair all damage due to its operations, and the provisions of this Section shall not be abated even in the event such damage occurs after backfilling or is not discovered until after completion of the backfilling.

1.06 TREES OR SHRUBS WITHIN STREET RIGHTS-OF-WAY AND PROJECT LIMITS

- A. General: Except where trees or shrubs are indicated to be removed, the CONTRACTOR shall exercise all necessary precautions so as not to damage or destroy any trees or shrubs, including those lying within street rights-of-way and project limits, and shall not trim or remove any trees unless such trees have been approved for trimming or removal by the jurisdictional agency or OWNER. Existing trees and shrubs which are damaged during construction shall be trimmed or replaced by the CONTRACTOR or a certified tree company under permit from the jurisdictional agency and/or the OWNER. Tree trimming and replacement shall be accomplished in accordance with the following paragraphs.
- B. Trimming: Symmetry of the tree shall be preserved; no stubs or splits or torn branches left; clean cuts shall be made close to the trunk or large branch. Spikes shall not be used for climbing live trees. Cuts over 1-1/2 inches in diameter shall be coated with a tree paint product that is waterproof, adhesive, and elastic, and free from kerosenes, coal tar, creosote, or other material injurious to the life of the tree.
- C. Replacement: The CONTRACTOR shall immediately notify the jurisdictional agency and/or the OWNER if any tree or shrub is damaged by the CONTRACTOR's operations. If, in the opinion of said agency or the OWNER, the damage is such that replacement is necessary, the CONTRACTOR shall replace the tree or shrub at its own expense. The tree or shrub shall be of a like size and variety as the one damaged, or, if of a smaller size, the CONTRACTOR shall pay to the owner of said tree a compensatory payment acceptable to the tree or shrub owner, subject to the approval of the jurisdictional agency or OWNER. The size of the tree or shrub shall be not less than 1-inch diameter nor less than 6 feet in height. Planting of replacement trees and shrubs shall be in accordance with the recommendations of the nursery furnishing the plants. Unless otherwise indicated, the CONTRACTOR shall water and maintain the replacement trees and shrubs for three (3) months after planting.

1.07 LAWN AREAS

- A. Lawn or landscaped areas damaged during construction shall be repaired to match the pre-construction condition to the satisfaction of the land owner and the OWNER.

1.08 NOTIFICATION BY THE CONTRACTOR

- A. Prior to any excavation in the vicinity of any existing underground facilities, including all

water, sewer, storm drain, gas, petroleum products, or other pipelines; all buried electric power, communications, or television cables; all traffic signal and street lighting facilities; and all roadway and state highway rights-of-way, the CONTRACTOR shall notify the respective authorities representing the owners or agencies responsible for such facilities not less than three (3) days nor more than seven (7) days prior to excavation so that a representative of said owners or agencies can be present during such work if they so desire.

PART 2 -- PRODUCTS (NOT USED)

PART 3 -- EXECUTION (NOT USED)

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01 77 00 - PROJECT CLOSEOUT

PART 1 -- GENERAL

1.01 FINAL CLEANUP

- A. The CONTRACTOR shall promptly remove from the vicinity of the completed WORK, all rubbish, unused materials, concrete forms, construction equipment, and temporary structures and facilities used during construction. Final acceptance of the WORK by the OWNER will be withheld until the CONTRACTOR has satisfactorily performed the final cleanup of the Site.

1.02 CLOSEOUT TIMETABLE

- A. The CONTRACTOR shall establish dates for equipment testing, acceptance periods, and on-site instructional periods (as required under the Contract). Such dates shall be established not less than one week prior to beginning any of the foregoing items, to allow the OWNER, the ENGINEER, and their authorized representatives sufficient time to schedule attendance at such activities.

1.03 TECHNICAL MANUAL SUBMITTAL

- A. The CONTRACTOR's attention is directed to the condition that one percent (1%) of the Contract Price will be retained from any monies due the CONTRACTOR as progress payments, if at the 75% construction completion point, the approved Technical Manual complying with Section 01 33 00 – Submittal Procedures has not been submitted. The aforementioned amount will be retained by the OWNER as the agreed, estimated value of the approved Technical Manual. Any such retention of money for failure to submit the approved Technical Manual on or before the 75% construction completion point shall be in addition to the retention of any payments due to the CONTRACTOR under Article 28 of the General Conditions.

1.04 FINAL SUBMITTALS

- A. The CONTRACTOR, prior to requesting final payment, shall obtain and submit the following items to the ENGINEER for transmittal to the OWNER:
 - 1. Written guarantees, where required.
 - 2. Technical Manuals and instructions.
 - 3. New permanent cylinders and key blanks for all locks.
 - 4. Maintenance stock items; spare parts; special tools.
 - 5. Spare parts list.
 - 6. Completed record drawings.

7. Certificates of inspection and acceptance by local governing agencies having jurisdiction.
8. Releases from all parties who are entitled to claims against the subject project, property, or improvement pursuant to the provisions of law.

1.05 MAINTENANCE AND GUARANTEE

- A. The CONTRACTOR shall comply with the maintenance and guarantee requirements contained in Article 21 of the General Conditions.
- B. Replacement of earth fill or backfill, where it has settled below the required finish elevations, shall be considered as a part of such required repair work, and any repair or resurfacing constructed by the CONTRACTOR which becomes necessary by reason of such settlement shall likewise be considered as a part of such required repair work unless the CONTRACTOR shall have obtained a statement in writing from the affected private owner or public agency releasing the OWNER from further responsibility in connection with such repair or resurfacing.
- C. The CONTRACTOR shall make all repairs and replacements promptly upon receipt of written order from the OWNER. If the CONTRACTOR fails to make such repairs or replacements promptly, the OWNER reserves the right to do the WORK and the CONTRACTOR and its surety shall be liable to the OWNER for the cost thereof.

1.06 BOND

- A. The CONTRACTOR shall provide a bond to guarantee performance of the provisions contained in Paragraph "Maintenance and Guarantee" above, and Article 3 of the General Conditions.

PART 2 -- PRODUCTS (NOT USED)

PART 3 -- EXECUTION (NOT USED)

END OF SECTION

SECTION 02 21 13 - SITE CONDITIONS SURVEYS

PART 1 -- GENERAL

1.01 THE REQUIREMENT

- A. The CONTRACTOR shall conduct thorough pre-construction and post-construction Site conditions surveys of the entire Project. Site conditions surveys shall consist of photographs, and video recordings.

1.02 CONTRACTOR SUBMITTALS

- A. Video surveys, photographs, and other data of the preconstruction conditions shall be submitted to the ENGINEER for record purposes prior to, but not more than three weeks before, commencement of any construction activities. These items shall be provided on a CD or DVD in a widely acceptable, readable format.
- B. A complete set of all photographs and survey data of the post-construction conditions shall be completed and submitted prior to final inspection by the OWNER and ENGINEER. These items shall be provided on a CD or DVD in a widely acceptable, readable format.

PART 2 -- PRODUCTS (NOT USED)

PART 3 -- EXECUTION

3.01 PHOTOGRAPHS AND VIDEO RECORDINGS

- A. CONTRACTOR, as a minimum, shall document pre- and post-construction conditions by preparing video surveys of the following:
 - 1. Roadways used to access the Site or haul materials and equipment to the Site.
 - 2. Work areas, including actual work sites, materials processing and stockpiling areas, access corridors, disposal areas, and staging areas.
 - 3. Any work completed by other contractors at the Site that will be connected to or otherwise affected by the WORK.
 - 4. Driveways, sidewalks, and buildings/mobile homes/trailers which might be affected by the WORK.
 - 5. All adjacent private residences and businesses, including interior, if possible.
- B. Supplement video surveys with photographs, as required, to thoroughly document the original condition and location of existing features and facilities.
- C. Video records shall be provided on a thumbdrive in a widely acceptable, readable format.

END OF SECTION

SECTION 02 41 00 – DEMOLITION AND RECONSTRUCTION

PART 1 - GENERAL

1.01 THE REQUIREMENT

- A. Demolish and remove facilities as indicated. Remove and/or relocate structures and obstructions as indicated, all in accordance with the Contract Documents.
- B. Carefully coordinate the WORK in areas where existing facilities are interconnected with new facilities and where existing facilities remain operational. The WORK as indicated is not all inclusive, and the CONTRACTOR will be responsible to perform the reconstruction indicated plus that which can be reasonably inferred from the Contract Documents as necessary to complete the Project. The Specifications and Drawings identify the major facilities that are to be demolished and reconstructed, but auxiliary utilities are not necessarily shown.
- C. Prior to bidding, the CONTRACTOR shall conduct a comprehensive survey at the Site to verify the correctness and exactness of the Drawings, the scope of WORK, and the extent of auxiliary utilities.
- D. While demolition and reconstruction are being performed, provide adequate access for the continued operation and maintenance of equipment and other facilities to remain. Erect and maintain fences, warning signs, barricades, and other devices around the reconstruction as required for the protection of the CONTRACTOR's employees and the OWNER's personnel. Remove such protection when reconstruction activities are complete, or as work progresses, or when directed by the ENGINEER.

1.02 REFERENCE STANDARDS

- A. 29 CFR 1926 – Safety and Health Regulations for Construction
- B. 49 CFR, Parts 172-180 Regulations for Hazardous Materials
- C. LAC Title 33, Part V, Chapter 38
- D. LAC Title 33, Part V, Chapter 38, Section 3813
- E. LAC Title 56, Water Well Registration, Construction, Plugging and Abandonment.
- F. Louisiana Department of Environmental Quality
- G. Louisiana Department of Environmental Quality (LDEQ) - UST Regulations for Underground Storage Tanks
- H. Louisiana Department of Natural Resources Office of Conservation
- I. NFPA 241 – Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2022, with Errata (2021)

J. U.S. Environmental Protection Agency

1.03 CONTRACTOR SUBMITTALS, SAMPLING, AND TESTING

- A. Provide submittals, samples for testing, and testing of materials in accordance with Section 01 33 00 – Submittal Procedures.
- B. Demolition and reconstruction activities and procedures, including operational sequence, shall be submitted to the ENGINEER for approval. The procedures shall provide for safe conduct of the WORK, careful removal and disposition of materials and equipment, protection of existing facilities which are to remain undisturbed, coordination with existing facilities to remain in service, and timely disconnection and reconnection of utility services. The procedures shall include a detailed description and time schedule of the methods and equipment to be used for each operation and the sequence of operation. A storage plan for salvaged items shall be included.
- C. Water Well Driller: Submit documentation of licensed Water Well Driller.
- D. Notice of planned disconnection of water well.
- E. Plugging and Abandonment Forms

1.04 DEMOLITION

- A. Existing structures, equipment, piping, valves, ductwork, electrical gear, instrumentation, utilities, and related appurtenances such as anchors, supports, and hardware indicated or required to be demolished as part of the WORK shall be removed and disposed of unless otherwise indicated. The CONTRACTOR shall dispose the removed items offsite.

1.05 SALVAGE

- A. Items of existing equipment, piping, valves, electrical gear, instrumentation, utilities, and appurtenances indicated to be salvaged shall be removed without any degradation in condition from that prior to removal. Salvaged items shall be returned to the OWNER as shown on the drawings or as directed by the ENGINEER. The CONTRACTOR shall be responsible to properly safeguard the salvaged items against damage and loss during removal and handling.

1.06 RELOCATION

- A. Items of existing equipment, piping, valves, electrical gear, instrumentation, utilities, and appurtenances requiring relocation shall be removed without any degradation in condition from that prior to removal. The CONTRACTOR shall be responsible to properly safeguard the relocated items against damage and loss during removal, handling, storage, and installation in the new location.

1.07 REHABILITATION

- A. Existing civil, landscaping, structural, architectural, mechanical, electrical, and instrumentation WORK disturbed or damaged by reconstruction activities shall be repaired and rehabilitated as indicated.
- B. Damaged items shall be repaired or replaced with new items to restore items or surfaces to a condition equal to and matching that existing prior to damage.
- C. In buildings with reconstruction work, the CONTRACTOR shall not use any OWNER equipment (e.g., bridge cranes and monorails) unless authorized in advance in writing by the ENGINEER. Such authorization shall be subject to documentation by the CONTRACTOR of the load proposed to place on the equipment and be subject to OWNER requirements for crane use for operating and maintenance needs. Any damage to a crane shall be repaired or replaced to the ENGINEER's satisfaction.

1.08 DISPOSAL

- A. The CONTRACTOR shall be responsible for the offsite disposal of debris resulting from reconstruction in compliance with local, state, and federal codes and requirements.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION

3.01 GENERAL

- A. Coordinate demolition and reconstruction WORK with the OWNER and ENGINEER. Unless otherwise indicated, assume full responsibility for the sequence of activities. Perform demolition and relocation WORK in accordance with applicable safety rules and regulations.
- B. Verify that any utilities connected to structures, equipment, and facilities to be removed, relocated, salvaged, replaced, or abandoned are rendered inoperable, replaced with new utilities, or adequately bypassed with temporary utilities before proceeding with demolition and reconstruction.
- C. Take precautions to avoid damage to adjacent facilities and to limit the WORK activities to the extent indicated. If reconstruction beyond the scope indicated is required, then obtain approval from the ENGINEER prior to commencing.
- D. Perform a functional test of existing equipment that is relocated and reinstalled to ensure the equipment functions in the manner documented during the initial inspection. Inform the ENGINEER in writing a minimum of five (5) days prior to the functional testing in order for the OWNER and ENGINEER to witness the test. If, in the opinion of the ENGINEER, the relocated equipment does not function in a satisfactory manner, then make repairs and modifications necessary to restore the equipment to its original operating condition at no additional cost to the OWNER.
- E. The CONTRACTOR shall obtain all required permits for execution of the WORK.

F. Hazardous Materials:

1. If hazardous materials are discovered during removal operations, stop work and notify ENGINEER and OWNER. Hazardous materials include regulated asbestos containing materials, lead, PCBs, and mercury.
2. Hazardous Materials: Comply with 29 CFR 1926 and state and local regulations.

3.02 PROTECTION OF EXISTING FACILITIES

- A. Before beginning any reconstruction, carefully survey the existing facilities and examine the Specifications and Drawings to determine the extent of reconstruction and coordination with the WORK. Protect and maintain existing facilities not subject to reconstruction. Repair existing facilities damaged by demolition and removal to the previous condition or replace with new facilities approved by the OWNER and ENGINEER.
- B. Afford persons and equipment safe passages around areas of demolition.
- C. Do not overload existing or temporary structural elements. Provide shoring, bracing, or adding new supports as may be required for adequate structural support as a result of WORK performed under this Section. Remove temporary protection when the WORK is complete or when so authorized by the ENGINEER.
- D. Carefully consider bearing loads and capacities before placement of equipment and material on Site. In the event of any questions as to whether an area to be loaded has adequate bearing capacity, consult with the ENGINEER prior to the placement of such equipment or material.

3.03 DEMOLITION AND REMOVAL OF STRUCTURES AND OBSTRUCTIONS

- A. Equipment Supports: Remove equipment supports, including concrete pads, baseplates, mounting bolts, and support hangers, where indicated. Repair damage to the existing structure as indicated.
- B. Exposed Piping: Remove exposed piping including vents, drains, and valves. Where exposed piping penetrates existing floors and walls, remove the piping, including wall thimbles, to a minimum depth of 2-inches. Repair openings in the structure as indicated.
- C. Electrical Control Panels: Remove electrical control panels, junction boxes, motor control centers, and local switches and push buttons.
- D. Connections: Remove connections to embedded electrical conduits a minimum of 2-inches inside the finished surface of the existing structure. Remove wiring and repair the resulting openings as indicated.
- E. Structures:

1. Unsalvageable materials in a structure designated for removal become the property of the CONTRACTOR. Remove and dispose of such material. Demolish and remove appurtenances forming a part of a structure to be demolished, whether integral or not integral to the structure.
 2. Demolish and remove washhouses, garages, cisterns, and other buildings and appurtenances used in conjunction with a structure in the same manner as the structure. Remove existing yard fences, drives, walks, and shrubbery. The above are all considered part of the structure to be demolished and removed. Plug and seal all abandoned water wells in accordance with State Law. When demolishing of a structure, any part of which is used as a service station, include the removal of gasoline pumps, tanks, pipes, signs and other appurtenances. Remove underground fuel tanks in accordance with State Law. Do not reuse existing underground fuel tanks for other purposes. Remove and dispose of material in existing foundations, concrete or masonry floors, chimneys, and other appurtenances. Remove and dispose of cattle pens, cane derricks, cattle guards, or other such structures
- F. Pavement, Base Courses, Walks, and Curbs: Dispose of pavements, stabilized or treated base courses, walks, curbs, and gutters, designated for removal as shown on the Drawings and as directed. When the existing shoulder underdrain at the pavement edge is to remain in place and in service but removal of the shoulder surfacing and base is required, do not damage the existing shoulder underdrains. Repair damaged shoulder underdrains at no additional cost to the OWNER.
- G. Pipe: Remove and store pipe that is to be re-laid so that there will be no loss or undue damage before relaying. Replace sections lost from storage or unduly damaged at no additional cost to the OWNER.
- H. Bridges and Drainage Structures: Do not remove bridges, including approach slabs, and drainage structures in use by traffic until satisfactory arrangements have been made to accommodate traffic. Unless otherwise directed or shown on the Drawings, remove substructures to natural stream bottom and those parts outside the stream to one foot below natural ground surface. Remove existing structures within the limits of a new structure as necessary to accommodate construction of the new structure. Dismantle steel or wood bridges to be salvaged without unnecessary damage, inclusive of stripping of all hardware. Match-mark structural members before dismantling. Only use explosives when permitted by the ENGINEER and in complete accordance with applicable laws and regulations. Complete blasting or other operations necessary for removal of an existing structure or obstruction, which may damage new construction, prior to placing the new work.

3.04 RELOCATING STRUCTURES

- A. Place structures to be relocated in their new locations as directed and restore to their original condition. Place structures to be relocated on foundations of the same type and character as the original foundations.
- B. Relocate appurtenances forming a part of a structure to be relocated, whether integral or not integral to the structure, in the same manner as the structure. Relocate or replace

appurtenances associated with the structure as directed with appurtenances of the same size, type, and character as existed before the structure was relocated.

- C. Disconnect sanitary sewers, water, gas, electric, television cable, and telephone service lines connected to structures being relocated and reconnect as quickly as possible. Assume complete responsibility for all notices to public utility companies and for all fees charged by them. Relocate existing yard fences, drives, and walks; extend same as necessary. Remove and replant existing shrubbery at new locations as designated. All of the above will be considered as appurtenances not integral to the structures to be removed and relocated.
- D. Remove material in existing foundations, concrete or masonry floors, chimneys and other appurtenances, when not used in reconstruction of appurtenances, and dispose of in accordance with applicable laws and regulations. Furnish new material required in performing any of these operations at no direct pay.
- E. Relocate contents of structures with the structure to its new site. When not feasible to relocate structures with contents therein, remove the contents from the structure at its original location and properly store and replace in the relocated structure without damage or loss to contents.
- F. Relocate cattle pens, cane derricks, cattle guards, or other such structures on or beyond the right-of-way line as directed. Use materials in structures suitable for reuse in their reconstruction. Furnish new materials similar in kind to that in place at no direct pay, including foundations.
- G. Prior to removal of butane or propane gas tanks, obtain the written approval of the Louisiana Liquefied Petroleum Gas Commission. Do not use or reuse existing underground butane or propane gas tanks for other purposes. The Department will reimburse the contractor for the cost of the new tank when the contractor presents the original receipted bill.
- H. Furnish the engineer a Certificate of Release from each property owner; in case of separate ownerships of structure and property, furnish a Certificate of Release from each owner. State on the certificate that the that the relocated structures are in an acceptable condition and that said owner waives all claims for damages to the property and structures relocated. When a Certificate of Release cannot be secured from the property owner, submit to the engineer a notarized letter documenting the inability to obtain the release

3.05 REMOVING ENVIRONMENTALLY SENSITIVE MATERIALS

- A. When removal or remediation of any environmentally sensitive or contaminated sites is required during construction, conduct operations in compliance with applicable laws and regulations. If failure to follow applicable laws and regulations subsequently causes or increases harm or damage to the environment, pay all resulting fines and clean-up costs.
- B. When information is available, the Drawings will indicate which structures contain friable or non-friable asbestos. When a structure is identified on the Drawings or discovered on

the project to contain asbestos and will be demolished or renovated, dispose of all asbestos containing material in accordance with applicable laws and regulations. Use a certified asbestos abatement contractor for proper removal and disposal. Follow all applicable requirements for proper handling of asbestos material for the continued removal of the asbestos containing material. Notify the Department of Environmental Quality (DEQ), Air Quality Division through the use of the proper notification form, DEQ AAC2, at least ten (10) calendar days prior to initiation of demolition or renovation of structure(s). Maintain and furnish to the ENGINEER, all records pertaining to the disposal of the asbestos containing material, either as non-friable or friable asbestos, within twenty-one (21) calendar days of the material being removed from the site for disposal.

- C. Asbestos containing materials in structures that are removed or relocated without disturbing asbestos will not be abated. Provide a Certificate of Release to the ENGINEER.
- D. Non-Friable Asbestos: When a structure contains non-friable asbestos, carefully remove the asbestos without excessive breakage or crushing before demolition or renovation of the structure. Dispose of the non-friable asbestos material at an approved industrial landfill.
- E. Friable Asbestos: When a structure contains friable asbestos, request that DEQ provide a confirmation letter with an Asbestos Disposal Verification Form (ADVF). Complete the ADVF within ninety (90) calendar days from the date of issue. Only use contractors or subcontractors certified by DEQ as Asbestos Abatement Entities remove friable asbestos from structures. Remove the asbestos before structure demolition or renovation. Perform friable asbestos removal, handling, and disposal in accordance with the latest requirements for asbestos abatement of the DEQ Air Quality Division. Maintain, and furnish to the engineer within twenty-one (21) calendar days, Chain of Custody verification records for the friable asbestos from the work site to the disposal site. These records will become part of the permanent project records.
- F. Underground Fuel Tanks: Use a DEQ approved subcontractor to perform all site activities, including the collection of closure samples and tank removal, as defined in the latest DEQ Underground Storage Tank (UST) regulations. Submit closure test results, all documentation, and all necessary forms to the ENGINEER to be approved and forwarded to DEQ. Take all necessary precautions to prevent the infiltration of water into tanks and tank excavations during the work. During routine site closure, conduct the removal, transportation, and disposal of tanks, and the handling of contaminated soil and contaminated fluid, in accordance with all local, state, and federal laws and regulations. Limits of excavation and quantities of contaminated soil and contaminated fluid to be removed, transported, and disposed will be as specified or as directed. When underground storage tanks (UST) have been filled with concrete, sand, or other such material and are designated on the Drawings for removal, use a certified UST subcontractor to remove, transport and dispose of such tanks in accordance with the recommendations of the American Petroleum Institute (API) and the requirements of the Louisiana Department of Environmental Quality (DEQ) or other regulatory agency of jurisdiction. When such UST are discovered during construction, stop construction activity in the immediate vicinity of the UST and notify the engineer in accordance with this subsection. The ENGINEER will verify the closure status of such filled UST

discovered during construction prior to any UST site activity by the contractor or certified UST subcontractor. Use a certified UST subcontractor to collect for laboratory analysis a representative sample of non-solidified fill material within the storage tank for landfill acceptance. The results of the laboratory analysis will be used to determine the disposition of the UST fill material. Provide a copy of all laboratory analyses to the ENGINEER for verification prior to profiling materials for landfill acceptance.

- G. Contaminated Soils: Excavate soil in areas of underground fuel tanks or other areas contaminated with petroleum products or other identified toxic materials at levels above the regulatory limits and is nonprotective of groundwater as shown on the Drawings or as directed. Determination requirements for groundwater protection through the use of the Synthetic Precipitation Leachate Procedure (SPLP) or as directed by the ENGINEER. Remove the overburden above the contaminated soil to the dimensions shown on the Drawings or as directed. Also, excavate the contaminated soil at the locations shown on the Drawings or as directed. Excavate contaminated soil determined to be protective of groundwater, through the use of the SPLP place in the roadbed when the soil is determined to be "suitable soil" by the engineer, and when the volume of soil is within quantities specified on the Drawings. No additional cover of the contaminated soil, other than the specified paved surfaces courses, will be required in the roadbed. Place all remaining contaminated soil determined to be protective of groundwater, but not used in the roadbed, in other embankment areas within the limits of the project. Cover contaminated soil placed in other embankment areas with two (2) feet of compacted soil. Maintain final grade in accordance with the Drawings. Load the contaminated soil determined not to be protective of groundwater into approved hauling vehicles and dispose of in a site approved by the DEQ. Furnish the engineer, within twenty-one (21) calendar days, Chain of Custody verification records for the contaminated soil. The ENGINEER will verify that all contaminated soil has been removed. While the excavation is open, construct and maintain a soil berm around the excavation to prevent surface water runoff from entering the excavation. The removed overburden may be used to construct the berm and backfill the excavation. Removal and disposal of contaminated soils will be in accordance with all local, state, and federal laws and regulations.
- H. Contaminated Fluids: Remove and dispose of contaminated fluid, in underground fuel tanks, in areas of underground fuel tanks, or other areas as shown on the Drawings or as directed. The Department will determine the quantity of contaminated fluid to be removed. Pump the contaminated fluid into approved hauling vehicles. Remove contaminated fluid from underground fuel tanks before tank removal. Dispose or recycle of contaminated fluid in a site approved by the Department of Environmental Quality. Furnish the engineer, within twenty-one (21) calendar days, Chain of Custody verification records for the contaminated fluid. The Department will verify the removal of the contaminated fluid. Removal and disposal of contaminated fluids will be in accordance with all local, state, and federal laws and regulations.
- I. Paint Containing Lead or Other Hazardous Materials: Remove steel members of structures protected by paint containing lead or other hazardous materials as shown on the Drawings or as discovered in the field and prepare for transport in accordance with applicable laws and regulations. Prior to removal, transport, treatment, or disposal of any steel members, submit the following to the engineer: 1. Plan of removal or treatment of steel members. 2. Plan for transport of steel members and any hazardous materials. 3.

Name and address of the licensed recycling center. Deliver such steel members to a licensed recycling center capable of processing steel members coated with paint identified as hazardous by the Resource Conservation and Recovery Act (RCRA). The OWNER will be the Generator and obtain the generator number. The contractor will be responsible for obtaining an approved disposal site, arranging for transporting the material and/all testing required. The manifest for transportation will have the Generator number on it and should be signed by the contractor, Inspector, and the Disposal Operator with copies to each upon completion. Unless otherwise directed or shown on the Drawings, the contractor will be allowed to retain any steel member once the lead paint has been removed and disposed of prior to steel leaving the jobsite in accordance with procedure above at no cost to the Department. Transport all steel members or hazardous material in accordance with all federal, state, and local laws. Provide Certificates of Disposal, Chain of Custody forms, or other applicable documents within twenty-one (21) calendar days following each shipment

- J. Treated Timber: Remove creosoted and other treated timber or lumber shown on the Drawings or discovered in the field; and prepare for transport by methods approved by the Department. Dispose of all materials that are not designated to be salvaged by the Department or salvaged by the contractor in an appropriate landfill. Provide Certificates of Disposal, Chain of Custody forms, or other applicable documents within twenty-one (21) calendar days following each shipment.
- K. Universal Wastes: Universal wastes are hazardous wastes defined in LAC Title 33, Part V, Chapter 38, Section 3813 to include batteries, pesticides, thermostats, lamps and antifreeze. Remove universal wastes, prepare for transport, and dispose of as specified in LAC Title 33, Part V, Chapter 38 and herein. Inform all employees who handle universal wastes of the proper handling and emergency procedures appropriate to the type of waste.
- L. Other Regulated Materials: Items for removal under this subsection are defined as any material not considered in the above subsections and may be disposed of as a solid waste in the appropriate solid waste landfill. Such materials may include asphalt shingles, noninfectious medical waste, etc. not covered in other items.

3.06 PLUG AND ABANDON EXISTING WATER WELLS

- A. Plug and abandon water wells at the locations shown on the DRAWINGS, or as directed by the ENGINEER, in accordance with the applicable rules and regulations of:
 - 1. Louisiana Department of Environmental Quality,
 - 2. Louisiana Department of Natural Resources Office of Conservation,
 - 3. U.S. Environmental Protection Agency,
 - 4. Louisiana Administrative Code 56 Water Well Registration, Construction, Plugging and Abandonment.
- B. Water well shall not be disconnected from abandoned water distribution system until new

water distribution system is fully operational and is the sole source of water for the end point users. Notification shall be provided one (1) week in advance of planned disconnection of the water well for review and approval by the ENGINEER. Water well shall not be disconnected without written approval from ENGINEER.

- C. Abandon the existing water well by disconnecting the pumping equipment from the abandoned water distribution system.
- D. Plug water well within 90 days of the date of abandonment. Remove pump(s) and any other obstructions. Fill well with cement-bentonite slurry from the bottom of the well to ground surface. Cut off the casing at or below grade.
- E. Plugging and abandonment of water wells shall be conducted by a licensed Water Well Driller in accordance with the rules and regulations found in LAC 56.
- F. CONTRACTOR shall submit Plugging and Abandonment Forms to LDNR within 30 calendar days after the plugging of the well. CONTRACTOR shall provide a copy of the forms to water well owner, and OWNER (St. Tammany Parish).

END OF SECTION

SECTION 03 30 00 - CAST-IN-PLACE CONCRETE

PART 1 -- GENERAL

1.01 THE REQUIREMENT

- A. The CONTRACTOR shall provide cast-in-place concrete, complete and in place, in accordance with the Contract Documents.

1.02 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. Federal Specifications and Standards

UU-B-790A (1) (2) Building Paper, Vegetable Fiber (Kraft, Waterproofed, Water Repellant and Fire Resistant)

PS 1 Construction and Industrial Plywood

PS 20 American Softwood Lumber Standard

B. Commercial Standards

ACI 214 Recommended Practice for Evaluation of Strength Test Results of Concrete

ACI 301 Structural Concrete for Buildings

ACI 315 Details and Detailing of Concrete Reinforcement

ACI 318 Building Code Requirements for Reinforced Concrete

ACI 347 Guide to Formwork for Concrete

ASTM A 82 Steel Wire, Plain, for Concrete Reinforcement

ASTM A 185 Steel Welded Wire Fabric, Plain, for Concrete Reinforcement

ASTM A 615 Deformed and Plain Billet-Steel Bars for Concrete Reinforcement

ASTM C 31 Standard Practice for Making and Curing Concrete Test Specimens in the Field

ASTM C 33 Concrete Aggregates

ASTM C 39	Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
ASTM C 94	Ready-Mixed Concrete
ASTM C 114	Test Methods for Chemical Analysis of Hydraulic Cement
ASTM C 136	Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM C 143	Standard Test Method for Slump of Hydraulic Cement Concrete
ASTM C 150	Portland Cement
ASTM C 156	Standard Test Method for Water Retention by Concrete Curing Materials
ASTM C 192	Standard Practice for Making and Curing Concrete Test Specimens in the Laboratory
ASTM C 260	Air-Entraining Admixtures for Concrete
ASTM C 309	Liquid Membrane-Forming Compounds for Curing Concrete
ASTM C 494	Chemical Admixtures for Concrete
ASTM C 1077	Standard Practice for Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation
ASTM D 1752	Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction
ASTM E 119	Standard Test Methods for Fire Tests of Building Construction and Materials
AWS D 1.4	Structural Welding Code - Reinforcing Steel
WRI	Manual of Standard Practice for Welded Wire Fabric

1.03 CONTRACTOR SUBMITTALS

- A. General: Furnish submittals in accordance with Section 01 33 00 – Submittal Procedures.
- B. Mix Designs: Prior to beginning the WORK, submit preliminary concrete mix designs which shall show the proportions and gradations of all materials proposed for each class and type of concrete herein. The mix designs shall be checked by an independent testing laboratory acceptable to the ENGINEER. All costs related to such checking shall be borne by the CONTRACTOR. When a water reducing admixture is to be used, the CONTRACTOR shall furnish mix designs for concrete both with and without the admixture.
- C. Delivery Tickets: Where ready-mix concrete is used, furnish certified delivery tickets at the time of delivery of each load of concrete. Each ticket shall show the state certified equipment used for measuring, and the total quantities, by weight, of cement, sand, each class of aggregate, admixtures, and the amounts of water in the aggregate, added at the batching plant, and the amount allowed to be added at the site for the specific design mix. In addition, each certificate shall state the mix number, total yield in cubic yards, and the time of day, to the nearest minute, corresponding to the time when the batch was dispatched, when it left the plant, when it arrived at the Site, when unloading began, and when unloading was finished.

1.04 QUALITY ASSURANCE

A. Testing of Reinforcing Steel

- 1. If requested by the ENGINEER, the CONTRACTOR shall furnish samples from each heat of reinforcing steel in a quantity adequate for testing. Costs of initial tests will be paid by the OWNER. Costs of additional tests of non-compliant steel shall be paid by the CONTRACTOR.

B. Testing of Materials

- 1. Tests performed as indicated herein. Test for determining slump will be in accordance with the requirements of ASTM C 143.
- 2. The cost of laboratory tests on cement, aggregates, and concrete, will be paid by the CONTRACTOR. CONTRACTOR will be charged for the cost of any additional tests and investigations on WORK which does not meet the Specifications. The laboratory will meet or exceed the requirements of ASTM C 1077.
- 3. Concrete for testing shall be supplied by the CONTRACTOR at no cost to the OWNER, and the CONTRACTOR shall assist the ENGINEER in obtaining samples and disposal and cleanup of excess material.

C. Field Compression Tests

1. Compression test specimens will be taken from the first placement of each class of concrete herein and at intervals thereafter as selected by the ENGINEER to insure continued compliance. Each set of test specimens will be a minimum of four (4) cylinders.
2. Compression test specimens for concrete will be made in accordance with section 9.2 of ASTM C 31. Specimens will be 6-inch diameter by 12-inch high cylinders.
3. Compression tests will be performed in accordance with ASTM C 39. One test cylinder will be tested at seven (7) days and two (2) at twenty-eight (28) days. The remaining cylinder will be held to verify test results, if needed.

D. Evaluation and Acceptance of Concrete

1. Evaluation and acceptance of the compressive strength of concrete will be according to the requirements of ACI 318, Chapter 5 "Concrete Quality", and as indicated herein.
2. If any concrete fails to meet these requirements, immediate corrective action shall be taken to increase the compressive strength for all subsequent batches of the type of concrete affected.
3. All concrete which fails to meet the ACI requirements and these Specifications, is subject to removal and replacement at no additional cost to the OWNER.

E. Construction Tolerances: The CONTRACTOR shall set and maintain concrete forms and perform finishing operations so as to ensure that the concrete is within the tolerances herein. Surface defects and irregularities are defined as finishes and are to be distinguished from tolerances. Tolerance is the permissible variation from lines, grades, or dimensions indicated. Where tolerances are not stated in the Specifications, permissible deviations will be in accordance with ACI 117.

PART 2 -- PRODUCTS

2.01 FORM AND FALSE WORK MATERIALS

- A. Except as otherwise specifically accepted by the ENGINEER, all lumber brought on the Site for use as forms, shoring, or bracing shall be new material.
- B. Materials for concrete forms, formwork, and false work shall conform to the following requirements:
 1. Lumber shall be Douglas Fir or Southern Yellow Pine, construction grade or better, in conformance with U.S. Product Standard PS 20.
 2. Plywood for concrete formwork shall be new, waterproof, synthetic resin bonded, exterior type Douglas Fir or Southern Yellow Pine plywood manufactured

especially for concrete formwork and shall conform to the requirements of PS 1 for Concrete Forms, Class I, and shall be edge sealed.

3. Form materials shall be metal, wood, plywood, or other material that will not adversely affect the concrete and will facilitate placement of concrete to the shape, form, line, and grade required. Metal forms shall be an approved type that will accomplish such results. Wood forms for surfaces to be painted shall be Medium Density Overlaid plywood, MDO Ext. Grade.
- C. Unless otherwise indicated, exterior corners in concrete members shall be provided with 3/4-inch chamfers or tooled to a 1/2-inch radius. Re-entrant corners in concrete members shall not have fillets unless otherwise indicated.
 - D. Forms and false work to support the roof and floor slabs shall be designed for the total dead load, plus a live load of 30 psf (minimum).

2.02 FORM TIES

- A. Form ties shall be provided with a plastic cone or other suitable means for forming a conical hole to insure that the form tie may be broken off back of the face of the concrete. The maximum diameter of removable cones for rod ties or other removable form-tie fasteners having a circular cross-section shall not exceed 1-1/2 inches; and all such fasteners shall be such as to leave holes of regular shape for reaming. Form ties shall be Burke Penta-Tie System by The Burke Company, or equal.
- B. Removable taper ties may be used when approved by the ENGINEER. Taper Ties shall be Taper-Tie System by The Burke Company, or equal.

2.03 REINFORCEMENT STEEL

- A. General: Reinforcement steel for cast-in-place reinforced concrete construction shall conform to the following requirements:
 1. Bar reinforcement shall conform to the requirements of ASTM A 615 for Grade 60 Billet Steel Reinforcement unless otherwise indicated.
 2. Welded wire fabric reinforcement shall conform to the requirements of ASTM A 185 and the details indicated; provided, that welded wire fabric with longitudinal wire of W9.5 size wire shall be either furnished in flat sheets or in rolls with a core diameter of not less than ten (10) inches; and provided further, that welded wire fabric with longitudinal wires larger than W9.5 size shall be furnished in flat sheets only.
 3. Spiral reinforcement shall be cold-drawn steel wire conforming to the requirements of ASTM A 82.
- B. Accessories

1. Accessories shall include all necessary chairs, slab bolsters, concrete blocks, tie wires, dips, supports, spacers, and other devices to position reinforcement during concrete placement. Slab bolsters shall have gray plastic-coated legs.
2. Concrete blocks (dobies), used to support and position reinforcement steel, shall have the same or higher compressive strength than required for the concrete in which they are located. Where concrete blocks are used on concrete surfaces exposed to view, the color and texture of the concrete blocks shall match that required for the finished surface. Wire ties shall be embedded in concrete block bar supports.

2.04 CONCRETE MATERIALS

- A. Materials shall be delivered, stored, and handled so as to prevent damage by water or breakage. Only one brand of cement shall be used. Cement reclaimed from cleaning bags or leaking containers shall not be used. All cement shall be used in the sequence of receipt of shipments.
- B. All materials furnished for the work shall comply with the requirements of Sections 201, 203, and 204 of ACI 301, as applicable.
- C. Storage of materials shall conform to the requirements of Section 205 of ACI 301.
- D. Materials for concrete shall conform to the following requirements:
 1. Cement shall be standard brand portland cement conforming to ASTM C 150 for Type II.
 2. Water shall be potable, clean, and free from objectionable quantities of silty organic matter, alkali, salts and other impurities. The water shall be considered potable, for the purposes of this Section only, if it meets the requirements of the local governmental agencies. Agricultural water with high total dissolved solids (over 1000 mg/l TDS) shall not be used.
 3. Aggregates shall be obtained from pits acceptable to the ENGINEER, shall be non-reactive, and shall conform to ASTM C 33. Maximum size of coarse aggregate shall be as indicated herein. Lightweight sand for fine aggregate will not be permitted.
 4. Ready-mix concrete shall conform to the requirements of ASTM C 94.
 5. Air-entraining agent meeting the requirements of ASTM C 260 shall be used. Sufficient air-entraining agent shall be used to provide a total air content of 3 to 5 percent; provided that, when the mean daily temperature in the vicinity of the Site falls below 40° F for more than one day, the total air content provided shall be five (5) to seven (7) percent. The OWNER reserves the right, at any time, to sample and test the air-entraining agent received on the job by the CONTRACTOR. The air-entraining agent shall be added to the batch in a portion of the mixing water.

The solution shall be batched by means of a mechanical batcher capable of accurate measurement.

6. Admixtures: Admixtures may be added at the CONTRACTOR's option to control the set, affect water reduction, and increase workability. In either case, the addition of an admixture shall be at the CONTRACTOR's expense. The use of an admixture shall be subject to acceptance by the ENGINEER. Concrete containing an admixture shall be first placed at a location determined by the ENGINEER. If the use of an admixture is producing an inferior end result, the CONTRACTOR shall discontinue use of the admixture. Admixtures shall conform to the requirements of ASTM C 494. The required quantity of cement shall be used in the mix regardless of whether or not an admixture is used. Admixtures shall contain no free chloride ions, shall be non-toxic after thirty (30) days, and shall be compatible with and made by the same manufacturer as the air entraining admixture.
 - a. Concrete shall not contain more than one water reducing admixture. Concrete containing an admixture shall be first placed at a location determined by the ENGINEER.
 - b. Set controlling admixture may be either with or without water-reducing properties. Where the air temperature at the time of placement is expected to be consistently over 80° F, a set retarding admixture such as Sika Corporation's Plastiment or Master Builder's Pozzoloth 440-N. Where the air temperature at the time of placement is expected to be consistently under 40° F, a set accelerating admixture such as Sika Corporation's Plastocrete 161FL or Master Builder's Pozzutec 20.
 - c. Low range water reducer shall conform to ASTM C 494, Type A. It shall be WRDA by Grace Concrete Products or Pozzoloth 322-n by Master Builders. The quantity of admixture used and the method of mixing shall be in accordance with the manufacturer's instructions and recommendations.
7. Calcium Chloride: Calcium chloride will not be permitted in concrete.

2.05 CURING MATERIALS

- A. Materials for curing concrete shall conform to the following requirements and ASTM C 309:
 1. Concrete curing compound shall be Select Cure CRB as manufactured by Select Products Co., Upland, CA; Burke Spartan Cote Cure-Seal Hardener (with red fugitive dye) as manufactured by The Burke Company, San Mateo, CA; MB-429 as manufactured by Master Builders. The curing compound shall contain a fugitive dye so that areas of application will be readily distinguishable.
 2. Polyethylene sheet for use as concrete curing blanket shall be white, and shall have a nominal thickness of 6 mils. The loss of moisture when determined in accordance with the requirements of ASTM C 156 shall not exceed 0.055 grams per square centimeter of surface.

3. Evaporation retardant shall be a material such as Confilm as manufactured by Master Builders or Eucobar as manufactured by Euclid Chemical Company.

2.06 MISCELLANEOUS MATERIALS

- A. Epoxy adhesives shall be the following products.
 1. For bonding freshly-mixed, plastic concrete to hardened concrete, Sikadur 32 Hi- Mod Epoxy Adhesive, as manufactured by Sika Corporation; Concreative Liquid (LPL), as manufactured by Master Builders; or BurkEpoxy MV as manufactured by The Burke Company.
 2. For bonding hardened concrete or masonry to steel, Sikadur 31 Hi-Mod Gel as manufactured by Sika Corporation; BurkEpoxy NS as manufactured by The Burke Company; or Concreative Paste (LPL) as manufactured by Master Builders.

2.07 CONCRETE DESIGN REQUIREMENTS

- A. General
 1. Concrete shall be composed of cement, admixtures, aggregates and water, all of the qualities indicated. In general, the mix shall be designed to produce a concrete capable of being deposited so as to obtain maximum density and minimum shrinkage and, where deposited in forms, to have good consolidation properties and maximum smoothness of surface. The proportions shall be changed whenever necessary or desirable to meet the required results at no additional cost to the OWNER. All changes shall be subject to review by the ENGINEER.
 2. The CONTRACTOR is cautioned that the limiting parameters specified below are NOT a mix design. Additional cement or water reducing agent may be required to achieve workability demanded by the CONTRACTOR's construction methods. The CONTRACTOR is responsible for any costs associated with furnishing concrete with the required workability.
- B. Water-Cement Ratio and Compressive Strength: The minimum compressive strength and cement content of concrete shall be not less than the following tabulation.

Class of Concrete Min 28-Day Compressive Strength (psi)	Type of Work	Max Size Aggregate (in)	Min Cement per cu yd (sacks)	Max W/C Ratio (by weight)
4,000	As indicated	1	6.0	0.45

Note: One sack of cement equals ninety-four pounds (94 lbs).

2.08 CONSISTENCY

- A. The consistency of the concrete in successive batches shall be determined by slump tests in accordance with ASTM C 143. The slumps shall be as follows:

Part of Work	Slump (in)
Footings and slabs	3 inches plus 1/2 inch, minus 1 inch
Mortar or grout for construction joints	8 inches plus or minus 1-1/2 inch
Other work	3 inches plus 1 inch

2.09 MEASUREMENT OF CEMENT AND AGGREGATE

- A. The amount of cement and of each separate size of aggregate entering into each batch of concrete shall be determined by direct weighing equipment furnished by the CONTRACTOR and acceptable to the ENGINEER; provided that, where batches are so proportioned as to contain an integral number of conventional sacks of cement, and the cement is delivered at the mixer in the original unbroken sacks, the weight of the cement contained in each sack may be taken without weighing as 94 lbs.

2.10 MEASUREMENT OF WATER

- A. The quantity of water entering the mixer shall be measured by a suitable water meter or other measuring device of a type acceptable to the ENGINEER and capable of measuring the water in variable amounts within a tolerance of one percent.

2.11 READY-MIXED CONCRETE

- A. At the CONTRACTOR's option, ready-mixed concrete may be used meeting the requirements as to materials, batching, mixing, transporting, placing and the supplementary requirements as required herein and in accordance with ASTM C 94.
- B. Ready-mixed concrete shall be delivered to the Site, and discharge shall be completed within one hour after the addition of the cement to the aggregates or before the drum has been revolved two hundred and fifty (250) revolutions, whichever is first. In hot weather, or under conditions contributing to quick stiffening of the concrete, or when the temperature of the concrete is 85° F or above, the time between the introduction of the cement to the aggregates and discharge shall not exceed forty-five (45) minutes.
- C. Truck mixers shall be equipped with electrically-actuated counters by which the number of revolutions of the drum or blades may be readily verified. The counter shall be of the resettable, recording type, and shall be mounted in the driver's cab. The counters shall be actuated at the time of starting mixers at mixing speeds.

- D. Each batch of concrete shall be mixed in a truck mixer for not less than seventy (70) revolutions of the drum or blades at the rate of rotation designated by the manufacturer of equipment. Additional mixing, if any, shall be at the speed designated by the manufacturer of the equipment as agitating speed. All materials including mixing water shall be in the mixer drum before actuating the revolution counter for determining the number of revolution of mixing.
- E. Each batch of ready-mixed concrete delivered to the Site shall be accompanied by a certified delivery ticket in accordance with the Paragraph in Part 1 entitled "Delivery Tickets."
- F. The use of non-agitating equipment for transporting ready-mixed concrete will not be permitted. Combination truck and trailer equipment for transporting ready-mixed concrete will not be permitted. The quality and quantity of materials used in ready-mixed concrete and in batch aggregates shall be subject to continuous inspection at the batching plant by the ENGINEER.

PART 3 -- EXECUTION

3.01 GENERAL FORMWORK REQUIREMENTS

- A. Forms to confine the concrete and shape it to the required lines shall be used wherever necessary. The CONTRACTOR shall assume full responsibility for the adequate design of all forms, and any forms which are unsafe or inadequate in any respect shall promptly be removed from the WORK and replaced at the CONTRACTOR's expense. A sufficient number of forms of each kind shall be provided to permit the required rate of progress to be maintained. The design and inspection of concrete forms, false work, and shoring shall comply with applicable local, state and federal regulations. All design, construction, maintenance, preparation, and removal of forms shall be in accordance with ACI 347 and the requirements herein.
- B. All forms shall be true in every respect to the required shape and size, shall conform to the established alignment and grade, and shall be of sufficient strength and rigidity to maintain their position and shape under the loads and operations incident to placing and vibrating the concrete.

3.02 CONSTRUCTION

- A. Vertical Surfaces: All vertical surfaces of concrete members shall be formed, except where placement of the concrete against the ground is called for on the Drawings. Not less than 1-inch of concrete shall be added to the thickness of the concrete member as shown where concrete is permitted to be placed against trimmed ground in lieu of forms. Such permission will be granted only for members of comparatively limited height and where the character of the ground is such that it can be trimmed to the required lines and will stand securely without caving or sloughing until the concrete has been placed.
- B. Construction Joints: Concrete construction joints will not be permitted at locations other

than those indicated, except as may be acceptable to the ENGINEER. When a second lift is placed on hardened concrete, special precautions shall be taken in the way of the number, location, and tightening of ties at the top of the old lift and bottom of the new to prevent any unsatisfactory effect whatsoever on the concrete. Pipe stubs and anchor bolts shall be set in the forms where required.

C. Form Ties

1. Embedded Ties: Wire ties for holding forms will not be permitted. No form-tying device or part thereof, other than metal, shall be left embedded in the concrete. Ties shall not be removed in such manner as to leave a hole extending through the interior of the concrete members. The use of snap-ties which cause spalling of the concrete upon form stripping or tie removal will not be permitted. If steel panel forms are used, rubber grommets shall be provided where the ties pass through the form in order to prevent loss of cement paste. Where metal rods extending through the concrete are used to support or to strengthen forms, the rods shall remain embedded and shall terminate not less than 1-inch back from the formed face or faces of the concrete.
2. Removable Ties: Where taper ties are approved for use, after the taper tie is removed, the hole shall be thoroughly cleaned and roughened for bond. A precast neoprene or polyurethane tapered plug shall be located at the wall centerline. The hole shall be completely filled with non-shrink or regular cement grout. Exposed faces of walls shall have at least the outer two (2) inches of the exposed face filled with a cement grout which shall match the color and texture of the surrounding wall surface.

3.03 REUSE OF FORMS

- A. Forms may be reused only if in good condition and only if acceptable to the ENGINEER. Light sanding between uses will be required wherever necessary to obtain uniform surface texture on all exposed concrete surfaces. Exposed concrete surfaces are defined as surfaces which are permanently exposed to view.

3.04 REMOVAL OF FORMS

- A. Careful procedures for the removal of forms shall be strictly followed, and this work shall be done with care so as to avoid injury to the concrete. No heavy loading on green concrete will be permitted. Members which must support their own weight shall not have their forms removed until they have attained at least 75% of the 28-day strength of the concrete. Forms for all vertical walls and columns shall remain in place at least two (2) days after the concrete has been placed. Forms for all parts of the WORK not specifically mentioned herein shall remain in place for periods of time as determined by the ENGINEER.

3.05 GENERAL REINFORCEMENT REQUIREMENTS

- A. All reinforcement steel, welded wire fabric, couplers, and other appurtenances shall

be fabricated, and placed in accordance with the requirements of the Building Code and the supplementary requirements indicated herein.

3.06 FABRICATION

A. General

1. Reinforcement steel shall be accurately formed to the dimensions and shapes required, and the fabricating details shall be prepared in accordance with ACI 315 and ACI 318, except as modified by the Drawings.
2. The CONTRACTOR shall fabricate reinforcement bars for structures in accordance with bending diagrams, placing lists, and placing drawings. Said drawings, diagrams, and lists shall be prepared by the CONTRACTOR.
3. Unless otherwise indicated, dowels shall match the size and spacing of the spliced bar.

- B. Bending or Straightening: Reinforcement shall not be straightened or rebent in a manner which will injure the material. No bars with kinks or bends not required shall be used. All bars shall be bent cold, unless otherwise permitted by the ENGINEER. No bars partially embedded in concrete shall be field-bent except as shown or specifically permitted by the ENGINEER.

3.07 PLACING

- A. Reinforcement steel shall be accurately positioned and shall be supported and wired together to prevent displacement, using annealed iron wire ties or suitable clips at intersections. All reinforcement steel shall be supported by concrete, plastic or metal supports, spacers or metal hangers which are strong and rigid enough to prevent any displacement of the reinforcement steel. Where concrete is to be placed on the ground, supporting concrete blocks (or dobies) shall be used, in sufficient numbers to support the bars without settlement, but in no case shall such support be continuous. All concrete blocks used to support reinforcement steel shall be tied to the steel with wire ties which are embedded in the blocks. For concrete over formwork, the CONTRACTOR shall provide concrete, metal, plastic, or other acceptable bar chairs and spacers.
- B. The portions of all accessories in contact with the formwork shall be made of concrete, plastic, or steel coated with a 1/8-inch minimum thickness of plastic which extends at least 1/2-inch from the concrete surface. Plastic shall be gray in color.
- C. Tie wires shall be bent away from the forms in order to provide the required concrete coverage.
- D. Bars additional to those indicated which may be found necessary or desirable by the CONTRACTOR for the purpose of securing reinforcement in position shall be provided by the CONTRACTOR at its own expense.

- E. Unless otherwise specified, reinforcement placing tolerances shall be within the limits specified in Section 7.5 of ACI 318 except where in conflict with the requirements of the Building Code.
- F. The minimum spacing requirements of ACI 318 shall be followed for all reinforcing steel.
- G. Welded wire fabric reinforcement placed over horizontal forms shall be supported on slab bolsters having gray, plastic-coated standard type legs. Slab bolsters shall be spaced not less than thirty (30) inches on centers, shall extend continuously across the entire width of the reinforcing mat, and shall support the reinforcing mat in the plane indicated.
- H. Welded wire fabric placed over the ground shall be supported on wired concrete blocks (dobies) spaced not more than three (3) feet on centers in any direction. The construction practice of placing welded wire fabric on the ground and hooking into place in the freshly placed concrete shall not be used.

3.08 SPLICING

- A. General: Reinforcement bar splices shall only be used at locations indicated. When it is necessary to splice reinforcement at points other than where indicated, the character of the splice shall be as acceptable to the ENGINEER.
- B. Splices of Reinforcement
 - 1. The length of lap for reinforcement bars, unless otherwise indicated, shall be in accordance with ACI 318, Section 12.15.1 for a Class C splice.
 - 2. Laps of welded wire fabric shall be in accordance with the ACI 318. Adjoining sheets shall be securely tied together with No. 14 tie wire, one tie for each two (2) running feet. Wires shall be staggered and tied in such a manner that they cannot slip.

3.09 CLEANING AND PROTECTION

- A. Reinforcement steel shall at all times be protected from corrosive conditions until concrete is placed around it.
- B. The surfaces of all reinforcement steel and other metalwork to be in contact with concrete shall be thoroughly cleaned of all dirt, grease, loose scale and rust, grout, mortar, and other foreign substances immediately before the concrete is placed. Where there is delay in depositing concrete, reinforcing shall be reinspected and, if necessary re-cleaned.

3.10 PROPORTIONING AND MIXING

- A. Proportioning: Proportioning of the concrete mix shall conform to the requirements of

Chapter 3 "Proportioning" of ACI 301.

- B. Mixing: Mixing of concrete shall conform to the requirements of Chapter 7 ACI 301. C.

Slump: Maximum slumps shall be as indicated.

- D. Retempering: Retempering of concrete or mortar which has partially hardened will not be permitted.

3.11 PREPARATION OF SURFACES FOR CONCRETING

- A. General: Earth surfaces shall be thoroughly wetted by sprinkling, prior to the placing of any concrete, and these surfaces shall be kept moist by frequent sprinkling up to the time of placing concrete thereon. The surface shall be free from standing water, mud, and debris at the time of placing concrete.

- B. Joints in Concrete: Concrete surfaces upon or against which concrete is to be placed, where the placement of the old concrete has been stopped or interrupted so that, as determined by the ENGINEER, the new concrete cannot be incorporated integrally with that previously placed, are defined as construction joints. The surfaces of horizontal joints shall be given a compacted, roughened surface for good bond. Except where the Drawings call for joint surfaces to be coated, the joint surfaces shall be cleaned of all laitance, loose or defective concrete, and foreign material. Such cleaning shall be accomplished by hydroblasting. All pools of water shall be removed from the surface of construction joints before the new concrete is placed.

- C. Placing Interruptions: When placing of concrete is to be interrupted long enough for the concrete to take a set, the working face shall be given a shape by the use of forms or other means, that will secure proper union with subsequent WORK; provided that construction joints shall be made only where acceptable to the ENGINEER.

- D. Embedded Items

1. No concrete shall be placed until all formwork, installation of parts to be embedded, reinforcement steel, and preparation of surfaces involved in the placing have been completed and accepted by the ENGINEER at least four (4) hours before placement of concrete. All surfaces of forms and embedded items that have become encrusted with dried grout from concrete previously placed shall be cleaned of all such grout before the surrounding or adjacent concrete is placed.

2. All reinforcement, anchor bolts, sleeves, inserts, and similar items shall be set and secured in the forms where shown on the Drawings or by Shop Drawings and shall be accepted by the ENGINEER before any concrete is placed. Accuracy of placement is the responsibility of the CONTRACTOR.

- E. Casting New Concrete Against Old: Where concrete is to be cast against old concrete (any concrete which is greater than sixty (60) days of age), the surface of the old

concrete shall be thoroughly cleaned and roughened by hydro-blasting (exposing aggregate) prior to the application of an epoxy bonding agent. Application shall be according to the bonding agent manufacturer's instructions and recommendations.

- F. No concrete shall be placed in any structure until all water entering the space to be filled with concrete has been properly cut off or has been diverted by pipes, or other means, and carried out of the forms, clear of the work. No concrete shall be deposited underwater nor shall the CONTRACTOR allow still water to rise on any concrete until the concrete has attained its initial set. Water shall not be permitted to flow over the surface of any concrete in such manner and at such velocity as will injure the surface finish of the concrete. Pumping or other necessary dewatering operations for removing ground water, if required, will be subject to the review of the ENGINEER.
- G. Corrosion Protection: Pipe, conduit, dowels, and other ferrous items required to be embedded in concrete construction shall be so positioned and supported prior to placement of concrete that there will be a minimum of two (2) inches clearance between said items and any part of the concrete reinforcement. Securing such items in position by wiring or welding them to the reinforcement will not be permitted.
- H. Openings for pipes, inserts for pipe hangers and brackets, and the setting of anchors shall, where practicable, be provided for during the placing of concrete.
- I. Anchor bolts shall be accurately set, and shall be maintained in position by templates while being embedded in concrete.
- J. Cleaning: The surfaces of all metalwork to be in contact with concrete shall be thoroughly cleaned of all dirt, grease, loose scale and rust, grout, mortar, and other foreign substances immediately before the concrete is placed.

3.12 HANDLING, TRANSPORTING, AND PLACING

- A. General: Placing of concrete shall conform to the applicable requirements of Chapter 8 of ACI 301 and the requirements of this Section. No aluminum materials shall be used in conveying any concrete.
- B. Non-Conforming WORK or Materials: Concrete which upon or before placing is found not to conform to the requirements herein shall be rejected and immediately removed from the WORK. Concrete which is not placed in accordance with these Specifications, or which is of inferior quality, shall be removed and replaced.
- C. Unauthorized Placement: No concrete shall be placed except in the presence of a duly authorized representative of the ENGINEER. The CONTRACTOR shall notify the ENGINEER in writing at least twenty-four (24) hours in advance of placement of any concrete.
- D. Placement in Wall and Column Forms
 - 1. Concrete shall not be dropped through reinforcement steel or into any deep

form, whether reinforcement is present or not, causing separation of the coarse aggregate from the mortar on account of repeatedly hitting rods or the sides of the form as it falls, nor shall concrete be placed in any form in such a manner as to leave accumulation of mortar on the form surfaces above the placed concrete. In such cases, some means such as the use of hoppers and, if necessary, vertical ducts of canvas, rubber, or metal shall be used for placing concrete in the forms in a manner that it may reach the place of final deposit without separation. In no case shall the free fall of concrete exceed four (4) feet in walls and eight (8) feet in columns below the ends of ducts, chutes, or buggies. Concrete shall be uniformly distributed during the process of depositing and in no case after depositing shall any portion be displaced in the forms more than 6 feet in horizontal direction. Concrete in forms shall be deposited in uniform horizontal layers not deeper than two (2) feet; and care shall be taken to avoid inclined layers or inclined construction joints except where such are required for sloping members. Each layer shall be placed while the previous layer is still soft. The rate of placing concrete in wall forms shall not exceed five (5) feet of vertical rise per hour.

2. The surface of the concrete shall be level whenever a run of concrete is stopped. To insure a level, straight joint on the exposed surface of walls, a wood strip at least 3/4- inch thick shall be tacked to the forms on these surfaces. The concrete shall be carried about 1/2-inch above the underside of the strip. About one hour after the concrete is placed, the strip shall be removed and any irregularities in the edge formed by the strip shall be leveled with a trowel and all laitance shall be removed.
- E. Conveyor Belts and Chutes: Ends of chutes, hopper gates, and all other points of concrete discharge throughout the CONTRACTOR'S conveying, hoisting and placing system shall be so designed and arranged that concrete passing from them will not fall separated into whatever receptacle immediately receives it. Conveyor belts, if used, shall be of a type acceptable to the ENGINEER. Chutes longer than fifty (50) feet will not be permitted. Minimum slopes of chutes shall be such that concrete of the required consistency will readily flow in them. If a conveyor belt is used, it shall be wiped clean by a device operated in such a manner that none of the mortar adhering to the belt will be wasted. All conveyor belts and chutes shall be covered. Sufficient illumination shall be provided in the interior of all forms so that the concrete at the places of deposit is visible from the deck or runway.
- F. Temperature of Concrete: The temperature of concrete when it is being placed shall be not more than 90° F nor less than 40° F in moderate weather, and not less than 50° F in weather during which the mean daily temperature drops below 40° F. Concrete ingredients shall not be heated to a temperature higher than that necessary to keep the temperature of the mixed concrete, as placed, from falling below the required minimum temperature. If concrete is placed when the weather is such that the temperature of the concrete would exceed 90° F, the CONTRACTOR shall employ effective means, such as precooling of aggregates and mixing water, using ice, or placing at night, as necessary to maintain the temperature of the concrete, as it is placed, below 90° F. The CONTRACTOR shall be entitled to no additional

compensation on account of the foregoing requirements.

G. Cold Weather Placement

1. Placement of concrete shall conform to ACI - 306.1 - Cold Weather Concreting, and the following.
2. Earth foundations shall be free from frost or ice when concrete is placed upon or against them.
3. Maintain the concrete temperature above 50° F for at least three (3) days after placement.

3.13 PUMPING OF CONCRETE

A. General: If the pumped concrete does not produce satisfactory end results, the CONTRACTOR shall discontinue the pumping operation and proceed with the placing of concrete using conventional methods.

B. Pumping Equipment

1. The pumping equipment shall have two (2) cylinders and be designed to operate with one (1) cylinder only in case the other one is not functioning. In lieu of this requirement, the CONTRACTOR may have a standby pump on the site during pumping.
2. The minimum diameter of the hose (conduits) shall be four (4) inches.
3. Pumping equipment and hoses (conduits) that are not functioning properly, shall be replaced.
4. Aluminum conduits for conveying the concrete shall not be permitted.

C. Proportioning

1. Minimum compressive strength, cement content, and maximum size of aggregates shall be as required in this Section.
2. Gradation of coarse aggregates shall conform to ASTM C 33 and shall be as close to the middle range as possible.
3. Gradation of fine aggregate shall conform to ASTM C 33, with fifteen (15) to thirty (30) percent passing the No. 50 screen and five (5) to ten (10) percent passing the No. 100 screen. The fineness modulus of sand used shall not be over 3.00.

3.14 TAMPING AND VIBRATING

A. As concrete is placed in the forms or in excavations, it shall be thoroughly settled

and compacted, throughout the entire depth of the layer which is being consolidated, into a dense, homogeneous mass, filling all corners and angles, thoroughly embedding the reinforcement, eliminating rock pockets, and bringing only a slight excess of water to the exposed surface of concrete during placement. Vibrators shall be high speed power vibrators (8000 to 10,000 rpm) of an immersion type in sufficient number and with (at least one) standby units as required.

- B. Concrete in walls shall be internally vibrated and at the same time rammed, stirred, or worked with suitable appliances, tamping bars, shovels, or forked tools until it completely fills the forms or excavations and closes snugly against all surfaces. Subsequent layers of concrete shall not be placed until the layers previously placed have been worked thoroughly. Vibrators shall be provided in sufficient numbers, with standby units as required, to accomplish the required results within 15 minutes after concrete of the prescribed consistency is placed in the forms. The vibrating head shall be kept from contact with the surfaces of the forms. Care shall be taken not to vibrate concrete excessively or to work it in any manner that causes segregation of its constituents.

3.15 FINISHING CONCRETE SURFACES

- A. General: Surfaces shall be free from fins, bulges, ridges, offsets, honeycombing, or roughness of any kind, and shall present a finished, smooth, continuous hard surface. Allowable deviations from plumb or level and from the alignment, profiles, and dimensions indicated are defined as tolerances and are indicated in Part 1 above. These tolerances are to be distinguished from irregularities in finish as described herein. Aluminum finishing tools shall not be used.
- B. Formed Surfaces: No treatment is required after form removal except for curing, repair of defective concrete, and treatment of surface defects.
 - 1. Surface holes larger than 1/2-inch in diameter or deeper than 1/4-inch are defined as surface defects in basins and exposed walls.
- C. Unformed Surfaces: After proper and adequate vibration and tamping, all unformed top surfaces of slabs, floors, walls, and curbs shall be brought to a uniform surface with suitable tools. The classes of finish specified for unformed concrete surfaces are designated and defined as follows:
 - 1. Finish U1 - Sufficient leveling and screeding to produce an even, uniform surface with surface irregularities not to exceed 3/8-inch. No further special finish is required.
 - 2. Finish U2 - After sufficient stiffening of the screeded concrete, surfaces shall be float finished with wood or metal floats or with a finishing machine using float blades. Excessive floating of surfaces while the concrete is plastic and dusting of dry cement and sand on the concrete surface to absorb excess moisture will not be permitted. Floating shall be the minimum necessary to produce a surface

that is free from screed marks and is uniform in texture. Surface irregularities shall not exceed 1/4- inch. Joints and edges shall be tooled where indicated or as determined by the ENGINEER.

3. Finish U3 - After the Finish U2 surface has hardened sufficiently to prevent excess of fine material from being drawn to the surface, steel troweling shall be performed with firm pressure such as will flatten the sandy texture of the floated surface and produce a dense, uniform surface free from blemishes, ripples, and trowel marks. The finish shall be smooth and free of all irregularities.
4. Finish U4 - Trowel the Finish U3 surface to remove local depressions or high points. In addition, the surface shall be given a light hairbroom finish with brooming perpendicular to drainage unless otherwise indicated. The resulting surface shall be rough enough to provide a nonskid finish.

D. Unformed surfaces shall be finished according to the following schedule:

UNFORMED SURFACE FINISH SCHEDULE	
Area	Finish
Grade slabs and foundations to be covered with concrete or fill material	U1
Floors to be covered with grouted tile or topping grout	U2
Slabs to be covered with built-up roofing	U2
Slabs and floors to receive architectural finish	U3
Slabs	U4

3.16 CURING AND DAMPPROOFING

- A. General: Concrete shall be cured for not less than fourteen (14) days after placing, in accordance with the methods indicated below for the different parts of the WORK.

Surfaced to be Cured or Dampproofed	Method
Unstripped forms	1
Construction joints between footings and walls, and between floor slab and columns	2
Encasement concrete and thrust blocks	3
All concrete surfaces not specifically provided for elsewhere in this Paragraph	4

- B. Method 1: Wooden forms shall be wetted immediately after concrete has been placed and shall be kept wet with water until removed. If steel forms are used the exposed concrete surfaces shall be kept continuously wet until the forms are removed. If forms are removed within fourteen (14) days of placing the concrete, curing shall be continued in accordance with Method 4.
- C. Method 2: The surface shall be covered with burlap mats which shall be kept wet with water for the duration of the curing period, until the concrete in the walls has been placed. No curing compound shall be applied to surfaces cured under Method 2.
- D. Method 3: The surface shall be covered with moist earth not less than four (4) hours, nor more than twenty-four (24) hours, after the concrete is placed. Earthwork operations that may damage the concrete shall not begin until at least seven (7) days after placement of concrete.
- E. Method 4: The surface shall be sprayed with a liquid curing compound.
 - 1. It shall be applied in accordance with the manufacturer's printed instructions at a maximum coverage rate of two hundred (200) square feet per gallon and in such a manner as to cover the surface with a uniform film which will seal thoroughly.
 - 2. Where the curing compound method is used, care shall be exercised to avoid damage to the seal during the curing period. Should the seal be damaged or broken before the expiration of the curing period, the break shall be repaired immediately by the application of additional curing compound over the damaged portion.
 - 3. Wherever curing compound may have been applied by mistake to surfaces against which concrete subsequently is to be placed and to which it is to adhere, curing compound shall be entirely removed by wet sandblasting just prior to the placing of new concrete.
 - 4. Where curing compound is required, it shall be applied as soon as the concrete has hardened enough to prevent marring on unformed surfaces, and within two (2) hours after removal of forms from contact with formed surfaces. Repairs required to be made to formed surfaces shall be made within the said 2-hour period; provided, however, that any such repairs which cannot be made within the said 2-hour period shall be delayed until after the curing compound has been applied. When repairs are to be made to an area on which curing compound has been applied, the area involved shall first be wet-sandblasted to remove the curing compound.
 - 5. Whenever the air temperature exceeds 85° F or the wind speed exceeds 25 mph at the time of placement, the concrete shall be treated as follows. Immediately after the concrete has been screeded, it shall be treated with a liquid evaporation retardant. The retardant shall be used again after each work operation as necessary to prevent drying shrinkage cracks.

6. During the curing period, no traffic of any nature and no depositing of any materials, temporary or otherwise, shall be permitted on surfaces coated with curing compound. Foot traffic and the depositing of materials may be allowed after three (3) days if the surface is covered with 5/8-inch plywood placed over polyethylene sheets.
- F. The CONTRACTOR may submit alternate methods of curing which maintain the concrete in a continuously wet condition for acceptance by the ENGINEER.

3.17 PROTECTION

- A. The CONTRACTOR shall protect all concrete against injury until final acceptance by the OWNER. Fresh concrete shall be protected from damage due to rain, hail, sleet, or snow. The CONTRACTOR shall provide such protection while the concrete is still plastic and whenever such precipitation is imminent or occurring. Immediately following the first frost in the fall, the CONTRACTOR shall be prepared to protect all concrete against freezing. After the first frost, and until the mean daily temperature in the vicinity of the Site falls below 40° F for more than one day, the concrete shall be maintained at a temperature not lower than 50° F for at least seventy-two (72) hours after it is placed.

3.18 CURING IN COLD WEATHER

- A. Water curing of concrete may be reduced to six (6) days during periods when the mean daily temperature in the vicinity of the Site is less than 40° F; provided that, during the prescribed period of water curing, when temperatures are such that concrete surfaces may freeze, water curing shall be temporarily discontinued.
- B. Concrete cured by an application of curing compound will require no additional protection from freezing if the protection at 50° F for seventy-two (72) hours is obtained by means of approved insulation in contact with the forms or concrete surfaces; otherwise, the concrete shall be protected against freezing temperatures for seventy-two (72) hours immediately following seventy-two (72) hours protection at 50° F. Concrete cured by water curing shall be protected against freezing temperatures for three (3) days immediately following the seventy-two (72) hours of protection at 50° F.
- C. Discontinuance of protection against freezing temperatures shall be such that the drop in temperature of any portion of the concrete will be gradual and will not exceed 40° F in twenty-four (24) hours. In the spring, when the mean daily temperature rises above 40° F for more than 3 successive days, 72-hour protection at a temperature not lower than 50° F may be discontinued for as long as the mean daily temperature remains above 40° F; provided, that the concrete shall be protected against freezing temperatures for not less than 48 hours after placement.
- D. Where artificial heat is employed, special care shall be taken to prevent the concrete from drying. Use of unvented heaters will be permitted only when unformed surfaces of concrete adjacent to the heaters are protected for the first twenty-four

(24) hours from an excessive carbon dioxide atmosphere by application of curing compound; provided that the use of curing compound for such surfaces is otherwise permitted by this Section.

3.19 TREATMENT OF SURFACE DEFECTS

- A. As soon as forms are removed, exposed concrete surfaces shall be carefully examined and any irregularities shall be immediately rubbed or ground in a satisfactory manner in order to secure a smooth, uniform, and continuous surface. Plastering or coating of surfaces to be smoothed will not be permitted. No repairs shall be made until after inspection by the ENGINEER. In no case will extensive patching of honeycombed concrete be permitted. Concrete containing minor voids, holes, honeycombing, or similar depression defects shall be repaired as required herein. Concrete containing extensive voids, holes, honeycombing, or similar depression defects, shall be completely removed and replaced. Repairs and replacements shall be promptly executed.
- B. Defective surfaces to be repaired shall be cut back from true line a minimum depth of C- inch over the entire area. Feathered edges will not be permitted. Where chipping or cutting tools are not required in order to deepen the area properly, the surface shall be prepared for bonding by the removal of all laitance or soft material, and not less than 1/32- inch depth of the surface film from all hard portions, by means of an efficient sandblast. After cutting and sandblasting, the surface shall be wetted sufficiently in advance of shooting with shotcrete or with cement mortar so that while the repair material is being applied, the surfaces under repair will remain moist, but not so wet as to overcome the suction upon which a good bond depends. The material used for repair shall consist of a mixture of one sack of cement to 3 cubic feet of sand. For exposed walls, the cement shall contain such a proportion of Atlas white portland cement as is required to make the color of the patch match the color of the surrounding concrete.
- C. Holes left by tie-rod cones shall be reamed with suitable toothed reamers so as to leave the surfaces of the holes clean and rough. These holes then shall be repaired in an approved manner with dry-packed cement grout. Holes left by form-tying devices having a rectangular cross-section, and other imperfections having a depth greater than their least surface dimension, shall not be reamed but shall be repaired in an approved manner with dry-packed cement grout.
- D. All repairs shall be built up and shaped in such a manner that the completed work will conform to the requirements of this Section, using methods which will not disturb the bond, cause sagging, or cause horizontal fractures. Surfaces of said repairs shall receive the same kind and amount of curing treatment as required for the concrete in the repaired section.

3.20 CARE AND REPAIR OF CONCRETE

- A. The CONTRACTOR shall protect all concrete against injury or damage from excessive heat, lack of moisture, overstress, or any other cause until final acceptance

by the OWNER. Particular care shall be taken to prevent the drying of concrete and to avoid roughening or otherwise damaging the surface. Any concrete found to be damaged, or which may have been originally defective, or which becomes defective at any time prior to the final acceptance of the completed work, or which departs from the established line or grade, or which, for any other reason, does not conform to the requirements of the Contract Documents, shall be satisfactorily repaired or removed and replaced with acceptable concrete.

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 03 60 00 - GROUTING

PART 1 -- GENERAL

1.01 THE REQUIREMENT

- A. The CONTRACTOR shall provide grout, complete and in place, in accordance with the Contract Documents.
- B. The following types of grout are covered in this Section:
 - 1. Cement Grout.
 - 2. Non-Shrink Grout (cement based).
 - 3. Non-Shrink Epoxy Grout.
 - 4. Topping Grout and Concrete/Grout Fill.

1.02 REFERENCES SPECIFICATIONS, CODES, AND STANDARDS

- A. Specifications, codes and standards shall be as listed in Section 03 30 00 – Cast-in-Place Concrete, and as indicated herein.

1.03 CONTRACTOR SUBMITTALS

- A. Furnish submittals in accordance with Section 01 33 00 – Submittal Procedures.
 - 1. Certified tests reports for tests verifying compliance with the compressive strength, shrinkage, and expansion requirements.
 - 2. Certification that grouts used on the project contain no chlorides or other chemicals that cause corrosion.
 - 3. Manufacturer's literature containing instructions and recommendations on the mixing, handling, placement, curing, and appropriate uses for each type of grout used in the WORK, and location of use.
 - 4. Manufacturer's certification that its non-shrink grout does not contain aluminum, zinc, or magnesium powders as a method of expansion. Manufacturer's independent certification of ASTM C 1107 – Package, Dry, Hydraulic-Cement Grout (Nonshrink), compliance without modification of the standard methods certifying that the Class B or C grout post hardening non-shrink properties are not based on gas expansion, grouts have strengths of 3500 psi at one (1) day, 6500 psi at three (3) days and 7500 psi at twenty-eight (28) days when cured at 72° F as well as meeting the three (3), seven (7), and twenty-eight (28) day strengths when tested and cured at the 45° F and 95° F limits and all other requirements of ASTM C 1107.

5. Submit manufacturer's written warranty as indicated herein.
6. Name and telephone number of grout manufacturer's representative who will give on-Site service. The representative shall have at least one (1) year of experience with the indicated grouts.

1.04 QUALITY ASSURANCE

A. Field Tests

1. Compression test specimens will be taken from the first placement of each type of grout, and at intervals thereafter selected by the ENGINEER. The specimens will be made by the ENGINEER or its representative.
2. Compression tests and fabrication of specimens for cement grout and cement based non-shrink grout will be performed in accordance with ASTM C 1107 - Packaged Dry, Hydraulic-Cement Grout (Nonshrink), at intervals during construction selected by the ENGINEER. A set of three (3) specimens will be made for testing at seven (7) days, twenty-eight (28) days, and each additional time period as appropriate.
3. Compression tests and fabrication of specimens for epoxy grouts will be performed in accordance with ASTM C 579 - Test Methods for Compressive Strength of Chemical-Resistant Mortars and Monolithic Surfacing and Polymer Concretes, Method B, at intervals during construction selected by the ENGINEER. A set of three (3) specimens will be made for testing at seven (7) days and each earlier time period as appropriate.
4. The cost of laboratory tests on grout will be paid by the CONTRACTOR. Where test results show the grout to be defective, the CONTRACTOR shall pay for the tests, removal and replacement of Defective Work, and re-testing, all as part of the WORK.
5. The CONTRACTOR shall assist the ENGINEER in obtaining specimens for testing and shall furnish materials necessary for fabricating the test specimens.
6. All grout that fails to meet requirements is subject to removal and replacement.

- B. Construction Tolerances: Construction tolerances shall be as indicated in Section 03 30 00 – Cast-in-Place Concrete, unless indicated otherwise.

1.05 SPECIAL CORRECTION OF DEFECTS PROVISIONS

A. Manufacturer's Warranty

1. Furnish one (1) year warranty for WORK provided under this section.
2. Manufacturer's warranty shall not contain a disclaimer limiting responsibility to the purchase price of products or materials.

PART 2 -- PRODUCTS

2.01 CEMENT GROUT

- A. Cement grout shall be composed of one (1) part cement, three (3) parts sand, and the minimum amount of water necessary to obtain the desired consistency. Where needed to match the color of adjacent concrete, white portland cement shall be blended with regular cement as needed. The minimum compressive strength at twenty-eight (28) days shall be 4000 psi.
- B. Cement grout materials shall be as indicated in Section 03 30 00 – Cast-in-Place Concrete, except that no cement from kilns burning metal-rich hazardous waste fuel shall be used.

2.02 NON-SHRINK GROUTS (cement based)

A. General

- 1. Cement-based non-shrink grout shall be a prepackaged, inorganic, fluid, non-gas liberating, non-metallic, cement type grout requiring only the addition of water. Cement from kilns burning metal-rich hazardous waste fuel shall not be used.
- 2. Manufacturer's instructions shall be printed on each bag or other container in which the materials are packaged. The specific formulation for each class of non-shrink grout indicated herein shall be that recommended by the manufacturer for the particular application.
- 3. Grout shall be tested for height change of the hardened grout at one (1), three (3), fourteen (14), and twenty-eight (28) days in accordance with ASTM C 1090 – Test Methods for Measuring Change in Height of Cylindrical Specimens for Hydraulic-Cement Grout, and shall be tested for compression at one (1), three (3), seven (7), and twenty-eight (28) days in accordance with the modified ASTM C 109 testing procedure.
- 4. Grout shall not contain chlorides or additives that may contribute to corrosion.
- 5. Grout shall be formulated to be used at any consistency from fluid to plastic.
- 6. Cement-based non-shrink grout shall have the following minimum properties when tested at a fluid consistency, at twenty-eight (28) days:
 - a. Minimum tensile splitting strength of 500 psi per ASTM C 496 - Standard Test Method for Splitting Tensile Strength of Cylindrical Concrete Specimens.
 - b. Minimum flexural strength of 1000 psi per ASTM C 580 - Standard Test Method for Flexural Strength and Modulus of Elasticity of Chemical-Resistant Mortars, Grouts, Monolithic Surfacing, and Polymer Concretes.

- c. Minimum bond strength (concrete to grout) of 1900 psi per modified ASTM C 882 - Standard Test Method for Bond Strength of Epoxy-Resin Systems Used with Concrete by Slant Shear.

B. Class A Non-Shrink Grout

1. Class A non-shrink grout shall have a minimum 28-Day compressive strength of 5000 psi when mixed at a fluid consistency.
2. Class A non-shrink grout shall meet the requirements of ASTM C 1107 when mixed a flowable, plastic or stiff consistency.
3. Grout shall have a maximum early age height change of 4.0% expansion, and shall have no shrinkage (0.0%) in accordance with ASTM C 827 – Test Method for Early Volume Change of Cementitious Mixtures. The grout when tested shall not bleed or segregate at maximum allowed water.
4. Grout shall have no shrinkage (0.0%) and a maximum of 0.3% expansion in the hardened state when tested in accordance with ASTM C 1090 - Test Method for Measuring Changes in Height of Cylindrical Specimens from Hydraulic-Cement Grout.
5. Furnish certification that the non-shrink property of grout is not based on gas production or gypsum expansion.
6. Class A Non-Shrink Grout shall be Masterflow 713 Plus by MBT-Chemrex; Five Star Grout by Five Star Products; Sikagrout 212 by Sika Corporation; Premier by L&M Construction Chemicals; High-Flow Grout by Euclid Chemical Company; or CG 200 PC by Hilti.

C. Class B or C Non-Shrink Grout

1. Class B or C non-shrink grout shall be a high precision, fluid, extended working time, grout. The minimum 28-Day compressive strength shall be 7500 psi, when mixed at a fluid consistency.
2. Grout shall have a maximum early age height change of 4.0% expansion, and shall have no shrinkage (0.0%) in accordance with ASTM C 827.
3. Grout shall have no shrinkage (0.0%) and a maximum of 0.3% expansion in the hardened state when tested in accordance with ASTM C 1090.
4. Class B or C non-shrink grout shall have an extended working time of 30 minutes minimum when mixed to a fluid consistency as defined in ASTM C 827 at temperature extremes of 45° F to 90° F in accordance with ASTM C 1107.
5. Class B or C non-shrink grout shall meet the requirements of ASTM C 1107 when tested using the amount of water needed to achieve fluid consistency per

ASTM C
939.

6. The grout when tested shall not bleed or segregate at maximum allowed water content.
7. Provide certification that its non-shrink property is not based on gas production or gypsum expansion.
8. Class B or C non-shrink grout shall be Masterflow 928 by MBT-Chemrex; Five Star Fluid Grout 100 by Five Star Products; Crystex by L&M Construction Chemicals; Master Builders Masterflow 555 by Master Builders; or Sika Grout 212 by Sika Corporation.

D. Application:

1. Class A non-shrink grout shall be used for the repair of holes and defects in concrete members that are not water-bearing and not in contact with soil or other fill material, and grouting railing posts in place.
2. Class B or C non-shrink grout shall be used for the repair of holes and defects in concrete members which are water bearing or in contact with soil or other fill material, grouting under all base plates for structural steel members, grouting under all equipment base plates, and at all locations where grout is required by the Contract Documents except where epoxy grout is specifically required. Class B or C non-shrink grout may be used in place of Class A non-shrink grout for all applications. Class B or C non-shrink grout shall not be used for dry packing applications.

2.03 NON-SHRINK EPOXY GROUT

- A. Non-shrink epoxy grout shall be a flowable, non-shrink, 100% solids system. The epoxy grout system shall have three (3) components: resin, hardener, and specially blended aggregate, each premeasured and prepackaged. The resin component shall not contain any non-reactive diluents. Resins containing butyl glycidyl ether (BGE) or other highly volatile and hazardous reactive diluents are not acceptable. Variation of component ratios is not permitted unless specifically recommended by the manufacturer. Manufacturer's instructions shall be printed on each container in which the materials are packaged.
- B. Epoxy grout shall have a maximum early age height change of 4.0% expansion, and shall have no shrinkage (0.0%) in accordance with ASTM C 827, (modified for epoxy grouts by using an indicator ball with a specific gravity between 0.9 and 1.1).
- C. Epoxy grout shall have a negligible (less than 0.0006 in/in) length change after hardening, and a coefficient of thermal expansion less than 0.00003 in/in °F when tested according to ASTM C 531 - Test Method for Linear Shrinkage and Coefficient of Thermal Expansion of Chemical-Resistant Mortars, Grouts, and Monolithic Surfacing.

- D. The epoxy grout shall develop a minimum compressive strength of 9000 psi in twenty-four (24) hours and 13,000 psi in seven (7) days when tested in accordance with ASTM C 579, method B.
- E. The mixed epoxy grout shall have a minimum working life of ninety (90) to one hundred and twenty (120) minutes at 70° F.
- F. The effective bearing area shall be a minimum of 95% EBA in accordance with ASTM C 1339 – Standard Test Method for Flowability and Bearing Area of Chemical-Resistant Polymer Machinery Grouts, for bearing area and flow.
- G. The chemical formulation of the epoxy grout shall be that recommended by the manufacturer for the particular application. Do not reduce aggregate loading or add solvents to increase flowability.
- H. Non-shrink epoxy grout shall have the following minimum properties when tested at seven (7) days:
 - 1. Minimum bond strength to concrete of 3000 psi per ASTM C 882 modified.
 - 2. Minimum bond strength to steel of 1700 psi per ASTM C 882 modified.
 - 3. Minimum flexural strength of 2500 psi per ASTM C 580.
 - 4. Minimum tensile strength of 2000 psi per ASTM C 307 -- Standard Test Method for Tensile Strength of Chemical-Resistant Mortar, Grouts, and Monolithic Surfacing.
- I. Non-shrink epoxy grout shall be Five Star DP Epoxy Grout by Five Star Products, Inc.; Masterflow 648 CP Plus by MBT-Chemrex; or Sikadur 42 Grout-Pak by Sika Corporation.

2.04 TOPPING GROUT AND CONCRETE/GROUT FILL

- A. Where concrete fill is thicker than 3-inches, 3000 psi concrete as indicated in Section 03 30 00 - Cast-in-Place Concrete, may be used when accepted by the ENGINEER.
- B. Grout for topping of slabs and concrete/grout fill for built-up surfaces of tank, channel, and basin bottoms shall be composed of cement, fine aggregate, coarse aggregate, water, and admixtures proportioned and be mixed as indicated. Materials and procedures indicated for normal concrete in Section 03 30 00 - Cast-in-Place Concrete, shall apply unless indicated otherwise.
- C. Topping grout and concrete/grout fill shall contain a minimum of five hundred and sixty-four (564) pounds of cement per cubic yard with a maximum water cement ratio of 0.45.
- D. Coarse aggregate shall be graded as follows:

U.S. Standard Sieve Size	Percent By Weight Passing
1/2"	100
3/8"	90-100
No. 4	20-55
No. 8	5-30
No. 16	0-10
No. 30	0

- E. Final mix design shall be as determined by trial mix design under supervision of the approved testing laboratory.
- F. Strength: Minimum compressive strength of topping grout and concrete/grout fill at twenty-eight (28) days shall be 3000 psi.

2.05 CURING MATERIALS

- A. Curing materials shall be in accordance with Section 03 30 00 – Cast-in-Place Concrete and as recommended by the manufacturer of prepackaged grouts.

2.06 CONSISTENCY

- A. The consistency of grouts shall be that necessary to completely fill the space to be grouted for the particular application. Dry pack consistency is such that the grout is plastic and moldable but will not flow. Where "dry pack" is called for in the Contract Documents, it shall mean a grout of that consistency; the type of grout to be used shall be as indicated herein for the particular application.
- B. The slump for topping grout and concrete/grout fill shall be adjusted to match placement and finishing conditions but shall not exceed 4-inches.

2.07 MEASUREMENT OF INGREDIENTS

- A. Measurements for cement grout shall be made accurately by volume using containers. Shovel measurements shall not be allowed.
- B. Prepackaged grouts shall have ingredients measured by means recommended by the manufacturer.

PART 3 -- EXECUTION

3.01 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Grout shall be stored in accordance with manufacturer's recommendations.

3.02 GENERAL

- A. CONTRACTOR shall arrange for the manufacturer of prepackaged grouts to provide on- Site technical assistance within seventy-two (72) hours of request, as part of the WORK.
- B. Grout shall not be placed until base concrete or masonry has attained its design strength, unless authorized otherwise by the ENGINEER.
- C. When cementitious grouts are used on concrete surfaces, the concrete surface shall be saturated with water for twenty-four (24) hours prior to placement. Upon completion of the saturation period, excess water shall be removed with clean, oil free compressed air prior to grouting. Concrete substrate shall not be wet prior to placement of epoxy grouts.
- D. Surface preparation, curing, and protection of cement grout shall be in accordance with Section 03 30 00 – Cast-in-Place Concrete. The finish of the grout surface shall match that of the adjacent concrete unless otherwise indicated.
- E. Surfaces that will be in contact with grout shall be free of dirt, loose rust, oil, wax, grease, curing compounds, laitance, loose concrete, and other deleterious materials.
- F. Shade the WORK from sunlight for at least twenty-four (24) hours before and forty-eight (48) hours after grouting.
- G. Contact the grout manufacturer's representative for assistance on hot and cold weather grouting techniques and precautions if applicable.

3.03 GROUTING PROCEDURES

- A. General: Mixing, surface preparation, handling, placing, consolidation, curing, and other means of execution for prepackaged grouts shall be done according to the instructions and recommendations of the manufacturer.
- B. Structural, equipment, tank, and piping support bases shall be grouted, unless indicated otherwise.
 - 1. The original concrete shall be blocked out or finished off a sufficient distance below the plate to provide for a minimum one-inch thickness of grout, or a thickness as indicated on Drawings.
 - 2. After the base plate has been set in position at the proper elevation by steel wedges or double nuts on the anchor bolts, the space between the bottom of the plate and the original pour of concrete shall be filled with non-shrink-type grout through a headbox of appropriate size. The mixture shall be of a fluid consistency and poured continuously into the space between the plate and the base concrete. Forms for grout shall be tight against retaining surfaces, and joints shall

be sealed as recommended by the grout manufacturer to be liquid-tight. Forms shall be coated as recommended by the grout manufacturer for easy form release. Trowelable consistency and be tamped or rodded solidly into the space between the plate and the base concrete. A backing board or stop shall be provided at the back side of the space to be filled with grout. Where this method of placement is not practical or where required by the ENGINEER, alternate grouting methods shall be submitted for acceptance by the ENGINEER.

C. Topping Grout and Concrete/Grout Fill

1. Mechanical, electrical, and finish WORK shall be completed prior to placement of topping or concrete/grout fill. The base slab shall be given a roughened texture surface by sandblasting or hydroblasting, exposing the aggregates to ensure bonding to the base slab. After curing, high pressure washing shall expose the aggregates and produce not less than a 3/16-inch amplitude roughness. Jackhammers or chipping hammers shall not be used.
2. The minimum thickness of grout topping and concrete/grout fill shall be one-inch. Where the finished surface of concrete/grout fill is to form an intersecting angle of less than forty-five (45) degrees with the concrete surface it is to be placed against, a key shall be formed in the concrete surface at the intersection point. The key shall be a minimum of 3-1/2 inches wide by 1-1/2 inches deep.
3. The base slab shall be thoroughly cleaned and wetted to saturated surface dry (SSD) condition per the International Concrete Repair Institute (ICRI) -- Technical Guide for Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays, prior to placing topping and fill. No topping concrete shall be placed until the slab is completely free from standing pools or ponds of water. A thin coat of neat cement grout shall be broomed into the surface of the slab just before topping or fill placement. The neat cement grout shall not be allowed to dry before topping placement. If it does dry, it must be immediately removed using wet stiff brooms and reapplied. The topping and fill shall be compacted by rolling or thorough tamping, brought to established grade, and floated. Grouted fill for tank and basin bottoms where scraping mechanisms are to be installed shall be screeded by blades attached to the revolving mechanism of the equipment in accordance with the procedures outlined by the equipment manufacturer after the grout is brought to the established grade. Coat surface with evaporation retardant as needed to prevent plastic shrinkage cracks.
4. Topping grout placed on sloping slabs shall proceed uniformly from the bottom of the slab to the top, for the full width of the placement.
5. The surface shall be tested with a straight edge to detect high and low spots which shall be immediately eliminated. When the topping or fill has hardened sufficiently, it shall be steel troweled to a smooth surface free from pinholes and other imperfections. An approved type of mechanical trowel may be used as an assist in this operation, but the last pass over the surface shall be by hand-troweling. During finishing, no water, dry cement, or mixture of dry cement and sand shall be applied to the surface.

6. As soon as topping or fill finishing is completed, coat surface with curing compound. After the topping is set and sufficiently hard in clarifiers and where required by the ENGINEER, the tank shall be filled with sufficient water to cover the entire floor for fourteen (14) days.

3.04 CONSOLIDATION

- A. Grout shall be placed in such a manner, for the consistency necessary for each application, to assure that the space to be grouted is completely filled.

END OF SECTION

SECTION 05 50 13 – MISCELLANEOUS METAL FABRICATIONS

PART 1 -- GENERAL

1.01 THE REQUIREMENT

- A. Provide miscellaneous metalwork and appurtenances, complete and in place, in accordance with the Contract Documents.

1.02 REFERENCE STANDARDS

- A. Aluminum Association

- AA Aluminum Association Designation System for Anodized Aluminum Finishes

- B. American Association of State Highway and Transportation Officials (AASHTO)

- HS-20 Standard Live Loads for Bridges

- C. American Institute for Steel Construction

- AISC LRFD Standard Specification for Structural Steel Buildings

- AISC CSP Code of Standard Practice

- D. American Welding Society (AWS)

- AWS D1.1 Structural Welding Code

- AWS WH Welding Handbook

- E. ASTM International (ASTM)

- ASTM A36 Standard Specification for Carbon Structural Steel

- ASTM A48 Standard Specification for Gray Iron Castings

- ASTM A53 Standard Specification for Pipe, Steel, Black and Hot – Dipped, Zinc Coated, Welded and Seamless

- ASTM A193 Standard Specification for Alloy-Steel and Stainless Steel Bolting for High – Temperature or High Pressure Service and Other Special Purpose Applications

- ASTM A194 Standard Specification for Carbon Steel, Alloy Steel, and Stainless Steel Nuts for Bolts for High Pressure or High Temperature Service, or Both

ASTM A307	Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod
ASTM A325	Standard Specification for High Strength Structural Bolts, Steel and Alloy Steel, Heat Treated, 120 KSI
ASTM A500	Standard Specification for Cold – Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes
ASTM A992	Standard Specification for Structural Steel Shapes

F. Code of Federal Regulations

29CFR1910	General Occupational Industry Health and Safety Standards
-----------	---

G. International Organization for Standardization

ISO 898	Mechanical and Physical Properties for Fasteners
---------	--

1.03 CONTRACTOR SUBMITTALS, SAMPLING, AND TESTING

- A. Provide submittals, samples for testing, and testing of materials in accordance with Section 01 33 00 – Submittal Procedures.
- B. Materials proposed for and utilized in the WORK will be sampled as indicated in herein. The frequency of testing may be altered at the discretion of the ENGINEER. Provide all materials required for testing at no additional cost to the OWNER.
- C. Submittals: Submit the following:
 - 1. Submit shop drawings for all hatches. Include complete details showing all members and their connections, anchor bolts, schedules for fabrication procedures, and diagrams showing requirements for installation. Mill certificates for all fabrications indicating compliance with all referenced specifications. Submit design calculations substantiating the design of the hatches.
 - 2. Submit product data for all bolts and anchors. Submit with each anchor an an ICBO report listing the ultimate load capacity in tension and shear for each size and type of concrete anchor. Submit manufacturer's recommended installation instructions and procedures for adhesive anchors.

PART 2 -- PRODUCTS

2.01 GENERAL REQUIREMENTS

- A. Corrosion Protection: Unless otherwise indicated, coat fabricated steel metalwork which will be used in a corrosive environment and/or will be submerged in water/wastewater in accordance with Section 09 90 00 – Painting and Coating and do not galvanize prior to

coating. Hot – dip galvanize other miscellaneous steel metalwork after fabrication.

- B. Stainless Steel: Unless otherwise indicated, use Type 316 stainless steel for steel metalwork and use bolts be of Type 316 stainless steel. Where anaerobic conditions are noted, use Type 304 stainless steel.
- C. Aluminum: Unless otherwise indicated, use Alloy 6061-T6. Coat contact surfaces of aluminum in contact with concrete, masonry, wood, porous materials, or dissimilar metals with an acceptable coating for isolation.
- D. Cast Iron: Unless otherwise indicated, use iron castings conforming to the requirements of ASTM A 48, Class 50B or better.

2.02 IRON CASTINGS

- A. Unless noted otherwise elsewhere in the drawings are specifications, provide gray iron castings complying with AASHTO M306. Provide castings true to pattern in form and dimensions and free from pouring faults, sponginess, cracks, blowholes and other defects in positions affecting their strength and value for the services intended. Provide castings boldly filleted at angles, with rises cleaned of scale and surfaces sanded to a smooth, clean and uniform surface.
- B. Provide covers and grates together evenly, so that the cover fits flush with the surrounding finished surface and so that the cover does not rock or rattle when loading is applied. Provide round covers and frames with machined bearing surfaces.

2.03 BOLTS AND ANCHORS

- A. Standard Service (Non-Corrosive Application): Unless otherwise indicated, provide steel bolts, anchor bolts, washers, and nuts. Provide threads on galvanized bolts formed with suitable taps and dies such that they retain their normal clearance after hot-dip galvanizing. Except as otherwise indicated, use steel for bolt material, anchor bolts, and cap screws complying with the following:
 - 1. Structural connections: ASTM A 307, Grade A or B, hot-dip galvanized.
 - 2. Anchor Bolts: ASTM A 307, Grade A or B, or ASTM A 36, hot-dip galvanized.
 - 3. High strength bolts where indicated: ASTM A 325.
 - 4. Pipe and equipment flange bolts: ASTM A 193, Grade B-7.
- B. Corrosive Service: Use stainless steel bolts, nuts, and washers in the locations listed below:
 - 1. Buried locations.
 - 2. Submerged locations.

3. Locations subject to seasonal or occasional flooding.
 4. Inside hydraulic structures below the top of the structure.
 5. Inside buried vaults, manholes, and structures that do not drain through a gravity sewer or to a sump with a pump.
 6. Chemical handling areas.
 7. Inside trenches, containment walls, and curbed areas.
 8. Locations indicated by the Contract Documents or designated by the ENGINEER to be provided with stainless steel bolts.
- C. Where stainless steel bolts are required, provide stainless steel bolts, anchor bolts, nuts, and washers of Type 316 stainless steel, Class 2, conforming to ASTM A 193 for bolts and to ASTM A 194 for nuts. Protect threads on stainless steel bolts with an antiseize lubricant suitable for submerged stainless steel bolts, to meet government specification MIL-A-907E. Use lubricant suitable for contact with potable water and listed on NSF 61. Use "PURE WHITE" by Anti-Seize Technology, Franklin Park, IL, 60131, AS-470 by Dixon Ticonderoga Company, Lakehurst, NJ, 08733, or equal.
- D. Bolt Requirements
1. Use bolt and nut material made of free-cutting steel.
 2. Use nuts capable of developing the full strength of the bolts. Provide Coarse Thread Series threads conforming to the requirements of the American Standard for Screw Threads. Provide bolts and cap screws hexagon heads and provide Heavy Hexagon series nuts.
 3. Install bolts and nuts with washers fabricated of material matching the base material of bolts, except that hardened washers for high strength bolts must conform to the requirements of the AISC Specification. Install lock washers fabricated of material matching the bolts where indicated.
 4. Provide bolts of length such that the bolt extends at least 1/8-inch beyond the outside face of the nut before tightening. For anchor bolts, provide bolts of such length such that the bolt is flush with the face of the nut before tightening.
- E. Adhesive Anchors and Rods: Use adhesive anchors in drilled holes in concrete or masonry.
1. Use adhesive anchors and rods which employ an injectable adhesive. Use adhesive furnished in side-by-side refill packets that keep components separate prior to installation. Use side – by – side refill packets which use static mixing nozzles which thoroughly combines components and allows injection directly into drilled hole. Only use injection tools and static mixing nozzles as recommended by manufacturer. Follow manufacturer's recommended instructions. Use HILTI – HY 500 MAX – SD

or equal.

2. Furnish rodd with chamfered ends so that either end will accept a nut and washer. Alternatively, furnish rods with at 45 degree chisel end on one end to allow for easy insertion into an adhesive – filled hole. Use anchor rods manufactured to meet ISO 898 Class 5.8, ASTM A193 Grade B7 (high strength carbon steel anchor). Use HILTI HAS Rods or equal.
- F. Expanding-Type Anchors: Do not use expanding type (or “wedge”) anchors for any application.
- G. Non-Shrink Grouted Anchors: Do not use non – shrink anchors.

2.04 POWDER-DRIVEN PINS

- A. Materials: If permitted, use heat-treated steel alloy powder driven pins. If the pins are not inherently sufficiently corrosion-resistant for the conditions to which they will be exposed, protect the pins an acceptable manner. Use pins with capped or threaded heads capable of transmitting the loads the shanks are required to support. Where pins that are connected to steel use pints with longitudinal serrations around the circumference of the shank.

2.05 IMPACT ANCHOR

- A. If permitted, use expansion type anchors in which a nail type pin is driven to produce the expansive force. Use pins with a zinc sleeve with a mushroom style head and stainless steel nail pin. Use Metal Hit Anchors, manufactured by Hilti, Inc., Rawl Zamac Nailin, manufactured by the Rawlplug Company; or equal.

PART 3 -- EXECUTION

3.01 GENERAL

- A. Measurements: Verify all dimensions and make any field measurements necessary. Assume full responsibility for accuracy and layout of work. Review the Drawings, and report any discrepancies to the ENGINEER for clarification prior to starting fabrication.

3.02 WELDING

- A. Method: Provide welding using the metal-arc method or gas-shielded arc method as described in the American Welding Society's "Welding Handbook" as supplemented by other pertinent standards of the AWS. Use welders qualified in accordance with the AWS Standards governing same.
- B. Quality: In assembly and during welding, adequately clamp, support, and restrain components as to minimize distortion and for control of dimensions. Use reinforcement as indicated by the AWS Code. Upon completion of welding, remove weld splatter, flux, slag, and burrs left by attachments. Repair welds to produce a workmanlike appearance, with uniform weld contours and dimensions. Grind sharp corners of material that is to be

painted or coated to a minimum of 1/32-inch on the flat.

3.03 GALVANIZING

- A. Galvanize structural steel plates shapes, bars, and fabricated assemblies required to be galvanized after the steel has been thoroughly cleaned of rust and scale in accordance with the requirements of ASTM A 123. Straighten any galvanized part that becomes warped during the galvanizing operation. Galvanize bolts, anchor bolts, nuts, and similar threaded fasteners, after being properly cleaned, in accordance with the requirements of ASTM A 153.
- B. Make field repairs to damaged galvanizing by preparing the surface and applying a coating.
 - 1. Prepare surfaces by removing oil, grease, soil, and soluble material by cleaning with water and detergent (SSPC SP1) followed by brush off blast cleaning (SSPC SP7), over an area extending at least 4-inches into the undamaged area.
 - 2. Apply coating to at least 3-mils dry film thickness. Use Zinc-Clad XI by Sherwin-Williams, Galvax by Alvin Products, or Galvite by ZRC Worldwide.

3.04 DRILLED ANCHORS

- A. Install drilled anchors and reinforcing bars in strict accordance with the manufacturer's instructions. Roughen holes with a brush on a power drill, cleaned and dry. Do not install drilled anchors until the concrete has reached the required 28-day compressive strength. Do not load anchors until the adhesive has reached its indicated strength in accordance with the manufacturer's instructions.

END OF SECTION

SECTION 09 90 00 - PAINTING AND COATING

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. On-site surface preparation and painting.

1.02 INFORMATIONAL SUBMITTALS

- A. Product Data:
 - 1. Schedule of products proposed for each system.
 - 2. Product data sheets, if other than products specified in schedule.

1.03 ACTION SUBMITTALS

- A. Samples: Duplicate 6" x 8" (150 mm x 200 mm) samples of paint and stain colors when requested by ENGINEER. When possible, apply finishes on identical type materials to which they will be applied on job. Identify each sample as to finish type, formula, color name and number, and gloss.

1.04 MAINTENANCE MATERIALS

- A. Extra stock: Leave on premises, where directed by ENGINEER, not less than one (1) gallon of each color and type used. Containers shall be tightly sealed and clearly labeled for identification.

1.05 HEALTH AND SAFETY REQUIREMENTS

- A. Work shall comply with applicable federal, state, and local laws and regulations including analyses of potential impact of painting operations on painting personnel and on others involved in and adjacent to work zone.
- B. Worker exposures: Exposure of workers to chemical substances shall not exceed limits as established by American Conference of Governmental Industrial Hygienists: Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, ACGIH-02 or as required by a more stringent applicable regulation.
- C. Toxic compounds: Toxic compounds having ineffective physiological properties, such as odor or irritation levels, shall not be used unless approved by OWNER.
- D. Training: Workers having access to affected work area shall be informed of contents of manufacturer's current printed product description, Material Safety Data Sheets (MSDS) and technical data sheets for each coating system and shall be informed of potential health and safety hazard and protective controls associated with materials used on Project. Affected work area is one that may receive mists and odors from painting operations. Workers involved in preparation, painting and clean-up shall be trained in

safe handling and application, and exposure limit, for each material which worker will use in Project. Personnel having a need to use respirators and masks shall be instructed in use and maintenance of such equipment.

- E. Provide paints for interior use that contain no mercurial mildewcide or insecticide. Provide paint containing not more than 0.06% lead.
- F. Provide documentation stating that paints proposed for use meet Volatile Organic Compound (VOC) regulations of local air pollution control districts having jurisdiction over geographical area in which Project is located.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver paint materials in sealed original labeled containers, bearing manufacturer's name, type of paint, brand name, color designation and instructions for mixing and/or reducing.
- B. Provide adequate storage facilities. Store paint materials at minimum ambient temperature of 45° F (7° C) in well ventilated area.
- C. Take precautionary measures to prevent fire hazards and spontaneous combustion.

PART 2 – PRODUCTS

2.01 MANUFACTURERS

- A. Benjamin Moore Paints.
- B. ICI Paints (Devoe/Dulux).
- C. Pittsburg Paints.
- D. Sherwin-Williams Co.
- E. Materials and colors referenced in this Section are as manufactured by Sherwin Williams Co., unless noted otherwise.

2.02 MATERIALS

- A. Paint accessory materials: Linseed oil, shellac, turpentine and other materials not specifically indicated herein but required to achieve finishes specified of high quality and approved manufacturer.
- B. Paints: Ready-mixed, except field catalyzed coatings. Pigments fully ground maintaining soft paste consistency, capable of readily and uniformly dispersing to complete homogeneous mixture.

- C. Paints to have good flowing and brushing properties and be capable of drying or curing free of streaks or sags.
- D. Dry mil thickness of paint shall comply with manufacturer's recommendations for materials specified for prevailing substrates and Project conditions.
- E. Paints containing lead in excess of 0.06% by weight of total nonvolatile content (calculated as lead metal) shall not be used.
- F. Paints containing zinc chromate or strontium chromate pigments shall not be used.
- G. VOC content: Paints shall comply with applicable state and local laws enacted to ensure compliance with Federal Clean Air Standards and shall conform to restrictions of local air pollution control authority.

PART 3 – EXECUTION

3.01 INSPECTION

- A. Thoroughly examine surfaces scheduled to be painted prior to commencement of Work. Report in writing to ENGINEER, any condition that may potentially affect proper application. Do not commence until such defects have been corrected.
- B. Correct defects and deficiencies in surfaces that may adversely affect work of this Section.

3.02 PROTECTION

- A. Adequately protect other surfaces from paint and damage. Repair damage as a result of inadequate or unsuitable protection.
- B. Furnish sufficient drop cloths, shields, and protective equipment to prevent spray or droppings from fouling surfaces not being painted and in particular, surfaces within storage and preparation area.
- C. Place cotton waste, cloths, and material that may constitute a fire hazard in closed metal containers and remove daily from site.
- D. Remove electrical plates, surface hardware, fittings and fastenings, prior to painting operations. These items are to be carefully stored, cleaned, and replaced on completion of work in each area. Do not use solvent to clean hardware that may remove permanent lacquer finish.

3.03 PREPARATION

- A. Remove mildew, by scrubbing with solution of tri-sodium phosphate and bleach. Rinse with clean water and allow surface to dry completely.
- B. Aluminum surfaces: Remove surface contamination by steam, high-pressure water, or solvent washing. Apply etching primer or acid etch. Apply paint immediately if acid etching.
- C. New concrete floors: Remove contamination, acid etch, and rinse with clear water. Ensure required acid-alkali balance is achieved. Allow to thoroughly dry.
- D. Gypsum board surfaces: Remove contamination and repair defects, if any.
- E. Galvanized surfaces: Remove surface contamination and oils and wash with solvent. Apply coat of etching type primer.
- F. Zinc coated surfaces: Remove surface contamination and oils and prepare for priming in accordance with metal manufacturer's recommendations.
- G. Concrete and concrete masonry:
 - 1. Remove dirt, loose mortar, scale, powder, and other foreign matter. Remove oil and grease with solution of trisodium phosphate, rinse well and allow to thoroughly dry.
 - 2. Remove stains caused by weathering of corroding metals with solution of sodium metasilicate after being thoroughly wetted with water. Allow to thoroughly dry.
- H. Plaster surfaces: Fill hairline cracks, small holes, and imperfections with patching plaster. Smooth off to match adjacent surfaces. Wash and neutralize high alkali surfaces where they occur.
- I. Iron and steel surfaces:
 - 1. Cleaning methods: Conform to applicable requirements of SSPC and NACE:
 - a. Power tool cleaning: SSPC-SP3.
 - b. Commercial blast cleaning: SSPC-SP6 or NACE 3.

- c. Power tool cleaning to bare metal: SSPC-SP11.
- 2. Blast cleaning requirements: Nonsubmerged shall be SSPC-SP6 or SSPC-11 for areas where abrasive blast is prohibited.
- 3. Cleaning for other field painting: SSPC-SP3.
- 4. Removal of materials such as grease and oil: SSPC-SP1. Apply treatment of phosphoric acid solution, ensuring weld joints, bolts and nuts are similarly cleaned. Prime surfaces to indicate defects, if any. Paint after defects have been remedied.
- 5. Surface irregularities from blasting shall be approximately 25% of total paint system dry mil thickness.
- 6. Sand and scrape shop primed steel surfaces to remove loose primer and rust. Feather out edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces. Prime steel including shop primed steels.
- J. Wood surfaces: Wipe off dust and grit from miscellaneous wood items and millwork prior to priming. Spot coat knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried and sand between coats.
- K. Wood soffit, exterior: Remove dust, grit, and foreign matter. Seal knots, pitch streaks, and sappy sections. Fill nail holes with exterior calking compound after prime coat has been applied.
- L. Prepare surfaces to be finished in conformance to recommendations of finish manufacturer.

3.04 ENVIRONMENTAL REQUIREMENTS

- A. Ensure surface temperatures and surrounding air temperature is above 45° F (7° C) before applying finishes. Minimum application temperatures for latex paints are 45° F (7° C) for interior work and 50° F (10° C) for exterior work. Minimum application temperature for varnish finish is 65° F (18° C).
- B. Do no exterior painting while surfaces are damp or during rainy or frosty weather.
- C. Do no exterior spray painting while wind velocity is above 13 mph (20 km/h).
- D. Provide adequate continuous ventilation and sufficient heating facilities to maintain

temperatures above 45° F (7° C) for twenty-four (24) hours before, during and forty-eight (48) hours after application of finishes.

- E. Provide adequate lighting on surfaces to be finished.

3.05 APPLICATION

- A. Apply each coat at proper consistency. Materials shall be evenly spread and applied smoothly without runs or sags, by skilled workers. Do painting under conditions suitable to production of high quality work. Follow manufacturer's directions on container label.
- B. Each coat of paint shall be slightly darker than preceding coat unless otherwise approved by ENGINEER.
- C. Sand lightly between coats to achieve smooth finish on wood or metal surfaces.
- D. Do not apply finishes on surfaces that are not sufficiently dry.
- E. Allow each coat of finish to dry before following coat is applied, unless directed otherwise by manufacturer.
- F. Back-prime exterior woodwork and siding to receive paint finish.
- G. Prime top and bottom edges of metal doors when they are to be painted.
- H. Previously finished existing surfaces: Where scheduled to be finished, finish same as designated for new surfaces, except initial (prime) coat may be deleted. Spot-prime damaged or defective existing finish as required to provide uniform finished surface.
- I. Where interior or exterior wood or metal are primed in mill or shop, material shall be that specified for such surfaces and shall be used in accordance with manufacturer's directions for first or prime coat. In such case, no prime coat will be required on job, except for touch-up.

3.06 MECHANICAL AND ELECTRICAL EQUIPMENT

- A. Refer to mechanical and electrical sections with respect to painting and finishing requirements, and color coding.
- B. Remove grilles, covers, and access panels for mechanical and electrical systems from location and paint separately.

- C. Finish paint primed equipment to color selected.
- D. In finished areas of building, prime and paint insulated and bare pipes, conduits, boxes, insulated and bare ducts, hangers, brackets, collars and supports, except where items are plated or covered with prefinished coating. Color and texture to match adjacent surfaces unless otherwise directed.
- E. Replace identification markings on mechanical or electrical equipment when painted over or spattered.
- F. Paint both sides and edges of plywood backboards for electrical equipment before installing backboards and mounting equipment on them.
- G. Color code equipment, piping, conduit and exposed ductwork in accordance with requirements indicated. Color banding and identification (flow arrows, naming, numbering, etc.).

3.07 CLEANING

- A. As work proceeds and upon completion, promptly remove paint where spilled, splashed, or spattered.
- B. During progress of work, keep premises free from any unnecessary accumulation of tools, equipment, surplus materials and debris.
- C. Upon completion of work, leave premises neat and clean.

3.08 SURFACES EXCLUDED FROM PAINTING

- A. Surfaces not requiring painting:
 - 1. Surfaces above suspended ceilings.
 - 2. Surfaces concealed inside mechanical and electrical chases.
- B. Surfaces on which painting is prohibited:
 - 1. Sprinkler heads.
 - 2. Fire detection elements.

3. Anodized aluminum surfaces.
4. Glass and mirror surfaces.
5. Chrome and stainless steel hardware items.
6. Suspended ceiling panels or suspension grid.
7. Electrical fixtures or wiring devices.
8. Exterior brick.
9. Door and window hardware items.
10. Factory finished items, unless specified otherwise.

3.09 PAINT SYSTEMS SCHEDULE

A. System A: Metals, exterior.

1. Primer, on ferrous metals, galvanized metal, and aluminum: "Pro-Cryl" Universal Primer, B66-1300 Series. Finish coats: two (2) coats Industrial Urethane Alkyd Enamel, B54-150 Series.

B. System C: Concrete and concrete masonry, exterior.

1. Filler, on concrete masonry: "PrepRite" Block Filler, B25W00025.
2. Primer, on concrete: "Loxon" Concrete & Masonry Primer LX02W0050.
3. Finish coats: two (2) coats "A-100" Exterior Satin Latex, A82-100 Series.

C. System E: Concrete and masonry, sealer, exterior. First and second coats: "H&C" Concrete Sealer.

D. System F: Wood, exterior, surfaces to be painted.

1. Primer: Exterior Latex Wood Primer. B42W08041.
2. Finish coats: two (2) coats "Metalatex" Semi-Gloss Coating, B42 Series.

E. System M: Drywall surfaces, interior.

1. Primer, on drywall: "ProMar" 200 Interior Latex Primer B28W02600.
2. Finish coats: two (2) coats "ProMar" 200 Interior Latex Semi-Gloss, B31W02600 Series.

F. System Q: Wood surfaces, interior, to be painted.

1. Primer: Premium Wall & Wood Primer, Interior Latex Primer, B28W08111.
2. Finish coats: two (2) coats "ProMar" 200 Interior Latex Eg-Shel, B20W02600 Series.

G. System S: Metals, interior.

1. Primer and touch-up on shop-primed surfaces, on ferrous metals, galvanized metal and aluminum: "Pro-Cryl" Universal Primer, B66-310 Series.
2. Finish coats: two (2) coats water based Industrial Enamel (Low VOC), Gloss, B53-300 Series.

H. System T: Metals, interior. Primer: "Pro-Cryl" Universal Primer, B66-310 Series.

1. Primer touch-up on shop zinc-primed surfaces: Compatible zinc-rich primer as furnished for materials requiring touch-up.
2. Finish coat: one (1) coat "Tile-Clad" High Solids Epoxy, Eg-Shel, B62Z Series.

I. System U: Metals, interior. Primer, on steel and rusted galvanized steel: DMT Acrylic Primer/Finish, B66W1.

1. Primer, on aluminum and galvanized steel: None required.
2. Primer, on drywall: None required.
3. Spot prime touch-up on previously primed surfaces: "Pro-Cryl" Universal Primer, B66-310 Series.
4. Finish coats: two (2) coats Waterborne Acrylic Dry Fall, B42 Series.

- J. System V: Concrete and concrete masonry, interior.
 - 1. Filler, on CMU only: "PrepRite" Block Filler, B25W00025.
 - 2. Primer, on concrete only: "Loxon" Concrete & Masonry Primer A24W08300.
 - 3. Finish coats: two (2) coats "ProMar" 200 Interior Latex Semi-Gloss, B31W02600 Series.

- K. System W: Concrete and concrete masonry, interior, epoxy finish.
 - 1. Filler, on CMU only: Heavy Duty Block Filler, B42W46.
 - 2. Primer, on concrete only: "Loxon" Concrete & Masonry Primer, A24W08300. Finish coats: two (2) coats Water-Based Catalyzed Epoxy, Semi-Gloss B70/B60V25 Series.
 - 3. Finish Coats: two (2) coats "Pro Industrial" Pre-Catalyzed Water-Based Epoxy, Eg-Shel K45-150 Series.

- L. System X: Concrete floors, interior.
 - 1. Finish coats: two (2) coats "Armorseal Tread-Plex" Water-Based Floor Coating, B90 Series.
 - 2. Primer: "Armorseal" 33 Epoxy Primer/Sealer, B58/B60.
 - 3. Finish coat: two (2) coats "Armorseal" 1000 HS, B67 Series, with anti-slip aggregate if required.

3.10 PAINT SCHEDULE

- A. Colors will be selected after award of Contract from manufacturer's standard colors.

END OF SECTION

SECTION 31 06 20.16 - BACKFILL MATERIALS

PART 1 -- GENERAL

1.01 SECTION INCLUDES

- A. Material Classifications.
- B. Utility Backfill Materials:
 - 1. Concrete sand.
 - 2. Fine granular material.
 - 3. Pea gravel.
 - 4. Crushed stone.
 - 5. Crushed concrete.
 - 6. Bank run sand.
 - 7. Select backfill.
 - 8. Random backfill.
 - 9. Cement stabilized sand.
- C. Material Handling and Quality Control Requirements.

1.02 DEFINITIONS

- A. Unsuitable Material:
 - 1. Materials classified as ML, CL-ML, MH, PT, OH, and OL according to ASTM D 2487.
 - 2. Materials that cannot be compacted to required density due to gradation, plasticity, or moisture content.
 - 3. Materials containing large clods, aggregates, or stones greater than 4 inches in any dimension; debris, vegetation, or waste; or any other deleterious materials.
 - 4. Materials contaminated with hydrocarbons or other chemical contaminants.

- B. Suitable Material:
 - 1. Materials meeting specification requirements.
 - 2. Unsuitable materials meeting specification requirements for suitable soils after treatment with lime or cement.
- C. Foundation Backfill Materials: Natural soil or manufactured aggregate meeting Class I requirements and geotextile filter fabrics as required, to control drainage and material separation. Foundation backfill material is placed and compacted as backfill where needed to provide stable support for structure foundation base. Foundation backfill materials may include concrete fill and seal slabs.
- D. Foundation Base: Crushed stone aggregate with filter fabric as required, cement stabilized sand, or concrete seal slab. Foundation base provides smooth, level working surface for construction of concrete foundation.
- E. Backfill Material: Classified soil material meeting specified quality requirements for designated application as embedment or trench zone backfill.
- F. Embedment Material: Soil material placed under controlled conditions within embedment zone extending vertically upward from top of foundation to an elevation 12 inches above top of pipe, and including pipe bedding, haunching and initial backfill.
- G. Trench Zone Backfill: Classified soil material meeting specified quality requirements and placed under controlled conditions in trench zone from top of embedment zone to base course in paved areas or to surface grading material in unpaved areas.
- H. Foundation: Either suitable soil of trench bottom or material placed as backfill of over-excavation for removal and replacement of unsuitable or otherwise unstable soils.
- I. Source: Source selected by Contractor for supply of embedment or trench zone backfill material. Selected source may be project excavation, off-site borrow pits, commercial borrow pits, or sand and aggregate production or manufacturing plants.
- J. Refer to Section 31 23 00 - Excavation and Backfill for Utilities for other definitions regarding utility installation by trench construction.

1.03 REFERENCES

- ASTM C 33 Standard Specification for Concrete Aggregate.
- ASTM C 40 Standard Test Method for Organic Impurities in Fine

Aggregates for Concrete.

ASTM C 123	Standard Test Method for Lightweight Particles in Aggregate.
ASTM C 131	Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in Los Angeles Machine.
ASTM C 136	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
ASTM C 142	Standard Test Method for Clay Lumps and Friable Particles in Aggregates.
ASTM D 1140	Standard Test Method for Amount of Material in Soils Finer Than No. 200 Sieve.
ASTM D 2487	Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System).
ASTM D 4318	Standard Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
ASTM D 4643	Standard Test Method for Determination of Water (Moisture) Content of Soil by Microwave Oven Method.

1.04 SUBMITTALS

- A. Conform to requirements of Section 01 33 00 – Submittal Procedures.
- B. Submit description of source, material classification and product description, production method, and application of backfill materials.
- C. Submit test results for samples of off-site backfill materials. Comply with this section.
- D. Before stockpiling materials, submit copy of approval from landowner for stockpiling backfill material on private property.
- E. Provide delivery ticket which includes source location for each delivery of material that is obtained from off-site sources or is being paid as specific bid item.

1.05 TESTS

- A. Perform tests of sources for backfill material in accordance with this section.

- B. Verification tests of backfill materials may be performed by OWNER in accordance with this section.

PART 2 -- PRODUCTS

2.01 MATERIAL CLASSIFICATIONS

- A. Classify materials for backfill for purpose of quality control in accordance with Unified Soil Classification Symbols as defined in ASTM D 2487. Material use and application is defined in utility installation specifications and Drawings either by class, as described in this section, or by product descriptions, as given in this section.
- B. Class Designations Based on Laboratory Testing:
 - 1. Class I: Well-graded gravels and sands, gravel-sand mixtures, crushed well-graded rock, little or no fines (GW, SW):
 - a. Plasticity index: non-plastic.
 - b. Gradation: D₆₀/D₁₀ - greater than 4%; amount passing No. 200 sieve - less than or equal to 5%.
 - 2. Class II: Poorly graded gravels and sands, silty gravels and sands, little to moderate fines (GM, GP, SP, SM):
 - a. Plasticity index: non-plastic to 4.
 - b. Gradations:
 - 1) Gradation (GP, SP): amount passing No. 200 sieve - less than 5% .
 - 2) Gradation (GM, SM): amount passing No. 200 sieve - between 12% and 50%.
 - 3) Borderline gradations with dual classifications (e.g., SP-SM): amount passing No. 200 sieve - between 5% and 12%.
 - 3. Class III: Clayey gravels and sands, poorly graded mixtures of gravel, sand, silt, and clay (GC, SC, and dual classifications, e.g., SP-SC):
 - a. Plasticity index: greater than 7.
 - b. Gradation: amount passing No. 200 sieve - between 12% and 50%.

4. Class IVA: Lean clays (CL).
 - a. Plasticity Indexes:
 - 1) Plasticity index: greater than 7, and above A line.
 - 2) Borderline plasticity with dual classifications (CL-ML):
PI between 4 and 7.
 - b. Liquid limit: less than 50.
 - c. Gradation: amount passing No. 200 sieve - greater than 50%.
 - d. Inorganic.
5. Class IVB: Fat clays (CH)
 - a. Plasticity index: above A line.
 - b. Liquid limit: 50 or greater.
 - c. Gradation: amount passing No. 200 sieve - greater than 50%.
 - d. Inorganic.
6. Use soils with dual class designation according to ASTM D 2487, and which are not defined above, according to more restrictive class.

2.02 PRODUCT DESCRIPTIONS

- A. Soils classified as silt (ML) silty clay (CL-ML with PI of 4 to 7), elastic silt (MH), organic clay and organic silt (OL, OH), and organic matter (PT) are not acceptable as backfill materials. These soils may be used for site grading and restoration in unimproved areas as approved by Project Manager. Soils in Class IVB, fat clay (CH) may be used as backfill materials where allowed by applicable backfill installation specification. Refer to Section 31 23 00 - Excavation and Backfill for Utilities.
- B. Provide backfill material that is free of stones greater than 6 inches, free of roots, waste, debris, trash, organic material, unstable material, non-soil matter, hydrocarbon or other contamination, conforming to following limits for deleterious materials:
 1. Clay lumps: Less than 0.5% for Class I, and less than 2.0% for Class II, when tested in accordance with ASTM C 142.
 2. Lightweight pieces: Less than 5% when tested in accordance with ASTM C

123.

3. Organic impurities: No color darker than standard color when tested in accordance with ASTM C 40.

C. Manufactured materials, such as crushed concrete, may be substituted for natural soil or rock products where indicated in product specification, and approved by Project Manager, provided that physical property criteria are determined to be satisfactory by testing.

D. Bank Run Sand: Durable bank run sand classified as SP, SW, or SM by Unified Soil Classification System (ASTM D 2487) meeting following requirements:

1. Less than 15% passing number 200 sieve when tested in accordance with ASTM D 1140. Amount of clay lumps or balls may not exceed 2%.

2. Material passing number 40 sieve shall meet the following requirements when tested in accordance with ASTM D 4318: Plasticity index: not exceeding 7.

E. Concrete Sand: Natural sand, manufactured sand, or combination of natural and manufactured sand conforming to requirements of ASTM C 33 and graded within following limits when tested in accordance with ASTM C 136:

Sieve	Percent Passing
3/8"	100
No. 4	95 to 100
No. 8	80 to 100
No. 16	50 to 85
No. 30	25 to 60
No. 50	10 to 30
No. 100	2 to 10

F. Fine Granular Material: Sand conforming to requirements of ASTM C 33 for course aggregates and graded within the following limits when tested in accordance with ASTM C 136:

Sieve	Percent Passing
1/2"	95 to 100
No. 10	60 to 80
No. 8	15 to 40

- G. Pea Gravel: Durable particles composed of small, smooth, rounded stones or pebbles and graded within the following limits when tested in accordance with ASTM C 136:

Sieve	Percent Passing
1/2"	100
3/8"	85 to 100
No. 4	10 to 30
No. 8	0 to 10
No. 16	0 to 5

- H. Crushed Aggregates: Crushed aggregates consist of durable particles obtained from an approved source and meeting the following requirements:

1. Materials of one product delivered for same construction activity from single source, unless otherwise approved by Project Manager.
2. Non-plastic fines.
3. Los Angeles abrasion test wear not exceeding 45% when tested in accordance with ASTM C 131.
4. Crushed aggregate shall have minimum of 90% of particles retained on No. 4 sieve with two (2) or more crushed faces.
5. Crushed stone: Produced from oversize plant processed stone or gravel, sized by crushing to predominantly angular particles from naturally occurring single source. Uncrushed gravel is not acceptable materials for embedment where crushed stone is shown on applicable utility embedment drawing details.

Aggregate shall be AASHTO #57 crushed limestone meeting the following gradation:

Sieve Size	Percent Passing Sieve
1-1/2"	100
1"	95-100
1/2"	25-60
No. 4	0-10
No. 8	0-5

Percent of loss shall not exceed 45 in accordance with AASHTO T96 and 25 in accordance with AASHTO T104, 5-cycle, sodium sulfate solution.

6. Crushed Concrete: Crushed concrete is an acceptable substitute for crushed stone as utility backfill. Gradation and quality control test requirements are same as crushed stone. Provide crushed concrete produced from normal weight concrete of uniform quality; containing particles of aggregate and cement material, free from other substances such as asphalt, reinforcing steel fragments, soil, waste gypsum (calcium sulfate), or debris.

7. Gradations.

Sieve	Percent Passing by Weight for Pipe Embedment by Ranges of Nominal Pipes Sizes		
	>15"	15" - 8"	<8"
1"	95 - 100	100	-
3/4"	60 - 90	90 - 100	100
1/2"	25 - 60	-	90 - 100
3/8"	-	20 - 55	40 - 70
No. 4	0 - 5	0 - 10	0 - 15
No. 8	-	0 - 5	0 - 5

- I. Select Backfill: Class III clayey gravel or sand or Class IV lean clay with plasticity index between 7 and 20 or clayey soils treated with lime.
- J. Random Backfill: Any suitable soil or mixture of soils within Classes I, II, III and IV; or fat clay (CH) when allowed by applicable backfill installation specification. Refer to Section 31 23 00 - Excavation and Backfill for Utilities.

2.03 MATERIAL TESTING

- A. Source Qualification. Perform testing to obtain tests by suppliers for selection of material sources and products not from the project site. Test samples of processed materials from current production representing material to be delivered. Use tests to verify that materials meet specification requirements.

Repeat qualification test procedures each time source characteristics change or there is planned change in source location or supplier. Include the following qualification tests, as applicable:

1. Gradation. Report complete sieve analyses regardless of specified control sieves from largest particle through No. 200 sieve.
 2. Plasticity of material passing No. 40 sieve.
 3. Los Angeles abrasion wear of material retained on No. 4 sieve.
 4. Clay lumps.
 5. Lightweight pieces.
 6. Organic impurities.
- B. Production Testing. Provide reports to Project Manager from an independent testing laboratory that backfill materials to be placed in Work meet applicable specification requirements.
- C. Assist Project Manager in obtaining material samples for verification testing at source or at production plant.

PART 3 -- EXECUTION

3.01 SOURCES

- A. Use of existing material in trench excavations is acceptable, provided applicable specification requirements are satisfied.
- B. Identify off-site sources for backfill materials at least fourteen (14) days ahead of intended use so that Project Manager may obtain samples for verification testing.
- C. Materials may be subjected to inspection or additional verification testing after delivery. Materials which do not meet requirements of specifications will be rejected. Do not use material which, after approval, has become unsuitable for use due to segregation, mixing with other materials, or by contamination. Once material is approved by Project Manager, expense for sampling and testing required to change to different material will be credited to OWNER through change order.
- D. Bank run sand, select backfill, and random backfill, if available in project excavation, may be obtained by selective excavation and acceptance testing. Obtain additional quantities of these materials and other materials required to complete work from off-site sources.

- E. OWNER does not represent or guarantee that any soil found in excavation work will be suitable and acceptable as backfill material.

3.02 MATERIAL HANDLING

- A. When backfill material is obtained from either commercial or non-commercial borrow pit, open pit to expose vertical faces of various strata for identification and selection of approved material to be used. Excavate selected material by vertical cuts extending through exposed strata to achieve uniformity in product.
- B. Establish temporary stockpile locations for practical material handling, control, and verification testing by Project Manager in advance of final placement. Obtain approval from landowner for storage of backfill material on adjacent private property.
- C. When stockpiling backfill material near project site, use appropriate covers to eliminate blowing of materials into adjacent areas and prevent runoff containing sediments from entering drainage system.
- D. Place stockpiles in layers to avoid segregation of processed materials. Load material by making successive vertical cuts through entire depth of stockpile.

3.03 FIELD QUALITY CONTROL

- A. Quality Control
 - 1. The Project Manager may sample and test backfill at:
 - a. Sources including borrow pits, production plants and Contractor's designated off-site stockpiles.
 - b. On-site stockpiles.
 - c. Materials placed in Work.
 - 2. The Project Manager may re-sample material at any stage of work or location if changes in characteristics are apparent.
- B. Production Verification Testing: Testing laboratory will provide verification testing on backfill materials, as directed by Project Manager. Samples may be taken at source or at production plant, as applicable.

END OF SECTION

SECTION 31 23 00 - EXCAVATION AND BACKFILL FOR UTILITIES

PART 1 -- GENERAL

1.01 SECTION INCLUDES

- A. Excavation, trenching, foundation, embedment, and backfill for installation of utilities, including manholes and other pipeline structures.

1.02 DEFINITIONS

- A. Pipe Foundation: Suitable and stable native soils that are exposed at trench subgrade after excavation to depth of bottom of bedding as shown on Drawings, or foundation backfill material placed and compacted in over-excavations.
- B. Pipe Bedding: Portion of trench backfill that extends vertically from top of foundation up to level line at bottom of pipe, and horizontally from one trench sidewall to opposite sidewall.
- C. Haunching: Material placed on either side of pipe from top of bedding up to springline of pipe and horizontally from one trench sidewall to opposite sidewall.
- D. Backfill: Portion of trench backfill that extends vertically from springline of pipe (top of haunching) up to grade, and horizontally from one trench sidewall to opposite sidewall.
- E. Pipe Embedment: Portion of trench backfill that consists of bedding, haunching and backfill.
- F. Trench Zone: Portion of trench backfill that extends vertically from top of pipe embedment up to pavement subgrade or up to final grade when not beneath pavement.
- G. Unsuitable Material: Unsuitable soil materials are the following:
 - 1. Materials that are classified as ML, CL-ML, MH, PT, OH, and OL according to ASTM D2487.
 - 2. Materials that cannot be compacted to required density due to gradation, plasticity, or moisture content.
 - 3. Materials that contain large clods, aggregates, stones greater than 4 inches in any dimension, debris, vegetation, waste or any other deleterious materials.
 - 4. Materials that are contaminated with hydrocarbons or other chemical contaminants.
- H. Suitable Material: Suitable soil materials are those meeting specification

requirements. Materials mixed with lime, fly ash, or cement that can be compacted to required density and meeting requirements for suitable materials may be considered suitable materials, unless otherwise indicated.

- I. Backfill: Suitable material meeting specified quality requirements placed and compacted under controlled conditions.
- J. Ground Water Control Systems: Installations external to trench, such as well points, educators, or deep wells. Ground water control includes dewatering to lower ground water, intercepting seepage which would otherwise emerge from side or bottom of trench excavation, and depressurization to prevent failure or heaving of excavation bottom.
- K. Surface Water Control: Diversion and drainage of surface water runoff and rain water away from trench excavation. Rain water and surface water accidentally entering trench shall be controlled and removed as part of excavation drainage.
- L. Excavation Drainage: Removal of surface and seepage water in trench by sump pumping and using drainage layer, as defined in ASTM D 2321, placed on foundation beneath pipe bedding or thickened bedding layer of Class I material.
- M. Trench Conditions are defined with regard to stability of trench bottom and trench walls of pipe embedment zone. Maintain trench conditions that provide for effective placement and compaction of embedment material directly on or against undisturbed soils or foundation backfill, except where structural trench support is necessary.
 - 1. Dry Stable Trench: Stable and substantially dry trench conditions exist in pipe embedment zone as result of typically dry soils or achieved by ground water control (dewatering or depressurization) for trenches extending below ground water level.
 - 2. Stable Trench with Seepage: Stable trench in which ground water seepage is controlled by excavation drainage.
 - a. Stable Trench with Seepage in Clayey Soils: Excavation drainage is provided in lieu of or to supplement ground water control systems to control seepage and provide stable trench subgrade in predominately clayey soils prior to bedding placement.
 - b. Stable Wet Trench in Sandy Soils: Excavation drainage is provided in embedment zone in combination with ground water control in predominately sandy or silty soils.
 - 3. Unstable Trench: Unstable trench conditions exist in pipe embedment zone if ground water inflow or high water content causes soil disturbances, such as sloughing, sliding, boiling, heaving or loss of density.
- N. Sub-trench: Sub-trench is special case of benched excavation. Sub-trench excavation below trench shields or shoring installations may be used to allow

placement and compaction of foundation or embedment materials directly against undisturbed soils. Depth of sub-trench depends upon trench stability and safety as determined by CONTRACTOR.

- O. Trench Dam: Placement of low permeability material in pipe embedment zone or foundation to prohibit ground water flow along trench.
- P. Over-excavation and Backfill: Excavation of subgrade soils with unsatisfactory bearing capacity or composed of otherwise unsuitable materials below top of foundation as shown on Drawings, and backfilled with foundation bedding.
- Q. Foundation Bedding: Natural soil or manufactured aggregate of controlled gradation, and geotextile filter fabrics as required, to control drainage and material separation. Foundation bedding is placed and compacted as backfill to provide stable support for bedding. Foundation bedding materials may include concrete seal slabs.
- R. Trench Shield (Trench Box): Portable worker safety structure moved along trench as work proceeds, used as protective system and designed to withstand forces imposed on it by cave in, thereby protecting persons within trench. Trench shields may be stacked if so designed or placed in series depending on depth and length of excavation to be protected.
- S. Shoring System: Structure that supports sides of an excavation to maintain stable soil conditions and prevent cave-ins, or to prevent movement of ground affecting adjacent installations or improvements.
- T. Vacuum Excavation: An excavation technique performed by an experienced subcontractor in which water or air jetting is used to slough off and vacuum away soil.
- U. Large Diameter Water Line (LDWL): Water line that is 24-inches in diameter or larger.
- V. Emergency Action Plan (EAP): The EAP document should include a discussion of procedures for timely and reliable detection, classification (level of emergency) and response procedure to a potential emergency condition associated with a large diameter water line.
- W. Subsurface Utility Exploration (SUE): Non-destructive excavation, unless otherwise approved by project manager.
- X. Exploratory Excavation or Test Pits: limited, specific excavations for the purpose of verifying the location of a conflict.
- Y. Potholing: excavation or vacuum excavation required to adequately locate utilities and/or underground structures in the path of construction or at the jobsite in accordance with Louisiana Dig Laws.

1.03 REFERENCES

ASTM C 12	Standard Practice for Installing Vitrified Clay Pipe Lines.
ASTM C76	Standard Specification for Reinforced Concrete Culverts, Storm Drain, and Sewer Pipe.
ASTM D 558	Standard Test Methods for Moisture-Density Relations of Soil Cement Mixtures.
ASTM D 698	Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lb/ft).
ASTM D 1556	Standard Test Method for Density and Unit Weight of Soil in Place by Sand-Cone Method.
ASTM D 2321	Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity Flow Applications.
ASTM D 2487	Standard Classification of Soils for Engineering Purposes.
ASTM D 2922	Standard Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
ASTM D 3017	Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).
ASTM D 4318	Standard Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.

Federal Regulations, 29 CFR Part 1926, Standards-Excavation, Occupational Safety and Health Administration (OSHA).

1.04 SCHEDULING

- A. Schedule work so that pipe embedment can be completed on same day that acceptable foundation has been achieved for each section of pipe installation, manhole, or other structures.
- B. For proposed utility adjacent to or across existing LDWL:
 - 1. Conduct a meeting between CONTRACTOR and the water utility prior to beginning excavation to coordinate the EAP in the event a water line shut down becomes necessary.
 - 2. Notify the water utility a minimum of one (1) week prior to beginning construction activities.

3. Notify the water utility a minimum of forty-eight (48) hours prior to beginning SUE work near LDWL.
4. Unless otherwise approved by City Engineer, perform construction activities between 7 AM and 7 PM, Monday through Friday. No work permitted around a LDWL on weekends or City Holiday.
5. A City Inspector must be present during SUE or construction activities occurring within four feet or one diameter of the LDWL, whichever is greater, from a LDWL or appurtenance.

1.05 SUBMITTALS

- A. Conform to requirements of Section 01 33 00 – Submittal Procedures.
- B. Submit planned typical method of excavation, backfill placement and compaction including:
 1. Trench widths.
 2. Procedures for foundation and pipe zone bedding placement, and trench backfill compaction.
 3. Procedures for assuring compaction against undisturbed soil when pre-manufactured trench safety systems are proposed.
- C. Submit backfill material sources and product quality information.
- D. Submit trench excavation safety program. Include designs for special shoring meeting requirements defined in this section, Special Shoring Design Requirements contained herein.
- E. Submit record of location of utilities as installed, referenced to survey control points. Include locations of utilities encountered or rerouted. Give stations, horizontal dimensions, elevations, inverts, and gradients.
- F. Submit 11" by 17" or 12" by 18" copy of Drawing with plotted utility or obstruction location titled "Critical Location Report".
- G. For installation of proposed utility adjacent to or across existing LDWL, prepare and submit the following to Drinking Water Operations prior to beginning construction activities. Obtain approval from Drinking Water Operations prior to commencing prelocate or utility work near LDWL.
 1. Trench details, shoring system designs, installation sequences, and flowable fill mix designs.
 2. Emergency Action Plan (EAP) to address contingency plans in the event of damage to or failure of LDWL. Include the following:

- a. Contact personnel and agencies including primary and secondary telephone numbers,
- b. CONTRACTOR's hierarchy of responsible personnel.
- c. Traffic control measures, and
- d. Identification of resources to be available on or near project site in event of damage to or failure of LDWL.

1.06 TESTS

- A. Testing and analysis of backfill materials for soil classification and compaction during construction will be performed by an independent laboratory as specified in this Section.
- B. Perform backfill material source qualification testing in accordance with requirements of Section 31 06 20.16 - Backfill Materials.

1.07 SPECIAL SHORING DESIGN REQUIREMENTS

- A. Have special shoring designed or selected by CONTRACTOR's Professional Engineer to provide support for sides of excavations, including soils and hydrostatic ground water pressures as applicable, and to prevent ground movements affecting adjacent installations or improvements such as structures, pavements and utilities. Special shoring may be a premanufactured system selected by CONTRACTOR's Professional Engineer to meet project site requirements based on manufacturer's standard design.

PART 2 -- PRODUCTS

2.01 EQUIPMENT

- A. Perform excavation with hydraulic excavator or other equipment suitable for achieving requirements of this Section.
- B. Use only hand-operated tamping equipment until minimum cover of 12 inches is obtained over pipes, conduits, and ducts. Do not use heavy compacting equipment until adequate cover is attained to prevent damage to pipes, conduits, or ducts.
- C. Use trench shields or other protective systems or shoring systems which are designed and operated to achieve placement and compaction of backfill directly against undisturbed native soil.
- D. Use special shoring systems where required which may consist of braced sheeting, braced soldier piles and lagging, slide rail systems, or other systems meeting requirements as specified in this section, Special Shoring Design Requirements.

PART 3 -- EXECUTION

3.01 STANDARD PRACTICE

- A. Install flexible pipe, including "semi-rigid" pipe, to conform to standard practice described in ASTM D 2321, and as described in this Section. Where an apparent conflict occurs between standard practice and requirements of this Section, this Section governs.
- B. Install rigid pipe to conform to standard practice described in ASTM C 12 or C76 as applicable, and as described in this Section. Where an apparent conflict occurs between standard practice and requirements of this Section, this Section governs.

3.02 EXPLORATORY EXCAVATION

- A. Notify OWNER prior to commencement of any exploratory excavations or test pits to determine the location and extent of the excavation. Exploratory excavations shall be directed by the OWNER. There is no direct pay for exploratory excavation as this is considered incidental to the work. There is no direct measurement for payment of exploratory excavation.

3.03 POTHOLING

- A. Potholing shall be incidental to the WORK. Cost of potholing shall be incidental to the associated bid items. There is no direct measurement for payment of potholing.

3.04 CRITICAL LOCATION INVESTIGATION

- A. Perform vacuum excavation to field verify horizontal and vertical locations of various underground lines, including but not limited to water lines, gas lines, storm sewers, sanitary sewers, telecommunication lines, electric lines or power ducts, pipelines, concrete and debris within a zone two (2) feet vertically and four (4) feet horizontally of proposed work exclude water jetting at water line.
 - 1. Verify location of existing utilities minimum of seven (7) working days in advance of pipe laying activities based on daily pipe laying rate or prior to beginning installation of auger pit or tunnel shaft. Use extreme caution and care when uncovering utilities designated by LA One Call.
 - 2. Notify Project Manager in writing immediately upon identification of obstruction. In event of failure to identify obstruction in minimum of seven (7) days, CONTRACTOR will not be entitled to extra cost for downtime including, but not limited to, payroll, equipment, overhead, demobilization and remobilization, until seven (7) days has passed from time Project Manager is notified of obstruction.
- B. Notify involved utility companies of date and time that investigation excavation will occur and request that their respective utility lines be marked in field. Comply with utility or pipeline company requirements that their representative be present during

excavation. Provide Project Manager with forty-eight (48) hours notice prior to field excavation or related work.

- C. Survey vertical and horizontal locations of obstructions relative to project baseline and datum and plot on 12" by 18" copy of Drawings. For large diameter water lines, submit to Project Manager for approval, horizontal and vertical alignment dimensions for connections to existing lines, tied into project baseline, signed and sealed by a professional land surveyor.
- D. Large Diameter Water Lines (LDWL) Prelocate Requirements:
 - 1. Field-locate LDWL, appurtenances and laterals connected directly to LDWL through use of non-probing method such as a vacuum truck (non-water jetting method) at no greater than fifty (50) foot intervals. Locate upstream and downstream of proposed work or utility installation.
 - 2. Record crown and side of LDWL adjacent to proposed work or utility installation. Record LDWL locations horizontally and vertically using same coordinate system employed on proposed utility drawings.
 - 3. Tie horizontal and vertical coordinates into project baseline. Submit recordings performed by professional land surveyor to OWNER a minimum of fourteen (14) days prior to mobilizing to site.

3.05 PROTECTION

- A. Protect trees, shrubs, lawns, existing structures, and other permanent objects outside of grading limits and within grading limits.
- B. Protect and support above-grade and below-grade utilities which are to remain.
- C. Restore damaged permanent facilities to pre-construction conditions unless replacement or abandonment of facilities is indicated on Drawings.
- D. Take measures to minimize erosion of trenches. Do not allow water to pond in trenches. Where slides, washouts, settlements, or areas with loss of density or pavement failures or potholes occur, repair, re-compact, and pave those areas at no additional cost to OWNER.
- E. Contingency plans for proposed work or utility installation adjacent to or across a LDWL:
 - 1. Conduct on-site emergency drill prior to commencing proposed utility installation, and at three month intervals to assure EAP is current.
 - 2. In the event a LDWL shut down becomes necessary, secure site and provide assistance to City personnel to access pipe and isolation valves as needed.

3.06 EXCAVATION

- A. Except as otherwise specified or shown on Drawings, install underground utilities in open cut trenches with vertical sides.
- B. Perform excavation work so that pipe, conduit, and ducts can be installed to depths and alignments shown on Drawings. Avoid disturbing surrounding ground and existing facilities and improvements.
- C. Determine trench excavation widths using following schedule as related to pipe outside diameter (O.D.). Excavate trench so that pipe is centered in trench.

Nominal Pipe Size, Inches	Minimum Trench Width, Inches
Less than 18	O.D. + 18
18 to 30	O.D. + 24
36 to 42	O.D. + 36
Greater than 42	O.D. + 48

Do not obstruct sight distance for vehicles utilizing roadway or detours with stockpiled materials.

- D. Use sufficient trench width or benches above embedment zone for installation of well point headers or manifolds and pumps where depth of trench makes it uneconomical or impractical to pump from surface elevation. Provide sufficient space between shoring cross braces to permit equipment operations and handling of forms, pipe, embedment and backfill, and other materials.
- E. Upon discovery of unknown utilities, badly deteriorated utilities not designated for removal, or concealed conditions, discontinue work at that location. Notify Project Manager and obtain instructions before proceeding.
- F. Shoring of Trench Walls.
 - 1. Install Special Shoring in advance of trench excavation or simultaneously with trench excavation, so that soils within full height of trench excavation walls will remain laterally supported at all times.
 - 2. For all types of shoring, support trench walls in pipe embedment zone throughout installation. Provide trench wall supports sufficiently tight to prevent washing trench wall soil out from behind trench wall support.
 - 3. Leave sheeting driven into or below pipe embedment zone in place to preclude loss of support of foundation and embedment materials, unless otherwise directed by Project Manager. Leave rangers, walers, and braces in place as long as required to support sheeting, which has been cut off, and trench wall in vicinity of pipe zone.
 - 4. Employ special methods for maintaining integrity of embedment or

foundation material. Before moving supports, place and compact embedment to sufficient depths to provide protection of pipe and stability of trench walls. As supports are moved, finish placing and compacting embedment.

5. If sheeting or other shoring is used below top of pipe embedment zone, do not disturb pipe foundation and embedment materials by subsequent removal. Maximum thickness of removable sheeting extending into embedment zone shall be equivalent of 1-inch-thick steel plate. As sheeting is removed, fill in voids left with grouting material.
- G. Use of Trench Shields. When trench shield (trench box) is used as worker safety device, the following requirements apply:
1. Make trench excavations of sufficient width to allow shield to be lifted or pulled freely, without damage to trench sidewalls.
 2. Move trench shields so that pipe, and backfill materials, after placement and compaction, are not damaged nor disturbed, nor degree of compaction reduced. Re-compact after shield is moved if soil is disturbed.
 3. When required, place, spread, and compact pipe foundation and bedding materials beneath shield. For backfill above bedding, lift shield as each layer of backfill is placed and spread. Place and compact backfill materials against undisturbed trench walls and foundation.
 4. Maintain trench shield in position to allow sampling and testing to be performed in safe manner.
 5. Conform to applicable Government regulations.
- H. Voids under paving area outside shield caused by CONTRACTOR's work will require removal of pavement, consolidation and replacement of pavement in accordance with Contract Documents. Repair damage resulting from failure to provide adequate supports.
- I. Place sand or soil behind shoring or trench shield to prevent soil outside shoring from collapsing and causing voids under pavement. Immediately pack suitable material in outside voids following excavation to avoid caving of trench walls.
- J. Coordinate excavation within fifteen (15) feet of pipeline with company's representative. Support pipeline with methods agreed to by pipeline company's representative. Use small, rubber-tired excavator, such as backhoe, to do exploratory excavation. Bucket that is used to dig in close proximity to pipelines shall not have teeth or shall have guard installed over teeth to approximate bucket without teeth. Excavate by hand within one (1) foot of Pipeline Company's line. Do not use larger excavation equipment than normally used to dig trench in vicinity of pipeline until pipelines have been uncovered and fully exposed. Do not place large excavation and hauling equipment directly over pipelines unless approved by Pipeline Company's

representative.

- K. When, during excavation to uncover pipeline company's pipelines, screwed collar or an oxy- acetylene weld is exposed, immediately notify Project Manager. Provide supports for collar or welds. Discuss with Pipeline Company's representative and determine methods of supporting collar or weld during excavation and later backfilling operations. When collar is exposed, request Pipeline Company to provide welder in a timely manner to weld ends of collar prior to backfilling of excavation.

- L. Excavation and shoring requirements for proposed work or utility installation adjacent to or across a LDWL:
 - 1. Identify LDWL area in field and barricade off from construction activities. Allow no construction related activities including, but not limited to, loading of dump trucks and material staging or storage, on top of LDWL.

 - 2. Employ a groundwater control system when performing excavation activities within ten feet of LDWL to:
 - a. Effectively reduce hydrostatic pressure affecting excavations,

 - b. Develop substantially dry and stable subgrade for subsequent construction operations,

 - c. Prevent loss of fines, seepage, boils, quick condition or softening of foundation strata, and

 - d. Maintain stability of sides and bottom of excavations.

 - 3. When edge of proposed trench or shoring is within a distance equal to one diameter of LDWL from outside of wall of LDWL, valve or appurtenance:
 - a. Maintain minimum of four (4) feet horizontal clearance and minimum of two (2) feet vertical clearance between proposed utility and LDWL.

 - b. Auger Construction
 - i. Maintain minimum of four (4) feet horizontal clearance between proposed utility and LDWL.

 - ii. Dry auger method required when auger hole is 12-inches and larger in diameter.

 - c. Open Cut Construction and Auger pits
 - i. Perform hand excavation when within four (4) feet of LDWL.

 - ii. Employ hydraulic or pneumatic shoring system. Do not

use vibratory or impact driven shoring or piling.

- iii. Expose no more than 30-feet of trench prior to backfilling.
 - iv. A maximum of one (1) foot of vertical trench shall be unbraced at a time to maintain constant pressure on face of excavated soil.
 - v. Upon removal of shoring system, inject flowable fill into void space left behind by shoring system.
- d. When edge of utility excavation is greater than one diameter of LDWL from outside wall of LDWL, use a shielding system as required by Project Manager and proposed utility standards and practices.

3.07 HANDLING EXCAVATED MATERIALS

- A. Use only excavated materials, which are suitable as defined in this Section and conforming to Section 31 06 20.16 - Backfill Materials. Place material suitable for backfilling in stockpiles at distance from trench to prevent slides or cave-ins.
- B. When required, provide additional backfill material conforming to requirements of Section 31 06 20.16 - Backfill Materials.
- C. Do not place stockpiles of excess excavated materials on streets and adjacent properties. Protect backfill material to be used on site. Maintain site conditions. Excavate trench so that pipe is centered in trench. Do not obstruct sight distance for vehicles utilizing roadway or detours with stockpiled materials.

3.08 TRENCH FOUNDATION

- A. Excavate bottom of trench to uniform grade to achieve stable trench conditions and satisfactory compaction of foundation or bedding materials.
- B. When wet soil is encountered on trench bottom and dewatering system is not required, over excavate an additional six (6) inches with approval by Project Manager. Place non-woven geotextile fabric and then compact twelve (12) inches of crushed stone in one lift on top of fabric. Compact crushed stone with four passes of vibratory-type compaction equipment.
- C. Perform over excavation, when directed by Project Manager, in accordance with this section above. Removal of unstable or unsuitable material may be required if approved by Project Manager;
 - 1. Even though CONTRACTOR has not determined material to be unsuitable, or
 - 2. If unstable trench bottom is encountered and an adequate ground water

control system is installed and operating.

- D. Place trench dams in Class I foundations in line segments longer than one hundred (100) feet between manholes and not less than one in every five hundred (500) feet of pipe placed. Install additional dams as needed to achieve workable construction conditions. Do not place trench dams closer than five (5) feet from manholes.

3.09 PIPE EMBEDMENT, PLACEMENT, AND COMPACTION

- A. Remove loose, sloughing, caving, or otherwise unsuitable soil from bottoms and sidewalls of trenches immediately prior to placement of embedment materials.
- B. Place embedment including bedding, haunching, and backfill as shown on Drawings.
- C. For pipe installation, manually spread embedment materials around pipe to provide uniform bearing and side support when compacted. Protect flexible pipe from damage during placing of pipe zone bedding material. Perform placement and compaction directly against undisturbed soils in trench sidewalls, or against sheeting which is to remain in place.
- D. Do not place trench shields or shoring within height of embedment zone unless means to maintain density of compacted embedment material are used. If moveable supports are used in embedment zone, lift supports incrementally to allow placement and compaction of material against undisturbed soil.
- E. Place geotextile to prevent particle migration from in-situ soil into open-graded (Class I) embedment materials or drainage layers.
- F. Do not damage coatings or wrappings of pipes during backfilling and compacting operations. When embedding coated or wrapped pipes, do not use crushed stone or other sharp, angular aggregates.
- G. Place haunching material manually around pipe and compact it to provide uniform bearing and side support. If necessary, hold small-diameter or lightweight pipe in place during compaction of haunch areas and placement beside pipe with sand bags or other suitable means.
- H. Place electrical conduit, if used, directly on foundation without bedding.
- I. Shovel in-place and compact embedment material using pneumatic tampers in restricted areas, and vibratory-plate compactors or engine-powered jumping jacks in unrestricted areas. Compact each lift before proceeding with placement of next lift. Water tamping is not allowed.
- J. For water lines construction embedment, use bank run sand, concrete sand, gem sand, pea gravel, or crushed limestone as specified in Section 31 06 20.16 - Backfill Material. Adhere to the following requirements.

1. Class I, II and III Embedment Materials:

- a. Maximum six (6) inches compacted lift thickness.
 - b. Compact to achieve minimum of 95% of maximum dry density as determined according to ASTM D 698.
 - c. Moisture content to be within -3% to +5% of optimum as determined according to ASTM D 698, unless otherwise approved by Project Manager.
2. Cement Stabilized Sand (where required for special installations):
- a. Maximum 6 inches compacted thickness.
 - b. Compact to achieve minimum of 95 percent of maximum dry density as determined according to ASTM D 698.
 - c. Moisture content to be on dry side of optimum as determined according to ASTM D 698 but sufficient for effective hydration.
- K. For Sanitary Sewers adhere to subparagraph number 1 and 2 below. For Storm Sewers provide cement stabilized sand per subparagraph 2 below. This provision does not apply to Storm Sewers constructed of HDPE pipe installed under pavement.
1. Class I Embedment Materials.
- a. Maximum 6-inches compacted lift thickness.
 - b. Systematic compaction by at least two (2) passes of vibrating equipment. Increase compaction effort as necessary to effectively embed pipe to meet deflection test criteria.
 - c. Moisture content as determined by CONTRACTOR for effective compaction without softening soil of trench bottom, foundation or trench walls.
2. Class II Embedment and Cement Stabilized Sand.
- a. Maximum 6-inches compacted thickness.
 - b. Compaction by methods determined by CONTRACTOR to achieve minimum of 95% of maximum dry density as determined according to ASTM D 698 for Class II materials and according to ASTM D 558 for cement stabilized materials.
 - c. Moisture content of Class II materials within 3% of optimum as determined according to ASTM D 698. Moisture content of cement stabilized sands on dry side of optimum as determined according to ASTM D 558 but sufficient for effective hydration.

- L. Place trench dams in Class I embedment in line segments longer than one hundred (100) feet between manholes, and not less than one in every five hundred (500) feet of pipe placed. Install additional dams as needed to achieve workable construction conditions. Do not place trench dams closer than five (5) feet from manholes.

3.10 TRENCH ZONE BACKFILL PLACEMENT AND COMPACTION

- A. Place backfill for pipe or conduits and restore surface as soon as practicable. Leave only minimum length of trench open as necessary for construction.
- B. For water lines, under pavement and to within one (1) foot back of curb, use backfill materials described below:
 - 1. For water lines twenty (20) inches in diameter and smaller, use bank run sand or select backfill materials up to pavement base or subgrade.
 - 2. For water lines twenty-four (24) inches in diameter and larger, backfill with suitable on-site material (random backfill) up to twelve (12) inches below pavement base or subgrade. Place minimum of twelve (12) inches of select backfill below pavement base or subgrade.
- C. For sewer pipes (Storm and Sanitary), use backfill materials described by trench limits. For "trench zone backfill" under pavement and to within one foot back of curb, use cement stabilized sand for pipes of nominal sizes thirty-six (36) inches in diameter and smaller to level twelve (12) inches below the pavement. For sewer pipes forty-two (42) inches in diameter and larger, under pavement or natural ground, in satisfactory soil conditions, backfill from twelve (12) inches above top of pipe to twelve (12) inches below pavement with suitable on-site material or select backfill. For sewer pipes forty-two (42) inches in diameter and larger, under pavement or natural ground, in unsatisfactory soil conditions, backfill from twelve (12) inches above top of pipe to twelve (12) inches below pavement with suitable on-site material or select backfill. Use select backfill for rigid pavements or flexible base material for asphalt pavements for 12-inch backfill directly under pavement. For backfill materials reference Section 31 06 20.16 - Backfill Materials. This provision does not apply where a Storm Sewer is constructed of HDPE pipe.
- D. Where damage to completed pipe installation work is likely to result from withdrawal of sheeting, leave sheeting in place. Cut off sheeting one and a half (1.5) feet or more above crown of pipe. Remove trench supports within five (5) feet from ground surface.
- E. Unless otherwise shown on Drawings. Use one of the following trench zone backfills under pavement and to within one (1) foot of edge of pavement. Place trench zone backfill in lifts and compact. Fully compact each lift before placement of next lift.
 - 1. Class I, II, or III or combination thereof:
 - a. Place in maximum 12-inch thick loose layers.

- b. Compact by vibratory equipment to minimum of 95% of maximum dry density determined according to ASTM D 698.
 - c. Moisture content within zero percent to 5% above optimum determined according to ASTM D 698, unless otherwise approved by Project Manager.
 - 2. Cement-Stabilized Sand:
 - a. Maximum lift thickness determined by CONTRACTOR to achieve uniform placement and required compaction, but do not exceed twelve (12) inches.
 - b. Compact by vibratory equipment to minimum of 95% of maximum dry density determined according to ASTM D 558.
 - c. Moisture content on dry side of optimum determined according to ASTM D558 but sufficient for cement hydration.
 - 3. Class IVA and IVB (Clay Soils):
 - a. Place in maximum 8-inch thick loose lifts.
 - b. Compaction by vibratory Sheepfoot roller to minimum of 95 percent of maximum dry density determined according to ASTM D 698.
 - c. Moisture content within 0% to 5% above optimum determined according to ASTM D 698, unless approved by Project Manager.
- F. Unless otherwise shown on Drawings, for trench excavations not under pavement, random backfill of suitable material may be used in trench zone. This provision does not apply to HDPE storm sewers.
 - 1. Fat clays (CH) may be used as trench zone backfill outside paved areas at CONTRACTOR's option. When required density is not achieved, at any additional cost to OWNER , rework, dry out, use lime stabilization or other approved methods to achieve compaction requirements, or use different suitable material.
 - 2. Maximum 9-inch compacted lift thickness for clayey soils and maximum 12-inch lift thickness for granular soils.
 - 3. Compact to minimum of 90% of maximum dry density determined according to ASTM D 698.
 - 2. Moisture content as necessary to achieve density.

- G. For electric conduits, remove form work used for construction of conduits before placing trench zone backfill.

3.11 MANHOLES, JUNCTION BOXES AND OTHER PIPELINE STRUCTURES

- A. Below paved areas or where shown on Drawings, encapsulate manhole with cement stabilized sand; minimum of two (2) foot below base, minimum two (2) foot around walls, up to pavement subgrade or natural ground. Compact in accordance with this Section.
- B. In unpaved areas, use select fill for backfill. Existing material that qualifies as select material may be used, unless indicated otherwise on Drawings. Deposit backfill in uniform layers and compact each layer as specified. Maintain backfill material at no less than 2% below nor more than 5% above optimum moisture content, unless otherwise approved by Project Manager. Place fill material in uniform 8-inch maximum loose layers. Compact fill to at least 95% of maximum Standard Proctor Density according to ASTM D 698.
- C. For LDWL projects, encapsulate manhole with cement stabilized sand; minimum of one (1) foot below base, minimum of two (2) feet around walls, up to within twelve (12) inches of pavement subgrade or natural ground. For manholes over water line, extend encapsulation to bottom of trench. Compact in accordance with this Section.

3.12 FIELD QUALITY CONTROL

- A. Test for material source qualifications as defined in Section 31 06 20.16 - Backfill Materials.
- B. Provide excavation and trench safety systems at locations and to depths required for testing and retesting during construction at no additional cost to OWNER.
- C. Tests will be performed on minimum of three different samples of each material type for plasticity characteristics, in accordance with ASTM D 4318, and for gradation characteristics. Additional classification tests will be performed whenever there is noticeable change in material gradation or plasticity, or when requested by Project Manager.
- D. At least three tests for moisture-density relationships will be performed initially for backfill materials in accordance with ASTM D 698, and for cement- stabilized sand in accordance with ASTM D 558. Perform additional moisture-density relationship tests once a month or whenever there is noticeable change in material gradation or plasticity.
- E. In-place density tests of compacted pipe foundation, embedment and trench zone backfill soil materials will be performed according to ASTM D 1556, or ASTM D 2922 and ASTM D 3017, and at following frequencies and conditions.
 - 1. For open cut construction projects and auger pits: Unless otherwise approved by Project Manager, successful compaction to be measured by

one (1) test per forty (40) linear feet measured along pipe for compacted embedment and two (2) tests per forty (40) linear feet measured along pipe for compacted trench zone backfill material. Length of auger pits to be measured to arrive at forty (40) linear feet.

2. A minimum of three (3) density tests for each full shift of Work.
 3. Density tests will be distributed among placement areas. Placement areas are: foundation, bedding, haunching, backfill and trench zone.
 4. The number of tests will be increased if inspection determines that soil type or moisture content are not uniform or if compacting effort is variable and not considered sufficient to attain uniform density, as specified.
 5. Density tests may be performed at various depths below fill surface by pit excavation. Material in previously placed lifts may therefore be subject to acceptance/rejection.
 6. Two verification tests will be performed adjacent to in-place tests showing density less than acceptance criteria. Placement will be rejected unless both verification tests show acceptable results.
 7. Recompacted placement will be retested at same frequency as first test series, including verification tests.
 8. Identify elevation of test with respect to natural ground or pavement.
- F. Recondition, re-compact, and retest at CONTRACTOR's expense if tests indicate Work does not meet specified compaction requirements. For hardened soil cement with nonconforming density, core and test for compressive strength at CONTRACTOR's expense.
- G. Acceptability of crushed rock compaction will be determined by inspection.

3.13 DISPOSAL OF EXCESS MATERIAL

- A. Dispose of excess materials in accordance with requirements of Section 02 41 00 – Demolition and Reconstruction.

END OF SECTION

SECTION 32 31 00 – FENCES AND GATES

PART 1 -- GENERAL

1.01 THE REQUIREMENT

- A. The CONTRACTOR shall provide metallic and wooden fencing and gates and appurtenant WORK, complete and operable, in accordance with the Contract Documents.

1.02 CONTRACTOR SUBMITTALS

- A. Shop drawings of gates and typical fence corner construction shall be submitted prior to fabrication and construction according to the provisions of Section 01 33 00 – Submittal Procedures.

PART 2 -- PRODUCTS

2.01 GENERAL

- A. Fencing shall be six (6) feet, six (6) inches high as shown on the survey unless otherwise noted or unless other conditions exist in the field, match existing fence height. All metallic fencing materials shall be hot-dip galvanized after fabrication. All materials and components shall be new, first quality items specifically manufactured for the intended application.

2.02 MATERIAL

- A. Wood fence pickets shall be 6-inch, “dog-eared” cedar. The timber shall be sound and free from all decay, shakes, splits or any other defects, which would make it structurally unsuitable for the intended purpose.
- B. Fence fabric shall be No. 9 gauge galvanized steel wire, 2-inch mesh, with top knuckled and bottom twisted and barbed.
- C. Fabric ties shall be No. 9 galvanized steel wire, spaced fourteen (14) inches apart on posts and twenty-four (24) inches apart on rails. Aluminum ties will not be permitted. A continuous No. 7 gage galvanized steel wire shall be interlaced with the fabric or attached to the fabric with clips along the extreme bottom of the fence.
- D. All posts shall be one piece without circumferential welds, and shall be:
 - 1. Line posts shall be 2-inch schedule 40 pipe, 3.65 lb/ft.
 - 2. End and corner posts shall be 2-1/2 inch schedule 40 pipe, 5.79 lb/ft.
 - 3. Gate posts shall be 3-1/2 inch schedule 40 pipe, 9.1 lb/ft.
- E. Wooden fence stringers shall be 2” by 4”, No. 2 pressure-treated southern pine

- F. Stretcher bars shall be one-piece lengths equal to ¼ inch by ¾ inch steel bars and steel
- G. Concrete: Concrete shall have a minimum compressive strength of 3,000 psi at the age of 28 days.
- H. Nuts, bolts and screws shall be steel, minimum size 3/8-inch diameter, hot-dip galvanized after fabrication.
- I. Swing gate frames shall be constructed of 1-1/4 inch schedule 40 pipe (2.27 lb/ft) and shall be fabricated by welding with all welds ground smooth prior to hot-dip galvanizing. Each gate leaf shall be provided with at least one diagonal brace. Frames shall be galvanized after fabrication. Galvanized malleable iron fittings for latching the gate shall be provided. Swing gates shall be hung at least two (2) steel or malleable iron hinges not less than three (3) inches in width. Each pair of gates shall be provided with a heavy drop rod latch assembly with a locking device for padlock.

PART 3 -- EXECUTION

3.01 INSTALLATION

- A. All earth, brush, or other obstructions which interfere with the proper alignment of construction of fences shall be removed and disposed of at the expense of the CONTRACTOR.
- B. Line posts shall be spaced at not more than 4-foot intervals, measured from center to center of the posts, parallel to the ground slope. Posts shall be set plumb and shall be centered in holes, centered in 12-inch diameter concrete encasement extending 36 inches into the ground.
 - 1. Corner posts shall be installed where changes in the fence lines equal or exceed fifteen (15) degrees, measured horizontally.
 - 2. Each post shall be properly aligned vertically and its top aligned parallel to the ground slope. Posts shall be maintained in proper position during placement and finishing operations.
- C. The chain-link fabric and wood fence pickets shall be fastened on the side of the posts.
- D. Any galvanized coating damaged during construction of the fencing shall be repaired by application of moltem Galvo-Weld; Galvinox; or equal.
- E. Concrete
 - 1. Concrete for footings may be placed without forms, providing the ground is firm enough to permit excavation to neat line dimensions. Prior to placing concrete, the earth around the hole shall be thoroughly moistened.

2. Encasement concrete for footings shall be placed immediately after mixing in a manner such that there will be no concentration of the large aggregates. The concrete shall be consolidated by tamping or vibrating.
3. Concrete footings shall have a neat appearance and shall be extended 2-inches above grade and troweled to a crown to shed water.
4. A minimum of seven (7) days shall elapse after placing the concrete footings before the fence is fastened to the posts.

3.02 GROUNDING

- A. Fences crossed by powerlines of six hundred (600) volts or more shall be grounded at or near the point of crossing and at distances not exceeding 150-feet on each side of the crossing.
- B. Fences, gates and appurtenances enclosing electrical equipment areas, gas yards, or other hazardous areas shall be electrically continuous and grounded.
- C. Ground conductor shall consist of No. 8 AWG solid copper wire. Grounding electrodes shall be 3/4-inch by 10-foot long copper-clad steel rod. Electrodes shall be driven into the earth so that the top of the electrode is at least 6-inches below grade.
 1. Where driving is impracticable, electrodes shall be buried a minimum of 12-inches deep and radially from the fence. Top of electrode shall be not less than 2-feet or more than 8-feet from the fence.
- D. Ground conductor shall be clamped to the fence and electrodes with bronze grounding clamps so as to create electrical continuity between fence posts, fence fabric, and ground rods. After installation, the total resistance of fence to ground shall not be greater than 25 ohms.

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 32 92 23 - SEEDING AND SODDING

PART 1 -- GENERAL

1.01 THE REQUIREMENT

- A. The CONTRACTOR shall apply grass seeding or sodding, complete and in place, in accordance with the Contract Documents.

1.02 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

- A. Federal Specifications:

FS O-F-241D Fertilizer, Mixed, Commercial.

- B. Commercial Standards:

ANSI/ASTM D 422 Method for Particle-Size Analysis of Soils.

1.03 CONTRACTOR SUBMITTALS

- A. Furnish submittals in accordance with Section 01 33 00 - Submittal Procedures for approval.

- B. Materials List: A list of all materials to be used in the seeding or sodding operations together with the source of those materials. The list shall include mulches, topsoil, soil amendments, seed, and sod species. Manufacturer's literature showing physical characteristics, applications, and installation instrumentation shall be included.

- C. Schedules: The following work plans, before work is started.

1. Delivery schedule at least ten (10) days prior to the intended date of the first delivery.
2. Seeding or Sodding Operation. A list of equipment to be used in performance of seeding and sodding operation, descriptive data, and calibration tests.

- D. Reports

1. Certified reports of inspections and laboratory tests, prepared by an independent testing agency, including analysis and interpretation of test results. Each report shall be properly identified. Test methods used and compliance with recognized test standards shall be described.
2. Reports for the following materials shall be included.
 - a. Topsoil: For pH, chemical analysis, mechanical-analysis and particle size.
 - b. Fertilizer: For chemical analysis and composition percent.

- c. Seed: Certification of grass seed from seed vendor for each grass-seed monostand or mixture stating the botanical and common name and percentage by weight of each species and variety, and percentage of purity, germination, and weed seed. Include the year of production and date of packaging.
 - d. Sod: For species, mixture percentage, percent purity, field location and state certification.
- E. Certificates: Certificates of compliance that materials meet the indicated requirements prior to the delivery of materials.
- F. Records:
- 1. Plant Establishment Period
 - 2. Maintenance Report
 - 3. Maintenance Instructions

1.04 CLEANUP

- A. Upon completion of all seeding and sodding operations, the portion of the Site used for a work or storage area by the CONTRACTOR shall be cleaned of all debris, superfluous materials, equipment, and garbage.
- B. Walks and pavement shall be swept or washed clean upon completion of the WORK of this Section.

1.05 MAINTENANCE OF LANDSCAPING PLANTING PRIOR TO ACCEPTANCE OF PROJECT

- A. General: The CONTRACTOR shall be responsible for protecting, watering, fertilizing, and maintaining seeded and sodded areas until final acceptance of the WORK.
- B. At time of acceptance, seeded and sodded areas shall be totally established with no bare spots, mowed a minimum of four (4) times, and the grass shall be at least one and a quarter (1.25) to two (2) inches in height.
- C. Upon completion of seeding or sodding, the entire planted area shall be soaked to saturation by a fine spray. The new planting shall be kept watered by the sprinkling system on the Site during dry weather or whenever necessary for proper establishment of the turf. Care shall be taken to avoid excessive washing or puddling on the surface and any such damage caused thereby shall be repaired by the CONTRACTOR.
- D. Protection: The CONTRACTOR shall provide adequate protection to all newly seeded or sodded areas including the installation of approved temporary fences to prevent trespassing and damage until the time of final acceptance.

- E. The CONTRACTOR shall replace any materials or equipment it has damaged or which has been damaged by its employees or subcontractors.
- F. Partial utilization of the project shall not relieve the CONTRACTOR of any of the requirements of this Section.
- G. Mowing of Turf Areas: First mowing of turf areas shall begin as soon as the grass has reached a height of three (3) inches and subsequent mowing shall be at least once a week, or as often as necessary to maintain turf areas at a uniform height of one and a half (1.5) to two (2) inches.
- H. Turf areas shall be fertilized every three (3) weeks with 6 lb of 16-16-8 commercial fertilizer per 1000 sq ft for the first seven (7) weeks and fertilized thereafter once each five (5) months prior to acceptance and during maintenance and correction period.
- I. Maintenance shall include, in addition to the foregoing, cleaning, edging, the repair of erosion, and other maintenance work. Sidewalks and other paved areas shall be kept clean while planting and maintenance are in progress.

1.06 FINAL INSPECTION AND GUARANTEE

- A. Inspection of seeded and sodded areas will be made at final acceptance.
- B. Written notice requesting inspection shall be submitted to the ENGINEER at least ten (10) days prior to the anticipated inspection date.
- C. Any delay in completing the WORK of this Section beyond a single season will be cause for extending the correction of defects period an equal time.
- D. The CONTRACTOR shall, without additional expense to the OWNER, replace seeding or sodding which develops defects or dies during the correction period.
- E. Maintenance and Correction Period shall be twelve (12) months after Final Acceptance.

PART 2 -- PRODUCTS

2.01 GENERAL

- A. Materials for soil conditioning and weed abatement shall be first-grade, commercial quality and shall have certificates indicating the source of material, analysis, quantity, or weight attached to each sack or container or furnished with each delivery. Delivery certificates shall be given to the ENGINEER as each shipment of material is delivered. A list of the materials used, together with typical certificates of each material, shall be submitted to the ENGINEER prior to final acceptance.

2.02 TOPSOIL

- A. Topsoil shall be the existing soil stripped to the depth indicated and stockpiled at a location directed by the ENGINEER.
- B. Additional topsoil, if needed, shall comply with the following:
 - 1. Topsoil shall be obtained from naturally drained areas and shall be fertile, friable loam suitable for plant growth. Topsoil shall be subject to inspection and approval at the source of supply and upon delivery.
 - 2. Topsoil shall be of uniform quality, free from subsoil, stiff or lumpy clay, hard clods, hardpan, rocks, disintegrated debris, plants, roots, seeds, and any other materials that would be toxic or harmful to plant growth. Topsoil shall contain no noxious weeds or noxious weed seeds.
 - 3. Topsoil shall contain at least 6% organic matter as determined by loss of weight after ignition of dried (moisture-free) samples in accordance with current methods of the Association of Official Agricultural Chemists.
 - 4. The acidity range of the topsoil shall be (pH 5.5 to pH 7.5). The salinity level shall be less than 3 millimhos/cm.
 - 5. Clay, as determined by the Bouyoucous hydrometer or by the decantation method, shall not exceed 60% of the topsoil material.
 - 6. Mechanical analysis shall be performed and shall conform to ANSI/ASTM D 422.

2.03 FERTILIZER AND ADDITIVES

- A. Fertilizer shall be furnished in bags or other standard containers with name, weight, and guaranteed analysis of contents clearly marked thereon.
- B. Chemical fertilizers shall be a mixed commercial fertilizer conforming to FS O-F-241D, Type I, with percentages of nitrogen, phosphoric acid, and potash at 5-10-5. The combined N-P-K content shall be the following percentages of total weight: 5% nitrogen, 10% phosphoric acid and 5% potash. Fertilizers shall be uniform in composition, dry, and free flowing.
- C. Animal fertilizer shall be well-rotted cattle manure, free from sawdust, shaving or refuse of any kind, and shall contain not more than 25% straw or litter by volume.
- D. Lime shall be dolomitic limestone containing not less than 85% of total carbonates. Limestone shall be ground to such fineness that 100% will pass a No. 200 sieve.
- E. Agricultural gypsum shall be approved standard brand agricultural calcium sulfate (CaSO_4) as applied to soils and shall contain 19% combined sulfur.

F. For seeded areas, apply the following fertilizer at the specified application rates:

Fertilizer Type	Pounds per Acre
8-8-8	1000
12-12-12	667
13-13-13	615
16-16-16	500

2.04 SEED

A. Grass seed: Fresh, clean, dry, new-crop seed complying with AOSA’s “Journal of Seed Technology, Rules for Testing Seeds” for purity and germination tolerances.

B. Select seed based on the general soil area listed below:

1. Alluvial soils of Mississippi and Red River Bottoms.
2. Mississippi terraces and loess hill soils.
3. Coastal plain soils (rolling, hilly, and flatwoods areas in the central, northern, and eastern parts of the state).
4. Coastal prairie soils.
5. Ouachita River bottom.

C. Seed Species: State-certified seed of grass species, as follows:

Type	Seed Mixtures	Lbs/acre	Soil Area	Planting Dates
A	Hulled Bermuda	30	1, 2, 3, 4, 5	Mar - Sept
B	Kentucky 31 Fescue	25	1, 2, 3, 4, 5	Sept - Feb
	Unhulled Bermuda	20		
C	Ball Clover	25	1, 2, 3, 4, 5	Feb - Mar
	Unhulled Bermuda	20		
D	Vetch (Common)	40	1, 2, 3, 4, 5	Sept - Oct
	Unhulled Bermuda	20		

2.05 SOD GRASS

A. The sod shall be relatively free of thatch, diseases, nematodes, soil-borne insects, weeds or undesirable plants, stones larger than 1-inch in any dimension, woody plant roots and other material detrimental to a healthy stand of turf. Sod that has become dry, moldy, or yellow from heating, or has irregularly shaped pieces of sod and torn or uneven ends shall be rejected.

B. Sod shall be machine cut to a uniform thickness of one and one fourth (1-1/4) inches within a tolerance of 1/4 inch, excluding top growth and thatch. Measurement for thickness shall exclude top growth and thatch.

- C. Sod shall contain at least 85% permanent grass suitable to the climate in which it is to be placed; not more than 25% nursing grass; not more than 10% weed and undesirable grasses, and shall be of good texture, free from obnoxious roots, stones and foreign materials.

PART 3 -- EXECUTION

3.01 GENERAL

- A. Delivery of seed, sodding and fertilizer may begin only after samples and tests have been approved by the ENGINEER. Seed, sodding and fertilizer furnished shall not be different from the approved samples.

3.02 SOIL PREPARATION – SODDING

- A. The sodding shall not begin until the CONTRACTOR has repaired all areas of settlement, erosion, rutting, etc. and the soils have been placed, compacted, and contoured to finish grade. The ENGINEER shall be notified of areas which prevent the planting work from being executed.
- B. After removal of waste materials in the planting areas, such as weeds, roots, rocks 6-inches and larger, construction materials, etc., the subgrade shall be scarified and pulverized to a depth of not less than 6-inches and all surface irregularities removed.
- C. Areas requiring grading by the CONTRACTOR including adjacent transition areas shall be uniformly level or sloping between finish elevations to within 0.10-ft above or below required finish elevations.
- D. Any unusual subsoil condition that will require special treatment shall be reported to the ENGINEER.
- E. Topsoil: Topsoil shall be distributed uniformly and spread evenly to a minimum thickness of 4-inches on subgrade for turf areas. Subgrade shall be ripped or disked to a depth of eight (8) to twelve (12) inches. Topsoil shall be spread so that planting can proceed with little additional soil preparation or tillage. Topsoil shall not be placed when the subgrade is frozen, excessively wet, extremely dry, excessively compacted or in a condition detrimental to the proposed planting or grading.
- F. Fertilizer: Fertilizer shall be applied at the rate of 400 pounds per acre. Fertilizer shall be incorporated into the soil to a minimum depth of 4-inches and may be incorporated as part of the tillage or hydroseeding operation.
- G. Tillage
 - 1. Preparation: Turf areas shall be filled as needed or have surplus soil removed to attain the finished grade. Drainage patterns shall be maintained as indicated on drawings. Turf areas compacted by construction operations shall be completely pulverized by tillage.

2. Turf Area Debris: Lawn areas shall have debris and stones larger than 1-inch in any dimension removed from the surface.
3. Protection: Finished graded areas shall be protected from damage by vehicular or pedestrian traffic and erosion.
4. Finish Grading: Finished grade shall be 1-inch below the adjoining grade of any surfaced area. New surfaces shall be blended to existing. Make minor adjustments of finish grades as directed by the ENGINEER.

3.03 SOIL PREPARATION – SEEDING

- A. Prepare seed beds by disking, harrowing, or other approved methods.
- B. On slopes of 3-horizontal-to-1 vertical and flatter, till the soil to a minimum of 4-inches depth.
- C. On slopes between 3-horizontal-to-1 vertical and 1-horizontal-to-1 vertical, till the soil to a minimum of 2 inches depth by scarifying with heavy rakes or other methods. Use rototillers where soil conditions and length of slope permit.
- D. On slopes 1-horizontal-to-1 vertical and steeper, no soil tillage is required.
- E. Maintain drainage patterns as indicated on the plans. Completely pulverize areas compacted by construction operations by tillage.
- F. Utilize topsoil for repair of surface erosion or grade deficiencies.
- G. Apply the pH adjuster, fertilizer, and soil conditioner during this procedure.
- H. The prepared surface shall be a maximum 1-inch below the adjoining grade of any surfaced area.
- I. Blend new surfaces to existing areas.
- J. Lightly rake the completed surfaces to remove debris.
- K. Protect prepared surface areas from compaction or damage by vehicular or pedestrian traffic and surface erosion.

3.04 SOD PLACEMENT

- A. Areas disturbed by construction shall be sodded as required. Adequate soil moisture shall be ensured prior to sodding by spraying water on the area to be sodded and wetting the soil to a minimum depth of 1-inch.
- B. Placing Sod: Rows of sod shall be placed parallel to and tightly against each other. joints shall be staggered laterally. The sod strips shall not be stretched or overlapped. All joints shall be butted tight. Voids and air drying of roots shall be

prevented.

- C. Finishing: All air pockets shall be eliminated and a true and even surface shall be provided by tamping or rolling the sod in place. Displacement of the sod shall be assured by knitting of sod to the soil. Frayed edges shall be trimmed and holes or missing corners shall be patched in the sod.
- D. Water Sod: Watering shall be started immediately after completing each day of sodding. Water shall be applied at an adequate rate and at sufficient intervals to ensure moist soil conditions to a minimum depth of 1-inch. Run-off and puddling shall be prevented.

3.05 HYDRO-SEEDING

- A. Hydro-seeding consists of mixing and applying seed, commercial fertilizer, lime, polyacrylamide tackifier, and mycorrhizal inoculum with paper or wood fiber and water.
- B. Uniformly spread commercial fertilizer and seed over the area at the rates specified in PART 2 of this specification.
- C. Mix and apply paper or wood fiber with the seed in accordance with the manufacturer's recommendations and as approved by the ENGINEER. Fertilizer and lime may be included in the seeding slurry for application during hydro-seeding operations. All of these materials may be included in a single manufacturer's hydro-seeding system.
- D. Determine the application rate for pellet-inoculated seed by using the seed mass exclusive of inoculant materials.
- E. Mix the materials with water according to the manufacturer's specifications. Mix the materials in a tank with a built-in continuous agitation system with sufficient operating capacity to produce a homogeneous mixture, and with a discharge system that will apply the mixture at a continuous and uniform rate. Provide a tank with a minimum capacity of 962 gallons. ENGINEER may authorize use of equipment of smaller capacity if it is demonstrated that the equipment is capable of performing all operations satisfactorily.
- F. A dispersing agent may be added to the mixture provided evidence is furnished showing that the additive will not affect germination. Do not use any material considered detrimental, as determined by the ENGINEER.
- G. Do not apply any mixture containing polyacrylamide tackifier during rainy weather, or when soil temperatures are below 41°F, or if the wind speed is above 20 miles per hour. Do not permit pedestrian traffic or equipment to enter areas where hydro-seeding has been applied.

END OF SECTION

SECTION 33 14 16 - WATER UTILITY DISTRIBUTION PIPING

PART 1 - GENERAL

1.01 THE REQUIREMENT

- A. Provide the water utility distribution piping systems and all appurtenances indicated, complete and operable, in accordance with the Contract Documents.
- B. The Drawings define the general layout, configuration, routing, method of support, pipe size, and pipe type. The Drawings are not pipe construction or fabrication drawings.
- C. Section Includes:
 - 1. Pipe, fittings, joints and couplings for potable water line.
 - 2. Water service line and appurtenances.
 - 3. Tapping Sleeves and Valves.
 - 4. Valves and Valve Boxes.
 - 5. Fire Hydrants.
 - 6. Flushing Devices.
 - 7. Sampling Stations.
 - 8. Water Meters.
 - 9. Water Meter Boxes.
 - 10. Backflow Preventers.
 - 11. Pipe Restraints/Thrust Blocking.
 - 12. Tracer Wire for Nonmetallic Piping.
 - 13. Pipe Flanges.
 - 14. Pipe Threads.
 - 15. Modular Mechanical Seals for Piping Penetrations.
 - 16. Pressure Pipe Testing and Disinfection.
- D. Where materials will come into contact with potable water, provide materials listed as compliant with NSF 14, 60, and 61 as applicable.

E. Pipe pressure testing requirements:

1. Test and disinfect potable water pipelines and appurtenant piping, in accordance with the Contract Documents.
2. Obtain necessary permits for discharging excess testing and disinfection water and de-chlorination of such water if required to satisfy permit limits.
3. Bacteriological testing will be provided by the Louisiana Department of Health laboratory section.

1.02 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

APWA	American Public Works Association
ASME BPVC	Boiler and Pressure Vessel Code
ASME B1.20.1	Pipe Threads, General Purpose (inch)
ASME B16.5	Pipe Flanges and Flanged Fittings
ASME B16.26	Cast Copper Alloy Fittings for Flared Copper Tubes
ASTM A48/A48M	Standard Specification for Gray Iron Castings
ASTM B61	Standard Specification for Steam or Valve Bronze Castings
ASTM B62	Standard Specification for Composition Bronze or Ounce Metal Castings
ASTM C94/C94M	Standard Specification for Ready-Mixed Concrete
ASTM D2240	Standard Test Method for Rubber Property – Durometer Harness
ASTM D3139	Joints for Plastic Pressure Pipes using Flexible Elastomeric Seals
ASTM F477	Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe
AWS D1.1	Structural Welding – Steel
AWWA B300	Hypochlorites
AWWA B301	Liquid Chlorine

AWWA C104/A21.5	Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water
AWWA C110/A21.10	Ductile-Iron and Gray-Iron Fittings 3-in Through 48-in for Water and Other Liquids
AWWA C111/A21.11	Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings
AWWA C153	Ductile-Iron Compact Fittings
AWWA C207	Standard for Steel Pipe Flanges for Waterworks Service, Sizes 4 in through 144 in
AWWA C502	Dry-Barrel Fire Hydrants
AWWA C503	Wet-Barrel Fire Hydrants
AWWA C509	Resilient-Seated Gate Valves for Water Supply Service
AWWA C511	Reduced-Pressure Principle Backflow Prevention Assembly
AWWA C550	Protective Interior Coatings for Valves and Hydrants
AWWA C600	Installation of Ductile-Iron Water Mains and Appurtenances
ANSI/AWWA C651	Standard for Disinfecting Water Mains
AWWA C708	Cold-Water Meters – Multijet Type
AWWA C715	Cold-Water Meters – Electromagnetic and Ultrasonic Type for Revenue Applications
AWWA C800	Underground Service Line Valves and Fittings
AWWA C900	Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings 4-in Through 60-in
AWWA C901	Polyethylene (PE) Pressure Pipe and Tubing, 3/4-in Through 3-in for Water Service
AWWA M23	Manual: PVC Pipe - Design and Installation
NFPA 291	Recommended Practice for Water Flow Testing and Marking of Hydrants
NSF 14	Plastics Piping System Components and Related Materials
NSF 60	Drinking Water Treatment Chemicals - Health Effects
NSF 61	Drinking Water System Components – Health Effects

1.03 DEFINITIONS

- A. Water Main: Water main includes water piping having diameters 4 through 14-inch, specific materials, methods of joining and any appurtenances deemed necessary for a satisfactory system.
- B. Water Service Line (Public): Water service lines include water piping from a water main up to and including the water meter.
- C. Water Service Line (Private): The private portion of the water service line starts at the connection to the water meter and extends to the connection to the structure at which water is utilized.

1.04 CONTRACTOR SUBMITTALS

- A. Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- B. Shop Drawings: Indicate piping layout, including piping specialties.
- C. Product Data: Submit data on pipe materials, pipe fittings, valves, hydrants, and accessories.
- D. Manufacturer's Certificate: Certify products meet or exceed specified requirements.
- E. Service Connection Addresses: Updated with Status as of the time of construction.
- F. Notice Letter: Submit Notice Letter updated for each facility.
- G. Plumber's License: Submit State Plumbing Board of Louisiana Master Plumber License.
- H. Pipe Pressure Testing Plan and Schedule: Submit pipe pressure testing plan and schedule, including method for water conveyance, control, disposal, and disinfection.
- I. Project Record Documents: Record actual location of piping mains, valves, tracer wire, connections, thrust restraints, and invert elevations.
- J. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.
- K. Perform and pay for sampling and testing as necessary for the certifications.

1.05 QUALITY ASSURANCE

- A. Tests: Except as modified herein, require materials used in the manufacture of the pipe to be tested in accordance with the requirements of the referenced standards as applicable.
- B. Require the pipe supplier to conduct material tests as part of the WORK. The ENGINEER will have the right to witness testing conducted by the CONTRACTOR; provided, that the

CONTRACTOR's schedule is not delayed for the convenience of the ENGINEER.

- C. In addition to those tests specifically required, the ENGINEER may request additional samples of any material including lining and coating samples for testing by the OWNER. Furnish the additional samples as a part of the WORK.
- D. Inspection: Require the supplier to make pipe available to inspection at the place of manufacture in accordance with the provisions of the referenced standards, as supplemented by the requirements herein. Notify the ENGINEER in writing of the manufacturing starting date not less than fourteen (14) days prior to the start of any phase of the pipe manufacture.
- E. During the manufacture of the pipe, require the supplier give the ENGINEER access to areas where manufacturing is in process and permit the ENGINEER to make inspections necessary to confirm compliance with the Specifications.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 25 00 – Products, Materials, Equipment, and Substitutions: Requirements for transporting, handling, storing, and protecting products.
- B. Deliver piping materials, fittings, valves, and accessories in a clean and undamaged condition and stored off the ground for protection against oxidation caused by ground contact. Replace defective or damaged materials with new materials.
- C. Deliver and store valves in shipping containers with manufacturer's name and pressure rating labeling in place.
- D. Block individual and stockpiled pipe lengths to prevent moving.
- E. Do not place pipe or pipe materials on private property or in areas obstructing pedestrian or vehicular traffic.
- F. Store polyethylene materials out of sunlight.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Extent of Work: All materials are intended for potable water use unless otherwise indicated. Comply with NSF/ANSI 61 for all potable water pipe, fittings, and other applicable materials. Provide pipe, fitting and other applicable materials bearing NSF/ANSI 61 markings for potable water service.
- B. Notice Letter: For each end user of potable water, as defined as those facilities for which a water meter is being installed as a part of the WORK, CONTRACTOR shall issue a Notice Letter and/or door hanger within thirty (30) calendar days from Notice to Proceed. The exact verbiage for the letter/door hanger will be provided to the CONTRACTOR by the OWNER at a later date.

- C. Coating: Provide application, thickness, and curing of coating on buried pipe in accordance with the applicable sections, unless otherwise indicated. Coat pipes above ground or in structures in accordance with Section 09 90 00 – Painting and Coating.
- D. Inspection: Inspect pipe at the place of manufacture. During the manufacture, allow the ENGINEER access to areas where manufacturing is in progress and permit inspections necessary to confirm compliance with requirements.
- E. Tests: Except where otherwise indicated, test the materials used in the manufacture of the pipe in accordance with the applicable specifications and standards. Take responsibility for performing material tests.
- F. Plumber Requirements: Ensure the qualifications of plumber. Plumber shall be licensed as a Master Plumber by the State Plumbing Board of Louisiana. Master Plumber shall be hired by CONTRACTOR to perform work from the Water Meter to the connection point. Work shall be performed in accordance with Louisiana Plumbing Code. Submit Master Plumber's license for the ENGINEER's review.
- G. Welding Requirements: Ensure the qualification of welding procedures used to fabricate pipe are in accordance with the provisions of AWS D1.1 - Structural Welding – Steel Code. Submit welding procedures for the ENGINEER's review.
- H. Welder Qualifications: Provide welding by skilled welders and welding operators who have adequate experience in the methods and materials to be used. Ensure qualified welders under the provisions of AWS D1.1 or the ASME Boiler and Pressure Vessel Code, Section 9, by an independent local, approved testing agency not more than 6 months prior to commencing WORK on the piping. Use machines and electrodes similar to those used in the WORK in qualification tests. Qualification testing of welders and materials used during testing is part of the WORK.

2.02 PIPE, FITTINGS, JOINTS, AND COUPLINGS

- A. Polyvinyl Chloride (PVC) Pipe: AWWA C900, marked with NSF 61 designation for potable water use.
 - 1. Pipe Class: DR 18, 235 PSI.
 - 2. Gaskets: Provide synthetic rubber gaskets for potable water service that are certified as suitable at pipe pressure and for chlorinated and chloraminated potable water. Provide a certificate of gasket suitability. Furnish gaskets as submitted by the manufacturer. Natural rubber will not be acceptable.
 - 3. Fittings: Ductile Iron, Mechanical Joint, AWWA C110/C153. Epoxy coated inside and outside. Factory test pressure of rated working pressure plus 100 PSI or 1.5 times rated working pressure, whichever is greater.
 - 4. Joints:
 - a. PVC: ASTM D3139 with ASTM F477 flexible elastomeric seals. Connections

between pipe lengths shall be of an integrated “bell and spigot” push-on design with a rubber gasket seal. Rubber seal shall conform to AWWA C111. Joint restraints for PVC pipe bell joints shall be restrained with a series 1900 Serrated Restraint Harness manufactured by EBBA, Inc. or an approved equal.

- b. Ductile Iron, Mechanical Joint, AWWA C111. Connections to fittings shall be restrained with a 2000PV or 2000SV Mega-Lug mechanical joint thrust restraint manufactured by EBBA, Inc. or an approved equal. The nuts and bolts shall be Teflon coated cor-ten fasteners.

2.03 WATER SERVICE LINE AND APPURTENANCES

- A. Water service connections shall have brass tapping saddle, brass corporation stop, and a minimum 1-inch connection size. Service connection piping shall be AWWA C901 Polyethylene tubing, PE 3408 DR9. Water service connection shall have maximum cover of 2-feet. A U-Branch shall be installed on water service connection whip. Brass fittings shall be lead free. Brass fittings shall be Mueller, Ford Meter Box Company or Approved Equal.
- B. Corporation Stops: Ground key type; lead-free bronze, ASTM B61 or ASTM B62; compatible with the working pressure of the system and solder-joint, or flared tube compression type joint. Threaded ends for inlet and outlet of corporation stops, AWWA C800; coupling nut for connection to flared copper tubing, ASME B16.26.
- C. Curb or Service Stops: Ground key, round way, inverted key type; made of lead-free bronze, ASTM B61 or ASTM B62; and compatible with the working pressure of the system. Provide compatible ends for connection to the service piping. Cast an arrow into body of the curb or service stop indicating direction of flow.

2.04 TAPPING SLEEVE AND VALVES

- A. Connections to existing waterlines shall be made using tapping sleeve and valve.
- B. Manufacturers:
 - 1. Mueller Stainless Steel Tapping Sleeve and Valve, Model No. H-304 SS.
 - 2. Substitutions: Equal per Section 01 33 00 – Submittal Procedures.

2.05 VALVES AND VALVE BOXES

- A. Resilient Seated Gate Valves: Provide AWWA C509 resilient seated gate valves and appurtenances, complete and operable, where indicated.
 - 1. Resilient seat.
 - 2. Stem: Non-rising bronze stem.
 - 3. Operating Nut: Square; open counterclockwise unless otherwise indicated.

4. Ends: Restrained joint with Megalug and Teflon coated core-ten bolts and nuts.
 5. Coating: AWWA C550; interior/exterior.
 6. Sizes 12-inch Diameter and Smaller: 200 psig.
 7. Sizes 16-inch Diameter and Larger: 150 psig.
 8. Manufacturers:
 - a. Mueller Series 2360
 - b. Substitutions: Equal per Section 01 33 00 – Submittal Procedures.
 9. Provide buried valves of the inside screw, non-rising stem type. Provide valve actuators as indicated, with counter-clockwise opening stems, in accordance with the Drawings and manufacturers' recommendations.
 10. Actuators: Unless otherwise indicated, provide all resilient-seated gate valves with manual actuators in accordance with the Drawings and manufacturers' recommendations.
- B. Valve Boxes: Provide a valve box for each gate valve on buried piping. Construct adjustable valve boxes manufactured from cast iron of a size compatible for the valve on which it is used. Provide cast iron valve boxes with a minimum cover and wall thickness of 3/16-inch and conforming to ASTM A48/A48M, Class 35B. Coat the cast-iron box with a heavy coat of bituminous paint. Cast the word "WATER" on the lid that has diamond thread pattern. The minimum diameter of the shaft of the box is 5 ¼ inches.
- C. Valve Keys: Provide one valve key for every ten (10) valves installed. Valve keys shall be of adequate length to reach the valve at the installed depth.

2.06 FIRE HYDRANTS

- A. Provide AWWA C502 and/or AWWA C503 fire hydrants where indicated.
- B. Manufacturers:
 1. Mueller Super Centurion 250 HS with built-in Check Valve
 2. Substitutions: Equal per Section 01 33 00 – Submittal Procedures.
- C. Fire hydrants shall have 6-inch inlet, one 5 ½-inch pumper connection outlet, and two 2 ½-inch hose connection outlets. All outlets shall have National Standard threads.
- D. Fire hydrants shall have a 6-inch diameter ductile iron lead with 6-inch gate valve for isolation from the water main.

- E. Fire hydrants shall have a minimum of twenty-four (24) inches of clearance between finished grade and the bottom of the 2 ½-inch outlet. If the fire hydrant becomes buried or the clearance is less than the required twenty-four (24) inches, CONTRACTOR shall raise the fire hydrant to achieve the minimum required clearance.
- F. Location of each fire hydrant shall be marked with a blue reflector on the roadway pavement. Blue reflector shall be placed in the center of the travel lane closest to the fire hydrant.
- G. Fire hydrants shall be located at least six (6) feet, or greater by regulatory requirement, from the edge of roadway pavement.
- H. Fire hydrant spacing shall be as shown in Drawings with maximum spacing of 500 feet.
- I. Paint: Fire hydrants shall be painted chrome yellow upon installation. After fire flow testing, CONTRACTOR shall paint the top and three outlet caps of each fire hydrant in accordance with NFPA Color Coding System to classify each hydrant by fire flow.
 - 1. Red: To be used on all fire hydrants with fire flow less than 500 gallons per minute.
 - 2. Orange: To be used on all fire hydrants with fire flow between 500 and 1,000 gallons per minute.
 - 3. Green: To be used on all fire hydrants with fire flow between 1,000 and 1,500 gallons per minute.
 - 4. Blue: To be used on all fire hydrants with fire flow greater than 1,500 gallons per minute.
- J. A minimum of three (3) fire hydrants in each development/neighborhood shall be tested to verify actual fire flow and to classify the fire hydrants by observed flow rates. The number and selection of hydrants shall be determined by the local Fire Protection District. A representative of the OWNER and Fire Protection District shall be present to observe fire flow testing and results. Fire hydrant testing shall be performed in accordance with NFPA 291.

2.07 FLUSHING DEVICES

- A. Provide automatic water distribution flushing equipment where indicated.
- B. Manufacturers:
 - 1. Mueller Hydro-Guard Automatic Flushing 200 Series Warm Climate with Air Gap Standard (KR-BL) Directed Discharge Device.
 - 2. Substitutions: Equal per Section 01 33 00 – Submittal Procedures.
- C. Flush hydrant shall be connected to a water distribution line as required by the Drawings or standard installation detail. The self-contained device shall be designed for automatic

flushing of the water distribution line through the opening of a control valve that is an integral part of the device.

- D. Flush hydrant shall be capable of being programmed to activate up to 24 times daily on the days desired at a minimum of one (1) minute to six (6) hour increments (on a continually rotating 7-day cycle or on an interval between every 1 to 30 days).
- E. All programming shall be accomplished by means of an integrated programmer module that is powered by a single 9-volt alkaline battery and a Bluetooth equipped smart phone.
- F. The Bluetooth controlled programmer must be capable of receiving management data transmissions from up to 25 feet, line of sight.
 - 1. The Bluetooth controller must be capable of being programmed up to 24 times per day and offer flush durations of one minute to 24 hours per event.
 - 2. The Bluetooth controller must be capable of providing up to 5,000 separate on/off functions over the life of a single 9-volt alkaline battery.
 - 3. The Bluetooth controller must be capable of being programmed by a standard Android or iOS smart phone and the K-Rain and password protected App must be capable of transmitting programming instructions by way of an inferred connection to a corresponding inferred antenna on the integrated programming module housed inside of the flushing device.
- G. The automatic flushing device shall be a single device consisting of the major components: Integral Piping and Control Valve, Housing, and Backflow Prevention.
- H. Integral Piping and Control Valve – The piping and control valve components shall include the following:
 - 1. Device must be certified by Underwriters Laboratories (UL) as meeting or exceeding the criteria of NSF-372.
 - 2. The device's internal control valve shall be capable of being activated by a single 9-volt alkaline battery-controlled programming interface that is managed by a Bluetooth controller.
 - 3. The control valve shall be a globe valve type design capable of passing sand and other debris up to 5/8" in diameter without obstructing the valve's throat.
 - 4. The device's standard internal piping shall be low lead brass.
 - 5. The device's internal piping and control valve shall have an operational rating of 200 psi.
 - 6. Internal piping and control valve shall be capable of being removed from the housing by means of a threaded coupling allowing for ease of disconnect, thus permitting easy maintenance and repairs.

7. The control valve shall be constructed of a non-corrosive glass-reinforced nylon, or equal, and shall be fitted with stainless-steel hardware. The valve shall be of the type that can be easily rebuilt.
 8. The valve shall include a single piece EPDM diaphragm.
 9. The valve must be actuated by a 9-volt latching solenoid. Solenoid must be pressure rated between 0-10 bar (0 to 145.037738 psi). Wetted parts must be stainless-steel 400 or Polyamide. Leads must be 0.32 mm² x 80 cm².
 10. The device shall be supplied with a standard 2-inch male NPT water supply connection.
 11. Two (2) inch water service to flushing device shall be incidental to flushing device. Water service piping shall be HDPE DR-9 or as specified herein.
- I. Housing:
1. The components shall be protected from the environment and vandalism by a HDPE or other non-corrosive, high quality polyethylene material.
 2. The enclosure must feature a below graded base with a minimum of a nine (9) inch bury depth. The below grade base must provide stability and anti-buoyancy capabilities.
 3. The above ground housing must be vented.
 4. The device's above-grade housing shall be constructed of a non-corrosive maintenance-free material and shall be permanently colored light green to blend with typical residential and commercial environments unless otherwise specified by the OWNER. The material shall be specifically designed for direct exposure to the sun and weather and have a minimum life expectancy of 15 years.
 5. All mounting brackets and hardware shall be stainless-steel, anodized aluminum, or marine grade plastic.
 6. Above ground housing must be insulated with a sheet insulation that has an R-rating of at least R-16. The insulation must be constructed of two 94%, or greater, reflective layers of film bonded to two internal layers of heavy gauge polyethylene bubbles offering a total thickness 5/16-inch of protection.
 7. The discharged water shall be directed downward, through a flow concentration nozzle, by way of an air gap (minimum of 3-inches of separation). Piped to adjacent drainage discharge point. Minimum drain line size shall be six (6) inch PVC. Minimum slope of the drain line shall be 1" of fall per 100' of run.

J. Backflow Prevention:

1. Device shall be equipped with an Air Gap.
2. Backflow Preventer shall be installed between the Automatic Flushing Station and the water main. Backflow Preventer shall meet the specifications herein.

K. System Sampling –The sampling system shall include the following features:

1. The sampling system shall be constructed of a removable sample valve that is capable of being utilized to capture samples at multiple devices of similar design. The sample assembly must be comprised of a female quick connect that shall mate with the male quick connect fitting to be included as a permanent feature on the flushing device. The sample assembly shall also be comprised of a valve constructed of no-lead brass or stainless steel. The sampling spout shall be constructed from 304 stainless steel material with equal or greater resistance to bacterial regrowth.
2. The sampling system shall be designed in such a way to reduce the potential for contamination of the sampling system by allowing access and inspection of the internal piping compartment and components without disassembly or depressurization of the sampling system.
3. The sampling system shall draw water for water quality sampling from the inlet side of the two-inch (2") adjustable control valve and be tapped into the service piping of the device no more than twenty-four inches (24") from the utility's service connection to the device. This positioning is essential to allow for a sample to be an accurate representation of the utility's water quality at the point of entry into the flushing device.
4. Connection to the device's sampling system shall be by means of a quick disconnect. The device's sampling connection shall be housed in a secure weather-tight area to minimize contamination of the sampling connection.
5. The sampling connection itself shall be provided with a protective sanitary cover.

L. Electrical/Electronic System – The Electrical/Electronic System shall include the following features and capabilities:

1. All programming shall be accomplished by means of a Bluetooth controlled, integrated programming module that is powered by a single 9-volt alkaline battery. The integrated programming interface shall be managed by a free K-Rain KRBL V2 app than can be added to most iOS or Android phones. Flush durations can range from one (1) minute to six (6) hours per programmed flush event.
2. The device manufacturer shall also offer a Built-in NODE programmer to flush a water line multiple times a day, up to seven days a week, with flush durations from one (1) minute to six (6) hours. The Bluetooth and NODE controllers shall be interchangeable with minimal effort.

3. Controller shall be leap-year compatible, automatically accounting for February 29th every four years.
4. Bluetooth controller must offer an optional web-based mapping feature that is capable of showing the device location.
5. No onsite programming functions shall be possible without the utilization of either the app-based Bluetooth controller or the built-in NODE controller, thus providing an added level security against unauthorized program changes.
6. Offer manual on and off functions.
7. Be secured and water-resistant.
8. Offer a percentage increase/decrease option that will allow the operator to make monthly adjustments by increasing or decreasing the flush durations by a percentage without the need to reset flush duration times.
9. Use an integrated 9-volt or greater latching solenoid to operate the control valve.

M. Winterization:

1. Device shall be constructed with a mechanical thermal control valve that will sense water temperatures and activate only when the water temperature is determined to be less than 40° Fahrenheit.
2. The mechanical thermal control valve must be a barrel style valve constructed of stainless-steel and capable of flowing water when the water temperature ranges between 40° and 35° Fahrenheit.
3. The mechanical thermal control valve must be capable of protecting the flushing device from damage caused by occasional freezing temperatures by allowing warmer subterranean water to flow through the device when water temperatures at the installation point approach 40° Fahrenheit.

N. Dechlorination system shall not be required.

O. Maintenance and Security of Device:

1. Disassembly and reassembly of the devices must be accomplished by way of a unique TD-style driver.
2. Where the Bluetooth controller is specified, no programming functionality (i.e., buttons, knobs, dials, LCD, or LED screens, etc.) shall be present on the flushing device that could enable an unauthorized user or vandal to adversely impact the function of the device, hinder the performance of the water distribution system, cause harm, or negatively impact the water supply.

2.08 SAMPLING STATIONS

- A. Provide sampling stations where indicated.
- B. Manufacturers:
 - 1. Eclipse #88-SS Stainless Steel Sampling Station as manufactured by The Kupferle Foundry.
 - 2. Substitutions: Equal per Section 01 33 00 – Submittal Procedures.
- C. Sampling station shall be stainless steel with a three (3) foot depth of bury.

2.09 WATER METERS

- A. Provide AWWA C708 and/or AWWA C715 water meters where indicated.
- B. Manufacturers:
 - 1. Less than 1.5-inch: Master Meter Bottom Load Multi-Jet Meter.
 - 2. 1.5-inch to 12-inch: Master Meter Octave Ultrasonic Meter.
 - 3. Substitutions: Equal per Section 01 33 00 – Submittal Procedures.

2.10 WATER METER BOXES

- A. Provide meter boxes of sufficient size to completely enclose the meter and service stop and in accordance with the details shown on the Drawings. Provide a meter box with a height equal to the distance from invert of the service line to finish grade at the meter location.
- B. Manufacturers:
 - 1. Single Meter Box (for one 5/8"x3/4" meter): Ford Meter Box Company, Inc. Yokebox YM141-2xx-P-NL Style.
 - 2. Duplex Meter Box (for two 5/8"x3/4" meters): Ford Meter Box Company, Inc. Double Gulfbox DG118-243-NL Style.
 - 3. Quad Meter Box (for four 5/8"x3/4" meters), Concrete, H20 Loading, Minimum interior dimension of two (2) feet by three (3) feet: Gainey's Concrete Products, Inc. Frame and cover shall be Model V5665 and Model V6665 by EJ Group.
 - 4. Single Meter Box (for one 2" meter): Ford Meter Box Company, Inc. Protector Meter Box FPMB-7 Style.
 - 5. Single Meter Box (for one 4" meter): Concrete, H20 Loading, Minimum interior dimension of two (2) feet by three (3) feet: Gainey's Concrete Products, Inc. Frame and cover shall be Model V5665 and Model V6665 by EJ Group.

6. Substitutions: Equal per Section 01 33 00 – Submittal Procedures.

C. Meter Box Cover: Provide a lid with plugged precast holes for remote electronic meter reading modules. Lid shall have the word "WATER" cast on the top surface.

2.11 BACKFLOW PREVENTERS

A. Provide a bronze or cast iron AWWA C511 reduced pressure principle type backflow preventer.

B. Manufacturers:

1. Size ¼ to 2 inches: Watts Series 009 Reduced Pressure Zone Assembly Backflow Preventer.

2. Size 2 ½ to 10 inches: Watts Series 909 Large Reduced Pressure Zone Assembly Backflow Preventer.

3. Substitutions: Equal per Section 01 33 00 – Submittal Procedures.

C. Backflow preventer shall be included in the latest edition of the List of Approved Backflow Prevention Assemblies issued by the FCCCHR List and be accompanied by a backflow certificate of full approval from FCCCHR List.

2.12 PIPE RESTRAINTS / THRUST BLOCKING

A. Thrust Blocks: Use ASTM C94/C94M concrete having a minimum compressive strength of 2,500 psi at twenty-eight (28) days or provide precast concrete thrust blocks of the same strength.

2.13 TRACER WIRE FOR NONMETALLIC PIPING

A. Provide trace wire for all buried pipe and pipe installed by horizontal directional drill.

B. All trace wire and trace wire products shall be domestically manufactured in the U.S.A.

C. All trace wire shall have HDPE insulation intended for direct bury, color coated per APWA standard for the specific utility being marked.

D. Wire:

1. Trace wire shall be #12 AWG Copper Clad Steel, High Strength with minimum 450 lb. break load, with minimum 30 mil HDPE insulation thickness.

2. Directional Drilling/Boring - Trace wire shall be #12 AWG Copper Clad Steel, Extra High Strength with minimum 1,150 lb. break load, with minimum 30 mil HDPE insulation thickness.

3. Trace wire – Pipe Bursting/Slip Lining - Trace wire shall be 7 x 7 Stranded Copper Clad Steel, Extreme Strength with 4,700 lb. break load, with minimum 50 mil HDPE insulation thickness.
 - E. All trace wires must be interconnected in intersections, at mainline tees and mainline crosses. At tees, the three wires shall be joined using a single 3-way lockable connector. At Crosses, the four wires shall be joined using a 4-way connector. Use of two 3-way connectors with a short jumper wire between them is an acceptable alternative.
 - F. Direct bury wire connectors – shall include 3-way lockable connectors and mainline to lateral lug connectors specifically manufactured for use in underground trace wire installation. Connectors shall be dielectric silicon filled to seal out moisture and corrosion, and shall be installed in a manner so as to prevent any uninsulated wire exposure.
 - G. Non locking friction fit, twist on or taped connectors are prohibited.
 - H. All trace wire termination points must utilize an approved trace wire access box (above ground access box or grade level/in-ground access box as applicable), specifically manufactured for this purpose.
 - I. All grade level/in-ground access boxes shall be appropriately identified with “sewer” or “water” cast into the cap and be color coded.
 - J. A minimum of 2-ft of excess/slack wire is required in all trace wire access boxes after meeting final elevation.
 - K. All trace wire access boxes must include a manually interruptible conductive/connective link between the terminal(s) for the trace wire connection and the terminal for the grounding anode wire connection.
 - L. Grounding anode wire shall be connected to the identified (or bottom) terminal on all access boxes.
 - M. Service Laterals on public property - Trace wire must terminate at an approved grade level/in- ground trace wire access box, located at the edge of the road right-of-way, and out of the roadway.
 - N. Service Laterals on private property - Trace wire must terminate at an approved above-ground trace wire access box, affixed to the building exterior directly above where the utility enters the building, at an elevation not greater than five (5) vertical feet above finished grade, or terminate at an approved grade level/in- ground trace wire access box, located within two (2) linear feet of the building being served by the utility.
 - O. Hydrants – Trace wire must terminate at an approved above-ground trace wire access box, properly affixed to the hydrant grade flange. (affixing with tape or plastic ties shall not be acceptable).
 - P. Long-runs, in excess of five hundred (500) linear feet without service laterals or hydrants - Trace wire access must be provided utilizing an approved grade level/in-ground trace

wire access box, located at the edge of the road right-of-way, and out of the roadway. The grade level/in-ground trace wire access box shall be delineated using a minimum 48" polyethylene marker post, color coded per APWA standard for the specific utility being marked.

- Q. Trace wire must be properly grounded at all dead ends/stubs.
- R. Grounding of trace wire shall be achieved by use of a drive-in magnesium grounding anode rod with a minimum of 20-ft of #12 red HDPE insulated copper clad steel wire connected to anode (minimum 1.5 lb.) specifically manufactured for this purpose, and buried at the same elevation as the utility.
- S. When grounding the trace wire at dead ends/stubs, the grounding anode shall be installed in a direction 180 degrees opposite of the trace wire, at the maximum possible distance.
- T. When grounding the trace wire in areas where the trace wire is continuous and neither the mainline trace wire or the grounding anode wire will be terminated at/above grade, install grounding anode directly beneath and in-line with the trace wire. Do not coil excess wire from grounding anode. In this installation method, the grounding anode wire shall be trimmed to an appropriate length before connecting to trace wire with a mainline to lateral lug connector.
- U. Where the anode wire will be connected to a trace wire access box, a minimum of 2-ft of excess/slack wire is required after meeting final elevation.

2.14 PIPE FLANGES

- A. General: Provide flanges with flat faces that attach with bolt holes straddling the vertical axis of the pipe unless otherwise indicated. Attach the flanges to the pipe in conformance to the applicable requirements of AWWA C207. Ensure flange faces be perpendicular to the axis of the adjoining pipe. Provide flanges for miscellaneous small diameter pipes in accordance with the standards indicated for these pipes.
- B. Pressure Ratings.
 - 1. 150 psi or less: Conform flanges to either AWWA C207 - Steel Pipe Flanges for Waterworks Service--Sizes 4 In. Through 144 In., Class D, or ASME B16.5 - Pipe Flanges and Flanged Fittings, 150 lb class.
 - 2. 150 psi to 275 psi: Conform flanges to either AWWA C207 Class E or Class F, or ASME B16.5 150 lb class.
 - 3. 275 psi to 700 psi: Conform flanges to ASME B16.5, 300 lb class.
 - 4. Selection based on test pressure: Do not expose AWWA flanges to test pressures greater than 125 percent of rated capacity. For higher test pressures, select the next higher rated AWWA flange or an ANSI-rated flange.

- C. Blind Flanges: Provide blind flanges in accordance with AWWA C207, or as indicated for miscellaneous small pipes. For blind flanges for pipe sizes 12-inches and greater, provide lifting eyes in the form of welded or screwed eye bolts.
- D. Flange Coating: Coat machined faces of metal blind flanges and pipe flanges with a temporary rust-inhibitive coating to protect the metal until the installation is completed.
- E. Flange Bolts: Provide bolts and nuts which conform to Section 05 50 13 - Miscellaneous Metal Fabrications. Utilize all-thread studs on valve flange connections where space restrictions preclude the use of regular bolts.
- F. Insulating Flanges: Provide insulated flanges with bolt holes 1/4-inch diameter greater than the bolt diameter.
- G. Flange Gaskets.
 1. Utilize full-faced type gaskets for flanged joints used in general water and wastewater service with material and thickness in accordance with AWWA C207, suitable for temperatures to 700° F, a pH of 1 to 11, and pressures to 1000 psig. Provide blind flanges with cemented gaskets which cover the entire inside face of the blind flange. Do not use ring gaskets unless otherwise indicated. Provide flange gaskets as manufactured by John Crane, Style 2160, Garlock, Style 3000, or equal.
 2. For flanged joints used in water with chloramines, provide gaskets of Gylon, Style 3500 as manufactured by Garlock, by Crane, or equal.
 3. Provide gaskets for flanges for PVC and CPVC piping used in general water and wastewater service that are full faced, 1/8-inch thick, made of ethylene propylene rubber (EPR) having a Type A durometer hardness of 50 to 70 when tested in accordance with ASTM D2240. When the mating flange has a raised face, provide a flat ring gasket filler between the PVC flange and gasket and the adjacent flange.
 4. Provide gaskets for flanged joints used in chemicals, air, solvents, hydrocarbons, steam, chlorine and other fluids made of materials compatible with the service, pressure, and temperature.

2.15 PIPE THREADS

- A. Furnish pipe threads in accordance with ASME B1.20.1 - Pipe Threads, General Purpose (inch), and be made up with Teflon tape unless otherwise indicated.

2.16 MODULAR MECHANICAL SEALS FOR PIPING PENETRATIONS

- A. Where indicated and where required to prevent flow of water or air, seal the passages of piping through wall sleeves and cored openings with modular interlocking link mechanical closures. Construct individual links of EPDM rubber, be suitable for temperatures between -40° and +250° F, and be shaped to fill the annular space between the outside of the pipe and the inside of the wall sleeve or cored opening. Assemble links with type 316 stainless steel bolts and nuts to form a continuous rubber belt around the pipe.

Fabricate pressure plates under each bolt and nut in a corrosion-resistant composite material. After the seal assembly is positioned in the sleeve, tighten the bolts against the pressure plates to expand the rubber links and form the watertight seal. Furnish sizing and installation of sleeves and assemblies in accordance with the manufacturer's recommendations.

B. Manufacturers:

1. Thunderline Corporation, Link-Seal.
2. Substitutions: Equal per Section 01 33 00 – Submittal Procedures.

2.17 PRESSURE PIPE TESTING AND DISINFECTION

- A. Determine the required test equipment, temporary valves, bulkheads, and other water control equipment. No materials may be used which would be detrimental to the WORK for future conveyance of potable water.
- B. Chlorinating materials are to conform to: Chlorine, Liquid: AWWA B301; Hypochlorite, Calcium and Sodium: AWWA B300.
- C. De-chlorination agents may be sodium bisulfate, sodium sulfite, or sodium thiosulfate.

PART 3 - EXECUTION

3.01 GENERAL

- A. Install piping, fittings, valves, and appurtenances in accordance with the applicable reference standard, manufacturer's instructions, and as indicated herein.
- B. Install proprietary manufactured couplings in accordance with the coupling manufacturer's recommendation.

3.02 EXCAVATION

- A. Excavate pipe trench in accordance with Section 31 23 00 – Excavation and Backfill for Utilities for Work of this Section. Hand trim excavation for accurate placement of pipe to elevations required.
- B. Dewater excavations to maintain dry conditions and preserve final grades at bottom of excavation.
- C. Provide sheeting and shoring as required.
- D. Place bedding material at trench bottom, level fill materials in one continuous layer not exceeding 8-inches in compacted depth; compact to 95%.

3.03 INSTALLATION - PIPE

- A. Install water distribution pipelines at the lines and grades required by the Contract Documents. Place all fittings at the required locations and the spigots well centered in the bells and fully engaged as evidenced by pipe witness marks.
- B. Begin pipe laying at downstream end of line. Face bell ends of pipe upstream. Provide bell holes at each joint to permit the joint to be constructed properly and supported along its full length of the pipe by the trench bedding. Allowing the pipe to be "bridged" by the bell is not acceptable.
- C. Do not advance pipe laying backfilling by more than 100-ft without approval by the ENGINEER.
- D. At times when pipe laying is not in progress, close the open ends of pipe by a watertight plug of other approved means. Apply this provision during lunch as well as overnight. If water is in the trench, leave the plug in place until the trench is pumped completely dry.
- E. In all cases walking or working on the completed pipelines, except as may be necessary in tamping or backfilling will not be permitted until the trench has been backfilled to a point one foot above the top of the pipe. The backfilling of the trench and tamping of the backfill can be done simultaneously on both sides of the pipe to ensure the completed pipeline will not be disturbed and injurious side pressures do not occur.
- F. Unless otherwise indicated by the Contract Documents, ensure all water distribution pipelines have at least thirty-six (36) inches of cover. Obtain approval from the ENGINEER for any exceptions.
- G. Provide and use tools and facilities that are satisfactory and will allow the Work to be done in a safe and convenient manner. Use suitable equipment to lower all pipe and fittings into the trench one piece at a time. Carefully lower each piece so that neither it nor any protective coating or lining it may have will be damaged. Under no circumstances can distribution pipeline materials be dumped or dropped.
- H. Do not lower pipes and fittings into the trench until they have been swabbed to remove any mud, debris, etc., which may have accumulated within them. After the pipe has been lowered, remove all unnecessary materials from it. Before any pipe is laid, clean the outside of its spigot end and the inside of its bell and leave dry and oil-free.
- I. Cut pipe so fittings can be inserted in a workmanlike manner and without any damage to the pipe. Follow the manufacturer's recommendations concerning how to cut and machine the ends of the pipe in order to leave a smooth end at right angles to the pipe's axis. Utilize a "chop" saw for ductile iron pipe, PVC and HDPE pipe. The ENGINEER may consider other methods for 12-inch diameter and larger pipe. After cutting ductile iron pipe, touch up the linings and coatings to the satisfaction of the ENGINEER.
- J. Wherever pipe must be deflected from a straight line (in either the vertical or horizontal plane) to avoid obstructions, or wherever long radius curves are permitted, do not allow the amount of deflection to exceed that necessary for the joint to be satisfactorily made,

nor more than 75% of that recommended by the pipe manufacturer, and requires Engineer approval. Use bend fittings only when the pipe deflections are inadequate, according to manufacturer's recommendations, or as directed by ENGINEER. Be aware that pipe bending of PVC pipe is not allowed, instead utilize fittings or joint deflections.

- K. Joint all pipe in the exact manner specified by the manufacturer of the pipe and jointing materials.
- L. Pipe laid on blocks will not be permitted under any circumstances.
- M. Ensure the cutting of pipe for inserting valves, fittings, or closure pieces is done in a neat workmanlike manner, using pipe wrap, without damage to the pipe or components to leave a smooth end at right angles to the axis of the pipe. Flame cutting of pipe will not be allowed.
- N. Install access fittings to permit disinfection of water system.
- O. Piping flanges, mechanical-type couplings, sleeve-type couplings, flexible connectors, and expansion joints shall be properly installed as follows:
 - 1. Carefully clean and inspect gasket surfaces prior to making up the connection. Center each gasket properly on the contact surfaces.
 - 2. Install connections to prevent inducing stress to the piping system or the equipment to which the piping is connected. Ensure contact surfaces for flanges, couplings, and piping ends are aligned parallel, concentric, and square to each axis at the piping connections.
 - 3. Ensure bolts are initially hand-tightened with the piping connections properly aligned. Tighten bolts with a torque wrench in a staggered sequence to the AISC recommended torque for the bolt material.
 - 4. Ensure groove ends are clean and free from indentations, projections, and roll marks in the area from the pipe end to the groove.
 - 5. After installation, ensure joints meet the indicated leakage rate. Do not provide flanges that are deformed or cracked.
- P. Lined Piping Systems: Hold the lining manufacturer fully responsible for the complete, final product and its application. Epoxy-coat pipe ends and joints of lined pipes at screwed flanges to assure continuous protection.
- Q. Core Drilling: Where core drilling is required for pipes passing through existing concrete, determine core drilling locations by radiograph of concrete construction to avoid damage to embedded raceways and reinforcing bars.
- R. Cleanup: After completion of the WORK, remove all cuttings, joining and wrapping materials, and other scattered debris from the Site. Ensure the entire piping system is handed over in a clean and functional condition.

3.04 INSTALLATION - SERVICE CONNECTIONS

- A. Install service connections as indicated on the Drawings.
- B. Service connections shall be installed using trenchless methods.

3.05 INSTALLATION – TAPPING SLEEVES AND VALVES

- A. Install tapping sleeves and valves in accordance with manufacturer's instructions.

3.06 INSTALLATION – VALVES

- A. Install valves in conjunction with pipe installation; set valves plumb.
- B. Provide buried valves with valve boxes installed flush with finished grade.

3.07 INSTALLATION – FIRE HYDRANTS

- A. Install fire hydrants at the locations shown on the Drawings and in accordance with the manufacturer's instructions. Provide support blocking and drainage gravel; do not block drain hole.
- B. Set hydrants plumb with pumper nozzle facing roadway; set hydrants with centerline of pumper nozzle 18-inches above finished grade and safety flange no more than 6-inches or less than 2-inches above grade.
- C. Paint hydrants in accordance with local color scheme.
- D. After installation but before the water system is active, clearly mark the fire hydrant as not in use.
- E. After hydrostatic testing, flush hydrants and check for proper drainage.

3.08 INSTALLATION – FLUSHING DEVICES

- A. Install flushing devices at the locations shown on the Drawings and in accordance with manufacturer's instructions. Provide support blocking and drainage gravel; do not block drain hole.
- B. Prior to the installation, the drainage patterns for the intended installation location shall be viewed to ensure that any discharged water will not create hazardous conditions for pedestrian or vehicular traffic. The selected location's drainage pattern shall also permit discharged water to flow away from the automatic flushing device or be absorbed by the surrounding soil as to prevent pooling.
- C. Remove debris that might create uneven pressure on the device from the bottom of the hole. Compact the bottom of the hole to minimize settling after installation.
- D. Install a four-inch (4") lift of non-compacted sand or similar bedding material into the bottom of the hole.

- E. Backfill the hole around the automatic flushing valve with clean fill, #57 stone and/or a combination of other appropriate materials. Backfilling shall be accomplished in 6" lifts. Use a level to ensure the device is level after each lift. Add fill to inside of below grade base to equalize force from the exterior side of the base to reduce the risk of side-wall collapse.
- F. The area thirty-six inches (36") around the automatic flushing valve shall be prepared to prevent erosion.
- G. The automatic flushing valve shall be disinfected in accordance with ADH and AWWA standards.

3.09 INSTALLATION – SAMPLING STATIONS

- A. Install sampling stations at the locations shown on the Drawings and in accordance with manufacturer's instructions. Enclosure door shall open towards the roadway.

3.10 INSTALLATION – METERS AND METER BOXES

- A. Install meters and meter boxes at the locations shown on the Drawings and in accordance with manufacturer's instructions. Box shall be level. Center meters in boxes to allow for reading and ease of removal or maintenance. Set top of box at finished grade.

3.11 INSTALLATION – BACKFLOW PREVENTERS

- A. Install backflow preventers of type, size, and capacity indicated a minimum of 12-inches and a maximum of 36-inches above concrete base. Include valves and test cocks. Install according to the manufacturer's requirements and the requirements of plumbing and health department and authorities having jurisdiction. Support NPS 2 ½-inch and larger backflow preventers, valves, and piping near floor with 12-inch minimum air gap, and on concrete piers or steel pipe supports. Do not install backflow preventers that have a relief drain in a vault or in other spaces subject to flooding. Do not install bypass piping around backflow preventers.
- B. Backflow Preventer Enclosure: Install a level concrete base with top of concrete surface approximately 2-inches above grade. Install protective enclosure over valve and equipment. Anchor protective enclosure to concrete base.

3.12 INSTALLATION - CONCRETE THRUST RESTRAINT

- A. Provide valves, tees, bends, caps, plugs, and dead ends with concrete thrust blocks as indicated on the Drawings.
- B. Pour concrete thrust blocks against undisturbed earth. Locate thrust blocks at each elbow or change of pipe direction to resist resultant force and so pipe and fitting joints will be accessible for repair.
- C. Do not encase fitting joints and flanges.

3.13 INSTALLATION - TRACE WIRE

- A. Perform trace wire installation in such a manner that allows proper access for connection of line tracing equipment, proper locating of wire without loss or deterioration of low frequency (512Hz) signal for distances in excess of one thousand (1,000) linear feet, and without distortion of signal caused by multiple wires being installed in close proximity to one another.
- B. Trace wire systems must be installed as a single continuous wire, except where using approved connectors. No looping or coiling of wire is allowed.
- C. Any damage occurring during installation of the trace wire must be immediately repaired by removing the damaged wire, and installing a new section of wire with approved connectors. Taping and/or spray coating shall not be allowed.
- D. Trace wire shall be installed at the bottom half of the pipe and secured (taped/tied) at 5' intervals.
- E. Trace wire must be properly grounded as specified.
- F. Trace wire on all service laterals/stubs must terminate at an approved trace wire access box located directly above the utility, at the edge of the road right-of- way, but out of the roadway.
- G. At all mainline dead-ends, trace wire shall go to ground using an approved connection to a drive-in magnesium grounding anode rod, buried at the same depth as the trace wire.
- H. Mainline trace wire shall not be connected to existing conductive pipes. Treat as a mainline dead-end, ground using an approved waterproof connection to a grounding anode buried at the same depth as the trace wire.
- I. All service lateral trace wires shall be a single wire, connected to the mainline trace wire using a mainline to lateral lug connector, installed without cutting/splicing the mainline trace wire.
- J. In occurrences where an existing trace wire is encountered on an existing utility that is being extended or tied into, the new trace wire and existing trace wire shall be connected using approved splice connectors, and shall be properly grounded at the splice location as specified.
- K. Water System
 - 1. A mainline trace wire must be installed, with all service lateral trace wires properly connected to the mainline trace wire, to ensure full tracing/locating capabilities from a single connection point.
 - 2. Lay mainline trace wire continuously, by-passing around the outside of valves and fittings on the North or East side.

3. Trace wire on all water service laterals must terminate at an approved trace wire access box color coded blue and located directly above the service lateral at the edge of road right of way.
4. Above-ground tracer wire access boxes will be installed on all fire hydrants.
5. All conductive and non-conductive service lines shall include tracer wire.
6. Testing: All new trace wire installations shall be located using typical low frequency (512Hz) line tracing equipment, witnessed by the CONTRACTOR, engineer and facility owner as applicable, prior to acceptance of ownership. This verification shall be performed upon completion of rough grading and again prior to final acceptance of the project. Continuity testing in lieu of actual line tracing shall not be accepted.

3.14 BACKFILL

- A. Backfill and compact around sides and to top of pipe in accordance with Section 31 23 00 – Excavation and Backfill for Utilities.
- B. Maintain optimum moisture content of material to attain required compaction density.

3.15 PRESSURE TESTING OF PIPELINES

- A. Water for testing and disinfecting water pipelines will be furnished by the OWNER. Convey the water from the OWNER-designated source to the points of use.
- B. Perform pressure test on potable water distribution system in accordance with AWWA C600. Notify ENGINEER and OWNER seventy-two (72) hours in advance of test and have witness test. Perform testing and disinfection operations in the presence of the ENGINEER.
- C. Test Pressure: Not less than 200 psi or 50 psi in excess of maximum static pressure, whichever is greater.
- D. Dispose of flushing water and water containing chlorine by methods acceptable to the ENGINEER and OWNER.
- E. Pressure Test Procedure:
 1. After completion of pipeline installation, including backfill, but prior to final connection to existing system, conduct concurrent pressure and leakage tests.
 2. Provide equipment required to perform leakage and pressure tests.
 3. Conduct tests for at least two-hour duration.
 4. No pipeline installation will be approved when pressure varies by more than 5 psi at completion of hydrostatic pressure test.

5. Before applying test pressure, completely expel air from section of piping under test. Provide corporation cocks so air can be expelled as pipeline is filled with water. After air has been expelled, close corporation cocks and apply test pressure. At conclusion of tests, remove corporation cocks removed and plug resulting piping openings.
6. Slowly bring piping to test pressure and allow system to stabilize prior to conducting leakage test. Do not open or close valves at differential pressures above rated pressure.
7. Examine exposed piping, fittings, valves, hydrants, and joints carefully during pressure test. Repair or replace damage or defective pipe, fittings, valves, hydrants, or joints discovered, following pressure test.
8. No pipeline installation will be approved when leakage is greater than that determined by the following formula:

$$L = (SD\sqrt{P})/133,200$$

Where:

L = allowable, in gallons per hour

S = length of pipe tested, in inches

D = nominal diameter of pipe, in inches

P = average test pressure during leakage test, in pounds per square inch (gauge)

9. When leakage exceeds specified acceptable rate, locate source and make repairs. Repeat test until specified leakage requirements are met.
10. Coordinate testing plan with surface restoration requirements. Any removal or replacement of temporary or final surface restoration by the CONTRACTOR to investigate leaks will be at no additional cost to the OWNER.

3.16 DISINFECTING PIPELINES

- A. General: Disinfect potable water pipelines accordance with the requirements of ANSI/AWWA C651 - Disinfecting Water Mains, using the Continuous-Feed Method as modified herein.
 1. Chlorination: Uniformly introduce a chlorine-water mixture into the pipeline by means of a solution-feed chlorinating device. Introduce the chlorine solution at one end of the pipeline through a tap in such a manner that as the pipeline is filled with water, ensure the dosage applied to the water entering the pipe is approximately 50 mg/l. Take care to prevent the strong chlorine solution in the line being disinfected from flowing back into the line supplying the water.
 2. Retention Period: Retain chlorinated water in the pipeline for at least twenty-four (24) hours. After the chlorine-treated water has been retained for the required time, ensure the free chlorine residual at the pipeline extremities and at other representative points is at least 25 mg/l. If testing does not demonstrate a residual

of 25 mg/l or greater, repeat the disinfection procedure above.

3. Chlorinating Valves: During the process of chlorinating the pipelines, operate valves and other appurtenances from closed to full open to closed while the pipeline is filled with the heavily-chlorinated water.
4. Sampling Ports: Provide sampling ports along the pipeline as defined on AWWA C651. Taps may be made at manways and air valves to help facilitate the spacing requirement.
5. Final Flushing: After the applicable retention period, flush the heavily chlorinated water from the pipeline until chlorine measurements show that the concentration in the water leaving the pipeline is no higher than that generally prevailing in the system or is acceptable for domestic use. Ensure that any release of chlorinated water complies with federal, state, and local regulation and the permits for the project. Treat excessive amounts of chlorine before discharge.
6. Bacteriological Testing: After final flushing and before the pipeline is placed in service, the OWNER or ENGINEER will collect a sample, or samples from the end of the line and test for bacteriological quality in accordance with the requirements of the Louisiana Department of Health (LDH). For this purpose, re-fill the pipe with fresh potable water and leave for a period of twenty-four (24) hours before any sample is collected. If testing does not demonstrate a free chlorine residual after the 24-hour period, repeat the disinfection procedure above. If the initial disinfection treatment fails to produce satisfactory bacteriological test results, repeat the disinfection procedure until acceptable results are obtained.

3.17 CONNECTIONS TO EXISTING SYSTEM

- A. Water mains and appurtenances must be completely installed, disinfected, flushed, and satisfactory bacteriological sample results received prior to permanent connections being made to the active distribution system. Obtain approval by the ENGINEER prior to the new water piping being placed into service.
- B. When connections are to be made to the existing potable water system, swab or spray the interior surfaces of all pipe and fittings used in making the connections with a one percent hypochlorite solution before installation.
- C. The location and condition of each tie-in is approximate. It is the CONTRACTOR's responsibility, as the first order of business, to field verify the location and the conditions of each tie-in prior to ordering any materials and inform the ENGINEER of the findings.
- D. Additionally, once the tie-ins are exposed, CONTRACTOR shall notify the OWNER to operate and exercise the isolation valves at either end to confirm operability and flush and clean the lines Any existing valves shall be operated by OWNER's operations personnel only. In the event that the existing valves are not operable as determined by the ENGINEER, new valves may be installed at the discretion of OWNER through the ENGINEER.

3.18 TRACER WIRE CONTINUITY TESTING

Test tracer wire for continuity after service connections have been completed and prior to final pavement or restoration. Verify that tracer wire is locatable with electronic utility locating equipment. Repair breaks or separations and re-test for continuity.

END OF SECTION

WATER MAIN NOTES

- NEW WATER MAINS SHALL BE NO SMALLER THAN 8" INSIDE DIAMETER, UNLESS SHOWN OTHERWISE.
- NEW WATER MAINS BETWEEN 8" AND 30" DIAMETER SHALL BE AWWA C900 POLYVINYL CHLORIDE (PVC) PIPE AND SHALL HAVE A PRESSURE CLASS OF 235 PSI (DR18). NEW WATER MAINS SHALL BE THE COLOR BLUE AND LABELED AS "WATER". CONNECTIONS TO OTHER WATER MAINS, INCLUDING THOSE OF DIFFERENT MATERIAL, SHALL BE MADE USING THE APPROPRIATE ADAPTERS AND FITTINGS.
- NEW WATER MAINS INSTALLED USING AN OPEN CUT/TRENCH METHOD SHALL BE POLYVINYL CHLORIDE (PVC) PIPE CONFORMING TO AWWA C900. NEW WATER MAINS BETWEEN 8" AND 48" DIAMETER SHALL HAVE A PRESSURE CLASS OF 235 PSI (DR18). CONNECTIONS BETWEEN PIPE LENGTHS SHALL BE OF AN INTEGRATED "BELL AND SPIGOT" PUSH-ON DESIGN WITH A RUBBER GASKET SEAL. RUBBER SEAL SHALL CONFORM TO AWWA C111. NEW WATER MAINS SHALL BE BLUE AND LABELED AS "WATER".
- TRACER WIRE AND IDENTIFICATION TAPE SHALL BE INSTALLED ALONG THE ENTIRE LENGTH OF THE WATER MAIN FOR ALL LINES INSTALLED USING THE OPEN CUT METHOD. THE TRACER WIRE AND IDENTIFICATION TAPE SHALL BE INSTALLED SIMULTANEOUSLY WITH THE WATER MAIN.
- JOINT RESTRAINTS FOR PVC PIPE BELL JOINTS SHALL BE RESTRAINED WITH A SERIES 1900 SERRATED RESTRAINT HARNESS MANUFACTURED BY EBBA, INC. OR APPROVED EQUAL.
- ALL APPLICABLE WATER MAIN JOINTS SHALL BE RESTRAINED IN ACCORDANCE WITH THE PROVIDED DETAIL. THE MINIMUM RESTRAINT LENGTH FOR PVC PIPE JOINTS SHALL BE IN ACCORDANCE WITH THE PROVIDED DETAIL.
- NEW WATER MAIN FITTINGS SHALL BE DUCTILE IRON FITTINGS CONFORMING TO AWWA C110/A21.10 WITH FITTING JOINTS CONFORMING TO AWWA C111/A21.11. THE DUCTILE IRON FITTING SHALL BE EPOXY COATED INSIDE AND OUT. BURIED FITTINGS SHALL BE MECHANICAL JOINT (MJ) FITTINGS. THE CONNECTION BETWEEN THE PVC FORCE MAIN AND THE FITTING SHALL BE RESTRAINED WITH A 2000PV OR 2000SV MEGA-LUG MECHANICAL JOINT THRUST RESTRAINT MANUFACTURED BY EBBA, INC. OR AN APPROVED EQUAL. THE NUTS AND BOLTS SHALL BE TEFLON COATED COR-TEN FASTENERS. ABOVE GROUND FITTINGS SHALL BE FLANGED, AND FASTENERS SHALL BE STAINLESS STEEL.
- THE CONTRACTOR SHALL INSTALL IDENTIFICATION TAPE ALONG THE ENTIRE LENGTH OF THE NEW WATER MAIN. IDENTIFICATION TAPE SHALL BE INSTALLED BY THE CONTRACTOR ONCE THE BACKFILL HAS BEEN PLACED AND COMPACTED TO AT LEAST 12" ABOVE THE TOP OF THE PIPE AND NOT MORE THAN 18" ABOVE THE CONNECTION.
- ALL NEW WATER MAINS SHALL UNDERGO HYDROSTATIC TESTING TO VERIFY LEAK TIGHTNESS. NEW WATER MAINS SHALL BE TESTED AT 125 PSI FOR 2 HOURS. THERE SHALL BE NO PRESSURE DROPS DURING THE TEST. IN THE EVENT THE WATER MAIN FAILS THE TEST, THE WATER MAIN PIPES SHALL BE CHECKED AND REPAIRED ACCORDINGLY. THE WATER MAIN SHALL BE RE-TESTED.
- AFTER SUCCESSFUL PRESSURE TESTING, WATERLINES AND WATER MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA C-601. DISINFECTED LINES SHALL BE TESTED AND APPROVED BY THE LOUISIANA DEPARTMENT OF HEALTH BEFORE BEING PLACED INTO SERVICE. ALL LOUISIANA DEPARTMENT OF HEALTH TEST SAMPLES SHALL BE COLLECTED FROM AN INSTALLED KUPFERLE FOUNDRY COMPANY MODEL # 88 SAMPLE STATION.

WATER FITTINGS AND VALVES NOTES

- WATER VALVES THREE INCHES (3") OR LARGER SHALL BE AWWA C-509 RESILIENT-SEATED GATE VALVE FOR POTABLE WATER SUPPLY SERVICE. WATER VALVES SHALL BE FUSION BONDED EPOXY AND LINED PER AWWA C-550. VALVES SHALL BE MUELLER SERIES 2360 OR APPROVED EQUAL. WATER VALVES SHALL BE RESTRAINED JOINT WITH MEGALUG AND TEFLON COATED CORE-TEN BOLTS AND NUTS.
- BURIED VALVES, INCLUDING TWO INCH (2") VALVES, SHALL HAVE A 3-PIECE CAST IRON BOX INSTALLED AND ADJUSTED TO FINISHED GRADE. BURIED VALVES SHALL HAVE AN AWWA OPERATING NUT AND A COVER LABELLED "WATER". EACH VALVE BOX SHALL HAVE A PRECAST OR CAST-IN-PLACE PAD MEASURING AT LEAST 4" THICK BY 24" BY 24" SQUARE OR 4" THICK BY 24" ROUND.
- MANHOLE AND VALVE COVERS SHALL HAVE DIAMOND TREAD PATTERN

AND HAVE WORD "WATER" CAST ON THE COVER.

- IN GENERAL, WATER MAINS AND VALVES SHALL BE LOCATED BETWEEN THE RIGHT-OF-WAY LINE AND TOP OF DITCH OR SUBSURFACE DRAINAGE FEATURE. A HORIZONTAL CLEARANCE OF MINIMUM THREE FEET (3') SHALL BE MAINTAINED BETWEEN THE TOP OF DITCH (OR SUBSURFACE DRAINAGE FEATURE) AND EDGE OF THE MAIN AND/OR VALVE. IF THE CLEARANCE REQUIREMENT CANNOT BE MET DUE TO FIELD CONDITIONS, THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER TO DETERMINE AN ACCEPTABLE LOCATION OF THE MAIN AND/OR THE VALVE, ALL AT NO ADDITIONAL COST TO THE PROJECT. UNDER NO CIRCUMSTANCES SHALL VALVES AND THEIR ACCESS BE CONSTRUCTED IN DITCHES OR UNDER SUBSURFACE DRAINAGE FEATURES. ENGINEER'S DECISION SHALL BE FINAL.
- IN GENERAL, WATER MAINS AND VALVES SHALL BE AT LEAST THREE FEET (3') BELOW FINISHED GRADE BUT NO DEEPER THAN FIVE FEET (5') BELOW FINISHED GRADE. IF THE DEPTH OF THE WATER VALVE IS LESS THAN 3' OR GREATER THAN 5', THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER TO DETERMINE IF THE DEPTH OF THE WATER VALVE IS ACCEPTABLE. THE WATER VALVE SHALL BE MOVED AT NO ADDITIONAL COST TO THE PROJECT. ENGINEER'S DECISION SHALL BE FINAL.
- FITTINGS SHALL BE RESTRAINED JOINT DUCTILE IRON USING MEGALUGS AND TEFLON COATED CORE-TEN BOLTS AND NUTS. FITTINGS SHALL CONFORM TO ALL APPLICABLE AWWA/ANSI SPECIFICATIONS REGARDING USE IN POTABLE WATER SYSTEMS.
- BRASS FITTINGS SHALL BE LEAD FREE. BRASS FITTINGS SHALL BE MUELLER, FORD METER BOX COMPANY, OR APPROVED EQUAL. REFER TO SHEET C-503 FOR APPROVED MODELS FROM MUELLER AND FORD METER BOX COMPANY.
- CONNECTIONS TO EXISTING WATERLINES SHALL BE MADE USING MUELLER STAINLESS STEEL TAPPING SLEEVE AND VALVE, MODEL NO. H-304SS. CONNECTION TO EXISTING WATERLINES USING TAPPING SLEEVES AND VALVES OTHER THAN MUELLER H-304SS SHALL BE APPROVED PRIOR TO USE.
- WATER SERVICE CONNECTIONS SHALL HAVE A BRASS TAPPING SADDLE, BRASS CORPORATION STOP, AND A MINIMUM 1" CONNECTION SIZE. SERVICE CONNECTION PIPING SHALL BE AWWA C901 POLYETHYLENE TUBING, PE3408 DR9. WATER SERVICE CONNECTION SHALL HAVE MAXIMUM COVER OF 2'. A U-BRANCH SHALL BE INSTALLED ON WATER SERVICE CONNECTION WHIP.
- ALL WATER SERVICE CONNECTIONS SHALL BE LOCATED AT THE LOT LINE. WATER SERVICE CONNECTIONS SHALL NOT BE LOCATED WITHIN THE DRIVEWAY.
- ONE SAMPLE STATION SHALL BE INSTALLED BETWEEN VALVES ON THE WATER MAIN.
- ALL NEW SAMPLE STATIONS SHALL BE KUPFERLE FOUNDRY COMPANY BRAND - MODEL # 88-SS.

FIRE HYDRANT NOTES

- FIRE HYDRANTS SHALL BE MUELLER SUPER CENTURION 250 HS WITH BUILT-IN CHECK VALVE AND SHALL COMPLY WITH AWWA C-502. OTHER MODEL FIRE HYDRANTS SHALL BE SUBMITTED TO ENGINEER AND APPROVED PRIOR TO PURCHASING AND INSTALLING. ALL FIRE HYDRANTS SHALL COMPLY WITH AWWA C-502 AND/OR C-503. FIRE HYDRANTS SHALL HAVE AT LEAST THREE OUTLETS PER HYDRANT, AND ALL OUTLETS SHALL HAVE NATIONAL STANDARD THREADS. ONE OUTLET SHALL BE A 5 1/2 INCH PUMPER CONNECTION, AND TWO OUTLETS SHALL BE 2 1/2 INCH HOSE CONNECTIONS. FIRE HYDRANTS SHALL BE PAINTED CHROME YELLOW.
- ALL FIRE HYDRANTS SHALL HAVE A MINIMUM OF 24 INCHES OF CLEARANCE BETWEEN FINISHED GRADE AND THE BOTTOM OF THE 2 1/2 INCH OUTLET. IF THE FIRE HYDRANT BECOMES BURIED OR THE CLEARANCE IS LESS THAN THE REQUIRED 24", THE CONTRACTOR SHALL RAISE THE FIRE HYDRANT TO ACHIEVE THE MINIMUM REQUIRED CLEARANCE. OWNER SHALL NOT ACCEPT THE PROJECT UNTIL ALL FIRE HYDRANTS HAVE THE REQUIRED GROUND CLEARANCE. IF THE FIRE HYDRANT BECOMES BURIED AND OWNER ACCEPTS THE WATER INFRASTRUCTURE AS A RESULT OF THE BUILDING CONSTRUCTION, OWNER SHALL NOT INSTALL A WATER METER TO SERVICE THE PROPERTY UNTIL THE FIRE HYDRANT IS UNCOVERED OR RAISED. THE RESPONSIBILITY OF UNCOVERING OR RAISING THE FIRE HYDRANT SHALL NOT BE PLACED ON OWNER AND SHALL BE COMPLETED BY THE CONTRACTOR.

- FIRE HYDRANTS SHALL HAVE A 6" DIAMETER DUCTILE IRON LEAD WITH 6" MUELLER GATE VALVE FOR ISOLATION FROM THE WATER MAIN.
- THE LOCATION OF EACH FIRE HYDRANT SHALL BE MARKED WITH A BLUE REFLECTOR ON THE ROADWAY PAVEMENT. BLUE REFLECTOR SHALL BE PLACED IN THE CENTER OF THE TRAVEL LANE CLOSEST TO THE FIRE HYDRANT.
- FIRE HYDRANTS SHALL BE LOCATED AT LEAST SIX FEET, OR GREATER AS NECESSARY BY REGULATORY REQUIREMENT, FROM THE EDGE OF ROADWAY PAVEMENT.
- THE MAXIMUM SPACING BETWEEN FIRE HYDRANTS SHALL BE 500 FEET.
- A MINIMUM OF THREE FIRE HYDRANTS IN THE DEVELOPMENT SHALL BE TESTED TO VERIFY ACTUAL FIRE FLOW AND TO CLASSIFY THE FIRE HYDRANTS BY OBSERVED FLOW RATES. THE NUMBER AND SELECTION OF HYDRANTS SHALL BE DETERMINED BY THE LOCAL FIRE PROTECTION DISTRICT. A REPRESENTATIVES OF OWNER AND THE LOCAL FIRE PROTECTION DISTRICT SHALL BE PRESENT TO OBSERVE FIRE FLOW TESTING AND RESULTS.
- AFTER FIRE FLOW TESTING, THE CONTRACTOR SHALL PAINT THE TOP AND THE THREE OUTLET CAPS OF EACH FIRE HYDRANT IN ACCORDANCE WITH THE NFPA COLOR CODING SYSTEM TO CLASSIFY EACH HYDRANT BY FIRE FLOW.
 - a. RED: TO BE USED ON ALL FIRE HYDRANTS WITH FIRE FLOW LESS THAN 500 GALLONS PER MINUTE
 - b. ORANGE: TO BE USED ON ALL FIRE HYDRANTS WITH FIRE FLOW BETWEEN 500 AND 1,000 GALLONS PER MINUTE
 - c. GREEN: TO BE USED ON ALL FIRE HYDRANTS WITH FIRE FLOW BETWEEN 1,000 AND 1,500 GALLONS PER MINUTE
 - d. BLUE: TO BE USED ON ALL FIRE HYDRANTS WITH FIRE FLOW GREATER THAN 1,500 GALLONS PER MINUTE

REFER TO SHEET G-101 FOR ADDITIONAL WATER STANDARD NOTES



DEPT. OF UTILITIES
ST. TAMMANY PARISH
GOVERNMENT
620 N. TYLER STREET
COVINGTON, LA 70433

No.	DATE	DESCRIPTION OF REVISION

DESIGNED BY:	RAC	DRAWN BY:	UPH	CHECKED BY:	RAC	SUBMITTED BY:	TRIGON, LLC	PROJECT No.:	TU23000163/164	ISSUE DATE:	8/19/2024	APPROVED BY:	GAK	SHEET SIZE:	ANSI D	SCALE:	AS SHOWN
--------------	-----	-----------	-----	-------------	-----	---------------	-------------	--------------	----------------	-------------	-----------	--------------	-----	-------------	--------	--------	----------



S&J MHP AND TAMMANY MHP
 WATER DISTRIBUTION SYSTEMS
 SLIDELL, LOUISIANA
 PROJECT Nos. TU23000163/TU23000164
 WATER STANDARD NOTES

SHEET NO.
G-102
SHEET 5 of 20

