



**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. Tuesday, March 31, 2026**, and then opened and read publicly at that time by the Procurement Staff for the following project:

**Bid # 26-16-2– Rosedown Way Drainage Phase 2**

This bid package is available online at [www.bidexpress.com](http://www.bidexpress.com) or LaPAC <https://wwwcfprd.doa.louisiana.gov/osp/lapac/dspBid.cfm?search=department&term=185>. 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.

**The project classification is:**

**Highway, Street and Bridge Construction**

Paper Bids must be sealed. In addition, the outside of the envelope, box, or package containing the Bid shall be marked with the following information. Name and Address of the Bidder, Bid Number, and the Bid Name. Bids submitted without this information may be deemed non-responsive.

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](http://www.bidexpress.com).

The Procurement Department can be contacted by telephone at (985) 898-2520 or via e-mail at [Procurement@stpgov.org](mailto:Procurement@stpgov.org). St. Tammany Parish Government reserves the right to reject any or all quotes and to waive informalities.

**BID PROPOSAL**

ST. TAMMANY PARISH  
GOVERNMENT



BID PACKAGE FOR

**ROSEDOWN WAY DRAINAGE – PHASE 2**

**BID NO.: 26-16-2**

February 2, 2026

## Section 01

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## 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 **160 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 and is the responsibility of the contractor to obtain tax exemption if applicable. 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) should 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. 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 two (2) working days of the bid opening. 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](mailto: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	March 31, 2026	2:00 PM
Inquiry Deadline	March 20, 2026	2:00 PM
Addendum Deadline	March 26, 2026	2:00 PM

**NOTE: The Parish reserves the right to revise this schedule. Any such revision will be formalized by the issuance of an addendum to the Bid Request.**

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 Contractor shall provide all labor, equipment, tools, testing, and materials necessary to complete drainage improvements in accordance with the construction plans and specifications for the Rosedown Subdivision, located in Mandeville, Louisiana, 70471. The work includes replacement of existing drainage infrastructure along Camden Court, construction of a new concrete-lined channel to Lake Vista Drive, replacement of culverts under Lake Vista Drive, and all incidental work, such as replacement of concrete street panels, sidewalks, and driveways, utility relocations, installation of sewer and water conflict boxes, and placement of rip rap at the outfall.

The Parish reserves the right to add, remove or otherwise modify the above, as determined necessary by the Parish and as allowed by law.

**II.** Location of Work:

This work is located in the Rosedown Subdivision, Mandeville, LA, 70471

**III.** Documents: Bid Documents dated February 2, 2026, and entitled:

**ROSEDOWN WAY DRAINAGE – PHASE 2**

**BID NO. 26-12-2**

**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).**

**Table 3.1**

<b>Liquidated Damages</b>	
<b>Original Contract Amount</b>	<b>Daily Charge</b>
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: Rosedown Way Drainage – Phase 2
Bid No. 26-12-2

(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:

Professional Engineering Consultants Corporation and dated: February 2, 2026.
(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" \* but not alternates) the sum of:

Dollars (\$ NA)

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:

NA Dollars (\$ NA)

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

NA Dollars (\$ NA)

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

NA Dollars (\$ NA)

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:

ROSEDOWN WAY DRAINAGE - PHASE 2  
Bid No. 26-12-2  
PEC PROJECT NO. 11813.06-1  
(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.**

<b>Description:</b>	<input checked="" type="checkbox"/> BASE BID	OR	<input type="checkbox"/> ALT #	
<b>REF NO.:</b>	<b>QUANTITY</b>		<b>UNIT OF MEASURE</b>	<b>UNIT PRICE</b>
1	1		Lump Sum	<b>UNIT PRICE EXTENSION (Quantity times unit price)</b>
<b>REF NO.:</b>	<b>QUANTITY</b>		<b>UNIT OF MEASURE</b>	<b>UNIT PRICE</b>
2	1		Lump Sum	<b>UNIT PRICE EXTENSION (Quantity times unit price)</b>
<b>REF NO.:</b>	<b>QUANTITY</b>		<b>UNIT OF MEASURE</b>	<b>UNIT PRICE</b>
3	1		Acre	<b>UNIT PRICE EXTENSION (Quantity times unit price)</b>
<b>REF NO.:</b>	<b>QUANTITY</b>		<b>UNIT OF MEASURE</b>	<b>UNIT PRICE</b>
4	1		Lump Sum	<b>UNIT PRICE EXTENSION (Quantity times unit price)</b>

**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.

<b>Description:</b> <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # Removal of Fence				
<b>REF NO.:</b>	<b>QUANTITY</b>	<b>UNIT OF MEASURE</b>	<b>UNIT PRICE</b>	<b>UNIT PRICE EXTENSION (Quantity times unit price)</b>
5	1,000	L.F.		
<b>Description:</b> <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # Removal of Existing Storm Drainage Pipe (Various Sizes, Types, and Depths)				
<b>REF NO.:</b>	<b>QUANTITY</b>	<b>UNIT OF MEASURE</b>	<b>UNIT PRICE</b>	<b>UNIT PRICE EXTENSION (Quantity times unit price)</b>
6	750	L.F.		
<b>Description:</b> <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # Saw Cutting Portland Cement Concrete Pavement (Includes Roads, Sidewalk, and Drives)				
<b>REF NO.:</b>	<b>QUANTITY</b>	<b>UNIT OF MEASURE</b>	<b>UNIT PRICE</b>	<b>UNIT PRICE EXTENSION (Quantity times unit price)</b>
7	2,000	L.F.		
<b>Description:</b> <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # Removal of Portland Cement Concrete Pavement (Includes Base Material, Driveways, Sidewalks, Roads, and Curb)				
<b>REF NO.:</b>	<b>QUANTITY</b>	<b>UNIT OF MEASURE</b>	<b>UNIT PRICE</b>	<b>UNIT PRICE EXTENSION (Quantity times unit price)</b>
8	1,100	S.Y.		
<b>Description:</b> <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # Concrete Walk (4" Thick) with 2" Sand Leveling Course				
<b>REF NO.:</b>	<b>QUANTITY</b>	<b>UNIT OF MEASURE</b>	<b>UNIT PRICE</b>	<b>UNIT PRICE EXTENSION (Quantity times unit price)</b>
9	5	S.Y.		
<b>Description:</b> <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # Portland Cement Concrete Pavement (6" Thick) (Driveways & Road)				
<b>REF NO.:</b>	<b>QUANTITY</b>	<b>UNIT OF MEASURE</b>	<b>UNIT PRICE</b>	<b>UNIT PRICE EXTENSION (Quantity times unit price)</b>
Version 2017 Q2 10	1,095	S.Y.		

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.

<b>Description:</b> <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # Type 610 Limestone Base (8" Thick)				
<b>REF NO.:</b>	<b>QUANTITY</b>	<b>UNIT OF MEASURE</b>	<b>UNIT PRICE</b>	<b>UNIT PRICE EXTENSION (Quantity times unit price)</b>
11	1,095	S.Y.		
<b>Description:</b> <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # Geotextile Fabric (For Portland Cement Concrete Pavement)				
<b>REF NO.:</b>	<b>QUANTITY</b>	<b>UNIT OF MEASURE</b>	<b>UNIT PRICE</b>	<b>UNIT PRICE EXTENSION (Quantity times unit price)</b>
12	1,095	S.Y.		
<b>Description:</b> <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # Storm Drain Pipe Arch (24" Equiv. RCPA)				
<b>REF NO.:</b>	<b>QUANTITY</b>	<b>UNIT OF MEASURE</b>	<b>UNIT PRICE</b>	<b>UNIT PRICE EXTENSION (Quantity times unit price)</b>
13	41	L.F.		
<b>Description:</b> <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # Storm Drain Pipe Arch (60" Equiv. RCPA)				
<b>REF NO.:</b>	<b>QUANTITY</b>	<b>UNIT OF MEASURE</b>	<b>UNIT PRICE</b>	<b>UNIT PRICE EXTENSION (Quantity times unit price)</b>
14	906	L.F.		
<b>Description:</b> <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # Reinforced Concrete Box Culvert (Cast-in-Place or Precast) (7'X4')				
<b>REF NO.:</b>	<b>QUANTITY</b>	<b>UNIT OF MEASURE</b>	<b>UNIT PRICE</b>	<b>UNIT PRICE EXTENSION (Quantity times unit price)</b>
15	150	L.F.		
<b>Description:</b> <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # Reinforced Concrete Box Culvert Headwall				
<b>REF NO.:</b>	<b>QUANTITY</b>	<b>UNIT OF MEASURE</b>	<b>UNIT PRICE</b>	<b>UNIT PRICE EXTENSION (Quantity times unit price)</b>
Version 2017 Q2 16	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.

<b>Description:</b> <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # Catch Basin (CB-01)				
<b>REF NO.:</b>	<b>QUANTITY</b>	<b>UNIT OF MEASURE</b>	<b>UNIT PRICE</b>	<b>UNIT PRICE EXTENSION (Quantity times unit price)</b>
17	2	Each		
<b>Description:</b> <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # Catch Basin (CB-02)				
<b>REF NO.:</b>	<b>QUANTITY</b>	<b>UNIT OF MEASURE</b>	<b>UNIT PRICE</b>	<b>UNIT PRICE EXTENSION (Quantity times unit price)</b>
18	10	Each		
<b>Description:</b> <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # Catch Basin (CB-02) (Conflict Box)				
<b>REF NO.:</b>	<b>QUANTITY</b>	<b>UNIT OF MEASURE</b>	<b>UNIT PRICE</b>	<b>UNIT PRICE EXTENSION (Quantity times unit price)</b>
19	2	Each		
<b>Description:</b> <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # Sanitary Sewer Conflict Box (Cast-In-Place)				
<b>REF NO.:</b>	<b>QUANTITY</b>	<b>UNIT OF MEASURE</b>	<b>UNIT PRICE</b>	<b>UNIT PRICE EXTENSION (Quantity times unit price)</b>
20	3	Each		
<b>Description:</b> <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # Concrete Cast-In-Place Revetment (6" Thick)				
<b>REF NO.:</b>	<b>QUANTITY</b>	<b>UNIT OF MEASURE</b>	<b>UNIT PRICE</b>	<b>UNIT PRICE EXTENSION (Quantity times unit price)</b>
21	775	S.Y.		
<b>Description:</b> <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # Rip Rap (CL 30)				
<b>REF NO.:</b>	<b>QUANTITY</b>	<b>UNIT OF MEASURE</b>	<b>UNIT PRICE</b>	<b>UNIT PRICE EXTENSION (Quantity times unit price)</b>
Version 2017 Q2 22	105	S.Y.		

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.

<b>Description:</b> <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # Exploratory Excavation				
<b>REF NO.:</b>	<b>QUANTITY</b>	<b>UNIT OF MEASURE</b>	<b>UNIT PRICE</b>	<b>UNIT PRICE EXTENSION (Quantity times unit price)</b>
23	10	Each		
<b>Description:</b> <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # Temporary Silt Fencing				
<b>REF NO.:</b>	<b>QUANTITY</b>	<b>UNIT OF MEASURE</b>	<b>UNIT PRICE</b>	<b>UNIT PRICE EXTENSION (Quantity times unit price)</b>
24	1,700	L.F.		
<b>Description:</b> <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # Temporary Sediment Check Dams (Hay)				
<b>REF NO.:</b>	<b>QUANTITY</b>	<b>UNIT OF MEASURE</b>	<b>UNIT PRICE</b>	<b>UNIT PRICE EXTENSION (Quantity times unit price)</b>
25	5	Each		
<b>Description:</b> <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # Rebuild Fence (8' Wood)				
<b>REF NO.:</b>	<b>QUANTITY</b>	<b>UNIT OF MEASURE</b>	<b>UNIT PRICE</b>	<b>UNIT PRICE EXTENSION (Quantity times unit price)</b>
26	1,000	L.F.		
<b>Description:</b> <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # Hydroseeding				
<b>REF NO.:</b>	<b>QUANTITY</b>	<b>UNIT OF MEASURE</b>	<b>UNIT PRICE</b>	<b>UNIT PRICE EXTENSION (Quantity times unit price)</b>
27	1	Acre		
<b>Description:</b> <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # Temporary Traffic Control (Temporary Signs and Barricades)				
<b>REF NO.:</b>	<b>QUANTITY</b>	<b>UNIT OF MEASURE</b>	<b>UNIT PRICE</b>	<b>UNIT PRICE EXTENSION (Quantity times unit price)</b>
Version 2017 Q2 28	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.

<b>Description:</b> <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # Concrete Curb and Gutter (Barrier Type)				
<b>REF NO.:</b>	<b>QUANTITY</b>	<b>UNIT OF MEASURE</b>	<b>UNIT PRICE</b>	<b>UNIT PRICE EXTENSION (Quantity times unit price)</b>
29	110	L.F.		
<b>Description:</b> <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # 15" RCP (Connection to Box Culvert)				
<b>REF NO.:</b>	<b>QUANTITY</b>	<b>UNIT OF MEASURE</b>	<b>UNIT PRICE</b>	<b>UNIT PRICE EXTENSION (Quantity times unit price)</b>
30	20	L.F.		
<b>Description:</b> <input checked="" type="checkbox"/> BASE BID OR <input type="checkbox"/> ALT # Grade, Shape, Compact Existing Drainage Ditch for Placement of Concrete Revetment				
<b>REF NO.:</b>	<b>QUANTITY</b>	<b>UNIT OF MEASURE</b>	<b>UNIT PRICE</b>	<b>UNIT PRICE EXTENSION (Quantity times unit price)</b>
31	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.

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:** \_\_\_\_\_



## INSURANCE REQUIREMENTS\*

Construction Project: Rosedown Way Drainage - Phase 2

Project/Quote/Bid#: 26-16-2

### **\*\*\*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 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 to include coverage for, but not limited to: negligence, mistakes, faulty workmanship, improper installation, not following design specifications, etc. 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 \$1,000,000 CSL each occurrence / \$1,000,000 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 project sign(s) at the beginning of the project. Some projects may require multiple signs. Should more than one sign be required, it will be reflected in the bidding documents.

#### 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 "Temporary Signs and Barricades

Blank Template of Parish Project Sign:

# PROGRESS



**MICHAEL B. COOPER**  
Parish President

---

Councilmember Name  
Council District X

**\$XXX,XXX.XX**

**Project Name**  
Description of  
Project Work

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

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

Total Dollar \$  
amount specified here

Example of a Completed Parish Project Sign:



**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.**

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## 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 Contractor 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 Contractor, 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/\$2,000,000 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](mailto: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 Section 06.

- **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](mailto: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
	<b>GENERAL LIABILITY</b> <input type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> OCCUR  GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC						EACH OCCURRENCE \$ DAMAGE TO RENTED PREMISES (Ea occurrence) \$ MED EXP (Any one person) \$ PERSONAL & ADV INJURY \$ GENERAL AGGREGATE \$ PRODUCTS - COMP/OP AGG \$ \$
	<b>AUTOMOBILE LIABILITY</b> <input type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> HIRED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> NON-OWNED AUTOS						COMBINED SINGLE LIMIT (Ea accident) \$ BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
	<b>UMBRELLA LIAB</b> <input type="checkbox"/> OCCUR <b>EXCESS LIAB</b> <input type="checkbox"/> CLAIMS-MADE DED <input type="checkbox"/> RETENTION \$						EACH OCCURRENCE \$ AGGREGATE \$ \$
	<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b> ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below						<input type="checkbox"/> WC STATUTORY LIMITS <input type="checkbox"/> OTHER 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: «TXTCOMPANYNAME»**

**STATE OF LOUISIANA  
ST. TAMMANY PARISH**

This agreement is entered into this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, by and between: «TXTCOMPANYNAME», hereinafter called the "Contractor", whose business address is «TXTADDRESS», «TXTCITY», «TXTSTATE» «txtZip» 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**

«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».

**5. RETAINAGE**

A retainage fee will be applied to all contracts with a total price of \$100,000.00 or more. For contracts priced between \$100,000.00 and \$499,999.99, the retainage shall be 10% of the amount. For contracts priced at \$500,000.00 or more, the retainage shall be 5%. Retainage will be deducted from each payment and released in accordance with the contract closeout and acceptance requirements.

**6. 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.

## 7. 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.

#### **8. 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 Contractor and accepted by the Parish, and all payments required to be made to the Contractor 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 Contractor 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 Contractor;
- 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 Contractor 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 Contractor 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 Contractor'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 Contractor with thirty (30) days' notice. The Parish will also supply Contractor thirty (30) days' notice that the work is to be reinstated and resumed in full force. Contractor 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 Contractor, Contractor 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 Contractor 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 Contractor as to goods, wares, products, services, materials and the like

supplied to Parish shall be deemed forfeited.

## **9. 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.

**Bond No.:** \_\_\_\_\_

In Witness thereof, the Parties hereto on the day and year first above written have executed this Contract in **One (1)** counterpart, 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

SAMPLE

Bond No.: \_\_\_\_\_

**WITNESSES:**

**ST. TAMMANY PARISH  
GOVERNMENT:**

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Print Name

\_\_\_\_\_

**Michael B. Cooper**  
**Parish President**

\_\_\_\_\_  
Date

**APPROVED BY:**

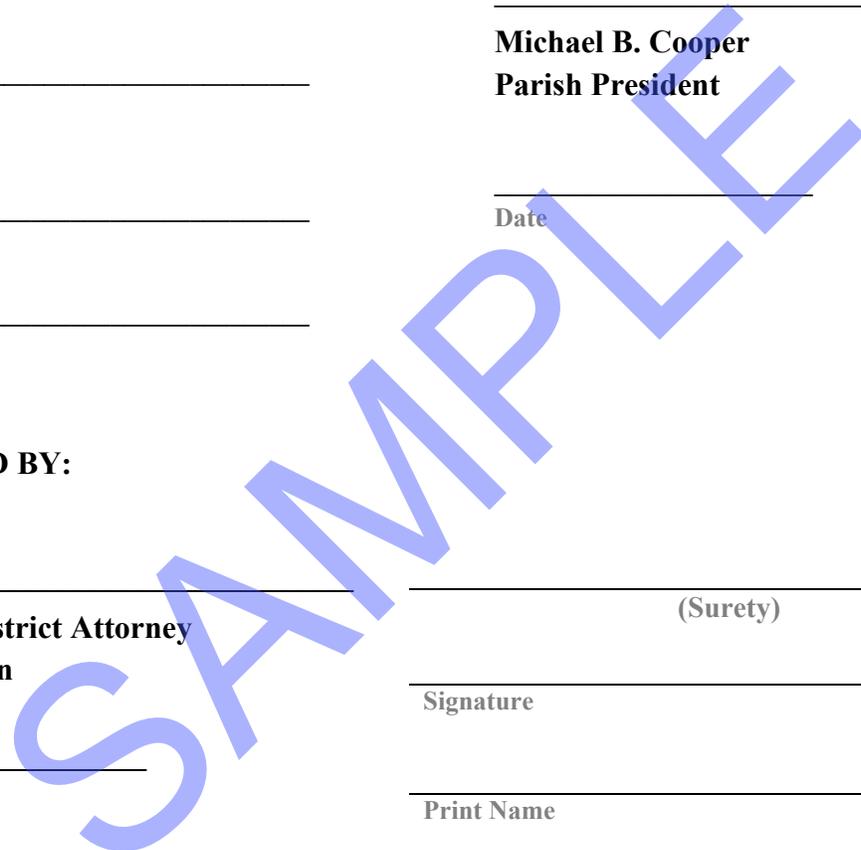
\_\_\_\_\_  
**Assistant District Attorney**  
**Civil Division**

\_\_\_\_\_  
Date

\_\_\_\_\_  
(Surety)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Print Name



## Section 12

### **ST. TAMMANY PARISH**

### **ROSEDOWN WAY DRAINAGE – PHASE 2**

### **CONTRACT DOCUMENTS AND SPECIFICATIONS**

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# **DIVISION 01**

## **GENERAL REQUIREMENTS**

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## **SECTION 01005 – GENERAL REQUIREMENTS**

### **PART 1 - GENERAL**

#### **1.01 SCOPE AND INTENT**

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A. Description

1. The work to be done consists of the furnishing of all labor, materials and equipment, and the performance of all work included in this Contract. The summary of the work is presented in Section 01010.

B. Work Included

1. The Contractor shall furnish all labor, superintendence, materials, power, light, heat, fuel, water, tools, appliances, equipment, supplies, and other means of construction necessary or proper for performing and completing the work. He shall obtain and pay for all applicable required permits. He shall perform and complete the work in the manner best calculated to promote rapid construction consistent with safety of life and property and to the satisfaction of the Engineer, and in strict accordance with the Contract Documents. The Contractor shall clean up the work and maintain it during and after construction, until accepted, and shall do all work and pay all costs incidental thereto. He shall repair or restore all structures and property that may be damaged or disturbed during performance of the work.
2. The cost of incidental work described in these General Requirements, for which there are no specific Contract Items, shall be considered as part of the general cost of doing the work and shall be included in the prices for the various Contract Items. No additional payment will be made therefor.
3. The Contractor shall provide and maintain such modern tools, and equipment as may be necessary, in the opinion of the Engineer, to perform in a satisfactory and acceptable manner all the work required by this Contract. Only equipment of established reputation and proven efficiency shall be used. The Contractor shall be solely responsible for the adequacy of his workmanship, materials and equipment, prior approval of the Engineer notwithstanding.

C. Public Utility Installations and Structures

1. Prior to construction, the Contractor shall familiarize himself with the location of all existing utilities and facilities within the Project Sites, and with the applicable provisions of the General Conditions.
2. The Contractor shall notify utility companies at least 48 hours, excluding Saturdays, Sundays, and legal holidays, prior to excavation. Utility companies shall be contacted by calling the Louisiana One Call (D.O.T.T.I.E.) at 1-800-272-3020.
3. Public utility installations and structures understood to include all poles, tracks, pipes, wires, conduits, house service connections, vaults, manholes and all other appurtenances and facilities pertaining thereto whether owned or controlled by the Owner, other governmental bodies or privately owned by individuals, firms or corporations, used to serve the public with transportation, traffic control, gas, electricity, telephone, sewerage, drainage, water or other public or private property which may be affected by the work shall be deemed to be included hereunder.
4. The Contract Documents may contain data relative to existing public utility installations and structures above and below the ground surface. These data are not guaranteed as to their completeness or accuracy and it is the responsibility of the Contractor to make his own investigations to inform himself fully of the character, condition and extent of all such installations and structures as may be encountered and as may affect the construction operations.

5. The Contractor shall protect all public utility installations and structures from damage during the work. Access across any buried public utility installation or structure shall be made only in such locations and by means approved by the Engineer. The Contractor shall so arrange his operations as to avoid any damage to these facilities. All required protective devices and construction shall be provided by the Contractor at his expense. All existing public utilities damaged by the Contractor which are shown on the plans or have been located in the field by the utility shall be repaired by the Contractor, at his expense, as directed by the Engineer. No separate payment shall be made for such protection or repairs to public utility installations or structures.
6. Public utility installation or structures owned or controlled by the Owner or other governmental body which are shown on the plans to be removed, relocated, replaced or rebuilt by the Contractor shall be considered as a part of the general cost of doing the work and shall be included in the prices bid for the various contract items. No separate payment shall be made therefor.
7. Where public utility installations or structures owned or controlled by the Owner or other governmental body are encountered during the course of the work, and are not indicated on the Plans or in the Specifications, and when, in the opinion of the engineer, removal, relocation, replacement or rebuilding is necessary to complete the work under this Contract, such work shall be accomplished by the utility having jurisdiction, or such work may be ordered, in writing by the Engineer, for the Contractor to accomplish. If such work is accomplished by the utility having jurisdiction it will be carried out expeditiously and the Contractor shall give full cooperation to permit the utility to complete the removal, relocation, replacement or rebuilding as required. If such work is accomplished by the Contractor, it will be paid for as extra work as provided in the General Conditions.
8. The Contractor shall, at all times in performance of the work, employ approved methods and exercise reasonable care and skill so as to avoid unnecessary delay, injury, damage or destruction of public utility installations and structures; and shall, at all times in the performance of the work, avoid unnecessary interference with, or interruption of, public utility services, and shall cooperate fully with the owners thereof to that end. All Owner and other governmental utility departments and other owners of public utilities which may be affected by the work will be informed in writing by the Engineer within two weeks after the execution of the Contract or Contracts covering the work. Such notice will set out, in general, and direct attention to the responsibilities of the Owner and other governmental utility departments and other owners of public utilities for such installations and structures as may be affected by the work and will be accompanied by one set of Plans and Specifications covering the work under such Contract or Contracts.
9. The Contractor shall give written notice to Owner and other governmental utility departments and other owners of public utilities of the location of his proposed construction operations, at least forty-eight hours in advance of breaking ground in any area or on any unit of the work. This can be accomplished by making the appropriate contact with the utility companies indicated on the Drawings.
10. The maintenance, repair, removal, relocation or rebuilding of public utility installations and structures, when accomplished by the Contractor as herein provided, shall be done by methods approved by the Engineer.

## **1.02 PLANS AND SPECIFICATIONS**

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### **A. Plans**

1. The Plans referred to in the Contract Documents bear the general project name and number as shown in the Advertisement for Bids.
2. When obtaining data and information from the Plans, figures shall be used in preference to scaled dimensions, and large scale drawings in preference to small scale drawings.

### **B. Copies Furnished to Contractor**

1. In addition to the executed set of Contract Documents, the Owner will furnish, free of charge to the

Contractor, two (2) sets of paper prints of the Plans and Specifications, the same size as the original drawings and specifications. Any additional Plans and Specifications, when requested, will be sold to the Contractor at the cost of reproduction.

2. The Contractor shall furnish each of the subcontractors, manufacturers, and material suppliers such copies of the Contract Documents as maybe required for their work.

C. Supplementary Drawings

1. When, in the opinion of the Engineer, it becomes necessary to explain more fully the work to be done or to illustrate the work further or to show any changes which may be required, drawings known as Supplementary Drawings, with specifications pertaining thereto, will be prepared by the Engineer and five (5) paper prints thereof will be given to the Contractor.
2. The Supplementary Drawings shall be binding upon the Contractor with the same force as the Plans. Where such Supplementary Drawings require either less or more than the estimated quantities of work, credit to the Owner or compensation therefor to the Contractor shall be subject to the terms of the Agreement.

D. Contractor to Check Plans and Data

1. The Contractor shall verify all dimensions, quantities and details shown on the plans, Supplementary Drawings, schedules, Specifications or other data received from the Engineer, and shall notify him of all errors, omissions, conflicts, and discrepancies and shall not relieve the Contractor of full responsibility for unsatisfactory work, faulty construction or improper operation resulting therefrom nor from rectifying such conditions at his own expense. He will not be allowed to take advantage of any errors or omissions he discovered. All schedules are given for the convenience of the Engineer and the Contractor and are not guaranteed to be complete. The Contractor shall assume all responsibility for the making of estimates of the size, kind, and quality of materials and equipment included in work to be done under the Contract.

E. Specifications

1. The Technical Specifications consist of three (3) parts: General, Products and Execution. The General Section contains General Requirements which govern the work. Products and Execution modify and supplement these by detailed requirements for the work and shall always govern whenever there appears to be a conflict.

F. Intent

1. All work called for in the Specifications applicable to this Contract, but not shown on the plans in their present form, or vice versa, shall be of like effect as if shown or mentioned in both. Work not specified in either the Plans or in the Specifications, but involved in carrying out their intent or in the complete and proper execution of the work, is required and shall be performed by the Contractor as though it were specifically delineated or described.
2. The apparent silence of the Specifications as to any detail, or the apparent omission from them of a detailed description concerning any work to be done and materials to be furnished, shall be regarded as meaning that only the best general practice is to prevail and that only material and workmanship of the best quality is to be used, and interpretation of these Specifications shall be made upon that basis.
3. The inclusion of the Related Requirements (or work specified elsewhere) in the General part of the specifications is only for the convenience of the Contractor, and shall not be interpreted as a complete list of related Specification Sections.

## **1.03 MATERIALS AND EQUIPMENT**

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A. Manufacturer

1. The names of proposed manufacturers, material suppliers, and dealers who are to furnish materials, fixtures, equipment, appliances or other fittings shall be submitted to the Engineer for approval, in accordance with the General Conditions as early as possible, to afford proper investigation and checking. Such approval must be obtained before Shop Drawings will be checked. No manufacturer will be approved for any materials to be furnished under this Contract unless he shall be of good reputation and have a plant of ample capacity. He shall, upon the request of the Engineer, be required to submit evidence that he has manufactured a similar product to the one specified and that it has been previously used for a like purpose for a sufficient length of time to demonstrate its satisfactory performance.
2. All transactions with the manufacturers or subcontractors shall be through the Contractor, unless the Contractor requests, in writing to the Engineer and the Engineer approves that the manufacturer or subcontractor deal directly with the Engineer. Any such transactions shall not in any way release the Contractor from his full responsibility under this Contract.
3. Any two (2) or more pieces of material or equipment of the same kind, type or classification, and being used for identical types of service, shall be made by the same manufacturer.

**B. Delivery**

1. The Contractor shall deliver materials in ample quantities to ensure the most speedy and uninterrupted progress of the work so as to complete the work within the allotted time. The Contractor shall also coordinate deliveries in order to avoid delay in, or impediment of, the progress of the work of any related Contractor.

**C. Tools and Accessories**

1. The Contractor shall, unless otherwise stated in the Contract Documents, furnish with each type, kind or size of equipment, one complete set of suitably marked high grade special tools and appliances which may be needed to adjust, operate, maintain or repair the equipment. Such tools and appliances shall be furnished in approved painted steel cases, properly labeled and equipped with good grade cylinder locks and duplicate keys.

**D. Spare parts shall be furnished as specified**

1. Each piece of equipment shall be provided with a substantial nameplate, securely fastened in place and clearly inscribed with the manufacturer's name, year of manufacture, serial number, weight and principal rating data.

**E. Installation of Equipment**

1. The Contractor shall have on hand sufficient proper equipment and machinery of ample capacity to facilitate the work and to handle all emergencies normally encountered in work of this character.
2. Equipment shall be erected in a neat and workmanlike manner on the foundations at the locations and elevations shown on the Plans, unless directed otherwise by the Engineer during installation. All equipment shall be correctly aligned, leveled and adjusted for satisfactory operation and shall be installed so that proper and necessary connections can be made readily between the various units.
3. The Contractor shall furnish, install and protect all necessary anchor and attachment bolts and all other appurtenances needed for the installation of the devices included in the equipment specified. Anchor bolts shall be as approved by the Engineer and made of ample size and strength for the purpose intended. Substantial templates and working drawings for installation shall be furnished.
4. The Contractor shall, at his own expense, furnish all materials and labor for, and shall properly bed in non-shrink grout, each piece of equipment on its supporting base that rests on masonry foundations. Grout shall completely fill the space between the equipment base and the foundation. All metal surfaces coming in contact with concrete or grout shall receive two (2) coats (9 mils each coat) of coal tar epoxy equal to Kop-Coat 300M.

F. Service of Manufacturer's Engineer

1. The Contract prices for equipment shall include the cost of furnishing a competent and experienced engineer or superintendent who shall represent the manufacturer and shall assist the Contractor, when required, to install, adjust, test and place in operation the equipment in conformity with the Contract Documents. After the equipment is placed in permanent operation by the Owner, such engineer or superintendent shall make all adjustments and tests required by the Engineer to prove that such equipment is proper and satisfactory operating condition, and shall instruct such personnel as may be designated by the Owner in the proper operation and maintenance of such equipment.

## **1.04 INSPECTION AND TESTING**

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A. General

1. The Engineer may require testing by certified personnel of certain materials to be incorporated in the Work, such as: soils density, pavement, concrete pipe and appurtenances, and welds.
2. In the event any such testing is required by the Engineer, a detailed description will be found in these Technical Specifications concerned with the specific item of Work.
3. Inspection and testing of materials will be performed by the Owner unless otherwise specified.
4. For tests specified to be made by the Contractor, the testing personnel shall make the necessary inspections and tests and the reports thereof shall be in such form as will facilitate checking to determine compliance with the Contract Documents. Five (5) copies of the reports shall be submitted and authoritative certification thereof must be furnished to the Engineer as a prerequisite for the acceptance of any material or equipment.
5. If, in the making of any test of any material or equipment, it is ascertained by the Engineer that the material or equipment does not comply with the Contract, the Contractor will be notified thereof and he will be directed to refrain from delivering said material or equipment, or to remove it promptly from the site or from the work and replace it with acceptable material, without cost to the Owner.
6. Tests of electrical and mechanical equipment and appliances shall be conducted in accordance with recognized test codes of the ANSI, ASME, or the IEEE, except as may otherwise be stated herein.
7. The Contractor shall be fully responsible for the proper operation of equipment during tests and instruction periods and shall neither have nor make any claim for damage which may occur to equipment prior to the time when the Owner formally takes over the operation thereof.

B. Costs

1. All inspection and testing of materials furnished under this Contract will be performed by the Owner or duly authorized inspection engineers or inspection bureaus without cost to the Contractor, unless otherwise expressly specified.
2. The cost of shop and field tests of equipment and of certain other tests specifically called for in the Contract Documents shall be borne by the Contractor and such costs shall be deemed to be included in the Contract price.
3. Materials and equipment submitted by the Contractor as the equivalent to those specifically named in the Contract may be tested by the Owner for compliance. The Contractor shall reimburse the Owner for the expenditures incurred in making such tests on materials and equipment which are rejected for non-compliance.

C. Inspection of Materials

1. The Contractor shall give notice in writing to the Engineer, sufficiently in advance of his intention to commence the manufacture or preparation of materials especially manufactured or prepared for use in or as part of the permanent construction. Such notice shall contain a request for inspection, the date of commencement and the expected date of completion of the manufacture or preparation of materials. Upon receipt of such notice, the Engineer will arrange to have a representative present at such times during the manufacture as may be necessary to inspect the materials or he will notify the Contractor that the inspection will be made at a point other than the point of manufacture, or he will notify the Contractor that inspection will be waived. The Contractor must comply with these provisions before shipping any material. Such inspection shall not release the Contractor from the responsibility for furnishing materials meeting the requirements of the Contract Documents.

D. Certificate of Manufacture

1. When inspection is waived or when the Engineer so requires, the Contractor shall furnish to him authoritative evidence in the form of Certificates of Manufacture that the materials to be used in the work have been manufactured and tested in conformity with the Contract Documents. These certificates shall be notarized and shall include copies of the results of physical tests and chemical analyses, where necessary, that have been made directly on the product or on similar products of the manufacturer. The certificates shall be delivered to the Engineer prior to shipment of the materials.

E. Shop Tests of Operating Equipment

1. Each piece of equipment for which pressure, duty, capacity, rating, efficiency, performance, function or special requirements are specified shall be tested in the shop of the maker in a manner which shall conclusively prove that its characteristics comply fully with the requirements of the Contract Documents. No such equipment shall be shipped to the work until the Engineer notifies the Contractor, in writing, that the results of such tests are acceptable.
2. Five (5) copies of the manufacturer's actual test data and interpreted results thereof, accompanied by a certificate of authenticity sworn to by a responsible official of the manufacturing company, shall be forwarded to the Engineer for approval.
3. The cost of shop tests and of furnishing manufacturer's preliminary and shop test data of operating equipment shall be borne by the Contractor.

F. Preliminary Field Tests

1. As soon as conditions permit, the Contractor shall furnish all labor, materials, and instruments and shall make preliminary field tests of equipment. If the preliminary field tests disclose any equipment furnished under this Contract which does not comply with the requirements of the Contract Documents, the Contractor shall, prior to the acceptance tests, make all changes, adjustments and replacements required. The furnishing Contractor shall assist in the preliminary field tests as applicable.

G. Final Field Tests

1. Upon completion of the work and prior to final payment, all equipment and piping installed under this Contract shall be subjected to acceptance tests as specified or required to prove compliance with the Contract Documents.
2. The Contractor shall furnish labor, fuel, energy, water and all other materials, equipment and instruments necessary for all acceptance tests, at no additional cost to the Owner. The Furnishing Supplier shall assist in the final field tests as applicable.

H. Failure of Tests

1. Any defects in the materials and equipment or their failure to meet the tests, guarantees or

requirements of the Contract Documents shall be promptly corrected by the Contractor by replacements or otherwise. The decision of the Engineer as to whether or not the Contractor has fulfilled his obligations under the Contract shall be final and conclusive. If the Contractor fails to make these corrections or if the improved materials and equipment, when tested, shall again fail to meet the guarantees or specified requirements, the Owner, notwithstanding its partial payment for work, and materials and equipment, may reject the materials and equipment and may order the Contractor to remove them from the site at his own expense.

2. If the failure during testing is fully or partly due to the equipment provided by the Furnishing Supplier, as determined by the Engineer, the Furnishing Supplier shall make all requirement improvements at no cost to the Owner.
3. In case the Owner rejects any materials and equipment, then the Contractor shall replace the rejected materials and equipment within a reasonable time. If he fails to do so, the Owner may, after the expiration of a period of thirty (3) calendar days after giving him notice in writing, proceed to replace such rejected materials and equipment, and the cost thereof shall be deducted from any compensation due or which may become due the Contractor under his Contract.
4. The Owner agrees to obtain other equipment within a reasonable time and the Contractor agrees that the Owner may use the equipment furnished by him without rental or other charges until the new equipment is obtained.

#### I. Final Inspection

1. During such final inspections, the work shall be clean and free from water. In no case will the final estimate be prepared until the Contractor has complied with all requirements set forth and the Engineer has made his final inspection of the entire work and is satisfied that the entire work is properly and satisfactorily constructed in accordance with the requirements of the Contract Documents.

### **1.05 TEMPORARY STRUCTURES**

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#### A. Temporary Fences

1. If, during the course of the work, it is necessary to remove or disturb any fence or part thereof, the Contractor shall provide a suitable temporary fence at his own expenses, which shall be maintained until the permanent fence is replaced. The Engineer shall be solely responsible for the determination of the necessity for providing a temporary fence and the type of temporary fence to be used.

#### B. Responsibility for Temporary Structures

1. In accepting the Contract, the Contractor assumes full responsibility for the sufficiency and safety of all temporary structures or work and for any damage which may result from their failure or their improper construction, maintenance or operation and will indemnify and save harmless the Owner from all claims, suits or actions and damages or costs of every description arising by reason of failure to comply with the above provisions.

### **1.06 SAFETY**

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#### A. Accident Prevention

1. Precaution shall be exercised at all times for the protection of persons and property. The safety provisions of applicable laws, and existing building and construction codes shall be observed. Machinery, equipment, and other hazards shall be guarded in accordance with the safety provisions of the Manual of Accident Prevention in Construction, published by the Associated General Contractors of America, and OSHA's Safety and Health Standards (29 CFR 1926/1910) U.S. Department of Labor, to the extent that such provisions are not in contravention of applicable law of the state of

Louisiana.

B. First Aid

1. The Contractor shall keep upon the site, at each location where work is in progress, a completely equipped first aid kit and shall provide ready access thereto at all times when men are employed on the work.

## **1.07 LINES AND GRADES**

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A. Grade

1. All work under this Contract shall be constructed in accordance with the lines and grades shown on the Plans, or as given by the Owner/Engineer. The full responsibility for keeping alignment and grade shall rest upon the Contractor.
2. The Owner/Engineer will establish bench marks and base line controlling points.

B. Surveys

1. The Contractor shall furnish, maintain, and be responsible for, at his own expense, stakes and other such materials required.

C. Safeguarding Marks

1. The Contractor shall safeguard all points, stakes, grade marks, monuments and bench marks made or established on the work, bear the cost of reestablishing them if disturbed, and bear the entire expense of recertifying work improperly installed due to not maintaining or protecting or to remove without authorization such established points, stakes and marks.
2. The Contractor shall safeguard all existing and known property corners, monuments and marks adjacent to but not related to the work and, if required, shall bear the cost or reestablishing them if disturbed or destroyed.

## **1.08 ADJACENT STRUCTURES AND LANDSCAPING**

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A. Responsibility

1. The Contractor shall also be entirely responsible and liable for all damage or injury as a result of his operations to all other adjacent public and private property, structures of any kind and appurtenances thereto met with during the progress of the work. The cost of protection, replacement in their original locations and conditions or payment of damages for injuries to such adjacent public and private property and structures affected by the work, whether or not shown on the Plans, and the removal, relocation and reconstruction of such items called for on the Plans or specified shall be included in the various Contract Items and no separate payments will be made therefor. Where such public and private property, structures of any kind and appurtenances thereto are not shown on the Plans and when, in the opinion of the Engineer will interfere with the work, payment therefor will be made as provided for in the General Conditions.
2. Contractor is expressly advised that the protection of buildings, structures, tunnels, tanks, pipelines, etc. and related work adjacent and in the vicinity of his operations, wherever they may be, is solely his responsibility. Conditional inspection of buildings or structures in the immediate vicinity of the project which may reasonably be expected to be affected by the Work shall be performed by and be the responsibility of the Contractor.
3. Contractor shall, before starting operations, make an examination of the interior and exterior of the adjacent structures, buildings, facilities, etc., and record by notes, measurements, photographs, etc.,

conditions which might be aggravated by open excavation and construction. Repairs or replacement of all conditions disturbed by the construction shall be made to the satisfaction of the Owner and to the satisfaction of the Engineer. This does not preclude conforming to the requirements of the insurance underwriters. Copies of surveys, photographs, reports, etc., shall be given to the Engineer.

4. Prior to the beginning of any excavations the Contractor shall advise the Engineer of all buildings or structures on which he intends to perform work or which performance of the project work will affect.

B. Lawn Areas

1. Lawn areas shall be left in as good condition as before the starting of the work. Where sod is to be removed, it shall be carefully removed, and later replaced, or the area where sod has been removed shall be restored with new sod in the manner described in the Workmanship and Materials section.

C. Restoration of Fences

1. Any fence, or part thereof, that is damaged or removed during the course of the work shall be replaced or repaired by the Contractor and shall be left in as good a condition as before the starting of the work. The manner in which the fence is repaired or replaced and the materials used in such work shall be subject to the approval of the Engineer. The cost of all labor, materials, equipment, and work for the replacement or repair of any fence shall be deemed included in the appropriate Contract Item or items, or if no specific Item is provided therefor, as part of the overhead cost of the work, and no additional payment will be made therefor.

## **1.09 PROTECTION OF WORK AND PUBLIC**

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A. Barriers and Lights

1. During the prosecution of the work, the Contractor shall put up and maintain at all times such barriers and lights as will effectually prevent accidents. The Contractor shall provide suitable barricades, red lights, "danger" or "caution" or "street closed" signs and watchmen at all places where the work causes obstructions to the normal traffic or constitutes in any way a hazard to the public, in accordance with state and local requirements.

B. Smoke Prevention

1. The Contractor shall use hard coal, coke, oil or gas as fuel for equipment generating steam. A strict compliance with ordinances regulating the production and emission of smoke will be required. No open fires will be permitted.

C. Noise

1. The Contractor shall eliminate noise to as great an extent as practicable at all times. Air compressing plants shall be equipped with silencers and the exhaust of all gasoline motors or other power equipment shall be provided with mufflers. In the vicinity of hospitals and schools, special care shall be used to avoid noise or other nuisances. The Contractor shall strictly observe all local regulations and ordinances covering noise control.
2. Except in the event of an emergency, no work shall be done between the hours of 7:00 P.M. and 7:00 A.M. If the proper and efficient prosecution of the work requires operations during the night, the written permission of the Engineer shall be obtained before starting such items of the work.

D. Access to Public Services

1. Neither the materials excavated nor the materials or plant used in the construction of the work shall be so placed as to prevent free access to all fire hydrants, valves, or manholes.

E. Dust Prevention

1. The Contractor shall prevent dust nuisance from his operations or from traffic by keeping the roads and/or construction areas sprinkled with water at all times.

### **1.10 CUTTING AND PATCHING**

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- A. The Contractor shall do all cutting, fitting or patching of his portion of the work that may be required to make the several parts thereof join and coordinate in a manner satisfactory to the Engineer and in accordance with the Plans and Specifications. The work must be done by competent workmen skilled in the trade required by the restoration.

### **1.11 CLEANING**

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- A. During Construction
  1. During construction of the work, the Contractor shall, at all times, keep the site of the work and adjacent premises as free from material, debris and rubbish as is practicable and shall remove the same from any portion of the site if, in the opinion of the Engineer, such material, debris, or rubbish constitutes a nuisance or is objectionable.
  2. The Contractor shall remove from the site all of his surplus materials and temporary structures when no further need therefore develops. Contractor shall be responsible and liable for all spillage and incur all associated costs including, but not limited to, costs related to repair and maintenance resulting from damages thereof.
- B. Final Cleaning
  1. At the conclusion of the work, all erection plant, tools, temporary structures and materials belonging to the Contractor shall be promptly taken away, and he shall remove and promptly dispose of all water, dirt, rubbish or any other foreign substances,
  2. The Contractor shall thoroughly clean all equipment and materials installed by him and shall deliver such materials and equipment undamaged in a bright, clean, polished and new condition.

### **1.12 INSPECTION AUTHORITY**

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- A. The Engineer has ultimate responsibility for contract administration and inspection for the Project. Field inspection responsibilities may be assigned to a Design Professional and/or Owner Inspector.
- B. Each step of construction is subject to approval by the Engineer prior to proceeding with a subsequent step in accordance with General Conditions.
- C. During the progress of the Work and up to the date of final acceptance, the Contractor shall at all times afford representatives of the Owner, the City/Parish, the State, the Department of Environmental Quality, the Department of Labor, or any other agency with jurisdiction, every reasonable, safe, and proper facility for observation of the Work done or being done at the site, and also the manufacture or preparation of materials and equipment at the place of such manufacture or preparation.
- D. The Project line of authority will be presented at the Pre-Construction Meeting.

### **1.13 SAMPLES**

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- A. The Contractor shall, when required, submit to the Engineer for approval, typical samples of material and appliances. The samples shall be properly identified by tags and shall be submitted sufficiently in advance of the time when they are to be incorporated into the Work so that rejections thereof will not cause delay. A letter of transmittal from the Contractor requesting approval shall accompany all such samples.

### **1.14 EQUIVALENT QUALITY**

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- A. In the Contract Documents, whenever an article, material, apparatus, equipment, or process is called for by trade name or by name of a patentee, manufacturer, or dealer, or by reference to catalog of a manufacturer or dealer followed by "or equal", it shall be understood as intending to mean and specify the article, material, apparatus, equipment, or process designated, or any equal thereto in quality, finish, design, efficiency, and durability, and equally serviceable for the purposes for which it is intended.
- B. Whenever material or equipment is submitted for approval as being equal to that specified, the submittal shall include sufficient information and data to demonstrate that the material or equipment conforms to the contract requirements. The decision as to whether or not such material or equipment is equal to that specified shall be made by the Engineer.
- C. Upon rejection of any material or equipment submitted as the equivalent of that specifically named in the contract, the Contractor shall immediately proceed to furnish the designated material or equipment.
- D. Neither the approval by the Engineer of alternate material or equipment as being equivalent to that specified, nor the furnishing of the material or equipment specified, shall in any way relieve the Contractor of responsibility for failure of the material or equipment, due to faulty design, material, or workmanship, to perform the functions required of them by the Contract Documents.
- E. Items requiring "pre-approval" must be submitted to the Engineer a minimum of twenty one (21) days prior to the bid opening for consideration, and if acceptable will be incorporated by Addendum.

### **1.15 MISCELLANEOUS**

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- A. Protection Against Siltation and Bank Erosion
  - 1. The Contractor shall arrange his operations to minimize siltation and bank erosion on construction sites and on existing or proposed water courses and drainage ditches.
  - 2. The Contractor, at his own expense, shall remove any siltation deposits and correct any erosion problems as directed by the Engineer which results from his construction operations.
- B. Protection of Wetland Areas
  - 1. The Contractor shall properly dispose of all surplus material, including spoil, in accordance with Local, State and Federal regulations. Under no circumstances shall surplus material be disposed of in wetland areas as defined by the Louisiana Department of Environmental Quality.
- C. Existing Facilities
  - 1. The work shall be so conducted to maintain existing facilities in operation insofar as is possible. Requirements and schedules of operation for maintaining existing facilities in service during construction shall be as described in these Specifications.

D. Use of Chemicals

1. All chemicals used during project construction or furnished for project operation, whether herbicide, pesticide, disinfectant, polymer, reactant, or of other classification, must shown approval of either EPA or USDA. Use of all such chemicals and disposal of residues shall be in strict conformance with instructions.

E. Cooperation With Other Contractors Forces

1. During progress of work under this Contract, it may be necessary for other contractors and persons employed by the Owner to work in or about the Site. The Owner reserves the right to put such other contractors to work and to afford such access to the Site of the Work to be performed hereunder at such times as the Owner deems proper. The Contractor shall not impede or interfere with the work of such other contractors engaged in or about the Work and shall so arrange and conduct his work that such other contractors may complete their work at the earliest date possible.

**PART 2 - PRODUCTS (NOT USED)**

**PART 3 - EXECUTION (NOT USED)**

END OF SECTION

## **SECTION 01010 - SUMMARY OF WORK**

### **PART 1 - GENERAL**

#### **1.01 REQUIREMENTS INCLUDED**

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- A. The single construction contract system will be used for this PROJECT.
- B. CONTRACTOR shall furnish all labor, permits, fees, equipment, supplies, materials, services and incidentals required to complete the WORK.
- C. Mention herein or indication on the DRAWINGS of articles, operations, or methods requires that the CONTRACTOR provide each item mentioned, indicated, or necessary as an adjunct to the item, subject to qualifications noted, and perform according to conditions required.

#### **1.02 DESCRIPTION OF WORK**

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- A. This WORK includes furnishing all labor, materials and equipment for the installation of storm drainage pipes, catch basins, concrete revetment, concrete box culverts & headwall, and all associated appurtenances.

#### **1.03 CONSTRUCTION LIMITS AND STORAGE**

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- A. Refer to the DRAWINGS for the location of the PROJECT.
- B. CONTRACTOR shall limit his construction activities to the right-of-way and to approved storage areas for the PROJECT.
- C. Access to private property must be maintained during construction.
- D. CONTRACTOR shall provide barricades, safety or warning devices, signs and warning lights required for the protection of employees, the public and property.
- E. The OWNER will designate storage areas to be used for material and equipment deliveries and access.

#### **1.04 COORDINATION OF WORK WITH OWNER AND OTHERS**

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- A. The CONTRACTOR shall coordinate WORK and cooperate with OWNER working in the PROJECT area. Contractors shall coordinate, cooperate and schedule their work to complete all work in an efficient manner in the areas of common occupancy.
- B. The CONTRACTOR shall limit his use of the premises for WORK and for storage to allow for work by other SUBCONTRACTORS, utility agencies, and OWNER operations.
- C. OWNER personnel may require access to the PROJECT site. The CONTRACTOR shall coordinate all stored products or equipment under his control with the RESIDENT PROJECT REPRESENTATIVE to prevent interference with operation of the OWNER.

### **1.05 MEASUREMENTS AND PROJECT LAYOUT**

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- A. The CONTRACTOR is responsible for survey and complete layout of all vertical and horizontal controls necessary to construct the PROJECT. The CONTRACTOR shall verify all field conditions, elevations and dimensions affecting the construction of the WORK and be responsible for correctness of same.
- B. No extra compensation will be allowed for differences between actual elevations, dimensions or measurements indicated on DRAWINGS. Differences found shall be reported to the ENGINEER for consideration before proceeding with the WORK.
- C. Contract Drawings:
  - 1. DRAWINGS indicate the general area of construction routing and levels; CONTRACTOR shall field verify and coordinate.
  - 2. Adjustments in dimensions, elevations, routing and connections shall be made for field coordination with other trades.
  - 3. All field adjustments shall be subject to the ENGINEER's approval.

### **1.06 EASEMENTS**

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- A. All necessary easements have been obtained by the OWNER.

### **1.07 WORKMANSHIP**

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- A. Materials, methods and workmanship shall be the best obtainable within established trade standard tolerance.
- B. Uniformity: The CONTRACTOR shall provide uniform quality and appearance throughout the PROJECT.
- C. Stability: All members shall be rigid and shall be securely anchored in place. Members subject to vibration or wracking shall be adequately attached. Connections shall be adequate to withstand stress to which they would be subject.
- D. Joints: Joints in all materials shall be true, neat and inconspicuous. Joints between materials of different kinds shall be closely fitted.
- E. Surfaces: Surfaces of all materials fabricated into a single article of composition or into an assembly of units shall be uniform, true, plumb, level, properly curved or pitched as required, and free from defects and blemishes. All edges, angles and corners shall be uniform and true.
- F. Finish: Exposed surfaces of materials in which natural irregularity does not contribute to desired character shall be smooth and free from blemishes of any kind.

### **1.08 CONSTRUCTION GUARANTEE**

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- A. The CONTRACTOR shall guarantee all equipment, materials and workmanship incorporated in the PROJECT for a period of one year following date of FINAL ACCEPTANCE by the OWNER.
- B. The CONTRACTOR shall immediately correct all deficiencies reported to him without cost to the OWNER within this guarantee period.

### **1.09 CODES, STANDARDS AND REGULATIONS**

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- A. All WORK shall conform to the latest edition of the codes or regulations of the following:
1. “Standard Specifications For Roads And Bridges”, Louisiana Department of Transportation And Development.
  2. Louisiana Department of Health & Hospitals.
    - a. State Sanitary Code
    - b. Recommended Standards For Wastewater Facilities (Ten States Standard)
    - c. Recommended Standards For Water Works (Ten States Standards)
  3. Local Utility Service Company Requirements for electric services.
  4. National Electric Code.
  5. National Plumbing Code.
  6. American Water Works Association Standards.
  7. American Society of Testing and Materials Standards.
  8. Occupational Safety And Health Administration Standards.
  9. American Concrete Institute.
  10. American Institute of Steel Construction.
  11. American Welding Society.
  12. Anti-Friction Bearing Manufacturers Association.
  13. Concrete Reinforcing Steel Institute.
  14. Factory Mutual Association (FM).
  15. Instrument Society of America (ISA).
  16. National Bureau of Standards (NBS) Voluntary PROJECT Standard (PS).
  17. National Electrical Manufacturer’s Association (NEMA).
  18. National Fire Protection Association (NFPA).
  19. Steel Structures Painting Council (SSPC).
  20. Underwriters’ Laboratories, Inc. (UL).
  21. Occupational Safety and Health Administration Standards (OSHA).

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### **1.10 NOTICE TO UTILITY COMPANIES AND AGENCIES**

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- A. Notify all utility companies a minimum of 48 hours prior to excavation, or as required by the utility company.
- B. Obtain permission of utility owner to excavate in the vicinity of their utility.
- C. Arrange with owners and operators of respective utility systems to mark the location, and if necessary or prudent, to expose existing utilities or structures prior to construction of the facilities contained in this CONTRACT.
- D. If in course of the WORK it is found necessary to repair utility systems or structures damaged by the CONTRACTOR's activities, repairs or revisions shall be made by employees of the respective utilities and agencies with all costs borne by the CONTRACTOR.

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### **1.11 EXISTING UTILITIES**

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- A. In general, the locations of existing underground utilities are not indicated on the DRAWINGS. The OWNER does not guarantee the accuracy or completeness of the information shown on the DRAWINGS, and it is to be understood that aboveground or underground facilities not shown on the DRAWINGS may be encountered during the course of the WORK.
- B. Existing aboveground utilities including, not limited to, power distribution and telephone systems, whether shown on the DRAWINGS or not, shall be maintained, relocated, rerouted, removed and restored as may be necessary in a manner satisfactory to owners and operators of the utilities and to the OWNER.
- C. Existing underground utilities and appurtenance structures, whether shown on the DRAWINGS or not, shall be maintained, relocated, rerouted, removed and restored in a manner satisfactory to owners and operators of the

utilities and to the OWNER. In the following special cases, the CONTRACTOR will be reimbursed in accordance with the GENERAL CONDITIONS for all costs of modifying, rerouting or relaying utilities:

1. An existing utility is shown on the DRAWINGS as being above or below the pipeline or structure to be constructed under this CONTRACT but is found during construction to be in conflict with the proposed WORK.
  2. An existing utility is shown on the DRAWINGS in plan, but not in profile, and is found during construction to be in conflict with the proposed WORK.
  3. An existing utility is not shown on the DRAWINGS but is found during construction to be in conflict with the proposed WORK.
  4. An existing utility is not shown on the drawings and is found during construction to cross or project into the allowable excavation for the proposed WORK at an angle of 30 degrees or less at any elevation.
- D. Minor underground utility service lines including, but not limited to, sanitary sewer services, water services, house or yard drains, and electric or telephone services, shall be maintained, relocated, rerouted, removed and restored with the least possible interference with such services, and in no case shall the interference of such service lines be considered for extra compensation under any of the special cases listed hereinbefore.
- E. The right is reserved by owners of public utilities and franchises to enter upon any street, road, right-of-way or easement for the purpose of maintaining their property and for making necessary repairs or changes caused by the WORK. Except as specifically noted, all costs thus incurred shall be incidental to the CONTRACT, and borne by the CONTRACTOR.

## **1.12 RESTORATION OF STRUCTURES AND SURFACES**

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- A. General: Whenever any of the work is accomplished on or through property other than that owned by the PROJECT OWNER, before final acceptance of the WORK by the PROJECT OWNER, a written release from the adjoining property owner or proper authority citing for the owner of the property affected stating that the restoration of structures and surfaces has been satisfactorily accomplished. If in the opinion of the PROJECT OWNER the release is arbitrarily withheld, the PROJECT OWNER may, at its sole discretion, accept the portion of the WORK involved and cause final payment therefore to be made.

In addition to the requirements of any applicable utility permit, street use permit or franchise relating to this CONTRACT, the CONTRACTOR shall, as a minimum for any restoration work, conform to standard plans and specifications of the agency which controls the use of the right-of-way in which this construction WORK is performed.

- B. Structures: The CONTRACTOR shall remove such existing above and below-ground structures as may be necessary for the performance of the WORK and, if required, shall rebuild the structures thus removed in as good a condition as found with minimum requirements as herein specified. He shall also repair all existing structures which may be damaged as a result of the WORK under this CONTRACT. Reconstruction shall be of the same kind of material with the same finish and in not less than the same dimensions as the original work. All concrete shall be as specified herein unless otherwise indicated. Repairs shall be made by removing and replacing the entire portions between joints or scores and not merely refinishing any damaged part. All WORK shall match the appearance of the existing improvements as nearly as possible.
- C. Roads and Streets: All roads and streets in which the surface is removed, broken or damaged, or in which the ground has caved or settled due to WORK under this CONTRACT, shall be resurfaced and brought to the original grade and crown section unless otherwise indicated. Before resurfacing material is placed, edges of pavements shall be trimmed back far enough to provide clean, solid, vertical faces. Roadways used by the CONTRACTOR for hauling materials, equipment, supplies, and the like, shall be cleaned and repaired if the condition of the roadway is damaged or otherwise affected due to the CONTRACTOR's operations.
- D. Planted Areas and Other Surface Improvements: All planted areas, such as trees or lawns, and other surface

improvements which are damaged by actions of the CONTRACTOR, shall be restored as nearly as possible to their original condition. The CONTRACTOR shall resod areas which have been damaged during construction.

- E. Existing Stakes and Marks: All section, section subdivision, plat, U.S.C. and G.S., U.S.G.S. and other official monuments or bench marks shall be carefully preserved or replaced. In the event any such monument or marker is disturbed as a result of the CONTRACTOR's operations, the CONTRACTOR shall effect the replacement or resetting of the monument or marker in a manner satisfactory to the ENGINEER. Replaced or reset monuments shall be of acceptable type and quality, and shall be located so as to clear existing utilities or any other interferences. They shall be placed by a licensed surveyor in a manner consistent with good and recognized engineering and surveying practices.

## **PART 2 – PRODUCTS (NOT USED)**

## **PART 3 – EXECUTION (NOT USED)**

END OF SECTION

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## **SECTION 01025 – MEASUREMENT AND PAYMENT**

### **PART 1 - GENERAL**

#### **1.01 MEASUREMENT AND PAYMENT**

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- A. Partial payment of BID ITEMS shall be in conformance with the GENERAL CONDITIONS. Partial payment for WORK completed, and materials on site, which will become an integral part of the finished WORK, shall be determined by the OWNER and shall be made on the basis of duly certified and approved estimates of the WORK, which, in the opinion of the OWNER, has been satisfactorily completed. It is understood that the determination by the OWNER as to whether or not a certificate or estimate for payment should be issued, or the amount of said payment, shall be based entirely upon the opinion of the OWNER. Said determination shall include without limitation the following factors:
1. All phases of the WORK being accomplished in a proper manner and being pursued in a proper sequence of operation, particularly with regard to testing, cleanup and surface restoration.
  2. The observance by the CONTRACTOR of the requirement that all WORK and operations be preceded by necessary submittals and approvals.
  3. On the monthly estimates, partial payment for WORK performed but not completed shall be made in accordance with GENERAL CONDITIONS.
- B. The CONTRACT PRICE shall constitute full compensation for furnishing all labor, equipment and materials, as specified, and as shown on the DRAWINGS.

### **PART 2 – PRODUCTS (NOT USED)**

### **PART 3 – EXECUTION (NOT USED)**

END OF SECTION

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**PART 1 - GENERAL**

**1.01 DESCRIPTION OF WORK**

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- A. The CONTRACTOR shall be solely responsible for coordination of all of the WORK. The CONTRACTOR shall supervise, direct and cooperate fully with all SUBCONTRACTORS, manufacturers, fabricators, suppliers, distributors, installers, testing agencies and all others whose services, materials or equipment are required to ensure completion of the WORK within the CONTRACT TIME.
- B. The CONTRACTOR shall cooperate with and coordinate his WORK with the work of any other contractor, utility service company or OWNER's employees performing additional WORK related to the PROJECT at the site.
- C. The CONTRACTOR shall attend and participate in all project coordination or progress meetings and report on the progress of all WORK and compliance with schedules.
- D. The CONTRACTOR shall cooperate with others doing WORK in the area or who require access to various parts of the site. Whenever there is interference between WORK under this CONTRACT with work or access by others, the ENGINEER shall decide the manner in which the WORK shall proceed. The CONTRACTOR shall cooperate in scheduling his WORK as required by the ENGINEER.
- E. The CONTRACTOR shall be responsible for maintaining continued and uninterrupted operation of all facilities in the PROJECT area.
- F. The CONTRACTOR shall coordinate his efforts with the efforts of the clearing & grubbing contractor working for the LA DOTD.

**1.02 COORDINATION**

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- A. Coordination: Coordinate construction activities included under various sections of these SPECIFICATIONS to assure efficient and orderly installation of each part of the WORK. Coordinate construction operations included under different sections of the SPECIFICATIONS that are dependent upon each other for proper installation, connection, and operation.  
  
Where installation of one part of the WORK is dependent on installation of other components, either before or after its own installation, schedule construction activities in the sequence required to obtain the best results.  
  
Where availability of space is limited, coordinate installation of different components to assure maximum accessibility for required maintenance, service and repair.  
  
Make adequate provisions to accommodate items scheduled for later installation.  
  
Prepare memoranda for distribution to each party involved outlining special procedures required for coordination. Include such items as required notices, reports, and attendance at meetings.
- B. Work Site Boundary Coordination: Strict adherence to predetermined WORK site boundaries is required. Where construction activities overlap in perimeter areas, WORK shall be coordinated to prevent activities outside of these boundaries.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction work activities to avoid conflicts and ensure orderly progress of the WORK. Such administrative activities include, but are not limited to, the following:
  - 1. Preparation of schedules;

2. Installation and removal of temporary facilities;
3. Delivery and processing of submittals;
4. Progress meetings; and,
5. Project close-out activities.

### **1.03 SUBMITTALS**

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- A. Coordination Drawings: Prepare and submit coordination drawings where close and careful coordination is required for installation of products and materials fabricated off-site by separate entities, and where limited space availability necessitates maximum utilization of space for efficient installation of different components.
1. Show the interrelationship of components shown on separate SHOP DRAWINGS.
  2. Indicate required installation sequences.
  3. Comply with requirements contained in Section 01340 - Shop Drawings, Product Data and Samples.
- B. Staff Names: CONTRACTORS shall provide proposed organization charts, listing both home and field office personnel to be assigned to the PROJECT.
1. Within 15 days of NOTICE TO PROCEED, submit a list of the CONTRACTOR's principal staff assignments, including the superintendent and other personnel in attendance at the site; identify individuals, their duties and responsibilities; list their addresses and telephone numbers.
  2. Post copies of the list in the PROJECT meeting rooms, the temporary field office, and at each temporary telephone.

## **PART 2 - PRODUCTS (NOT USED)**

## **PART 3 - EXECUTION**

### **3.01 GENERAL INSTALLATION PROVISIONS**

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- A. Inspection of Conditions: Require the installer of each major component to inspect both the substrate and conditions under which WORK is to be performed. Do not proceed until unsatisfactory conditions have been corrected in an acceptable manner.
- B. Manufacturer's Instructions: Comply with manufacturer's installation instructions and recommendations, to the extent that those instructions and recommendations are more explicit or stringent than requirements contained in CONTRACT DOCUMENTS.
- C. Inspect materials or equipment immediately upon delivery and again prior to installation. Reject damaged and defective items.
- D. Recheck measurements and dimensions before starting each installation.
- E. Install each component during weather conditions and project status that will ensure the best possible results. Isolate each part of the completed construction from incompatible material as necessary to prevent deterioration.
- F. Coordinate temporary enclosures with required inspections and tests to minimize the necessity of uncovering completed construction for that purpose.

### **3.02 CLEANING AND PROTECTION**

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During handling and installation, clean and protect construction in progress and adjoining materials in place. Apply protective covering where required to ensure protection from damage or deterioration at substantial completion.

Clean and maintain completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

- A. Limiting Exposures: Supervise construction activities to ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period. Where applicable, such exposures include, but are not limited to, the following:
1. Excessive static or dynamic loading.
  2. Excessive internal or external pressures.
  3. Heavy traffic.

END OF SECTION

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## **SECTION 01210 – PRECONSTRUCTION CONFERENCE**

### **PART 1 - GENERAL**

#### **1.01 GENERAL**

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- A. Date, Time and Location: Conference will be held after execution of the CONTRACT and before construction is started at the site. The ENGINEER will fix the date, time and location of the meeting.
- B. The ENGINEER will prepare agenda, preside at meeting, and prepare and distribute a transcript of proceedings to all parties.
- C. CONTRACTOR shall provide data required, contribute appropriate items for discussion, and be prepared to discuss all items on agenda.

#### **1.02 REQUIRED ATTENDANCE**

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- A. CONTRACTOR, and major SUBCONTRACTORS and equipment suppliers, at his discretion. The CONTRACTOR's superintendent shall be present at this meeting.

#### **1.03 AGENDA**

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- A. Agenda will include, but will not necessarily be limited to, the following:
  - 1. Designation of responsible personnel.
  - 2. Subcontractors' responsibilities and designated representatives.
  - 3. Coordination with other contractors.
  - 4. Construction schedule.
  - 5. Contract Time.
  - 6. Processing of Shop Drawings and distribution of Submittals.
  - 7. Processing of field decisions, Requests for Information and Change Orders.
  - 8. Operation and Maintenance Manuals.
  - 9. Meetings.
  - 10. Temporary Utilities.
  - 11. Processing and Schedule of Payments.
  - 12. Contractor responsibility for safety and first aid procedures.
  - 13. Security.
  - 14. Housekeeping.
  - 15. Record Drawings.
  - 16. Letter of Notice to Proceed.
  - 17. Emergency Telephone Numbers.
  - 18. Testing and Inspection.
  - 19. Any other Project related items.

#### **1.04 SCHEDULES**

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- A. CONTRACTOR shall have the following schedules completed and ready for distribution at the PRECONSTRUCTION CONFERENCE:
  - 1. Construction Schedule
  - 2. Shop Drawing Schedule

**PART 2 – PRODUCTS (NOT USED)**

**PART 3 – EXECUTION (NOT USED)**

END OF SECTION

## **SECTION 01310 – CONSTRUCTION SCHEDULES**

### **PART 1 - GENERAL**

#### **1.01 DESCRIPTION OF WORK**

---

- A. Promptly after award of the CONTRACT, the CONTRACTOR shall prepare and submit to the ENGINEER estimated construction progress and payment schedules for the WORK, with subschedules of related activities which are essential to its progress.
- B. Submit revised progress schedules periodically.

#### **1.02 FORM OF PROGRESS SCHEDULES**

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- A. Submit network analysis system using either critical path method, generally as outlined in Associated General Contractors of America (AGC) publication "The Use of CPM in Construction - A Manual for General Contractors" or a bar graph schedule containing sufficient information for analysis. Revised schedule showing current status of the WORK as compared to projected status shall be submitted on a regular basis as described herein.
- B. Format of Listings: The chronological order of the start of each item of WORK.
- C. Identification of Listings: By major SPECIFICATION section numbers.

#### **1.03 CONTENT OF PROGRESS SCHEDULES**

---

- A. Show the complete sequence of construction by activity.
- B. Activities shall identify all WORK that must be accomplished to achieve SUBSTANTIAL COMPLETION and final completion, such as WORK related to prerequisite approvals from agencies with jurisdiction over the PROJECT; work involved in the preparation, submittal, and approval of SHOP DRAWINGS and samples; work pertaining to the fabrication and delivery of materials and equipment; work associated with CONTRACTOR's installation, erection and construction activities; WORK required by the existence of underground facilities, WORK required to implement closures or cut-offs, power shutdowns, or temporary or permanent take-down of existing facilities, WORK associated with the performance of preoperational, start-up and final testing; WORK related to the tentative list of items to be completed or corrected before and subsequent to preoperational, start-up and final testing.
- C. Show the dates for the beginning, and completion of, each major element of construction. Include time for SHOP DRAWING and O&M manual production, submittal, and review. Specifically list:
  - 1. Mobilization
  - 2. Date of Substantial Completion
  - 3. Date of Final Completion

#### **1.04 PROGRESS SCHEDULE SUBMITTALS**

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- A. Detailed Schedule Submittal: Set shall consist of an initial (detailed) schedule diagram which will show detailed activities for WORK to be performed from date of commencement of the WORK until substantial completion of the WORK, or parts thereof, and summary activities for the balance of the WORK (until final completion).
  - 1. Within one week of the PRECONSTRUCTION CONFERENCE, CONTRACTOR shall deliver three (3) copies of the Initial Detailed Schedule. The Initial Detailed Schedule shall use the date for commencement of the WORK as the date from which all activity dates are calculated; expand, revise,

and modify the preliminary progress schedule submittal; reflect CONTRACTOR's preliminary plan of operations for the performance of the WORK; and point out schedule coordination requirements with respect to work by other contractors. CONTRACTOR is responsible for ensuring that the Initial Detailed Schedule Diagram has been reviewed by CONTRACTOR's subcontractors. No application for progress payment will be processed until CONTRACTOR's schedule is reviewed and concurred as reasonable.

2. If a resubmittal is required, CONTRACTOR shall be required to respond with three (3) copies of a revised, adjusted, or modified Detailed Schedule Diagram within seven (7) days.
- B. Monthly Status Report: Monthly Status Report submittal sets shall consist of "marked-up" versions of the corresponding Detailed Schedule Diagram in accordance with the requirements of this Section of the CONTRACT DOCUMENTS.
1. CONTRACTOR shall submit three (3) copies of monthly (schedule) status reports with each application for progress payment. The first such status report shall be submitted with the first application following initial submittal of the detailed schedule, and include data as of the cut-off day of the pay period. No application for progress payment will be processed until CONTRACTOR furnishes the corresponding Monthly Status Report.
  2. Monthly Status Reports will be used in the processing of progress payments. The ENGINEER and CONTRACTOR will review status reports at monthly scheduled meetings, and CONTRACTOR will be required to address ENGINEER's comments on the subsequent Monthly Status Report.
  3. Indicate progress of each activity to date of submission. Show changes occurring since previous submission of schedule.
    - a. Major changes in scope.
    - b. Activities modified since previous submission.
    - c. Revised projections of progress and completion.
    - d. Other identifiable changes.

### **1.05 ENGINEER SCHEDULE REVIEW RESPONSIBILITY**

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- A. ENGINEER will, upon receipt and review of each schedule submittal, either indicate in writing his concurrence as noted, or return the submittal to CONTRACTOR indicating in writing reasons for refusing to concur with the submittal. In the latter case, CONTRACTOR may be required to make the necessary corrections or alterations and resubmit within the prescribed period. If CONTRACTOR fails to provide schedule submittals as required, he will be deemed not to have provided the basis upon which progress can be evaluated, which may force OWNER to refuse to make payments of the full amount requested on any pending applications for payment, or which may alternatively entitle OWNER to a set-off against the amount requested.
- B. ENGINEER's review of schedule submittals shall be only for conformance with CONTRACT times, sequencing restraints, and other information given in the CONTRACT DOCUMENTS, and shall not extend beyond the limitations applicable to the review of SHOP DRAWINGS or samples set forth in the SPECIFICATIONS.
- C. ENGINEER's review of schedule submittals will be predicated on stamps or approvals signed off by CONTRACTOR and CONTRACTOR's subcontractor (as that term is defined in the GENERAL CONDITIONS) performing WORK under an appropriate agreement with CONTRACTOR. CONTRACTOR's stamp of approval on schedule submittals shall constitute a representation to OWNER that CONTRACTOR has either determined or verified all data on the schedule submittal, and assumes full responsibility for doing so, and that CONTRACTOR and his subcontractor's have reviewed and coordinated the sequences shown in the schedule submittal with the requirements of the WORK under the CONTRACT DOCUMENTS.

- D. ENGINEER'S review of schedule submittals shall not relieve CONTRACTOR from responsibility for any variation from the requirements of the CONTRACT DOCUMENTS.
- E. The most current approved detailed schedule will be considered the official schedule as long as it is prepared, submitted, used and kept current by CONTRACTOR in accordance with the requirements of this Section or the CONTRACT DOCUMENTS.

### **1.06 SUBMITTAL SCHEDULE**

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- A. Provide a schedule of all SHOP DRAWINGS, product data, and samples as required by the SPECIFICATIONS. Schedule shall be in the form of a chronological list indicating the date of each SHOP DRAWING, product and sample. Where more than one submittal is to be made on a particular product, sample or element of work, each such submittal shall be numbered separately and a date for such submittal shall be assigned.
- B. Submit schedule at or prior to the pre-construction conference.

### **1.07 PAYMENT SCHEDULE**

---

- A. Payment schedule shall be graphically constructed to show the job progress by month on one ordinate and the cumulative anticipated job costs shown on the other ordinate. The graph should represent the CONTRACTOR's best estimate of job expenditures per month as of commencement of WORK. Payment schedule may be integral to construction schedule. Submit within 30 days of NOTICE TO PROCEED.
- B. Submit revised payment schedule as necessary to coordinate with construction schedule.

### **1.08 SUBMISSIONS**

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- A. Submit the number of copies which the CONTRACTOR requires, but not more than three (3), plus three (3) copies which will be retained by the ENGINEER.

### **1.09 DISTRIBUTION**

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- A. Distribute copies of the reviewed schedules to:
  - 1. Job size file (progress and payment schedule).
  - 2. Subcontractors (progress schedule only).
  - 3. Other concerned parties (progress schedule only).
- B. Instruct recipients to report promptly to the CONTRACTOR, in writing, any problems anticipated by the projections shown in the schedules.

## **PART 2 – PRODUCTS (NOT USED)**

## **PART 3 – EXECUTION (NOT USED)**

END OF SECTION

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## **SECTION 01340 – SHOP DRAWINGS, PRODUCT DATA AND SAMPLES**

### **PART 1 - GENERAL**

#### **1.01 SHOP DRAWINGS**

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- A. The term “SHOP DRAWINGS” as used herein shall include detailed design calculations; fabrication and installation drawings; material and parts lists; graphs; test data; operating instructions; and other items as specified or shown which shall include but not necessarily be limited to:
1. Drawings and/or catalog information and cuts.
  2. Specifications, parts lists, suggested spare parts lists, and equipment drawings.
  3. Complete lubrication, maintenance and operation instructions, including initial startup instructions.
  4. Applicable certifications.
  5. Anchor bolt templates, mounting instructions and mounting design calculations as required per the Contract Documents.
  6. Required maintenance operations to allow all installed equipment to remain idle for the period of time prior to its installation.
  7. Other technical, installation, and maintenance data as applicable.
  8. Unloading and handling methods, and storage requirements.
  9. Proposed changes to the Contract Documents noted and highlighted.
  10. Paint or coating submittal showing type of paint or coating and the mils thickness of coating system used.
  11. Drawings showing CONTRACTOR field verifications illustrating all field dimensions. CONTRACTOR shall field verify all dimensions and existing materials shown on the Drawings. Any modifications required to structures and/or support systems to accommodate CONTRACTOR submitted equipment and/or systems shall be at the CONTRACTOR’s expense.
- B. Present in a clear and thorough manner. Each fabrication drawing to have a title block in the lower right hand corner with the PROJECT name and number, OWNER’s name, fabricator’s and CONTRACTOR’s name, fabricator’s plant location, drawing number, date, and revision block.
- C. Identify field dimensions; show relation to adjacent or critical features of WORK or products.
- D. Provide CONTRACTOR’s approval stamp on each SHOP DRAWING.
- E. Minimum Sheet Size: 8 1/2 x 11 inches.

#### **1.02 PRODUCT DATA**

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- A. Submit only pages which are pertinent; mark each copy of standard printed data to identify pertinent products, referenced to SPECIFICATION section and article number. Show reference standards, performance characteristics, and capacities; component parts; finishes; dimensions; and required clearances.
- B. Modify manufacturer’s standard schematic drawings and diagrams to supplement standard information and to provide information specifically applicable to the WORK. Delete information not applicable.

#### **1.03 SAMPLES**

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- A. Submit full range of manufacturer’s standard finishes except when more restrictive requirements are specified, indicating colors, textures, and patterns, for ENGINEER selection.
- B. Submit samples to illustrate functional characteristics of products, including parts and attachments.
- C. Approved samples which may be used in the WORK are indicated in the SPECIFICATION section.

- D. Label each sample with identification required for transmittal letter.
- E. Provide field samples of finishes at PROJECT, at location acceptable to ENGINEER, as required by individual SPECIFICATIONS section. Install each sample complete and finished. Acceptable finishes in place may be retained in complete WORK.

#### **1.04 MANUFACTURER'S INSTRUCTIONS**

---

- A. When required in individual SPECIFICATION sections or requested by the ENGINEER, submit manufacturer's printed instructions for delivery, storage, preparation, assembly, installation, startup, adjusting, balancing, and finishing.
- B. Comply with the provisions of Section 01400 - Quality Control.

#### **1.05 CONTRACTOR REVIEW**

---

- A. Review submittals prior to transmittal; determine and verify field measurements, field construction criteria, manufacturer's catalog numbers, and conformance of submittal with requirements of CONTRACT DOCUMENTS.
- B. Coordinate submittals with requirements of WORK and of CONTRACT DOCUMENTS.
- C. Provide CONTRACTOR's stamp, and sign or initial each SHOP DRAWING and product data submittal, and each sample label to certify compliance with requirements of CONTRACT DOCUMENTS. Notify ENGINEER in writing at time of submittal, of any deviations from requirements of CONTRACT DOCUMENTS.
- D. Do not fabricate products or begin work which requires submittals until return of submittal with ENGINEER acceptance.

#### **1.06 SUBMITTAL REQUIREMENTS**

---

- A. Transmit submittals in accordance with approved Progress Schedule, and in such sequence to avoid delay in the WORK.
- B. Provide blank space on each submittal for ENGINEER's stamp.
- C. Apply CONTRACTOR's stamp, signed or initialed, certifying to review, verification of products, field dimensions and field construction criteria, and coordination of information with requirements of WORK and CONTRACT DOCUMENTS.
- D. Coordinate submittals into logical groupings to facilitate interrelation of the several items:
  - 1. Finishes which involve ENGINEER selection of colors, textures, or patterns.
  - 2. Associated items which require correlation for efficient function or for installation.
- E. Submit number of copies of SHOP DRAWINGS CONTRACTOR requires, plus three (3) which will be retained by ENGINEER.
- F. Submit number of copies of product data and manufacturer's instructions CONTRACTOR requires, plus three (3) copies which will be retained by ENGINEER.
- G. Submit the number of samples specified in individual SPECIFICATION section; one (1) will be retained by ENGINEER. Reviewed samples which may be used in the WORK are indicated in the SPECIFICATION section.
- H. Submit under ENGINEER-accepted transmittal form letter. Identify PROJECT by title and number. Identify

WORK and product by SPECIFICATIONS section and article number.

- I. Allow ten (10) to twenty-one (21) calendar days for ENGINEER's review.

### **1.07 RESUBMITTALS**

---

- A. Make resubmittals under procedures specified for initial submittals; identify changes made since previous submittal.

### **1.08 DISTRIBUTION**

---

- A. Distribute reproductions of SHOP DRAWINGS, copies of product data, and samples, which bear ENGINEER stamp of approval, to job site file, record documents file, subcontractors, suppliers, and other entities requiring information.

## **PART 2 – PRODUCTS (NOT USED)**

## **PART 3 – EXECUTION (NOT USED)**

END OF SECTION

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## **SECTION 01370 – SCHEDULE OF VALUES**

### **PART 1 - GENERAL**

#### **1.01 DESCRIPTION OF WORK**

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- A. CONTRACTOR shall submit to the ENGINEER a SCHEDULE OF VALUES allocated to the various portions of the WORK, within 10 days after Award of CONTRACT. Modify SCHEDULE OF VALUES as required to reflect all items of WORK in the CSI format for specifications.
- B. Upon request of the ENGINEER, support the values with data which will substantiate their correctness.
- C. The SCHEDULE OF VALUES, unless objected to by the ENGINEER, shall be used only as the basis for the CONTRACTOR'S Applications for Payment.

#### **1.02 FORM AND CONTENT OF SCHEDULE OF VALUES**

---

- A. Type schedule on 8-1/2 inch by 11-inch white paper; CONTRACTOR'S standard forms and automated printout will be considered for approval by ENGINEER upon CONTRACTOR'S request. Identify schedule with:
  - 1. Title of project and location.
  - 2. Engineer and project number.
  - 3. Name and address of Contractor.
  - 4. Contract designation.
  - 5. Date of submission.
- B. Schedule shall list the installed value of the component parts of the work in sufficient detail to serve as a basis for computing value for progress payments during construction.
- C. Follow the table of contents of this CONTRACT as the format for listing component items.
  - 1. Identify each line item with the number and title of the respective major section of the SPECIFICATIONS.
- D. For each major line item list subvalues of major products or operations under the item.
- E. For the various portions of the WORK:
  - 1. Each item shall include a directly proportional amount of the CONTRACTOR'S overhead and profit.
  - 2. For items on which progress payments will be requested for stored materials, break down the values into:
    - a. The cost of the materials, delivered and unloaded, with taxes paid.
    - b. The total installed value.
  - 3. Submit a subschedule for each separate stage of WORK specified in Section 01310.
- F. The sum of all values listed in the schedule shall equal the total contract sum.

### **1.03 REVIEW AND RESUBMITTAL**

---

- A. After review by ENGINEER revise and resubmit schedule as required.
- B. Resubmit revised schedules in same manner.

### **PART 2 – PRODUCTS (NOT USED)**

### **PART 3 – EXECUTION (NOT USED)**

END OF SECTION

## **PART 1 - GENERAL**

### **1.01 DESCRIPTION OF WORK**

---

- A. WORK under this Section includes all testing required by the CONTRACT as specified herein and further specified in the technical sections.

### **1.02 TESTING METHODS**

---

- A. All tests shall be made in accordance with commonly recognized standards of national organizations unless alternate specific testing methods are set forth in the technical sections.

### **1.03 COSTS**

---

- A. The OWNER will employ and pay for an independent testing laboratory to perform all testing services as specified in the technical sections, unless otherwise specified.

Additional inspection and tests required because of defective work or ill-timed notices shall be performed at the CONTRACTOR's expense.

### **1.04 QUALITY ASSURANCE**

---

- A. Samples: The CONTRACTOR shall supply samples or test specimens if and when required by the SPECIFICATIONS or the ENGINEER. These samples or test specimens shall be prepared and furnished with information as to their source in such quantities and size as may be required for proper examination and tests, with all freight charges prepaid. All samples shall be submitted before shipment of materials to the site of the WORK and in ample time to permit the making of proper tests, analysis, examination, rejections and resubmissions before the time required to incorporate the materials into the WORK. No such materials shall be used in WORK until they have been accepted in writing by the ENGINEER. Samples of materials will be retained by the ENGINEER for references and comparison purposes.
- B. Certification: Producers and associations which have instituted approved systems of quality control and have been approved may submit certifications of compliance in lieu of further testing. Lumber and plywood grademarks by approved associations and materials for equipment bearing Underwriter's Laboratory label require no further plan inspection and testing, unless more restrictive requirements are required, or otherwise specifically required in the SPECIFICATIONS.

### **1.05 TESTING LABORATORIES**

---

- A. The testing laboratories will be provided by the OWNER.

### **1.06 CONTRACTOR'S RESPONSIBILITY**

---

- A. Access: Furnish free access to various parts of the WORK and assist testing inspection personnel in performance of their duties at no additional cost to the OWNER.
- B. Concealed Work: When directed by the ENGINEER, the CONTRACTOR shall open for inspection any part of the WORK which has been concealed. Should the CONTRACTOR refuse or neglect such a request, the OWNER may employ any other person to open up the same or do so himself. If any parts of the WORK have been concealed in violation of the ENGINEER's instructions or, if on being opened, it is found not to be in accordance with the terms of the CONTRACT DOCUMENTS, the expense of opening and recovering, whether done by the CONTRACTOR or not, shall be charged to the CONTRACTOR. If the work is found to be in accordance with the terms of the CONTRACT DOCUMENTS, the actual necessary expense of opening and

recovering shall be borne by the OWNER, and if the work of opening and recovering is done by the CONTRACTOR, it shall be considered as extra work and paid for accordingly.

- C. Data: Furnish samples, records, drawings, certificates, and similar data as may be required by testing and inspection personnel to assure compliance with the CONTRACT DOCUMENTS.
- D. Notices: The CONTRACTOR shall notify the ENGINEER not less than 48 hours before WORK requiring inspection is started. The CONTRACTOR shall schedule portions of the WORK requiring inspection and testing, so that the ENGINEER's time on the PROJECT is continuous and as brief as possible. Provide notice to the ENGINEER 24 hours prior to concealment.

### **1.07 RESIDENT PROJECT REPRESENTATIVE**

---

- A. Appointment: The OWNER is providing RESIDENT PROJECT REPRESENTATIVE to inspect necessary portions of the WORK. Such inspection may extend to any or all parts of the WORK, and to the preparation or manufacture of materials to be used.
- B. Authority of RESIDENT PROJECT REPRESENTATIVE: RESIDENT PROJECT REPRESENTATIVES are not authorized to revoke, alter, enlarge or relax the provisions of the CONTRACT DOCUMENTS, and the RESIDENT PROJECT REPRESENTATIVE is placed on the WORK to keep the ENGINEER informed as to the progress of the WORK and the manner in which it is being done. He may also call the attention of the CONTRACTOR to any deviations from the plans or SPECIFICATIONS. Failure of the RESIDENT PROJECT REPRESENTATIVE or the ENGINEER to call the attention of the CONTRACTOR to faulty WORK or deviation from the CONTRACT DOCUMENTS shall not constitute acceptance of said WORK. A RESIDENT PROJECT REPRESENTATIVE is not authorized to approve or accept any portions of the WORK or to issue instructions contrary to the CONTRACT DOCUMENTS. The RESIDENT PROJECT REPRESENTATIVE will exercise only such additional authority as may be specially delegated to him by the ENGINEER, notice of which will be given in writing to the CONTRACTOR.
- C. The CONTRACTOR shall be responsible for ensuring safe working conditions per OSHA to allow inspection of all WORK by the RESIDENT PROJECT REPRESENTATIVE. This shall include providing all necessary monitoring devices and safety equipment for entering any confined spaces made part of the WORK. Payment will not be made for any part of the WORK which cannot be safely inspected by the RESIDENT PROJECT REPRESENTATIVE.

### **1.08 TEST REPORTS**

---

- A. The OWNER's testing laboratory will prepare logs, test reports and certificates applicable to specific tests and inspections. Reports will include description of method of test, identification of samples and portions of the WORK tested. They will state description of location of WORK, time and date of obtaining and testing samples, weather and climatic conditions, and evaluation of results of test, including recommendations for action. As a minimum, copies will be distributed by the testing lab as follows:

OWNER:	1
ENGINEER:	1

### **1.09 DEFECTIVE WORK**

---

- A. Remove and replace any work found defective or not complying with requirements of contract documents, at no additional cost to OWNER.

Work will be checked as it progresses, but failure to detect any defective work or materials shall not in any way prevent later rejection when such defect is discovered, nor shall it obligate the ENGINEER for final acceptance.

If test cylinders for concrete fail to meet design stresses, make core and load tests as directed.

**PART 2 – PRODUCTS (NOT USED)**

**PART 3 – EXECUTION (NOT USED)**

END OF SECTION

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## **SECTION 01500 – TEMPORARY FACILITIES AND CONTROLS**

### **PART 1 - GENERAL**

#### **1.01 HOURS OF WORK**

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- A. The CONTRACTOR shall establish his own work hours in accordance with the Construction Schedule submitted in Section 01310. No WORK shall be performed between the hours of 7:00 p.m. and 7:00 a.m., on Saturdays, Sundays or holidays unless written request is made to the ENGINEER and approved by the OWNER and ENGINEER.

#### **1.02 PUBLIC SAFETY AND CONVENIENCE**

---

- A. The CONTRACTOR shall comply with all rules and regulations of state and local authorities regarding the closing of public traffic. No roads shall be closed to the public except by express permission of the ENGINEER. The CONTRACTOR shall conduct the WORK so as to ensure the least possible obstruction to traffic and normal commercial pursuits. He shall protect all obstructions within traveled roadways with approved signs, barricades and lights where necessary or where ordered by the ENGINEER for the safety of the public. The convenience of the general public and residents along the WORK, and the protection of persons and property is of prime importance and shall be provided for in an adequate and satisfactory manner.

Whenever the CONTRACTOR's operations create a hazardous condition, he shall furnish flagmen and guards as necessary to give adequate warning to the public of any dangerous condition encountered.

#### **1.03 TRAFFIC CONTROL**

---

- A. All traffic control devices shall conform to the current edition of the "Manual of Uniform Traffic Control Devices."
- B. The cost for all necessary traffic control by the CONTRACTOR shall be incidental to the entire PROJECT and shall be included in the CONTRACT PRICE.

#### **1.04 CONSTRUCTION UTILITIES AND MISCELLANEOUS FACILITIES**

---

- A. General: The CONTRACTOR shall provide the temporary facilities and controls as hereinafter specified and as required by law.
- B. Hoists, scaffolds, staging, storage and miscellaneous:
1. Equipment shall be provided with proper guys, bracing and other safety devices as required by local or state codes and regulations.
  2. Provide suitable substantial facilities or protection for storing, immediately after delivery, materials which may be damaged by storage in the open.
- C. Power: Unless otherwise specified, the CONTRACTOR shall provide all necessary power and special connections to power lines. The CONTRACTOR is responsible for removing any temporary electrical systems installed for construction purposes.

The location of temporary power facilities shall be determined by the CONTRACTOR and approved by the utility agency and the INSPECTOR.

- D. Water: Unless otherwise specified, the CONTRACTOR shall provide and pay for all necessary water and special connections to a water supply.

Where applicable, the CONTRACTOR shall provide a backflow preventer device to prevent a direct cross connection between the water supply and wastewater conveying systems.

- E. Telephone: The CONTRACTOR shall provide a telephone service at the site. A radio telephone service is not acceptable as a substitute for the required telephone service. A properly operating and continually accessible cellular phone is acceptable.
- F. Sanitary Facilities: The CONTRACTOR shall provide adequate toilet facilities for all workmen and OWNER's representatives employed on the WORK. The CONTRACTOR shall maintain the same in a sanitary condition from the beginning of the WORK until completion and shall then remove the facilities and disinfect the premises. All portions of the WORK shall be maintained at all times in a sanitary condition. Temporary sanitary facilities shall be removed upon the completion of the PROJECT.
- G. Permanent Facilities: The CONTRACTOR is specifically prohibited from utilizing permanent facilities, such as pumps, heating and ventilation equipment, water, air and power systems, cranes and hoists in the construction of the PROJECT.
- H. Parking Facilities: The CONTRACTOR shall provide adequate off-road parking facilities for the automobiles used by his construction employees and the OWNER's representatives.
- I. Temporary Heating: The CONTRACTOR shall provide temporary heating, covering and enclosures as necessary to protect all WORK and material against damage by dampness and cold, and to facilitate completion of WORK. The CONTRACTOR shall supply all the fuel, equipment and material required for temporary heating.
- J. Construction Signs: No commercial or advertising signs shall be allowed on the site of the WORK.
- K. Fencing: Provide temporary fencing around site at all times when it appears that the WORK area could be a hazard to the public.
- L. Fire Protection: Provide portable, operable fire extinguishers at the site at all times in accordance with NFPA Standard 10.

### **1.05 PROTECTION OF EXISTING CONSTRUCTION**

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- A. The CONTRACTOR shall protect existing construction and finishes liable to damage through performance of the WORK.

### **1.06 BARRIERS**

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- A. The CONTRACTOR shall erect and maintain guard rails or other suitable barriers where required.

### **1.07 WATER CONTROL**

---

- A. The CONTRACTOR shall provide all necessary pumping equipment and temporary swales as required to keep the WORK areas free from water. Water shall be discharged as directed by the ENGINEER.

### **1.08 FIRE PREVENTION CONTROL**

---

- A. General: The CONTRACTOR shall take all precautions necessary and required to prevent fires. Comply with requirements of local authorities having jurisdiction.
- B. Fuel for cutting and heating torches shall be gas only, and shall be contained in Underwriter's Laboratory approved containers.
- C. The CONTRACTOR shall provide and maintain a 20-pound capacity, dry-chemical type fire extinguisher in the immediate vicinity of the WORK when welding tools or torches of any type are in use.

- D. The CONTRACTOR shall not use volatile liquids for cleaning agents or as fuels for motorized equipment or tools within building, except with the written approval of the ENGINEER.
- E. Tarpaulins shall be securely anchored and flame-proofed when attached to any wood scaffolding, and when used to enclose any portion of a building above the first floor.

---

### **1.09 POLLUTION CONTROL**

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- A. General: The CONTRACTOR's construction activities shall be performed by methods that will prevent entrance, or accidental spillage, of solid matter, contaminants, debris, and other pollutants and wastes into streams, flowing or dry watercourses, lakes, and underground water sources. Such pollutants and wastes include, but are not restricted to, refuse, garbage, cement, concrete, sanitary waste, industrial waste, radioactive substances, oil and other petroleum products, aggregate processing tailings, mineral salts, and thermal pollution.

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### **1.10 RUBBISH REMOVAL**

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- A. The CONTRACTOR shall clean up the debris resulting from WORK at least once a day or more often, if it interferes with the work of others or presents a fire hazard. Debris shall be closely piled where directed.
- B. The CONTRACTOR shall remove and dispose of all debris when directed.
- C. Waste materials including, but not restricted to, refuse, garbage, sanitary wastes, industrial wastes, and oil and other petroleum products, shall be disposed of by the CONTRACTOR. Except for burnable materials, disposal of waste materials shall be by removal from the construction area. Waste materials removed from the construction area shall be disposed of at an approved landfill.
- D. The CONTRACTOR shall stockpile all waste material at the waste site in an expeditious manner. Burning of waste material will be permitted.

---

### **1.11 DISPOSAL OF MATERIAL BY BURNING**

---

- A. The CONTRACTOR shall secure the permission of the City and the necessary burning permits from the state and local authorities. All burning shall be in accordance with state and local laws.
- B. All materials to be burned shall be piled in such a manner as will cause the least fire hazards. Burning shall be thorough and complete and all charred pieces remaining after burning, except for scattered small pieces, shall be removed from the construction area and disposed of as otherwise provided in this paragraph.
- C. The CONTRACTOR shall, at all times, take special precautions to prevent fire from spreading beyond the areas being burned and shall be liable for any damage caused by the CONTRACTOR's burning operations. The CONTRACTOR shall have available, at all times, suitable equipment and supplies for use in preventing and suppressing fires and shall be subject to all laws and regulations applicable for presuppression, suppression, and prevention of fires.
- D. Material to be disposed of by removal from the construction area shall be removed from the area upon completion of the WORK under these CONTRACT DOCUMENTS. All materials removed shall become the property of the CONTRACTOR.
- E. Materials to be disposed of by dumping shall be hauled to an approved landfill. It shall be the responsibility of the CONTRACTOR to make any necessary arrangements with private parties and with local officials pertinent to locations and regulations of such dumping. Any fees or charges required to be paid for dumping of materials shall be paid by the CONTRACTOR.

---

### **1.12 DISCONTINUANCE, CHANGES AND REMOVAL**

---

- A. The CONTRACTOR shall discontinue the temporary services herein specified when their use is no longer

required or they impede progress on the WORK, all as directed. The discontinuance of any temporary service herein specified prior to the completion of any or all branches of the WORK shall not render the OWNER liable for any additional cost of the WORK entailed thereby, and the CONTRACTOR shall thereafter furnish under his contract, and at no additional cost to the OWNER, any and all temporary service required by his WORK to replace that discontinued.

- B. Should a change in location of any of the temporary facilities be necessary in order to progress the WORK properly, CONTRACTOR shall remove and relocate such items as directed without additional cost to the OWNER.
- C. When directed and no longer required, CONTRACTOR shall remove the temporary facilities specified herein. Material used for temporary facilities which are removed shall become the property of the CONTRACTOR and shall be removed from the site by the CONTRACTOR.

## **PART 2 – PRODUCTS (NOT USED)**

## **PART 3 – EXECUTION (NOT USED)**

END OF SECTION

# **SECTION 01600 – MATERIAL AND EQUIPMENT**

## **PART 1 - GENERAL**

### **1.01 DESCRIPTION OF WORK**

---

- A. This Section describes material and equipment incorporated into the WORK.
1. Material and equipment shall conform to applicable SPECIFICATIONS and standards.
  2. Material and equipment shall comply with size, make, type and quality specified, or as specifically approved in writing by the ENGINEER.
  3. The CONTRACTOR shall provide manufactured and fabricated products conforming to the following requirements:
    - a. Design, fabricate and assemble in accord with the best engineering and shop practices.
    - b. Manufacture like parts of duplicate units to standard sizes and gages, to be interchangeable.
    - c. Two or more items of the same kind shall be identical, by the same manufacturer.
    - d. Products shall be suitable for service conditions.
    - e. Equipment capacities, sizes and dimensions shown or specified shall be adhered to unless variations are specifically approved in writing.
  4. The CONTRACTOR shall not use material or equipment for a purpose other than that for which it is designed or is specified.

### **1.02 MANUFACTURER'S INSTRUCTIONS**

---

- A. The CONTRACTOR shall perform WORK in accordance with manufacturer's instructions. No preparatory step or installation procedure shall be omitted unless specifically modified or exempted by CONTRACT DOCUMENTS.

### **1.03 TRANSPORTATION AND HANDLING**

---

- A. The CONTRACTOR shall arrange deliveries on products in accordance with construction schedules. The CONTRACTOR shall coordinate to avoid conflict with WORK and conditions at the site.
1. The CONTRACTOR shall deliver products in undamaged condition, in manufacturer's original containers or packaging, with identifying labels intact and legible.
  2. Immediately on delivery, CONTRACTOR shall inspect shipments to assure compliance with requirements of CONTRACT DOCUMENTS and approved submittals, and that products are properly protected and undamaged.
- B. The CONTRACTOR shall provide equipment and personnel to handle products by methods to prevent soiling or damage to products or packaging.

## **1.04 STORAGE AND PROTECTION**

---

- A. The CONTRACTOR shall store products in accordance with manufacturer's instructions, with seals and labels intact and legible.
  - 1. The CONTRACTOR shall store products subject to damage by the elements in weathertight enclosures.
  - 2. The CONTRACTOR shall maintain temperature and humidity within the ranges required by manufacturer's instructions.
- B. Exterior Storage
  - 1. The CONTRACTOR shall store fabricated products above the ground, on blocking or skids, to prevent soiling or staining. Products which are subject to deterioration shall be covered with impervious sheet coverings, and adequate ventilation shall be provided to avoid condensation.
  - 2. The CONTRACTOR shall store loose granular materials in a well-drained area on solid surfaces to prevent mixing with foreign matter.
  - 3. The CONTRACTOR shall maintain covers on equipment until the equipment is put into operation.
- C. The CONTRACTOR shall arrange storage in a manner to provide easy access for inspection. Periodic inspections of stored products shall be made to assure that products are maintained under specified conditions, and free from damage or deterioration.
- D. Protection After Installation
  - 1. The CONTRACTOR shall provide substantial coverings as necessary to protect installed products from damage from traffic, weather and subsequent construction operations, and shall remove when no longer needed.

### **PART 2 – PRODUCTS (NOT USED)**

### **PART 3 – EXECUTION (NOT USED)**

END OF SECTION

## **SECTION 01630 – PRODUCT OPTIONS AND SUBSTITUTIONS**

### **PART 1 - GENERAL**

#### **1.01 DESCRIPTION OF WORK**

---

- A. CONTRACTOR shall submit proposed options and product substitution data and information for review by ENGINEER on the Substitution Request Form provided herein.

#### **1.02 PROPOSED SUBSTITUTIONS**

---

- A. Substitutions will be considered only under the following conditions:
1. Substitutions required for compliance with final interpretations of code requirements or insurance regulations.
  2. Unavailability of specified products, through no fault of CONTRACTOR.
  3. Subsequent information disclosed inability of specified product to perform properly or to fit in designated space.
  4. Manufacturer/fabricator refusal to certify or guarantee performance of specified product as required.
  5. When a substitution would be substantially beneficial to OWNER.

#### **1.03 CONTRACTOR OPTIONS**

---

- A. Products specified by reference standards or by description only: Any product meeting those standards.
- B. Products specified by naming one or more manufacturers with a substitution paragraph or an "or equal" clause: Submit a request for substitution for any manufacturer not specifically named.
- C. Products specified by naming several manufacturers but without a substitution paragraph or an "or equal" clause; No options, no substitutions, allowed.
- D. Products specified by naming only one manufacturer but without a substitution paragraph or an "or equal" clause: No option; no substitutions allowed.

#### **1.04 LIMITATIONS ON SUBSTITUTIONS**

---

- A. Requests for substitutions of products will be considered only within time frame defined in Section 01600 - Material and Equipment. Submittals received after that time will not be considered. Substitutions will be considered in accordance with Paragraph 1.02A and 1.03 above.
- B. Substitutions will not be considered when indicated on shop drawings or product data submittals without separate formal request, when requested directly by subcontractor or supplier, or when acceptance will require substantial revision of Contract Documents.
- C. Substitute products shall not be ordered or installed without written acceptance.
- D. Only one request for substitution for each product will be considered. When substitution is not accepted, provide specified product.
- E. ENGINEER will determine acceptability of substitutions.

### **1.05 REQUESTS FOR SUBSTITUTIONS**

---

- A. Submit request for each substitution. Document each request by submitting a Substitution Request Form for review by ENGINEER.
- B. Identify product by SPECIFICATIONS section and article numbers. Provide manufacturer's name and address, trade name of product, and model or catalog number.
- C. Attach product data to each request form

### **1.06 CONTRACTOR REPRESENTATION**

---

- A. Request for substitution constitutes a representation that CONTRACTOR has investigated propose product and has determined that it is equal to or superior in all respects to specified product or that the cost reduction offered is ample justification for accepting the offered substitution.
- B. CONTRACTOR will provide same warranty or bond for substitution as for specified product.
- C. CONTRACTOR will coordinate installation of accepted substitute, making such changes as may be required for WORK to be complete in all respects.
- D. CONTRACTOR waives claims for additional costs related to substitution which may later become apparent.

### **1.07 SUBMITTAL PROCEDURES**

---

- A. Submit three copies of each separate Substitution Request Form. All items must be completed or marked "no change".
- B. ENGINEER will notify CONTRACTOR, in writing, of decision to accept or reject requested substitution within fifteen (15) working days.
- C. For accepted products, submit shop drawings, product data and samples in accordance with Section 01340.

## **PART 2 – PRODUCTS (NOT USED)**

## **PART 3 – EXECUTION (NOT USED)**

**SUBSTITUTION REQUEST FORM**

TO: \_\_\_\_\_

PROJECT: \_\_\_\_\_

We hereby submit for your consideration the following product instead of the specified item for the above project:

Section: Paragraph:      Specified Item:

\_\_\_\_\_

Proposed Substitution: \_\_\_\_\_

Attach complete technical data, including laboratory tests, if applicable. Include complete information on changes to Drawings and/or Specifications which proposed substitution will require for its proper installation.

Fill in blanks below:

- A. Does the substitution affect dimensions shown on Drawings? \_\_\_\_\_
- B. Will the undersigned pay for changes to the building design, including engineering and detailing costs caused by the requested substitution? \_\_\_\_\_
- C. What affect does substitution have on construction schedule & other trades?  
\_\_\_\_\_
- D. State quality and performance differences between proposed substitutions and specified items.  
\_\_\_\_\_
- E. Cost differences between proposed substitution and specified item? (Indicate net change to contract sum) \_\_  
\_\_\_\_\_
- F. Manufacturer's guarantees of the proposed and specified items are:  
\_\_\_\_\_ Same                      \_\_\_\_\_ Different (explain on attachment)

The undersigned states that the function, appearance and quality are equivalent or superior to the specified item.

Submitted By:

For use by Engineer:

\_\_\_\_\_  
Signature

\_\_\_\_\_ Accepted      \_\_\_\_\_ Accepted As Noted

\_\_\_\_\_  
Firm

\_\_\_\_\_ Not Accepted      \_\_\_\_\_ Received Too Late

\_\_\_\_\_  
Address

By \_\_\_\_\_

Date \_\_\_\_\_

\_\_\_\_\_

Remarks \_\_\_\_\_

Date \_\_\_\_\_ Telephone \_\_\_\_\_

\_\_\_\_\_

END OF SECTION

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## **SECTION 01641 – ENVIRONMENTAL CONTROLS**

### **PART 1 - GENERAL**

#### **1.01 GENERAL**

---

- A. The CONTRACTOR shall provide and maintain methods, equipment, and temporary construction as necessary to provide controls over environmental conditions at the construction site and adjacent areas and shall remove physical evidence of the temporary facilities at the completion of WORK.
- B. The CONTRACTOR shall, at his own expense, obtain all required permits for environmental controls unless otherwise specified.

#### **1.02 NOISE CONTROL**

---

- A. The CONTRACTOR's vehicles and equipment shall be such as to minimize noise to the greatest degree practicable. Noise levels shall conform to the latest OSHA and local agency standards.

#### **1.03 DUST CONTROL**

---

- A. The CONTRACTOR shall be responsible for controlling objectionable dust caused by his operation of vehicles and equipment, clearing or for any reason whatever. The CONTRACTOR shall apply water or use other methods subject to the ENGINEER's approval which will keep dust in the air to a minimum.
- B. Dust control measures shall be maintained at all times to the satisfaction of the ENGINEER.

#### **1.04 PEST AND RODENT CONTROL**

---

- A. The CONTRACTOR shall provide rodent and pest control as necessary to prevent infestation of construction or storage areas. Employ methods and use materials which will not adversely affect conditions at the site or on adjoining properties.

#### **1.05 EROSION PROTECTION**

---

- A. CONTRACTOR shall plan and execute construction and earthwork by methods to control surface drainage from cuts and fills, and from borrow and waste disposal areas, to prevent erosion and sedimentation.
  - 1. Hold the areas of bare soil exposed at any time to a minimum.
  - 2. Provide temporary control measures such as berms, dikes and drains.
- B. CONTRACTOR shall construct fills and waste areas by selective placement to eliminate surface silts or clays which will erode.
- C. CONTRACTOR shall periodically inspect earthwork to detect any evidence of the start of erosion. Apply corrective measures as required to control erosion.

### **1.06 PAINT AND SOLVENT CONTROL**

---

- A. CONTRACTOR shall comply with all requirements of regulatory agencies in use, storage, application, and disposal of paints and solvents, and containers for paints and solvents. All disposal shall be at an approved legal disposal site.

### **1.07 AIR EMISSIONS**

---

- A. CONTRACTOR shall comply with all requirements of regulatory agencies for pollutant emissions from all vehicles and equipment.

### **1.08 USED HYDROCARBONS**

---

- A. Used hydrocarbons shall be disposed of at an approved legal disposal site.

## **PART 2 – PRODUCTS (NOT USED)**

## **PART 3 – EXECUTION (NOT USED)**

END OF SECTION

## **SECTION 01700 – CONTRACT CLOSEOUT**

### **PART 1 - GENERAL**

#### **1.01 RELATED REQUIREMENTS**

---

- A. Conditions of the CONTRACT: Fiscal provisions, legal submittals, and other administrative requirements.
- B. Section 01500- Temporary Facilities and Controls

#### **1.02 CLOSEOUT PROCEDURES**

---

- A. CONTRACTOR shall comply with procedures stated in GENERAL CONDITIONS of the CONTRACT for issuance of CERTIFICATE OF SUBSTANTIAL COMPLETION.
- B. When CONTRACTOR considers WORK has reached final completion, CONTRACTOR shall submit written certification that CONTRACT DOCUMENTS have been reviewed, WORK has been inspected, and that WORK is complete in accordance with CONTRACT DOCUMENTS and ready for ENGINEER's inspection.
- C. In addition to submittals required by the conditions of the CONTRACT, CONTRACTOR shall provide submittals required by governing authorities, and submit a final statement of accounting giving total adjusted CONTRACT SUM, previous payments, and sum remaining due.
- D. If appropriate, the ENGINEER will issue a final CHANGE ORDER reflecting any approved adjustments to CONTRACT SUM not previously made by CHANGE ORDER.

#### **1.03 FINAL CLEANING**

---

- A. CONTRACTOR shall execute prior to final inspection.
- B. CONTRACTOR shall clean interior and exterior surfaces exposed to view; remove temporary labels, stains and foreign substances; polish transparent and glossy surfaces.
- C. CONTRACTOR shall clean site; sweep paved area; rake clean other surfaces.
- D. CONTRACTOR shall remove waste and surplus materials, rubbish, and construction facilities from the PROJECT and from the site.

#### **1.04 WARRANTIES AND BONDS**

---

- A. CONTRACTOR shall provide duplicate copies. Execute CONTRACTOR's submittals and assemble documents executed by subcontractors, suppliers, and manufacturers.
- B. CONTRACTOR shall submit material prior to final application for payment.

### **PART 2 – PRODUCTS (NOT USED)**

### **PART 3 – EXECUTION (NOT USED)**

END OF SECTION

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## **SECTION 01720 – PROJECT RECORD DOCUMENTS**

### **PART 1 - GENERAL**

#### **1.01 DESCRIPTION OF WORK**

---

- A. CONTRACTOR shall maintain and provide the ENGINEER with the PROJECT record documents as specified below except where otherwise specified or modified in other Divisions of the CONTRACT DOCUMENTS. Current status of RECORD DRAWINGS shall be a condition precedent to progress payments.

#### **1.02 MAINTENANCE OF DOCUMENTS**

---

- A. A set of blueines of the CONTRACT DRAWINGS shall be updated by the CONTRACTOR with record information and reviewed by the ENGINEER prior to each request for payment made by the CONTRACTOR.

#### **1.03 RECORDING**

---

- A. CONTRACTOR shall keep record documents current, and updated at least monthly.
- B. CONTRACTOR shall not permanently conceal any WORK until required information has been recorded.
- C. Contract Drawings: CONTRACTOR shall legibly mark to record actual construction including:
1. Depths of various elements of foundation in relation to datum.
  2. Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvements.
  3. Location of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure.
  4. Field changes of dimensions and details.
  5. Changes made by modification or field change.
  6. Details not on original CONTRACT DRAWINGS.
- D. Specifications and Addenda: CONTRACTOR shall legibly mark up each Section to record:
1. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.
  2. Changes made by modification or field change.
  3. Other matters not originally specified.
- E. Shop Drawings: CONTRACTOR shall maintain as record documents and legibly annotate drawings to record changes made after review.

#### **1.04 RECORD DRAWINGS**

---

- A. RECORD DRAWINGS shall be prepared for all the WORK included in the CONTRACT showing the actual in-place installation of the items installed under this CONTRACT. The drawings shall show the WORK in plan and sections as required for clarity with reference dimensions and elevations for complete RECORD DRAWINGS.
- B. The CONTRACT DRAWINGS may be used as a starting point in developing these drawings. Subcontractor and manufacturer drawings may be included in this drawing package. The drawing package must be fully integrated and include the necessary cross references between the drawings. The drawing package shall include interconnection and termination details to equipment furnished under this CONTRACT.

- C. The RECORD DRAWINGS of the electrical work shall show one-line diagrams with all conduit and wire sizes shown of the distribution systems and the actual in-place grounding system, lighting arrangement, motor control centers, corrected wiring diagrams, equipment and conduit and cable plans.

#### **1.05 SUBMITTAL**

---

- A. No later than 30 days after the completion of the WORK, the CONTRACTOR shall furnish three (3) blue-line sets of the RECORD DRAWINGS to the ENGINEER for review and approval. The RECORD DRAWINGS will be reviewed and returned to the CONTRACTOR within 30 days. A set of reproducible and three (3) blue-line sets of the final record documents shall be submitted to the ENGINEER. The final submittal of RECORD DRAWINGS shall be made not later than 30 days after the ENGINEER returns the documents and prior to final payment.

#### **PART 2 – PRODUCTS (NOT USED)**

#### **PART 3 – EXECUTION (NOT USED)**

END OF SECTION

## **SECTION 01740 – MISCELLANEOUS WORK AND CLEANUP**

### **PART 1 - GENERAL**

#### **1.01 DESCRIPTION OF WORK**

---

- A. This Section includes operations which cannot be specified in detail as separate Items, but can be sufficiently described as to the kind and extent of work involved. The CONTRACTOR shall furnish all labor, materials, equipment and incidentals to complete the WORK under this Section.
- B. The WORK of this Section includes, but is not limited to, the following:
  - 1. Restoring servitudes and rights-of-way.
  - 2. Cleaning up.
  - 3. Incidental work.
- C. All WORK shall be completed in a workmanlike manner by competent workmen in full compliance with all applicable sections of these SPECIFICATIONS.

### **PART 2 - PRODUCTS**

#### **2.01 MATERIALS**

---

- A. Materials required for this Section shall be of at least the same type and quality as materials that are to be replaced or restored. Where possible, the CONTRACTOR shall reuse existing materials that are removed and then replaced, with the exception of paving.

### **PART 3 - EXECUTION**

#### **3.01 RESTORING OF FENCES AND GUARD RAILS**

---

- A. It may be necessary for the CONTRACTOR to remove, store and replace existing fences and guard rails during construction. Only the sections directed by the ENGINEER shall be removed. If any section of fence or guard rail is damaged due to the CONTRACTOR'S negligence, it shall be replaced with fencing or guard rail equal to or better than that damaged, and the WORK shall be satisfactory to the ENGINEER.

#### **3.02 RESTORING SERVITUDES AND RIGHTS-OF-WAY**

---

- A. Portions of the construction occur in servitudes through private property. The CONTRACTOR shall be responsible for all damage to private property due to his operations. He shall protect from injury all walls, fences, cultivated shrubbery, pavement, underground facilities such as water pipe, or other utilities which may be encountered. If removal and replacement are required, it shall be done in a workmanlike manner so that the replacement is equivalent to that which existed prior to construction.
- B. Existing lawn, pasture or other grassed surfaces damaged by construction shall be regraded and resodded or reseeded. These areas shall be maintained until all WORK under this CONTRACT has been completed and accepted.

### **3.03 CLEANING UP**

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The CONTRACTOR shall remove all construction material, excess excavation, buildings, equipment and other debris remaining on the job as a result of construction operations and shall render the site of the WORK in a neat and orderly condition.

### **3.04 INCIDENTAL WORK**

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Perform all incidental work not otherwise specified, but obviously necessary for the proper completion of the CONTRACT as specified and as shown on the DRAWINGS.

END OF SECTION

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# **DIVISION 02**

## **SITE CONSTRUCTION**

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## **SECTION 02200 - EARTHWORK**

### **PART 1 - GENERAL**

#### **1.01 DESCRIPTION OF WORK**

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- A. This Section of the specifications details requirements of work and materials to be used in connection with all clearing and grubbing; excavation, including borrow excavation; construction of embankments; preparation of subgrade, including spot reinforcement; grading; all hauling, wetting, rolling, compacting; and all other operations of incidental work for the construction of the roads, pipelines, ditches, ponds, canals, crossings, etc. to the lines and grades as established by the Engineer; all in accordance with the items of work shown on the Drawings and contained in the Proposal Form.

#### **1.02 REFERENCED STANDARDS**

---

- A. All work in this Section shall be in accordance with "Louisiana Standard Specifications for Roads and Bridges", latest edition with revisions. This standard specification will hereinafter be referred to a "LA DOTD Standards".

### **PART 2 - PRODUCTS**

#### **2.01 BORROW (USABLE SOILS) MATERIAL**

---

- A. Borrow is defined as usable soils required for construction of embankments or other portions of the work in excess of usable materials available from required excavation and obtained from an approved source. Borrow may be required even though not shown on the Plans. Usable soil is defined as soil material whose composition is designated satisfactory for use in embankment construction. Moisture content has no bearing upon such determination. Compaction to conform to 90% modified Standard Proctor Density.

#### **2.02 NONPLASTIC EMBANKMENT**

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- A. Nonplastic embankment materials shall be sand or shell or a sand-shell mixture and shall be in accordance with Subsection 203.09 of LA DOTD Standards.

#### **2.03 SHEETING AND BRACING**

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- A. Furnish, put in place, and maintain such sheeting and bracing as may be required to support the sides of excavations, to prevent any movement which could in any way diminish the width of the excavation below that necessary for proper construction, and to protect adjacent structures from undermining or other damage. Such support shall consist of braced steel sheet piling, braced wood lagging and solid beams or other approved methods. If the Engineer is of the opinion that any points sufficient or proper supports have not been provided, he may order additional supports put in at the expense of the Contractor, and compliance with such order shall not relieve or release the Contractor from his responsibility for the sufficiency of such supports. Care shall be taken to prevent voids outside of the sheeting, but if voids are formed, they shall be immediately filled and rammed. Where soil cannot be properly compacted to fill a void, lean concrete shall be used as backfill at no additional expense to the Owner.
- B. The Contractor shall construct the sheeting outside the neat lines of the foundation unless indicated otherwise to the extent he deems it desirable for his method of operation. Sheeting shall be plumb and securely braced and

tied in position. Sheeting and bracing shall be adequate to withstand all pressures to which the structure or trench will be subjected. Any movement or bulging which may occur shall be corrected by the contractor at his own expense so as to provide the necessary clearances and dimensions.

- C. Where sheeting and bracing is required to support the sides of excavations for structures, the Contractor shall engage a Professional Geotechnical Engineer, registered in the State to design the sheeting and bracing. The sheeting and bracing installed shall be in conformity with the design, and certification of these designs shall be provided by the Professional Geotechnical Engineer.
- D. The Contractor shall leave in place to be embedded in the backfill all sheeting and bracing not shown on the Drawings but which the Engineer may direct him in writing to leave in place at any time during the progress of the work for the purpose of preventing injury to structures, utilities, or property, whether public or private. The Engineer may direct that timber used for sheeting and bracing be cut off at any specified elevation.
- E. All sheeting and bracing not left in place shall be carefully removed in such manner as not to endanger the construction or other structures, utilities, or property. All voids left or caused by withdrawal of sheeting shall be immediately refilled with sand by ramming with tools especially adapted to that purpose, or otherwise as may be directed by the Engineer.
- F. The right of the Engineer to order sheeting and bracing left in place shall not be construed as creating any obligation on his part to issue such orders, and his failure to exercise his right to do so shall not relieve the Contractor from liability for damages to persons or property occurring from or upon the work occasioned by negligence or otherwise, growing out of a failure on the part of the Contractor to leave in place sufficient sheeting and bracing to prevent any caving or moving of the ground.
- G. No wood sheeting is to be withdrawn if driven below mid-diameter of any pipe, and under no circumstances shall any wood sheeting be cut off at a level lower than 1 foot above the top of any pipe.

## **PART 3 - EXECUTION**

### **3.01 CLEARING AND GRUBBING**

---

- A. This work consists of required clearing, grubbing, removing and disposing of vegetation and debris within the limits of the right-of-way and easement areas, except such objects that are designated to remain or to be removed as shown on the plans.
- B. Clearing and grubbing shall be in accordance with Section 201 of LA DOTD Standards.

### **3.02 REMOVAL OF STRUCTURES AND OBSTRUCTIONS**

---

- A. This work consists of removal and satisfactory disposal of all buildings, septic tanks, fences, culverts, structures, pavements, abandoned pipelines, and other obstructions not designated or permitted to remain, except obstructions to be removed under other contract items. It shall also include salvaging of designated materials and backfilling resulting trenches, holes, and pits.
- B. Removal of structures and obstructions shall be in accordance with Section 202 of LA DOTD Standards.

### **3.03 EXCAVATION, EMBANKMENT, AND BACKFILL**

---

- A. This work consists of excavation, disposal, placement and compaction of all materials that are not provided under other Sections of these Specifications, including excavation and embankment construction for roadways and other structures, excavation for ditches and channels, and all other grading operations necessary for the work in accordance with these Specifications and in conformity with the lines, grades, thicknesses, and typical cross sections shown on the Plans or established by the Engineer.
- B. The Plans may include data regarding the boring and classification of existing materials. The Owner does not

guarantee the accuracy of such information and bidders should make, at their own expense, such additional investigations as they consider necessary. No additional payment will be made for any increased costs due to inaccuracy of soil boring data shown on the Plans.

### **3.04 TEMPORARY EROSION CONTROL**

---

- A. This work consists of providing temporary erosion control measures on the project and in areas outside the right-of-way where work is accomplished in conjunction with the project, to prevent pollution of water, detrimental effects to property adjacent to the right-of-way and damage to work on the project. These measures shall consist of construction and maintenance of temporary erosion control features shown on the Plans or as directed.
- B. Installation of temporary erosion control features shall be coordinated with construction of permanent erosion control features to the extent necessary to assure economical, effective and continuous control of erosion and water pollution throughout the life of the contract.
- C. Temporary erosion control shall be in accordance with Section 2.04 of LA DOTD Standards.

### **3.05 EXCAVATION AND TRENCHING FOR PIPEWORK**

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- A. All excavation necessary for laying pipe and construction appurtenances shall be made in line and grade and to provide cover as indicated on the Plans and as specified for the type of pipe being laid.
- B. All excavation shall be open cuts with vertical sides, except in special cases where the Engineer may permit sloping sides or tunnels. If tunnels are authorized by the Engineer, they shall be of the same width throughout as open cutting and of sufficient height to allow the establishment of grades if required.
- C. The Engineer shall have the authority, at any time, to require the Contractor to discontinue the use of any excavating machine or other appliance which, in the Engineer's judgement is not adapted to the purpose for which it is used. In order to protect trees, buildings, or structures, excavation by completely manual means may be required.
- D. The Contractor shall leave a berm of at least two feet (2') in width on one side if the trench between the trench and the spoil bank to allow free passage of the Engineer and to permit the Engineer to perform work in an expeditious and satisfactory manner.
- E. No greater length of trench shall be opened in advance of the completed structure or left unfilled to the rear thereof than deemed proper by the Engineer.
- F. Where roadways, paving, or sidewalks are required to be broken in order to properly lay the pipe, then such breaking and removal shall be done in accordance with the Plans, Specifications, or Engineer's direction, and such work required shall be included in other pay items. If no specific pay item is provided, no additional compensation will be made.
- G. The width of the trench to a point two feet (2') above the top of the pipe installation shall not exceed the external diameter plus 18" maximum. Additional cost for special foundation and backfill material and requirements as a result of failure to confine the excavation to this width shall be borne by the Contractor.
- H. Unless specifically directed by the Engineer, the mechanical excavation shall be stopped above the final invert grade elevations so that the pipe may be laid on a firm, undisturbed, native earth bed. Just prior to laying the pipe, so as not to disturb subgrade, a continuous trough shall be manually excavated and accurately graded to provide uniform bedding for the bottom quadrant (90 degrees) of the pipe barrel. In addition, bell holes shall be excavated so that the bell will not come in contact with the bottom of the hole, so that the full length of the barrel be bedded as required and to allow for joints being properly made.
- I. If overdigging occurs, all loosened earth must be removed and the trench bottom brought back to grade with granular material or lean concrete without additional compensation therefore. Recomposition of overdigging shall be 92% of modified proctor maximum dry density.

- J. Where the bottom of the trench is rock, waterbearing soil, or unstable material, the Engineer may direct that the pipe be bedded in granular material or a concrete cradle and paid for as separate items. The pipe shall be bedded in a trough as provided above, but in no case shall the thickness of the bedding material be less than four inches (4") below the bottom of the pipe barrel.
- K. Granular material, where required, shall be well-graded crushed stone or graded river gravel, in accordance with A.S.T.M. Designation C-33, Gradation No. 67.
- L. Concrete for pipe foundations, where required, shall be high-early-strength proportioned to develop not less than 2,000 psi in 28 days.
- M. Other excavation and trenching requirements as specified herein before in Section 2 of these Specifications, shall be complied with.

### **3.06 BACKFILLING OF PIPE TRENCHES**

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#### **A. GENERAL**

No backfilling of underground lines or conduit shall occur until all dimensions and elevations as required for as-built documentation has been performed.

All trenches and excavations shall be backfilled as specified for the type of pipe being laid. No backfilling shall commence until the Engineer has inspected the pipework and until the joints are reasonably cured, if the type of work requires. No material shall be used for backfilling that contains stone having any dimension greater than six (6") inches, frozen earth, debris, or sod.

Where any sheeting or bracing is withdrawn as backfilling progresses, all voids or spaces left thereby shall be carefully and thoroughly filled and compacted with shaped tools. The Engineer shall have the right to forbid the use of any compacting tools or machines that he so considers dangerous to the pipe or incapable of compacting the backfill properly.

Backfill and fill methods shall meet the approval of the State Highway Department where within State Highway rights-of-way and the approval of the owning railroad where within railroad rights-of-way. The requirements of the approving agency shall govern over specified requirements for backfill of pipe trenches, except in cases where the governing agency's requirements are inferior to those cited above.

The Contractor shall go over all trenches and refill all sunken trenches after every rain. Before final acceptance of the work where paving is not to be replaced over the trench, the Contractor shall go over the entire system and refill all sunken trenches, compact trenches by rolling and leave the surface of the trench slightly mounded and in a condition satisfactory to the Engineer. Any deficiency in the quantity of materials for backfilling the trenches, or for filling depressions caused by settlement, shall be supplied by the Contractor at no additional payment.

Upon completion of backfilling, all excavated material and surplus soil shall be cleared from adjacent street surfaces, gutters, sidewalks parkways, grass plots, etc. and shall be removed. The whole area affected shall be left in a tidy and acceptable condition.

Each layer of bedding and/or backfill shall be carefully and uniformly tamped so as not to displace the pipe. The utmost care shall be taken not to disturb the pipe by stepping on them, throwing earth on them from the bank above, unequal backfilling, or unsilenced compacting. There shall not be less than one man tamping to each two men shoveling for the initial backfill.

Upon written permission, and at the direction of the Engineer puddling, jetting, or flooding of porous sand or gravel may be permitted during warm weather for the intermediate backfill.

#### **B. BACKFILL AND FILL**

1. Backfill methods for gravity sewer trenches, as shown on the Drawings, are classified into three (3) zones; bedding, initial backfill, and final backfill.
  - a. **Bedding** is the material a minimum of six inches (6") under the pipe up to a level six inches (6") above the pipe. Bedding material shall be well graded crushed stone meeting the requirements of ASTM Designation C-33, Gradation No. 67. Backfill shall be compacted for sanitary sewer to 90% modified density.
  - b. **Initial backfill** is the material above the bedding material to a distance of twelve inches (12") above the pipe. Acceptable initial backfill material is useable excavated soil unless otherwise directed by the Engineer to be select earth backfill, except under paved areas where only select earth backfill shall be accepted. Initial backfill shall be compacted for sanitary sewer to 90% modified density.
  - c. **Intermediate backfill** is the material placed above the initial backfill extending up to the final backfill. Acceptable intermediate backfill materials are usable excavated soil or if directed by the Engineer use select material, limestone size 67 or 610 or sand-clay gravel.
  - d. **Final backfill** is the material placed above the initial backfill extending up the final grade (except under paved surfaced where crushed #610 stone shall be placed on the last 12" of the trench). Acceptable final backfill materials are useable excavated soils, unless otherwise directed by the Engineer to be select earth backfill, except under paved areas where only select earth backfill shall be accepted. Final backfill shall be compacted for sanitary sewer to 90% modified density.
2. Definition of Acceptable Soils
  - a. **Usable Soils** shall be defined as having a PI of 25 or less, an organic content of 5 percent or less and a maximum silt content of 65 percent.
  - b. **Select Earth Backfill** shall be defined as natural soils with a maximum PI of 20, maximum Liquid Limit of 35, a maximum organic content of 5 percent, and a maximum silt content of 65 percent.
3. Backfill excavations as promptly as work permits, but not until completion of the following:
  - a. Acceptance by engineer of construction below finish grade including, where applicable, dampproofing, waterproofing, and perimeter insulation.
  - b. Inspection, testing, approval, and recording locations of underground utilities.
  - c. Removal of concrete formwork.
  - d. Removal of shoring and bracing, and filling of voids with satisfactory materials.
  - e. Removal of trash and debris.
  - f. Placement of permanent or temporary horizontal bracing has been completed on horizontally supported walls. Layout and location of bracing shall consider loads of the structure as well as the effects of the soil and groundwater.
4. Ground Surface Preparation: Remove vegetation, debris, unsatisfactory soil materials, obstructions, and deleterious materials from ground surface prior to placement of fills. Plow strip, or break-up sloped surfaces steeper than 1 vertical to 4 horizontal so that fill material will bond with existing surface. When existing ground surface has a density less than that specified under "Compaction" for the particular area classification, break up the ground surface, pulverize, moisture-condition to the optimum moisture content, and compact to required depth and percentage of maximum density.

5. Placement and Compaction: Place backfill and fill materials in layers not more than 9-inches loose depth for material compacted by heavy compaction equipment, and not more than 6-inches loose depth for material compacted by hand-operated tampers.
  - a. Before compaction, moisten or aerate each layer as necessary to provide the optimum moisture content. Compact each layer to required percentage of maximum dry density or relative dry density for each classification. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice.
  - b. Place backfill and fill materials evenly adjacent to structures, to required elevations. Take care to prevent wedging action of backfill against structures by carrying the material uniformly around structure to approximately same elevation in each lift.
  - c. Large compaction equipment shall not be used within 5 feet of walls.

### **3.07 HANDLING AND DISPOSAL OF WATER**

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- A. The Contractor shall pump, bail, well point, or otherwise remove any water which may be found or may accumulate in the excavations, and shall perform all work necessary to keep the excavations clear of water while the work is in progress. The cost of removing water by pumping or otherwise shall be included in the prices bid for various items of the work, it will not be paid for as separate pay item.
- B. Gutters and drains parallel with the trench must be maintained unobstructed. When necessary a proper platform shall be built over them and the excavated dirt placed thereon so as to permit the free passage of all drainage water.

### **3.08 CROSSINGS OF CANALS, TRACKS, ETC. – PERMITS, CHARGES, PAYMENTS, ETC.**

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- A. No additional compensation will be paid for the construction of any pipe line because of its crossing under or over a drainage canal (either open or covered), a natural or artificial stream or lagoon, a railroad track, or a conduit or any such structure provided the route of the pipe line as bid on has not been changed so as to produce a crossing not to be anticipated by the Bidder. All additional compensation required because of the crossing will be paid for items entering into the construction.
- B. Natural or artificial streams or lagoons, drainage, or navigation canals, gutters or culverts, shall not be unreasonably blocked or obstructed or prevented from carrying their customary drainage or traffic, and shall be replaced by the Contractor in as good condition as they were originally, without charge.
- C. The Owner will secure the permits for crossing railroads, highways, canals, or other waterways or appurtenances, but the Contractor will be held to a strict compliance with the terms under which such permits may be issued.
- D. The Owner will pay all fees and charges of railroad companies for their supervision, their labor, and their material and services required by the railroad company in effecting the various crossing of tracks set up in the Contract.
- E. When any railway tracks are encountered in the course of the work, the Contractor shall take utmost precautions to avoid any unnecessary delays or interruptions of traffic and to avoid injury to the roadbed or tracks of such railroads. The Engineer shall have the right to forbid the use of any methods or details of construction that may be considered unsafe or unwise, but the Contractor shall be held fully responsible for all risks and damages attending such work. The Contractor shall notify the Owner or lessee of any railroad track or switch track, or any street railway track of any contemplated crossing of the track at least forty-eight (48) hours in advance.
- F. The Contractor shall receive no extra compensation for the work done crossing under tracks above the prices bid for the items entering into the construction.

### **3.09 LOCATION OF PIPE LINES**

---

- A. The appropriate location of the proposed lines has been indicated on the Plans. Final location of the pipe lines shall be made by the Engineer at the time of construction.
- B. It shall be the responsibility of the Contractor to locate or cause to be located, all subsurface obstructions within the trench and also underground structures which are adjacent to but outside the trench.

### **3.10 SITE GRADING**

---

- A. Site of all structures, embankments, ditches, streets, and roads shall be graded within the areas and to the elevations as shown on the Plans or as specified. Grading operations shall be so conducted that material shall not be removed or loosened beyond the required limits. Slopes and ditches shall be neatly trimmed and finished to conform to the slope lines shown on the Plans, or as directed by the Engineer.

### **3.11 MAINTENANCE**

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- A. All areas of excavation, backfill, embankments, trenches, ditches, roadways and parking area grading shall be maintained by the Contractor in good condition and provide for proper drainage of the work site and adjoining properties at all times until final acceptance. The Engineer may require the use of gravel or other granular material for trench maintenance. All areas of the project will be seeded as directed by the Engineer.

END OF SECTION

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## **SECTION 02230 - CLEARING AND GRUBBING**

### **PART 1 – GENERAL**

#### **1.01 DESCRIPTION OF WORK**

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- A. The work covered under this section includes clearing and grubbing, removal of all stumps, limbs, roots, and tree debris as necessary to construct the facilities shown on the drawings or as specified herein.

#### **1.02 PROTECTION OF ADJACENT SURFACES**

---

- A. Protection of Existing Trees and Vegetation: Protect existing trees and other vegetation designated by the OWNER to remain in place against unnecessary cutting, breaking or skinning or bruising of bark, smothering of trees by stockpiling construction materials or excavated materials within drip line. Provide temporary guards to protect trees and vegetation to be left standing.
- B. Construction Limits: All construction limits shall be strictly adhered to during construction. The preservation and protection of wetlands shall be strictly followed, including restoration of the construction area and sedimentation control measures during construction.
- C. Sedimentation Control Measures: Sedimentation control measures (bales, screens, etc.) shall be placed at the construction limits prior to any physical work activities. These control measures shall be carefully maintained during initial clearing activities and throughout the duration of construction and startup activities.

### **PART 2 - PRODUCTS (Not Used)**

### **PART 3 - EXECUTION**

#### **3.01 CLEARING**

---

- A. Clearing shall consist of the removal of all natural growth, trees, down timber, logs, stumps, branches, and any other objects deemed detrimental or in the way of construction. Over-cutting and over-cleaning shall be the sole responsibility of the CONTRACTOR and all costs to correct over-cutting and over-clearing shall be borne by CONTRACTOR.
- B. Protect existing trees and vegetation and other growth which does not interfere with construction for use as part of the landscape treatment and buffer zone. Do not damage root systems.
- C. Maintain all bench marks, monuments, and other reference points. If disturbed or destroyed, restore as directed by ENGINEER.
- D. Construction Limits: The project construction limits must be clearly marked and approved for all impacted areas before any physical work is done on this site. This work site is environmentally sensitive and all measures must be taken to eliminate construction encroachment outside predetermined boundaries. Marking system (stakes, flags, etc.) shall designate boundaries for the construction site.

#### **3.02 GRUBBING**

---

- A. Grubbing shall consist of the removal and disposal of stumps, roots, logs, and other organic metallic debris not suitable for foundation purposes, below the original surface level of the ground. Depressions made by grubbing shall be filled with suitable material and compacted as specified in Section 02330, Embankment and Backfilling, so that the surface conforms with the adjacent ground surface. Earth material of topsoil quality shall be stockpiled for placement on exposed embankments or other designated surfaces.

### **3.03 STRUCTURAL CONSTRUCTION**

---

- A. Remove all vegetation, topsoil, debris, organic material, and otherwise objectionable materials which are not suitable for use as fill for support of structural loads or slabs from within the designated area. Remove all roots and matted root systems. Extended clearing and grubbing at least 10 feet beyond structure lines or as shown on drawing. Unless further excavation is required, fill all depressions made by grubbing and compact to 95% of the modified Proctor (ASTM D 1557) maximum dry density before placing subsequent embankment material.

### **3.04 DISPOSAL OF CLEARED AND GRUBBED MATERIALS**

---

- A. Remove from the construction area all logs, stumps, roots, branches, rotten wood, branches, and other refuse which are the products of clearing and grubbing operations. Remove the products of clearing and grubbing operations from the construction area, and dispose of the materials in approved waste areas. Disposal of cleared and grubbed material in adjacent streams, drainage channels, or on the banks thereof, other than the areas designated, will not be allowed.
- B. Abandoned pipelines, structures, existing fences, or other improvements encountered within the limits of the work, shall become the property of the CONTRACTOR and shall be removed from the site and disposed of in areas arranged for, by and at the expense of the CONTRACTOR.

END OF SECTION

# **SECTION 02315 - EXCAVATION, BACKFILLING, AND COMPACTION**

## **PART 1 - GENERAL**

### **1.01 SCOPE OF WORK**

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The CONTRACTOR shall furnish all labor, materials, equipment, and incidentals necessary to perform all excavation, backfill, grading, and wall protection required to complete the work shown on the Drawings and specified herein. The work shall include, but not necessarily be limited to, excavation, filling and grading under and around precast and cast in place structures to attain the subgrades and grades indicated on the Drawings, trenching operations to install pipe, manholes, vaults, electrical duct conduit, and other structures, including all backfilling, grading, disposal of surplus and unsuitable materials, and all related work such as sheeting, bracing and water handling.

### **1.02 QUALITY ASSURANCE**

---

- A. The CONTRACTOR shall perform excavation work in compliance with applicable requirement codes and standards of governing authorities having jurisdiction.
- B. Follow the requirements of Louisiana Standard Specifications for Roads and Bridges, latest edition, where they are not superseded by this specification.

### **1.03 JOB CONDITIONS**

---

- A. The CONTRACTOR shall examine the site and review all available information prior to submitting his bid, taking into consideration all conditions that may affect his work. The OWNER and ENGINEER will not assume responsibility for subsurface conditions.
- B. Existing Utilities: Locate existing underground utilities in the areas of work. If utilities are to remain in place, provide adequate means of protection during earthwork operations.
  - 1. The location of pipes, ducts, or underground structures is not warranted to be exact, nor is it warranted that all underground pipes, ducts, or structures are shown. The CONTRACTOR shall contact Louisiana One Call and any other appropriate utility company for location of their underground service a minimum of 48 hours prior to beginning construction in each area. It is the CONTRACTOR's responsibility to verify and locate all utilities in the field at no cost to the OWNER.
  - 2. Cooperate with OWNER and utility companies in keeping respective services and facilities in operation. Repair damaged utilities to satisfaction of utility OWNER or make the site available to the utility OWNER for his work crews to make the necessary repairs at no additional cost to the OWNER.
  - 3. Demolish and completely remove from site any existing underground utilities indicated on the Drawings to be removed.
  - 4. Examine the areas and conditions under which excavating, filling, and grading are to be performed. Do not proceed with the work until unsatisfactory conditions have been corrected.
  - 5. Examine existing grades prior to commencement of work and report to ENGINEER if elevations of existing subgrade vary from elevations shown on Drawings.
  - 6. If it is determined that existing utilities are to be relocated by OWNER of those utilities, the CONTRACTOR shall be responsible for that coordination. The CONTRACTOR shall notify the utility OWNER in sufficient time as to avoid any delays to the CONTRACTOR's schedule. The CONTRACTOR is solely responsible for this coordination, and no delay or extension of time will be allowed as a result of or the cause of inaction by the CONTRACTOR or utility OWNER.

## 1.04 PROTECTION

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- A. Slope sides of excavations to comply with OSHA regulation and any applicable local codes and ordinances. Shore and brace where sloping is not possible because of space restrictions or stability of material excavated. Maintain sides and slopes of excavations in a safe condition until completion of backfilling.
- B. Sheeting and Bracing in Excavations:
1. In connection with construction of below grade structures and piping, the CONTRACTOR shall construct, brace, and maintain cofferdams consisting of sheeting and bracing as required to support the sides of excavations, to prevent any movement which could in any way diminish the width of the excavation below that necessary for proper construction, and to protect adjacent structures, existing yard piping and/or foundation material from disturbance, undermining, or other damage. Care shall be taken to prevent voids outside of the sheeting, but if voids are formed they shall be immediately filled and rammed.
  2. Trench sheeting for pipes is not to be withdrawn when driven below mid-diameter of any pipe, and no wood sheeting shall be cut off at a level lower than 1 foot above the top of any pipe unless otherwise directed by the ENGINEER. If during the progress of the work the ENGINEER decides that additional wood sheeting should be left in place, he may direct the CONTRACTOR in writing and the CONTRACTOR shall be reimbursed in accordance with the Bid Documents. If steel sheeting is used for trench sheeting, removal shall be as specified above, unless written approval is given for an alternate method of removal.
  3. All sheeting and bracing not left in place shall be carefully removed in such a manner as not to endanger the construction or other structures, existing utilities, existing piping, or personnel and property. Unless otherwise approved or indicated on the Drawings or in the Specifications, all sheeting and bracing may be carefully removed after completion of the substructure. Care shall be taken not to disturb or otherwise injure any finished masonry. All voids left or caused by withdrawal of sheeting shall be immediately refilled with sand by ramming with tools especially adapted to that purpose, by hydraulic compaction or otherwise as may be directed.
  4. The right of the ENGINEER to order sheeting and bracing left in place shall not be construed as creating any obligation on his part to issue such orders, and his failure to exercise his right to do so shall not relieve the CONTRACTOR from liability for damages to persons or property occurring from or on the work occasioned by negligence or other cause, growing out of a failure on the part of the CONTRACTOR to leave in place sufficient sheeting and bracing to prevent any caving or moving of the ground.
  5. The CONTRACTOR may construct the cofferdams and sheeting outside the neat lines of the foundation for pipes and manholes, unless indicated otherwise, to the extent he deems it desirable for his method of operation. Sheeting shall be plumb and securely braced and tied in position. Sheeting, bracing, and cofferdams shall be adequate to withstand all pressures to which the existing or new structure will be subjected. Pumping, bracing, and other work within the cofferdam shall be done in a manner to avoid disturbing any completed construction or personnel injury. Any movement or bulging which may occur shall be corrected by the CONTRACTOR so as to provide the necessary clearances and dimensions.
  6. The CONTRACTOR is fully responsible for any sheeting, bracing and cofferdams that are required to perform any of the Work under the contract. As part of his submittal of schedules and other data indicating his planning of the Work, the CONTRACTOR shall provide drawings of the planned supporting system, not for review by the ENGINEER but for informational purposes only and use by the ENGINEER in tracking the progress of the Work. Such drawings shall be of sufficient detail to adequately disclose the method of operation that the CONTRACTOR plans to use for each of the various stages of construction. The Work shall not be started until such drawings are received.
  7. Establish requirements for trench shoring and bracing to comply with OSHA regulations and any applicable local codes and ordinances.

8. Maintain shoring and bracing in excavations regardless of time period excavations will be open. Carry down shoring and bracing as excavation progresses.
9. As an alternate to sheeting, the CONTRACTOR is authorized to utilize a mechanical trench box, the size and construction of which shall be submitted to the ENGINEER for review.

C. Dewatering, Drainage and Flotation:

1. The CONTRACTOR shall furnish all materials and equipment and perform all work required to install and maintain the drainage systems he proposes for handling groundwater and surface water encountered during construction of structures, pipelines, and compacted fills.
2. The CONTRACTOR shall construct and place all pipelines, concrete work, structural fill, bedding, and base course, in-the-dry. In addition, the CONTRACTOR shall make the final 24-inches of excavation for this work in-the-dry, and not until the water level is a minimum of twelve (12) inches below proposed bottom of excavation.
3. The CONTRACTOR shall, at all times during construction, provide and maintain proper equipment and facilities to promptly remove and dispose of all water entering excavations and keep such excavations dry so as to obtain a satisfactory undisturbed subgrade foundation condition, until the fill, structure, or pipes to be built thereon have been completed to such extent that they will not be floated or otherwise damaged by allowing water levels to return to natural elevations.
4. Dewatering shall at all times be conducted in such a manner as to preserve the natural undisturbed bearing capacity of the subgrade soils at proposed bottom of excavation.
5. Wellpoints may be required for predrainage of the soils prior to final excavation for deeper below ground structures or piping, and for maintaining the lowered groundwater level, until construction has been completed to such an extent that the structure, pipeline, or fill will not be floated or otherwise damaged. Wellpoints shall be surrounded by suitable filter sand and no fines shall be removed by pumping. Pumping from wellpoints shall be continuous and standby pumps shall be provided. Correction of any damages caused to the structures being constructed or to any existing structures due to failure of the dewatering equipment shall be the Contractor's full responsibility.
6. If requested by the ENGINEER, the CONTRACTOR's proposed method of dewatering shall include a minimum of two (2) 4-inch, Schedule 40, operating groundwater observation wells at each structure to be used to determine the water level during construction of the structure. Locations of the observations wells shall be at structures and along pipelines as approved by the ENGINEER prior to their installation.
7. Prior to excavation, the CONTRACTOR shall submit his proposed method of dewatering and maintaining dry conditions to the ENGINEER. The CONTRACTOR shall be responsible for the satisfactory performance of the system. The CONTRACTOR shall be responsible for correcting any disturbance or natural bearing of soils or damage to structures caused by an inadequate dewatering system or by interruption of the continuous operation of the system as specified.
8. As part of the submittal of his dewatering system, the CONTRACTOR may be required to demonstrate the adequacy of the proposed system and wellpoint filter sand by means of a test installation. Discharge water shall be clear, with no visible soil particles in a one quart sample.
9. During backfilling and construction, water levels shall be measured in observation wells located as directed by the ENGINEER.
10. Continuous pumping will be required as long as water levels are required to be below natural levels.
11. While dewatering for new construction in the vicinity of the existing structures, depletion of the groundwater level underneath these existing structures may cause settlement. To avoid this settlement, the groundwater level under these structures shall be maintained by appropriate methods of construction.

D. Protection of Persons and Property:

1. Barricade open excavations occurring as part of this work and post with warning lights in accordance with local requirements. Operate warning lights as recommended by authorities having jurisdiction.
2. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout and other hazards created by earthwork operations.

## **PART 2 - PRODUCTS**

### **2.01 REQUIREMENTS INCLUDED**

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A. Definitions:

1. Select Material - Select fill shall conform to Louisiana DOTD designation TR 423 Classes A-I-a, A-I-b, A-3, A-2-4, A-2-6, A-4 or A-6 having a maximum liquid limit of 35, a maximum plasticity index of 15, a maximum organic content of 2%, and a maximum silt content of 60%. This material is referred to as "selected soils" in the Louisiana DOTD Specifications. Based on an approved geotechnical engineering report, particularly A-6 soils, a higher elasticity index of up to 25 will be considered. These materials can be used for backfill in over-excavated areas, for backfill from 12 inches above the top of the pipe to the top of the subgrade and as structural fill/backfill.
2. Bedding Materials - Bedding materials shall conform to Louisiana DOTD Specifications 1003.08, however, shell will not be allowed as bedding material. These materials shall be used for placement under the pipes in the trench and as a bedding material as defined on the Drawings and shall have a minimum thickness of 6 inches; these materials shall also be used for backfill in over-excavated trench areas and may be used for backfill from above the top of the pipe to the top of subgrade and as structural fill/backfill.
3. Stabilization Materials - Stabilization materials shall be a blended, manufactured aggregate conforming to the requirements for concrete aggregate as stated in ASTM C33 except for gradation which shall be between sizes 78 and 57 (inclusive) as specified in ASTM D448.
4. Granular Materials Granular materials shall conform to Louisiana DOTD Specifications 1003.07. These materials shall be used for backfilling around the pipes from the bedding material up to at least 12 inches above the top of the pipes or to subgrade and in confined areas around structures; these materials may also be used as structural fill/backfill.
5. Usable Excavated Soils - Usable excavated soils, referred to as "usable soils" in Louisiana DOTD specifications, shall conform to Classes A-I-a, A-I-b, A-2-4, A-2-5, A-2-6, A-2-7, A-3, A-4, A-5, A-6, A-7-5, and/or A-7-6, except that soils in Classes A-5, A-6, A-7-5 and A-7-6 which are considered unusable by the ENGINEER and any soil with a plasticity index exceeding 60 will not be accepted in accordance with paragraph 203.06 in the Louisiana DOTD specifications. These materials can be used for backfill from 12 inches above the top of the pipe up to the surface in unimproved areas.
6. Soil classifications used herein are to be in accordance with the AASHTO table for "Classification of Soils and Soil-Aggregate Mixtures (With Suggested Subgroups)" as shown on LADOTD designation TR423.

B. General:

1. Materials for use as fill and backfill shall be as described above. The CONTRACTOR shall notify the ENGINEER of the source of each material and shall furnish to the ENGINEER for testing and approval, a representative sample of each material weighing approximately 50 pounds, at least ten (10) calendar days prior to the date of anticipated use of such material.
2. Additional materials shall be furnished as required from off-site sources and hauled to the site.

3. Disposal of unsuitable material is specified in this Section, see Paragraph 3.07.

C. Structural Fill:

1. Structural fill shall consist of select fill and shall be used below spread footing foundations, slab-on-grade floors, and other structures and as backfill within three (3) feet of the below grade portions of structures, except that, when stabilization layers of courses are shown on the Drawings, stabilization material shall be placed and compacted over the structural fill material in accordance with the requirements for the structural fill.
2. Material falling within the above specification, encountered during the excavation, may be stored in segregated stockpiles for reuse. All material which, in the opinion of the ENGINEER, is not suitable for reuse shall be spoiled as specified herein for disposal of unsuitable materials.

## **PART 3 - EXECUTION**

### **3.01 EXCAVATION**

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A. General:

Excavation consists of removal and disposal of material encountered when establishing required grade elevations and in accordance with the Drawings.

B. Excavation Classifications:

The following classifications of excavation will be made when unclassified excavation is encountered in the work. Do not perform such work until material to be excavated has been cross-sectioned and classified by ENGINEER or specialized geotechnical consultant.

1. Authorized earth excavation includes removal and disposal of pavements and other obstructions visible on ground surface, underground structures and utilities indicated in soil boring data to be removed, and other materials encountered that are not classified but are to be removed.
2. Unauthorized excavation consists of removal of material beyond the limits needed to establish required grade and subgrade elevations without specific direction of ENGINEER. Unauthorized excavation, as well as remedial work directed by the ENGINEER, shall be at no additional expense to the OWNER. Backfill and compact unauthorized excavations as specified for authorized excavations, except that bedding material as specified above shall be used for backfill under footings, foundations bases, or retaining walls unless otherwise directed by the ENGINEER. The ENGINEER may approve the use of lean concrete fill, reinforced or unreinforced as required by the site conditions and as required by the ENGINEER, if soil conditions allow the extra loading.

C. Additional Structural Excavation:

When excavation has reached required subgrade elevations, notify the ENGINEER who will make an inspection of conditions or contact a geotechnical consultant to do so.

1. If unsuitable, unsatisfactory bearing materials are encountered at the required subgrade elevation, carry excavation deeper and replace the excavated material as directed by the ENGINEER.
2. Removal of unsuitable material and its replacement as directed beyond the authorized limits will be paid on the basis of contract conditions relative to changes in the Work as provided in the General Conditions.

D. Excavation for Structures:

Conform to elevations and dimensions shown within a tolerance of plus or minus 0.10 feet, and extending a

sufficient distance from footings and foundations to permit placing and removal of concrete framework, installation of services, other construction, and for inspection, or as shown on the Drawings.

1. In excavation for footings and foundations, take care not to disturb bottom of excavation. Excavate by hand to final grade just before concrete reinforcement is placed. Trim bottoms to required lines and grades to leave solid base to receive any required stabilization material or concrete.
2. In the event that excavations subsequent to the placement of the fill are performed by the CONTRACTOR to install piping, conduit, or other appurtenances, any fill placed above the level of the planned excavation shall be fully compacted in accordance with the requirements of this specification prior to beginning the excavation.

### **3.02 FILL PLACEMENT**

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#### **A. General:**

1. Material placed in fill areas under and around structures or within the pipe trench limits shall be deposited within the lines and to the grades shown on the Drawings or as directed by the ENGINEER, making due allowance for settlement of the material. Fill shall be placed only on properly prepared surfaces which have been inspected and approved by the ENGINEER. If sufficient fill material is not available from excavation on site, the CONTRACTOR shall provide borrows as may be required.
2. Remove vegetation, debris, unsatisfactory soil materials, obstructions, and deleterious materials from ground surface prior to placement of fills. Plow strip, or break-up sloped surfaces steeper than 1 vertical to 4 horizontal so that fill material will bond with existing surface.
3. Fill shall be brought up in substantially level lifts throughout the site, starting in the deepest portion of the fill. The entire surface of the work shall be maintained free from ruts, and in such condition that construction equipment can readily travel over any section. Fill shall not be placed against concrete structures until they have attained sufficient strength.
4. Fill shall be dumped and spread in layers by a bulldozer or other approved method. During the process of dumping and spreading, all roots, debris, and other objectionable material shall be removed from the fill areas, and the CONTRACTOR shall assign a sufficient number of men to this work to insure satisfactory compliance with these requirements.
5. If the compacted surface of any layer of material is determined to be too smooth to bond properly with the succeeding layer, it shall be loosened by harrowing or by an other approved method before the succeeding layer is placed.
6. All fill materials shall be placed and compacted in dry conditions. The CONTRACTOR shall dewater excavated areas and is required to perform the work in such manner as to preserve the undisturbed state of the natural inorganic soils.

### **3.03 COMPACTION**

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#### **A. General:**

1. CONTRACTOR shall control soil compaction during construction and obtain the minimum required percentage of the total maximum dry densities as specified herein and as shown on the structural or civil drawings. The CONTRACTOR shall maintain the backfill for a period of one (1) year after final acceptance and shall restore any backfill that fails and repair any pavement or other structures which may be damaged as a result of backfill failure. It shall be the CONTRACTOR's responsibility to notify the ENGINEER in writing that compaction tests of either the nuclear gauge, sand-cone, or other method as required can be performed.
2. The frequency for density tests will be a minimum of one (1) test per lift per 1,000 linear feet under pavements, within street and highway rights-of-way, and under building slabs and one (1) randomly selected test per 2,500 linear feet for open areas (testing of each lift in open areas is not required). If

the density tests indicate that the work does not meet specified density requirements, the ENGINEER may require additional density tests to determine the extent of the deficient Work. The CONTRACTOR will not be allowed an extension of contract time as a result of any density testing.

3. It is the CONTRACTOR's responsibility to provide equipment and labor as needed to achieve the required compaction as specified herein. Should the rates of compaction fall below the values specified herein, the ENGINEER has the right to instruct the CONTRACTOR to alter his work to assure that the required backfill quality is consistently achieved. Any decision by the ENGINEER to forgo such instructions shall in no way relieve the CONTRACTOR of his responsibility to provide backfill of the specified quality.

**B. Percentage of Maximum Density Requirements:**

1. Compact soil to not less than the following percentages of maximum dry density as determined in accordance with AASHTO T-180 (ASTM D1557) or seventy-five percent (75%) relative density as determined by ASTM D2049 as applicable.
  - a. Building Slabs: Compact top 12-inches of subgrade and each layer of backfill or fill material to a minimum of ninety-five percent (95%) of the maximum dry density.
  - b. Compaction of Backfill near Highways or Streets: Where the trench limit falls under the roadway pavement or within two (2) feet of the edge of pavement, requiring granular backfill and in other areas designated on the plans where future roadways are to be constructed, backfill for the balance of the trench above a point one (1) foot above the top of the pipe shall be placed in layers of not more than 6-inch compacted thickness and compacted with mechanical tampers or by any satisfactory method or methods that will obtain the density hereinafter specified. The density of compacted material in each layer of backfill shall not be less than ninety-five percent (95%) of the maximum dry density.
  - c. Walkways: Compact top 6-inches of subgrade to a minimum of ninety-five percent (95%) of the maximum dry density.
  - d. Pavements and Steps: Compact top 24-inches of subgrade to a minimum of ninety-five percent (95%) of the maximum dry density.
  - e. Bedding Material: Shall be compacted to a minimum of ninety-two percent (92%) of the maximum dry density.
  - f. Compaction of all other Backfill: Where a trench is in open ground and the backfill is not influenced by the loading conditions as described in the other listed backfilling requirements, the balance of the trench above a point one (1) foot above the top of the pipe may be filled and compacted in layers of not more than 12 inches to obtain a minimum density of the measured in-situ condition prior to excavation. If the CONTRACTOR has to dry the excavated soil to a moisture content below the insitu moisture content in order to achieve the required rate of compaction, he shall do so at no additional expense to the OWNER. The final surface shall be left in a condition equal to that originally found at the start of the work.

**C. Moisture Control: Condition subgrade or layer material correcting moisture content:**

1. When the material is too dry to be compacted efficiently, the CONTRACTOR shall uniformly apply water to surface of subgrade or layer of soil material and thoroughly mix the soil to achieve a moisture content near the optimum level to facilitate compaction.
2. Remove and replace, or scarify and air dry, soil material that is too wet to permit compaction to specified density.
3. Soil material that has been removed because it is too wet to permit compaction but is otherwise satisfactory may be stockpiled or spread and allowed to dry. The CONTRACTOR may assist the drying process by discing, harrowing or pulverizing to reduce the moisture content to a satisfactory value.

- D. Structural fill and base course in open areas shall be placed in layers not to exceed the thicknesses specified above. Each layer shall be compacted to the minimum dry density as stated herein. Incidental compaction due to traffic by construction equipment will not be credited toward the required minimum compaction as required for any material.
- E. All other fill shall be placed and compacted in a manner similar to that described above for structural fill except that dike or levee fill required below water level in peat excavation areas, may be placed as one lift, in-the-wet, to an elevation one (1) foot above the water level at the time of filling.
- F. Areas adjacent to structures and other confined areas inaccessible to roller type equipment shall be compacted with approved hand guided mechanical compaction equipment. The CONTRACTOR shall also conform to additional backfilling requirements at structures as specified elsewhere in these specifications. Compaction of the fill by such means shall be to the same degree of compaction as obtained by roller type equipment and the ENGINEER may make the necessary tests to determine the amount of compactive effort necessary to obtain compaction. Unless such tests indicate that modifications may be made, the fill compacted by mechanical compactors shall be placed in 6-inch layers and thoroughly tamped over the entire surface. Compaction equipment is subject to approval by the ENGINEER.

### **3.04 PIPE EXCAVATION AND BACKFILLING**

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- A. Excavation for all trenches required for the installation of pipes and electrical ducts shall be made to the depths indicated on the Drawings and in such manner and to such widths as will give suitable room for laying the pipe or installing the ducts within the trenches, for bracing and supporting and for pumping and drainage facilities. The bottom of the excavations shall be firm and dry, and in all respects acceptable to the ENGINEER.
- B. Where pipes or ducts are to be laid in bedding or encased in concrete, the trench may be excavated by machinery to or just below the designated subgrade provided that the material remaining in the bottom of the trench is no more than slightly disturbed.
- C. Where the pipes or ducts are to be laid directly on the trench bottom, the lower part of the trenches shall be excavated to grade by machinery. The material being excavated shall be done in such a manner that will give a flat bottom true to grade so that pipe or duct can be evenly supported on undisturbed material. Bell holes shall be made as required.
- D. Backfilling over pipes shall begin as soon as practicable after the pipe has been laid, jointed, and inspected and the trench filled with suitable compacted bedding material up to a level even with six-tenths of the outside diameter of the pipe or as otherwise required on the Drawings.
- E. Backfilling over ducts shall begin not less than three (3) days after placing concrete encasement.
- F. All backfilling shall be prosecuted expeditiously and as detailed on the Drawings and specified herein.
- G. Any space remaining between the pipe and sides of the trench shall be packed full by hand shovel with bedding material and thoroughly compacted with a tamper. Material shall be placed in lifts no greater than 6-inches in thickness, up to a level even with six-tenths of the outside diameter of the pipe.
- H. The backfilling shall be carried up evenly on both sides of the pipe with at least one man tamping for each man shoveling material into the trench.
- I. Granular material shall then be placed and compacted from the top of the bedding material to a minimum depth of one (1) foot above the top of the pipe.
- J. The remainder of the trench above the compacted granular material as just described above shall be filled and thoroughly compacted to the required density by rolling, ramming, or puddling to prevent subsequent settling.
- K. The width of the trench at the top of the pipe for water pipe installation shall not exceed the external diameter of the barrel of the pipe plus nine inches (9") on each side.

Trenches for water lines shall be of a depth to provide a thirty-inch (30") minimum cover over the top of the pipe.

Where sanitary sewer, storm sewer, or other subsurface utilities are encountered in trenching for water lines, it will be permitted to lay pipe above the obstruction if a minimum cover of twenty-four inches (24") can be obtained while providing a cushion between the bottom of the pipe and the top of the obstruction of at least six inches (6") in thickness. Otherwise, the obstruction will have to be by-passed or tunneled under. Approval must be sought by the Department of Health in these situations.

### **3.05 BACKFILLING AROUND STRUCTURES**

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- A. Fill shall be placed in layers having a maximum thickness of eight (8) inches in loose state and shall be compacted sufficiently to prevent settlement. If compaction is by rolling or ramming, material shall be wet down as required. Where material can be suitably compacted by flooding, the CONTRACTOR may use this method.
- B. The final finished surface of filled areas shall be graded to smooth true lines, strictly conforming to grades indicated on the plans, and no soft spots or uncompacted areas will be allowed in the work.
- C. Temporary bracing shall be provided as required during construction of all structures to protect partially completed structures against all construction loads, hydraulic pressure, and earth pressure. The bracing shall be capable of resisting all loads applied to the walls as a result of backfilling.

### **3.06 GRADING**

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- A. General: Uniformly grade areas within limits of grading under this Section, including adjacent transition areas. Smooth finished surface within specified tolerances, compact with uniform levels or slopes between points where elevations are shown, or between such points and existing grades as are required or shown on the Drawings.
- B. Compaction: After grading, compact subgrade surfaces to the depth and percentage of maximum dry density for each area classification.
- C. Grading shall be performed at such places as are indicated on the Drawings, to the lines, grades, and elevations shown or as directed by the ENGINEER and shall be made in such a manner that the requirements for formation of embankments can be followed. All unacceptable material encountered, of whatever nature within the limits indicated, shall be removed and disposed of in accordance with Paragraph 3.07. During the process of excavation, the grade shall be maintained in such condition that it will be well drained at all times. When directed, temporary drains and drainage ditches shall be installed to intercept or divert surface water which may affect the prosecution or condition of the work.
- D. If at the time of excavation it is not possible to place any material in its proper section of the permanent structure, it shall be stockpiled in approved areas for later use. No additional cost is allowed for the stockpiling or double handling of excavated material
- E. The right is reserved to make adjustments or revisions in lines or grades if found necessary as the work progresses, in order to obtain satisfactory construction.
- F. All fill slopes shall be uniformly dressed to the slope, cross section and alignment shown on the Drawings, or as directed by the ENGINEER.
- G. In cuts, all loose material on the back slopes shall be barred loose or otherwise removed to line or finished grade of slope. All cut and fill slopes shall be uniformly dressed to the slope, cross section and alignment shown on the Drawings or as directed by the ENGINEER.
- H. No grading is to be done in areas where there are existing pipelines that may be uncovered or damaged until such lines, which must be maintained, are relocated, or where lines are to be abandoned, all required valves are closed and drains plugged at manholes.

### **3.07 DISPOSAL OF UNSUITABLE AND SURPLUS MATERIAL**

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- A. Unsuitable and surplus excavated materials, unless specified otherwise below, and pavement shall become the property of the CONTRACTOR and shall be removed and disposed of by the CONTRACTOR off the project site.
- B. Usable, excavated material may be used for fill or backfill if it meets the specifications and is approved by the ENGINEER. Excavated material so approved may be neatly stockpiled at the site where designated by the ENGINEER provided there is an area available that will not interfere with the OWNER's access nor inconvenience traffic or adjoining property OWNERS.
- C. Surplus suitable excavated material may be used to fill depressions as the ENGINEER may direct.
- D. In instances where the OWNER can use surplus excavated materials and so desires to retain possession of the material, the CONTRACTOR will be directed to stockpile the material on site.

### **3.08 SPECIAL FOUNDATIONS**

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- A. The CONTRACTOR shall furnish and install a special foundation for sewer pipe, water pipe, and manholes or other pipes as shown on the Drawings.
- B. All piping shall be installed on the special bedding foundation and the prices for laying pipe shall include this cost. This bedding shall be as previously specified and placed in the trench to the proposed elevation prior to any pipe laying. This bedding shall not be used under any circumstances as a drain for groundwater. The CONTRACTOR shall take all precautions necessary to maintain the bedding in a compacted state and to prevent washing erosion or loosening of this bed.

### **3.09 MAINTENANCE**

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- A. Protection of Graded Areas: Protect newly graded areas from traffic and erosion. Keep areas free of trash and debris and repair and re-establish grades in settled, eroded, and rutted areas to specified tolerances.
- B. Reconditioning Compacted Areas: Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify surface, reshape and compact to required density prior to further construction.

END OF SECTION

## SECTION 02600 - DRAINAGE WORK

### PART 1 - GENERAL

#### 1.01 DESCRIPTION

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- A. This work consists of furnishing and installing culverts and storm drains.
- B. When an item for "Storm Drain Pipe" is included in the contract, the contractor has the option of furnishing either reinforced concrete pipe or plastic pipe.

### PART 2 - PRODUCTS

#### 2.01 MATERIALS

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- A. Materials shall conform to the following Sections and Subsections:

- Bedding Material
- Reinforced Concrete Pipe
- Reinforced Concrete Pipe Arch
- Portland Cement Concrete
- Reinforcing Steel
- Precast Concrete Box Culvert Units
- Geotextile Fabric
- Backfill Sand
- Bedding Material

#### 2.02 TRENCHING AND BEDDING

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- A. Trenches shall be excavated to specified width; if not specified, trenches shall be excavated to a width of at least 18" on each side of conduit.
- B. Trenches shall be excavated to the depth required to accommodate the placement of bedding material. Bedding material shall be placed and mechanically compacted in lifts not more than 6" thick (compacted) to at least 95% of maximum density determined by AASHTO T 99. If foundation is stable, bedding material shall be placed as follows:
  - 1. Concrete Pipe or Box Culvert: Bedding material shall be placed in trench bottom.
  - 2. Plastic Pipe or Steel Pipe:
    - (a) Pipe Under or Within 5 Feet of Pavement: Bedding material shall be placed up to 12" above pipe.
    - (b) Pipe More Than 5 Feet From Pavement: Bedding material shall be placed up to the top of the pipe.

If unstable material is encountered at trench bottom, unstable material shall be excavated as directed and replaced with bedding material. Payment for additional excavation and bedding below specified bedding layer under pipe will be made as extra work.

Sides of trenches deeper than 5 feet shall be sloped, benched, shielded or shored in accordance with OSHA requirements. Unless otherwise permitted, all trench sheeting shall be removed.

## 2.03 LAYING CONDUIT

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- A. Laying shall begin at downstream end of line. Conduit shall be in contact with foundation throughout its length. Bell or groove ends of conduit and outside circumferential laps of corrugated steel pipe shall be placed facing upstream. Riveted seam corrugated steel pipe shall be placed with longitudinal laps at sides. Corrugated steel pipe with lifting lugs shall be handled only by the lugs, and those without lugs shall be handled only by rope slings.
- B. When existing pipe is to be relaid, pipe shall be removed by methods that will not damage pipe and relaid as specified for new pipe.

## 2.04 JOINTING CONDUIT

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- A. General:

Joints shall be capable of withstanding at least 10 psi hydrostatic pressure without leakage.

Joints without coupling bands shall be wrapped with geotextile fabric for at least 12" on each side of joints for conduits up to and including 36", and at least 18" on each side of joints for larger conduits.

Joints with coupling bands shall be wrapped with geotextile fabric for at least 12" on each side of bands for pipe sizes up to and including 36", and 18" on each side of bands for larger pipe sizes.

Ends of fabric shall be lapped at least 10", and ends and edges secured.

- B. Concrete Pipe and Precast Box Culverts:

For conduits less than 48", sections shall be joined by methods which fully seat joints without damaging conduit. For larger conduits, sections shall be joined with a mechanical puller.

1. Round Pipe: Gaskets shall be rubber 0-rings. Just prior to jointing, 0-ring and gasket seat shall be cleaned of dirt and other foreign matter and coated with a flax soap lubricant. Pipe section shall then be joined tightly to previously laid pipe.
2. Pipe Arch and Precast Box Culverts: Conduit ends shall be cleaned of dirt and other foreign matter and shall be dry. A uniform and adequate thickness of plastic gasket material shall be placed on the entire circumference of gasket seat. In temperatures below 60°F, gasket material shall be heated prior to placement. Conduit section shall then be joined tightly to previously laid conduit.

- C. Corrugated Steel Pipe:

Pipe sections shall be joined by connecting bands centered over joint. Flexible plastic gasket material shall be placed on entire circumference of pipe under band in 2 corrugations on each side of joint. Bands shall be at least 12" wide for pipe sizes less than 36", and at least 21" for larger pipe sizes.

1. Round Pipe: Coupling bands shall be secured by 2 rods and lugs on each side of joint.
2. Arch Pipe: For pipe sizes less than 36" round equivalent, 1-piece bands may be used; for larger pipe sizes, 2-piece bands shall be used. Bands shall be secured by angle or strap connections.

- D. Plastic Pipe:

1. Bell and Spigot Joints: Gaskets shall be rubber 0-rings. Just before jointing, 0-ring and gasket seat shall be cleaned of dirt and other foreign material and coated with a flax soap lubricant. Pipe sizes less than 48" may be joined by any method which fully seats joints without damaging pipe; larger pipe

sizes shall be joined with a mechanical puller.

2. Split Coupling Joints: Joints shall be sealed with flexible plastic gasket material placed on entire circumference of pipe in 2 corrugations under coupling on each side of joint. In temperatures below 60°F, gasket material shall be heated prior to placement. Coupling shall be secured with at least 2 stainless steel straps on each side of joint, tightened to create an overlap of coupling.

## **2.05 CAST-IN-PLACE BOX CULVERTS**

---

- A. Cast-in-place reinforced concrete box culverts shall be constructed in accordance with Division 3 – Concrete.
- B. Concrete base slab or footings shall be placed at least 24 hours before wall forms are placed.
- C. For culverts 4 feet or less in height, walls and top slab may be constructed monolithically. Construction joints shall be vertical.
- D. For culverts more than 4 feet in height, concrete in walls shall be allowed to set for at least 7 days before top slab is placed.
- E. Each wingwall shall be constructed monolithically.

## **2.06 BACKFILL**

---

Backfill shall be placed and mechanically compacted in lifts not more than 12” thick (loose). Cast-in-place box culverts shall not be backfilled until concrete has attained at least 2500 psi compressive strength.

- A. Conduits Under or Within 5 Feet of Pavement:

Backfill shall be sand or sand-gravel compacted to at least 95% of maximum density determined by AASHTO T 99; however, the top 12” of backfill for conduits not under pavement shall be select excavated material or borrow material.

- B. Conduits More Than 5 Feet From Pavement:

Backfill may be sand, sand-gravel, select excavated material or borrow material; however, the top 12” shall be select excavated material or borrow material. Backfill shall be compacted to at least the density of undisturbed surrounding ground.

- C. Detection Tape:

For plastic pipe, a metallic detection tape shall be installed just above pipeline.

- D. Steel Pipe:

Backfill for steel pipe shall have at least 1500 ohm-cm resistivity and a pH of at least 5.

## **2.07 JACKED OR BORED PIPE**

---

- A. General:

Pipes 30” diameter and greater shall be jacked, and pipes less than 30” shall be bored.

Work shall begin at outfall end of pipe when possible. When grade at jacking or boring end is below ground surface, pits shall be excavated for conducting operations and placing joints of pipe. Sheeting and bracing shall be provided to prevent earth caving.

For pipe with bell joints, if outside bell diameter exceeds outside barrel diameter by more than 1”, pipe shall be cased or pressure grouted its full length. Casing shall be an approved type and size.

B. Jacking:

Heavy duty jacks for forcing pipe through embankment shall be provided. Even pressure shall be applied to all jacks and shall be transmitted to pipe end through a jacking head designed so that pressure is uniformly applied around ring of pipe.

Pipe shall be set on guides fastened together to support pipe in proper direction at correct grade. Cushioning material shall be provided between sections of concrete pipe.

Material shall be excavated ahead of pipe and removed through pipe. Excavation shall not extend more than 2 feet beyond forward end of pipe. Distance shall be reduced when necessary to prevent damage to embankment.

A steel cutting edge may be used around forward end of pipe, constructed so that it will transmit pressures uniformly around ring of pipe.

Jacking shall continue without extended interruption, to prevent pipe from becoming set in embankment.

Pipe shall not vary more than 1" in 10 feet from established line and grade.

C. Boring:

Boring shall be done mechanically, using a pilot hole approximately 2" in diameter. Pilot hole shall extend through embankment and shall be checked for line and grade before boring begins. Variations from line and grade shall not exceed those specified for jacking. Pilot hole shall serve as centerline of larger diameter hole to be bored.

Use of water and other fluids with boring operations will be permitted only to lubricate cuttings. Jetting will not be permitted.

In unconsolidated soil, a gel-forming colloidal drilling fluid consisting of at least 10% high-grade bentonite may be used to consolidate cuttings of bit, seal walls of hole, and furnish lubrication for removal of cuttings and installation of pipe.

Overcutting in excess of 1" shall be remedied by pressure grouting entire length of installation.

---

## **2.08 ACCEPTANCE**

- A. Prior to final inspection of project, all new and relaid conduit shall be cleaned of debris and soil.
- B. Existing conduit which was extended shall also be cleaned of debris and soil within project limits.
- C. Plastic pipe shall not exceed a vertical deflection of more than 5%.
- D. After plastic pipe has been backfilled for at least 30 days, a mandrel sized at 95% of inside diameter of pipe shall be pulled through pipe. Pipe failing this test shall be removed and replaced with new pipe.

---

## **2.09 MEASUREMENT**

- A. Quantities of conduit for payment will be the contract quantities, adjusted as required due to plan errors or plan changes.
- B. No measurement for payment will be made for excavation, bedding, geotextile fabric or backfill, except for removal and replacement of unstable foundation material.

---

## **2.10 PAYMENT**

- A. Payment will be made at the contract unit price per linear foot for the specified conduit sizes and types.

END OF SECTION

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# SECTION 02612 - DRAINAGE CONSTRUCTION

## PART 1 - GENERAL

### 1.01 DESCRIPTION OF WORK

---

- A. This section of the specifications details requirements of work and materials to be used in connection with furnishing and installing pipe culverts and cross drains; pipe arch culverts; reinforced concrete “cast-in-place” or “precast” concrete catch basins; and miscellaneous accessories to complete the drainage system in accordance with these Specifications and in conformity with lines and grades shown on the Plans or established by the Engineer; all in accordance with the items of work shown on the Plans and contained in the Proposal Form

### 1.02 REFERENCED STANDARDS

---

- A. All work in this section shall be in accordance with “Louisiana Standard Specifications for Roads and Bridges”, Latest Edition as revised or amended by supplementation. This standard specification will hereinafter be referred to as “LA DOTD Standards”. When the term department is used in this specification, it shall mean Engineer.

## PART 2 - PRODUCTS

### 2.01 GENERAL

---

Excavation shall extend 18” from outside of structure on all sides. Structures shall be set on a 6” compacted thickness of bedding material if foundation soil is stable; if foundation soil is unstable, unstable soil shall be removed as directed and replaced with bedding material, and payment therefor will be made as extra work. Bedding material shall be compacted. At time structure is placed, excavation shall be dry.

Pipes shall be flush with inside walls of structure. Completed new or adjusted structures shall be cleaned of dirt and debris.

### 2.02 MATERIALS

---

- A. Pipe Conduit

Materials for the various types of pipe conduit shall conform to the following Sections and Subsections of LA DOTD Standards:

Concrete Pipe	1016
Thermoplastic Pipe	1006
Metal Pipe	1007
Rip Rap	711
Geotextile Fabric	1019

- B. Concrete

Portland cement concrete for bridges, box culverts, catch basins, headwalls and other drainage related structures shall conform to Section 901 of LA DOTD Standards.

- C. Granular Bedding

Granular bedding material shall conform to Subsection 1003.10 of LA DOTD Standards.

## **2.03 BRICK STRUCTURES**

---

Concrete foundations for brick structures shall be constructed in accordance with Section 601 and shall be placed 24 hours before brickwork is begun. Brick shall be clean, wetted immediately before laying, and laid on a full mortar bed. Joints between courses of bricks shall be a uniform thickness of 3/8". If new work is to be joined to existing or unfinished work, contact surfaces shall be cleaned and moistened.

No water shall be permitted to stand or run on brickwork until mortar has set. Inside and outside surfaces of structure shall be plastered with 1/2" thick mortar.

## **2.04 PIPE CONNECTIONS**

---

At pipe connections with structure, a 1/2" diameter bead of hydrophilic elastic sealant shall be placed around pipe at center of structure wall and also along center of wall opening. Space between pipe and wall shall then be grouted up from both sides of wall.

## **2.05 ADJUSTING STRUCTURES**

---

If grade adjustment of existing structures is required, frames, covers and gratings shall be removed and structure walls reconstructed as specified for new work. Frames, covers and grates shall be cleaned and placed in good repair (or replaced, if specified).

Structures may also be adjusted with metal adjusting rings connected to existing ring by either welding at least 30% of circumference or by using an epoxy system design for metal-to-metal adhesion.

## **2.06 FRAMES, COVERS AND GRATES**

---

Frames shall be set in a full mortar bed. Non-galvanized parts shall be coated with metalwork paint.

# **PART 3 - EXECUTION**

## **3.01 GENERAL**

---

All work necessary to furnish, deliver, install, remove, and reinstall, etc., the pipes and structures called for in the Specifications and/or as shown on the Plans shall conform with the applicable Sections and Subsections of LA DOTD Standards including but not necessarily limited to the following:

Culverts and Storm Drains	701
Manholes, Junction Boxes, Catch Basins and End Treatments	702
Removing, Relocating and Demolishing Structures	710
Riprap	711
General Requirements for Structures	801
Structural Excavation, Backfill and Earth Retaining Systems	802
Structural Concrete	805
Deformed Reinforcing Steel	806

## **3.02 TEMPORARY EROSION CONTROL**

---

This work consists of providing temporary erosion control measures on the project and in areas outside the right-of-way where work is accomplished in conjunction with the project, to prevent pollution of water, detrimental effects to property adjacent to the right-of-way and damage to work on the project. These measures shall consist of construction and maintenance of temporary erosion control features shown on the Plans or as established by the Engineer.

Installation of temporary erosions control features shall be coordinated with construction of permanent erosion control

features to the extent necessary to assure economical, effective and continuous control of erosion and water pollution throughout the life of the contract.

Temporary erosion control shall conform to Section 204 of LA DOTD Standards.

END OF SECTION

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# SECTION 02633 - DRAIN MANHOLES, INLETS AND JUNCTION BOXES

## **PART 1 - GENERAL**

### **1.01 DESCRIPTION**

---

This work consists of constructing and adjusting storm drain manholes, inlets and junction boxes.

## **PART 2 - PRODUCTS**

### **2.01 MATERIALS**

---

Materials shall conform to the following Sections and Subsections:

Portland Cement Concrete	02612
Reinforcing Steel	02612
Brick	02612
Precast Concrete Drainage Units	02612
Frames, Grates and Covers	02612
Plastic Gasket Material	02612
Bedding Material	02612
Metalwork Paint	02612

## **PART 3 - CONSTRUCTION**

### **3.01 GENERAL**

---

Excavation shall extend 18" from outside of structure on all sides. Structures shall be set on a 6" compacted thickness of bedding material if foundation soil is stable; if foundation soil is unstable, unstable soil shall be removed as directed and replaced with bedding material, and payment therefor will be made as extra work. Bedding material shall be compacted. At time structure is placed, excavation shall be dry.

Pipes shall be flush with inside walls of structure. Completed new or adjusted structures shall be cleaned of dirt and debris.

### **3.02 BRICK STRUCTURES**

---

Concrete foundations for brick structures shall be constructed in accordance with Section 601 and shall be placed 24 hours before brickwork is begun. Brick shall be clean, wetted immediately before laying, and laid on a full mortar bed. Joints between courses of bricks shall be a uniform thickness of 3/8". If new work is to be joined to existing or unfinished work, contact surfaces shall be cleaned and moistened.

No water shall be permitted to stand or run on brickwork until mortar has set. Inside and outside surfaces of structure shall be plastered with 1/2" thick mortar.

### **3.03 CONCRETE STRUCTURES**

---

Cast-in-place concrete structures shall be constructed in accordance with Division 3 - Concrete.

Joints between precast concrete units shall be sealed with flexible plastic gasket material.

Prior to installing gasket materials, the gasket seat shall be cleaned of dirt and other foreign matter and shall be dry. At temperatures below 60°F, gasket material shall be heated before installation.

### **3.04 PIPE CONNECTIONS**

---

At pipe connections with structure, a ½” diameter bead of hydrophilic elastic sealant shall be placed around pipe at center of structure wall and also along center of wall opening. Space between pipe and wall shall then be grouted up from both sides of wall.

### **3.05 ADJUSTING STRUCTURES**

---

If grade adjustment of existing structures is required, frames, covers and gratings shall be removed and structure walls reconstructed as specified for new work. Frames, covers and grates shall be cleaned and placed in good repair (or replaced, if specified).

Structures may also be adjusted with metal adjusting rings connected to existing ring by either welding at least 30% of circumference or by using an epoxy system design for metal-to-metal adhesion.

### **3.06 FRAMES, COVERS AND GRATES**

---

Frames shall be set in a full mortar bed. Nongalvanized parts shall be coated with metalwork paint.

### **3.07 BACKFILL**

---

Backfill shall be select excavated material or borrow material; sand will not be permitted. Backfill shall be placed in lifts not more than 12” thick (loose).

1. Paved Areas: Backfill shall be compacted to at least 95% of maximum density determined by AASHTO T 99.
2. Non Paved Areas: Backfill shall be compacted to at least the density of undisturbed surrounding ground.

### **3.08 MEASUREMENT**

---

New and adjusted inlets, manholes, and junction boxes will be measured per each. Trench drains will be measured by the linear foot.

### **3.09 PAYMENT**

---

Payment will be made at the contract unit prices, which includes excavation, bedding and material.

END OF SECTION

## SECTION 02820 - FENCES AND GATES

### PART 1 - GENERAL

#### 1.01 DESCRIPTION OF WORK

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- A. Work consists of furnishing all labor, materials, and incidentals necessary to erect all chain-link fence, and gates at locations and to heights as shown on drawings. Construction to provide a rigid, taut fence closely conforming to the surface of the ground.
- B. Work included:
  - 1. Fabric, line posts, end, corner and pull posts, gate posts, gate frames, top rails and post braces and accessories.
  - 2. Attachment to concrete.

#### 1.02 RELATED SECTIONS

---

- A. Section 03300 - Cast-in-Place Concrete.

#### 1.03 REFERENCES

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- A. American Society for Testing and Materials (ASTM)
  - 1. A 120 Specification for Pipe, Steel, Black and Hot-dipped Zinc-Coated (Galvanized) Welded Seamless for Ordinary Uses
  - 2. A 153 Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware
  - 3. A 392 Specification for Zinc-Coated Steel Chain-Link Fence Fabric

#### 1.04 SUBMITTALS

---

- A. Three samples, approximately 6 inches long, or 6 inches square, of fabric material, post section and typical accessories.
- B. Manufacturer's data: Within 60 calendar days after award of the contract submit complete materials list of all items proposed to be furnished under this section including manufacturer's specification and product data required to demonstrate compliance with these specifications.
- C. Submit shop drawings showing fence height, type of fabric, and location and size of posts and gates, including details of posts, tops, rails, braces, foundations, footings, gate posts, hinges, frames, latches, ties and other accessories.

#### 1.05 QUALITY ASSURANCE

---

- A. Installer must have a minimum 4 years experience in fence installation and must examine conditions under which fence and gates are to be installed. The Contractor shall notify the Engineer in writing of improper conditions for work, and shall not proceed with work until satisfactory conditions have been corrected.

## **PART 2 - PRODUCTS**

### **2.01 FENCE, POSTS, RAILS AND BRACES**

---

- A. All tubular steel members shall comply with provisions of ASTM A 120, Schedule 40, for weight and coating and ASTM F-1083.

### **2.02 FABRIC AND WIRE**

---

- A. Chain link fence to conform to ASTM A 392, No. 9 gage wire, 2-inch mesh, Class II galvanizing; 6 feet high.
- B. Fabric galvanized after weaving.
- C. Fabric knuckled at bottom salvage and twisted and barbed at top.
- D. Barbed wire: Barbed wire shall be No. 12-1/2 gauge with 2 point No. 14 gage round barbs spaced 5 inches apart and shall conform to Federal Specifications RR-F-221G/GEN and RR-F-221/1 Type I, zinc coated. Three (3) strands for anti-climb top.

### **2.03 LINE POSTS**

---

- A. Chain-link Fence Line Posts: 2-3/8" O.D. diameter galvanized pipe.

### **2.04 END, CORNER PULL POSTS**

---

- A. Chain-link Fence: 2-7/8" O.D. diameter galvanized pipe.

### **2.05 GATE POSTS**

---

- A. Chain-link Fence: 4" O.D. diameter galvanized pipe.

### **2.06 GATE FRAMES FOR CHAIN LINK FENCING**

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- A. Frames galvanized steel.
- B. Frames round in section, 1-7/8 inch outside diameter, and weighing 2.71 lb/ft.
- C. Frames shall have intermediate members and/or diagonal truss rods.
- D. Gate frames joint shall be made by welding or by means of heavy fittings making rigid and watertight connections.

### **2.07 TOP RAILS AND POST BRACES**

---

- A. Rails and post braces galvanized steel.
- B. Rails and post braces round in section, 1-5/8 inch outside diameter and weighing 2.27 lb/ft.

### **2.08 CHAIN LINK FENCE ACCESSORIES AND ATTACHMENT**

---

- A. Fabric Ties: Galvanized steel bands of not less than 0.148-inch diameter or galvanized steel wire.
- B. Stretcher Bars: Galvanized steel 3/16 by 3/4-inch in cross section, or equivalent cross section with length equal to full height of fabric.
- C. Truss Rods: Galvanized steel, 3/8-inch-diameter, or equivalent cross section, and shall have suitable

adjustment.

- D. Post Tops: Caps of pressed galvanized steel. Provide with a hole suitable for through-passage of the top rail. Fit snugly to the post, have means for attaching securely to the post and exclude moisture for tabular posts.
- E. Manual Chain-link Gates: Swing type, complete with latches, stops, keepers, hinges, mortise type cylinder locks and fabric. Fabric to match fence. Hinges of adequate strength to support gate and not twist or turn under action of gate. Latches of plunger bar type and full gate height located in a manner that will engage the gate stop. Latches shall provide for locking. Stops shall consist of a flush plate with anchor placed in concrete to engage the plunger bar of the latch.
- Keepers shall be substantial devices for securing and supporting the free end of the gate in open position.
- F. Top Rail Couplings: Outside sleeve type at least 6 inches long. A minimum of 20% of the couplings shall have an internal heavy spring to take up expansion and contraction.
- G. Brace Wire, Tie Wire, and Tension Wire: Galvanized wire meeting requirements of ASTM A 121, Class 3 coating.
1. Unless otherwise designated, size of wire shall not be smaller than the following:

Tension Wire	No. 7
Brace Wire	No. 9
Tie wires or clips for fastening field fence to steel posts	No. 12
  2. Tie wires for chain-link fence of size and type recommend by manufacturer, but not smaller than No. 9 for post ties or No. 12 for rail and brace ties. Equivalent galvanized steel clips or aluminum wire or clips may be used as accepted by the Engineer.
- H. Galvanizing: All pipe section galvanized after fabrication in accordance with ASTM A 120. All other items incidental to erection of fence except fabric and wire fabric ties galvanized after fabrication in accordance with ASTM A 153. Wire fabric ties not less than 0.8 ounce of zinc per square foot.

## **2.09 CONCRETE FOOTINGS**

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- A. Concrete shall be Class A, Type II mixed and placed in strict accordance with Section 03300.

## **PART 3 - EXECUTION**

### **3.01 CLEARING AND GRADING**

---

- A. Contractor shall perform such clearing and grading as necessary to construct fence to required alignment and provide a reasonably smooth ground profile at the fence line. There shall be no open space beneath the bottom of the fence line.

### **3.02 POST ASSEMBLIES**

---

- A. Chain-link Fence:
1. End, corner, gate and pull or intermediate anchor posts placed at designated locations. Holes 12-inch minimum diameter and 6 inches below end of post.
  2. Posts must be securely braced and holes filled with concrete. Forms not required for post encasement. Minimum depth of concrete shall be 3 feet.
  3. All posts shall be set in the vertical position with no more than 1/4 inch deflection of the top and

bottom of the post.

- B. Post holes not filled with concrete shall be back-filled in layers not exceeding 8 inches and each layer shall be tamped.

### **3.03 HORIZONTAL DEFLECTION**

---

- A. At points of deflection where fence changes alignment by more than 15 degrees provide a post brace and truss rod in each fence panel adjacent to the post located at the angle point.
- B. Footings for all posts located at points where the change in alignment exceeds 15 degrees shall be constructed as specified for end posts.

### **3.04 LINE POSTS**

---

- A. Line posts spaced at not more than 10-foot centers for chain-link fence.

### **3.05 POST BRACES**

---

- A. A brace and truss assembly shall support each gate, corner, pull, or end post for all fencing. Brace shall extend to each adjacent line post. Truss shall extend from line post to gate, corner, pull or end post.

### **3.06 FABRIC**

---

- A. Chainlink fabric shall not be erected until 5 days from the time of setting the posts in concrete. Fabric shall be fastened to line posts with clips or bands spaced approximately 12 inches apart and to top rail with bands or tie wires at approximately 24-inch intervals. Pull fabric taut and tie to posts, rails and tension wires. Install fabric on security side of fence and anchor to framework so that fabric remains in tension after pulling force is released.

### **3.07 TENSION WIRES**

---

- A. Chain-link Fence: Tension wires installed at bottom of fabric before stretching fabric and tied to each post with wire ties or clips.

### **3.08 ELECTRICAL GROUNDS**

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- A. Chain-link fence which crosses beneath any primary electrical power transmission line, other than a secondary feeder line for individual customer service, shall be properly grounded. Grounding shall consist of placing one ground rod at point of crossing and one 25 to 50 feet in each direction from the crossing.
  - 1. Chain-link fence erected adjacent to and within 50 feet of a primary power line shall be ground rods at not more than 500-foot intervals.
  - 2. Each applicable straight section of fence shall have at least one ground. Engineer may require installation of an additional ground at terminus of a section of fence or at other locations near areas of pedestrian traffic.
  - 3. Ground rod shall be connected to fence.

END OF SECTION

## SECTION 02920 - LAWNS AND GRASS

### PART 1 - GENERAL

#### 1.01 SCOPE OF WORK

---

- A. Work to be performed under this section shall be either restoration or establishment of vegetative cover for aesthetic and erosion control purposes. This work shall be considered incidental to other work in the contract. The Contractor shall make investigations of the project to determine types of existing vegetative cover that will require restoration and shall take all measures necessary to restore the vegetative cover in like kind to that which existed prior to the beginning of the Work.
- B. Furnish all labor, materials, and equipment necessary to satisfactorily return all construction areas to their original conditions or better.
- C. Work includes furnishing and placing seed or sod, fertilizer, planting, watering, and maintenance until acceptance by the Owner.
- D. Reestablish vegetative cover in all areas where such cover existed prior to beginning of the Work.

#### 1.02 QUALITY ASSURANCE

---

##### A. Requirements

It is the intent of this specification that the Contractor is obliged to deliver a satisfactory stand of grass as specified. If necessary, the Contractor shall repeat any or all of the work, including grading, fertilizing, watering, and seeding or sodding until a satisfactory stand is obtained.

##### B. Satisfactory Stand

For purposes of grassing, a satisfactory stand of grass is herein defined as a full lawn cover of the predominant vegetative species existing prior to the beginning of the Work over areas to be seeded or sodded, with grass free of weeds, alive and growing, leaving no bare spots larger than 1 sq. yd. within a radius of 10 feet.

- C. If a satisfactory stand of grass has not been obtained within a reasonable period of time, the Engineer shall instruct the Contractor in writing that the vegetative cover is not adequate and that additional measures as determined by the Engineer, including installation of sodding on areas previously treated with seed applications, shall be undertaken by the Contractor to establish the required satisfactory stand of grass.

#### 1.03 REFERENCES

---

- A. All work shall conform to general requirements and references of the Louisiana Standard Specification for Roads and Bridges, latest edition.

### PART 2 - MATERIALS

#### 2.01 MATERIALS

---

##### A. Fertilizer

Fertilizer shall be in accordance with LADOTD Specifications latest revision, Section 718.

##### B. Seeding

- 1. The Contractor shall sow grass seed on all unpaved areas disturbed during construction which do not require sod. All seeding shall be completed in conformance with LADOTD Specifications latest

revision, Section 717. The grassed areas shall be mulched and fertilized in accordance with LADOTD Specifications.

2. The following grass species may be established by seeding procedures.

- a. Hulled Bermuda
- b. Pensacola Bahia
- c. Kentucky 31 Fescue
- d. Crimson Clover

C. Sodding

1. Sod shall be provided as required in accordance with LADOTD Specifications latest revision, Section 714. The Contractor shall furnish sod equal to and similar in type as that disturbed. Placement and watering requirements shall be in accordance with LADOTD requirements.

2. The following grass species shall be established by sodding procedures:

- a. Carpet
- b. St. Augustine
- c. Centipede
- d. All other species not listed under Seeding

3. In addition to the above list, the following areas shall have vegetative cover restored by sodding procedures irrespective of the grass species.

- a. Slopes steeper than four (4) horizontal and one (1) vertical.
- b. Locations subject to concentrations of water flow or erosion including but not limited to roadway ditch bottoms and flume areas where storm water runoff is concentrated.
- c. Repair of eroded areas within areas previously seeded.

D. Topsoil

Topsoil stockpiled during excavation may be used. If additional topsoil is required to replace topsoil removed during construction, it shall be obtained off site and provided by the Contractor. Topsoil shall be fertile, natural surface soil, capable of providing an adequate growing medium for all trees, plants, and grassing specified herein.

E. Mulch

Mulch shall be in accordance with LADOTD Specifications latest revision, Section 716.

F. Water

It is the Contractor's responsibility to supply all water to the site, as required during seeding and sodding operations and through the maintenance period and until the work is accepted. The Contractor shall make whatever arrangements may be necessary to ensure an adequate supply of water to meet the needs for his work.

He shall also furnish all necessary hose, equipment, attachments, and accessories for the adequate irrigation of lawns and planted areas as may be required. Water shall be suitable for irrigation and free from ingredients harmful to plant life.

## **PART 3 - EXECUTION**

### **3.01 INSTALLATION**

---

#### **A. Finish Grading**

Areas to be seeded or sodded shall be finish graded, raked and debris removed. Soft spots and uneven grades shall be eliminated; the Engineer shall approve the finish grade of all areas to be seeded or sodded prior to application of seed or sod.

#### **B. Time of Seeding and Sodding**

When the trench backfill has stabilized sufficiently and for a period of time not to exceed sixty (60) days from the initial removal of the vegetative cover, the Contractor shall commence work on lawns and grassed areas, including fine grading as required and in accordance with the following:

1. Seed for specific grass species shall be placed in accordance with Table 1 of Section 717 of the LADOTD Specifications.
2. Sod may be placed during the period of January through October 20, but no sod shall be placed during the period of October 21 through December 31.

#### **C. Watering**

When necessary, additional water shall be applied to seeded and sodded areas, including those locations where trees, shrubs and other vegetative plantings have been replanted or replaced in accordance with the DOTD Standard Specifications, to supplement natural rainfall in accordance with Table A. Water shall be applied with approved sprinkling equipment that will spread the water evenly and in a manner that will not cause erosion of the soil surface. Application of water shall be suspended during any period when temperatures are expected to drop below thirty-five degrees Fahrenheit (35° F) and shall be resumed when the weather moderates.

#### **D. Protection**

Seeded and sodded areas shall be protected against the traffic or other use by placing warnings signs or erecting barricades as necessary. Any areas damaged prior to actual acceptance by the Owner shall be repaired by the Contractor as directed by the Engineer.

### **3.02 CLEANUP**

---

Soil, mulch, seed, or similar materials spilled onto paved areas shall be removed promptly, keeping those areas as clean as possible at all times. Upon completion of seeding and sodding operations, all excess soil, stones, and debris remaining shall be removed from the construction areas.

### **3.03 LANDSCAPE MAINTENANCE**

---

- A. Any existing landscape items damaged or altered during construction by the Contractor shall be restored or replaced as directed by the Engineer.
- B. Ensure landscape work for a period of at least ninety (90) days immediately following complete installation of the Work or until Owner accepts project.

TABLE A  
WATER REQUIREMENTS FOR ESTABLISHMENT  
OF GROWTH OF GRASS

Vegetative Establishment Method	Growth Period	Amount of Water Required (Inches/Acre)*	Frequency and Duration of Application
Seeding	After Initial Planting	0.25	Daily for first two weeks after planting
Seeding	Establishment of Coverage	1.00	Twice weekly for growth period from fifteen to thirty days after planting
Sodding	March 1 through November 5	0.30	Every other day for the first two weeks after placement
Sodding	March 15 through November 20	0.50	Twice weekly for the growth period from fifteen to thirty days after placement
Sodding	Dormant Period January 1 through last day of February	1.00	Single application to set the sod then proceed with other applications listed above beginning March 1
Seeding and Sodding	Maintenance of Growth	1.00	Every other week after completion of above ap to maintain growth and coverage

\* Quality of water is to be measured by providing a rain gauge on the site mounted 6" above ground level and logging both natural rainfall and supplemental watering on at least a daily frequency.

### **3.04 REPAIRS TO LAWN AREAS DISTURBED BY CONTRACTOR'S OPERATIONS**

Lawn areas planted under this Contract and all lawn areas damaged by the Contractor's operation shall be repaired at once by proper topsoil backfill, soil preparation, fertilizing, and reseeded or sodding, in accordance with the following:

- A. Areas damaged by placement of excavated material where existing grass is still living and more than fifty percent (50%) of the existing grass is left in place shall be repaired by filling depressions and scars created by equipment tires, tracks, or scarification teeth with topsoil, application of fertilizer over the entire area at the rates prescribed for other vegetative cover, hand raking soil to a uniform grade, and assure application of water at rates required for sodding until adequate regrowth of grass and coverage has been obtained.
- B. Areas damaged by placement of excavated material where existing grass has died or where fifty percent (50%) or more of the existing grass has been removed shall be repaired by excavating the dead and/or remaining material to a uniform grade, placing topsoil to regrade the area to its original topography upon placement where sod is required, preparing the ground surface as required including fertilizing, placing seed or sod as applicable under the above specifications, placing mulch as required, and watering as required for other vegetative cover.
- C. Areas damaged by other material or equipment storage or movement shall be repaired as applicable for areas described above for excavation storage.

END OF SECTION

## **SECTION 02921 – SEEDING AND MULCHING**

### **PART 1 - GENERAL**

#### **1.01 DESCRIPTION OF WORK**

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- A. Work consists of providing all labor, material and equipment for installing grass seed and mulch as indicated below.
1. The CONTRACTOR shall furnish and spread mulch and furnish and sow grass seed mixtures on miscellaneous fill areas, borrow areas, permanent cutslopes, roadways, trenches and ditches. The limits to which the above described surfaces are to be seeded shall be prescribed by the ENGINEER. Seeding shall include areas where construction operations have removed the existing grass cover, where such areas have otherwise been denuded of grass cover, or where due to other reasons grass seeding is determined to be necessary.
  2. The CONTRACTOR shall maintain the seeded areas until final acceptance thereof and any damage caused to the seeded area shall be repaired by and at the expense of the CONTRACTOR.
  3. Where the grass seed and mulch is intended to replace existing grass, the CONTRACTOR has the option of carefully removing the grass surface, keeping it alive during construction, and replacing it once construction is complete. Areas where the existing surface does not re-take shall be replaced by the CONTRACTOR at no additional cost.

#### **1.02 QUALIFICATIONS**

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- A. Work performed as described in this section shall be done under the supervision of a CONTRACTOR having experience in landscape construction.

#### **1.03 REFERENCE STANDARDS**

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- A. United States Department of Agriculture (USDA).
- B. State of Louisiana Standard Specifications for Roads and Bridges, 1992 Edition.

#### **1.04 SUBMITTALS**

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- A. Guaranteed analysis of lawn seed mixture.
- B. Guaranteed analysis of field grass seed mixture.
- C. Samples of seed mixtures.

#### **1.05 DELIVERY, STORAGE, AND HANDLING**

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- A. Deliver grass seed in original containers showing analysis of seed mixture, percentage of pure seed, year of production, net weight, date of packaging and location of packaging. Damaged packages are not acceptable.

#### **1.06 JOB CONDITIONS**

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- A. Weather Conditions: Seeding is not permitted during the following conditions:
1. Cold Weather: When air or ground temperature is less than 32 degrees F.

2. Hot Weather: When air temperatures is greater than 95 degrees F.
3. Wet Weather: When ground becomes saturated.
4. Windy Weather: When wind velocity is greater than 30 mph.

## **PART 2 - PRODUCTS**

### **2.01 SEED MIXTURE**

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#### A. Seed

1. Seeds shall be labeled in accordance with USDA Rules and Regulations under the Federal Seed Act.
2. Seed shall conform to requirements of Louisiana Law. The minimum percentage of pure live seed and the maximum percentage of weed seed permitted shall be in accordance with Section 2.01C.
3. Each variety of seed shall be furnished and delivered in separate bags or other containers. Each bag or container shall bear an analysis tag which is a minimum No. 6 standard shipping tag having all information required by the Louisiana Seed Law.

#### B. Field grass seed mixtures and application rates shall be:

<u>Seed Mixture</u>	<u>Pounds per Acre</u>	<u>Planting Dates</u>
Hulled Bermuda	30	March - September
Hulled Bermuda	20	February - March
Crimson Clover	25	
Kentucky 31 Fescue	25	September - February
Unhulled Bermuda	20	
Unhulled Bermuda	20	September - February
Crimson Clover	40	
Pensacola Bahia	25	March - September
Bald Clover	25	February - March
Unhulled Bermuda	20	
Vetch (Common)	40	September - October
Unhulled Bermuda	20	
Lespedeza	40	March - May

#### C. Seed Quality

1. The minimum purity of grass seeds that will be acceptable are as follows:

<u>Variety</u>	<u>Minimum Percentage of Pure Live Seed (Purity Times Germination Including Hard Seed by Count)</u>	<u>Maximum Percentage of Weed Seed, by Count</u>
Hulled Bermuda	83	1
Pensacola Bahia	81	2
Crimson Clover	78	1
Kentucky 31 Fescue	80	1
Unhulled Bermuda	80	1
Balled Clover	80	1
Vetch (Common)	80	1
Lespedeza	80	1

2. Noxious Weeds: Noxious weeds shall be interpreted to mean that list of weeds, except Bermuda, which has been adopted by the Louisiana Seed Commission as being noxious in Louisiana. Noxious weed seeds shall not exceed the limitations prescribed in the regulations and in no case shall they exceed 500 per pound.

Analysis tags shall be removed from each bag or container only by the ENGINEER or an authorized representative.

- D. The CONTRACTOR shall furnish suppliers certificate guaranteeing that the seed conforms to the above requirements and USDA certification. Seed shall be delivered to the contract site in unopened containers bearing the USDA and suppliers certificates.

## **2.02 TEMPORARY SEEDING**

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During construction, temporary seeding shall be placed as directed. Temporary seeding may be any of the types listed or rye grass. Rye grass is the only acceptable grass for winter cover.

## **2.03 WATER**

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- A. Water shall be free from oil, acid, alkali, salt and other substances harmful to growth of grass, and shall be from a source approved prior to use.

## **2.04 VEGATATIVE MULCH**

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- A. Mulch shall consist of pine straw, stems or stalks of oats, rye, rice, or the approved straws. The CONTRACTOR may also use hay obtained from various legumes and greases such as lespedezas, vetches, soybeans, Bermuda, Dallis, carpet sedge, fescue or other approved legumes or grasses of any combination thereof. Straw or hay shall be reasonably dry and free from mold, Johnson grass or other noxious weeds.

# **PART 3 - EXECUTION**

## **3.01 PREPARATION**

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- A. Verify that grading has been completely correctly. Notify ENGINEER of any discrepancies; do not proceed with work until discrepancies have been resolved.
- B. Seedbed Preparation: Boulders brought to the surface by construction operations shall be buried at least 6 inches below the ground surface. After the seeding areas have been leveled and compacted to the required thickness, it shall be brought to a friable condition by harrowing or otherwise loosening and mixing to a depth of at least 3 inches.
- C. Notify ENGINEER at least 24 hours prior to planting or seeding operations.

### **3.02 SEEDING**

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- A. Sowing Seed:
1. Method: The mixture specified herein shall be sown by drilling with either an approved disc, shoe-type grass drill or by mechanical or hand broadcasting.
  2. Drilling Seeding: If the drill seeding method is used, the drill shall be regulated to uniformly distribute the seed at the rate specified herein on the areas to be seeded. Where possible to safely operate equipment as determined by the ENGINEER, drilling shall be done crosswise to the general slope. The drill shall be regulated so that the seed is properly placed in the soil and covered with soil to a depth of 1/2 to 3/4-inch.
  3. Broadcast Seeding: In areas inaccessible by methods prescribed in 2 above, the seed may be applied by either mechanical or hand broadcasting. When either of these methods are used, the seed shall be applied separately.
    - a. Mechanical Broadcasting: A mechanical broadcaster of either the centrifugal or pull type similar to fertilizer spreaders are acceptable. Any equipment of this type used for broadcast seeding shall be designed and regulated to ensure that the proper seeding rate per acre specified herein is uniformly applied on areas to be seeded.
    - b. Hand Broadcasting: Seed application may be performed by using an approved hand broadcaster or by broadcasting the seed by hand from a sack or other suitable container. Whichever means is used, the seed shall be uniformly applied at the rates specified herein.
  4. Immediately after broadcasting the seed they shall be properly covered with soil to the depths prescribed above by means of a hand rake or float. Covering broadcast seed by dragging a log chain or similar device will not be permitted.

### **3.03 MULCHING**

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- A. The CONTRACTOR shall furnish and uniformly place after seeding a minimum of 4 tons per acre (1.6 pounds per square yard) of hay mulch on all seeded areas. Mulching material shall not be applied when in the judgement of the ENGINEER and wind velocity is such as to prevent uniform distribution of the material. The mulch material shall be firmly anchored with a treader or by other approved methods. Treader shall be operated at a depth of 3 to 4 inches and crosswise to all slopes. Mulch shall be anchored at 6- to 12-inch intervals across the slope.

### **3.04 ESTABLISHMENT**

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- A. General: The CONTRACTOR will be responsible for proper care of seeded areas while grass is becoming established for a maintenance period of 6 months after completion of treatment on entire project unless desired cover is established in a shorter period of time and the ENGINEER shortens the responsibility period.
- B. Reseeding: The ENGINEER will designate areas requiring reseeding at least 15 days before specified for reseeding. Reseeding shall occur as specified for original seeding unless written permission is obtained from the ENGINEER.
- C. Watering: Water to ensure uniform seed germination and to keep surface of soil damp. Avoid water puddling.

### **3.05 ACCEPTANCE**

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- A. Seeded areas will be accepted at end of maintenance period when seeded areas are properly established and otherwise acceptable.

END OF SECTION

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# **DIVISION 03**

## **CONCRETE**

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# SECTION 03100 - CONCRETE FORMWORK

## **PART 1 - GENERAL**

### **1.01 DESCRIPTION OF WORK**

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- A. Formwork for cast-in-place concrete, complete with shoring, bracing, and anchorage.
- B. Coordinate installation of items supplied by other sections of work.

### **1.02 RELATED SECTIONS**

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- A. Section 03200 - Concrete Reinforcement
- B. Section 03250 – Concrete Accessories
- B. Section 03300 - Cast-in-Place Concrete
- D. Section 03350 – Concrete Finishing

### **1.03 QUALITY ASSURANCE**

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- A. Design, construct and erect concrete formwork in accordance with ACI 318 and ACI 347, and applicable construction safety regulations for place of work.

### **1.04 REFERENCE STANDARDS**

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- A. American Concrete Institute (ACI)
  - 1. ACI 301 - Specification for Structural Concrete for Buildings.
  - 2. ACI 318 - Building Code Requirements for Reinforced Concrete.
  - 3. ACI 347 - Recommended Practice for Concrete Formwork.

### **1.05 FALSEWORK, FORM, AND RELATED DRAWINGS**

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- A. Indicate pertinent dimensioning, methods of construction; materials; arrangement of joints, ties, and shores; location of bracing and temporary supports; schedule of erection; and stripping.
- B. When required by the Engineer, submit drawings and calculations for review. Such review shall not relieve the Contractor of his sole responsibility for form design and any damage due to insufficiency.

## **PART 2 - PRODUCTS**

### **2.01 MATERIALS**

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- A. Class I: For permanently exposed concrete surfaces, Class I forms shall be constructed with particular care to assure a high quality type of Engineerural finish of uniform texture free from visible irregularities, patch marks and discolorations and shall be of waterproof synthetic resin bonded plywood, 3/4-inch minimum thickness, specially made for concrete work. The entire surface shall be lightly sanded, if necessary. Face and edges of forms shall be coated with a two-coat system of catalyzed polyurethane resin. Coating shall be applied by

roller at the rate of 500 to 550 square feet per unit. Class I forms will be required for all exterior exposed concrete surfaces. Steel forms meeting the surface requirements are acceptable.

- B. Class II: Formed surfaces not exposed to view such as footings and back-filled walls shall comply with ACI 10.2.1 rough form finish. These forms may be of metal or of smooth planed boards in good condition free from large or loose knots.
- C. Form Ties:
  - 1. Concealed Locations Where Concrete Is To Be Concealed With Subsequent Work: Snap ties with 1/2-inch minimum breakback.
  - 2. Exposed Locations Where Concrete Is To Remain Exposed On Exterior Or Interior Spaces: Cone type snap ties with cone about 1-inch in diameter and 1 to 1-1/2 inches deep.
    - a. Ties shall not be pull out type which can be completely removed from the concrete leaving a hole through the concrete.
  - 3. Submit details of proposed tie system to the Engineer for review prior to construction.
- D. Miscellaneous:
  - 1. Form Release Agent: Chemical agent guaranteed by manufacturer to be non-staining and not to impair bond of paint or other finish to be applied to concrete surface.
  - 2. Chamfer Strip:
    - a. Wood: Clear with planed, 45 degree bevel; no defects on bevel surface.
    - b. Plastic or Rubber: Manufacturer's standard.

## **PART 3 - EXECUTION**

### **3.01 FORMWORK ERECTION**

---

- A. Verify, levels, and centers before proceeding with formwork. Ensure that dimensions agree with drawings.
- B. Construct formwork, shoring, and bracing to meet design and code requirements, so that resultant finished concrete conforms to required shapes, lines, and dimensions. The sole responsibility for form design and for any resulting structural damage due to form failure rests with the Contractor.
- C. Arrange and assemble formwork to permit dismantling and stripping so that concrete is not damaged during its removal.
- D. Align joints and make watertight, to prevent leakage of mortar or disfigured appearance of concrete. Keep form joints to minimum.
- E. Arrange forms to allow stripping without removal of principal shores, where and when these are required to remain in place.
- F. Prior to framing structural members, obtain Engineer's review before framing any openings not indicated on the drawings.
- G. Apply form release agent on formwork in accordance with manufacturer's recommendations. Apply prior to placing reinforcing steel, anchoring devices, and embedded items.
- H. At construction joints, provide shear keys as shown on the drawings.

- I. Earth Forms: Side forms of footing may be omitted and concrete placed directly against excavations. When this is done, provide an additional 1-inch thickness on each side of the minimum design profiles and dimensions shown.

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### **3.02 INSERTS, EMBEDDED PARTS, AND OPENINGS**

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- A. Provide formed openings where required for pipes, conduits, sleeves, and other work to be embedded in and passing through concrete members.
- B. Locate and set in place items which will be cast directly into concrete.
- C. Coordinate work of other sections and cooperate with trade involved in forming and setting opening, recesses, bolts, anchors, and other inserts. Do not perform work unless specifically indicated on drawings or reviewed prior to installation.
- D. Install embedded items and concrete accessories in accordance with manufacturer's recommendations; straight, level, and plumb. Ensure items are not disturbed during concrete placement.
- E. Provide temporary ports or openings in formwork where required to facilitate cleaning and inspection. Locate openings at bottom of forms to allow flushing water to drain. Close temporary ports or openings with tight fitting panels, flush with inside face of forms, neatly fitted so that joints will not be apparent in exposed concrete surfaces.

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### **3.03 TOLERANCES**

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- A. Tolerances for uniformity and plumbness are extremely critical to efficient flow control. Maximum variation from plumb shall conform to ACI 301 4.3.

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### **3.04 FIELD QUALITY CONTROL**

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- A. Inspect and check completed formwork, shoring, and bracing to ensure that work is in accordance with formwork design, and that supports, fastening, wedges, ties, and parts are secure.
- B. Inform Engineer when formwork is complete and has been cleaned to allow for inspection. Obtain review prior to placing reinforcing.

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### **3.05 CLEANING**

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- A. Clean forms of foreign matter. Remove cuttings, shavings, and debris from within forms. Flush with water or use compressed air to remove remaining foreign matter. Ensure that water and debris drain to exterior through clean-out ports.
- B. During cold weather, remove ice and snow from within forms. Do not use de-icing salts. Do not use water to clean out completed forms, except when temperatures will remain above 40 degrees F during placing.

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### **3.06 FORM REMOVAL**

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- A. Notify Engineer prior to removing formwork.
- B. Do not remove forms, shores, and bracing until concrete has gained sufficient strength to carry its own weight and construction and design loads which are likely to be imposed upon it. Verify strength of concrete by test cylinder results. Forms shall remain in place for a minimum of 48 hours.
- C. Remove formwork progressively and in accordance with code requirements and so that no shock loads or unbalanced loads are imposed on structure.
- D. Loosen forms carefully. Do not wedge pry bars, hammers, or tools against concrete surfaces.

- E. Leave forms loosely in place, against vertical surfaces, for protection until complete removal is reviewed by Engineer.
- F. Store removed forms in manner that surfaces of forms which are to be in contact with fresh concrete will not be damaged. Marked or scored forms will be rejected.

END OF SECTION

# SECTION 03200 - CONCRETE REINFORCEMENT

## **PART 1 - GENERAL**

### **1.01 SCOPE OF WORK**

---

- A. Furnish all labor, materials, equipment and incidentals required and install all concrete reinforcement including reinforcing steel bars, welded steel wire fabric, support chairs, bolsters, bar supports and spacers as shown on the Drawings and specified herein.

### **1.02 REFERENCE STANDARDS**

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- A. CRSI Document 63 – Recommended Practice for Placing Reinforcement Bars.
- B. CRSI Document 65 – Recommended Practice for Placing Bar Supports
- C. ASTM A 185 – Welded Steel Wire Fabric for Concrete Reinforcement
- D. ASTM A 615 – Deformed and Plain Billet – Steel Bars for Concrete Reinforcement
- E. ACI 315 – Manual of Standard Practice for Detailing Reinforced Concrete Structures.

### **1.03 QUALITY ASSURANCE**

---

- A. All concrete reinforcement work shall be performed in accordance with Concrete Reinforcement Steel Institute (CRSI) Manual of Standard Practice, CRSI Document 63 – Recommended Practice for Placing Reinforcing Bars, and CRSI Document 65 – Recommended Practice for Placing Bar Supports.

### **1.04 SUBMITTALS**

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- A. Submit copies of a reinforcing steel placement plan for all structures where reinforcing steel is involved.
- B. Prepare placement plans in accordance with ACI 315.
- C. Indicate reinforcement sizes, spacings, locations, quantities of reinforcing steel, bending schedules, splicing, supporting and spacing devices.
- D. Before placing reinforcing steel, copies of a list of all reinforcing steel showing the location, mark number, size and type bend shall be furnished to the Engineer at the site for his use in administering the contract. Furnishing such lists to the Engineer shall not be construed to mean that the lists will be reviewed for accuracy. The Contractor shall be responsible for the accuracy of the lists and for furnishing and placing all bar reinforcing steel in accordance with the details shown on the Drawings and as specified.
- E. A certified copy of the mill test on each heat number of reinforcing steel used for fabrication showing physical and chemical analysis shall be submitted to the Engineer at the time of shipment.

### **1.05 PRODUCT DELIVERY AND HANDLING**

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- A. Reinforcing shall be substantially free from mill scale, rust, dirt, grease, or other foreign matter.
- B. Reinforcement shall be shipped and stored with bars of the same size and shape fastened in bundles with durable tags, marked in a legible manner with waterproof markings showing the same designations as shown on the submitted placing drawings. All in accordance with the Code of Standard Practice of the Concrete Reinforcement Steel Institute (CRSI).

- C. Reinforcing steel shall be stored off the ground and shall be protected from moisture and kept free from dirt, oil, or other injurious contaminants.
- D. Coated reinforcing steel shall be stored on padded wooden or steel cribbing. Coatings damaged by fabrication, handling or installation shall be repaired to conform to the applicable coating specification.

## **PART 2 - PRODUCTS**

### **2.01 MATERIALS**

---

- A. Materials shall be new, be of domestic manufacture and shall conform to the following material specifications.
  - 1. Deformed concrete reinforcing bars: ASTM A 615, Grade 60 or ASTM A 615 Grade 60 supplementary requirement S1 deformed bars as required.
  - 2. Concrete reinforcing bars required on the Drawings to be welded: ASTM A 706.
  - 3. Spiral reinforcement for columns: ASTM A 82 or ASTM A 615, Grade 60.
  - 4. Welded steel wire fabric: ASTM A 185.
  - 5. Welded deformed steel wire fabric: ASTM A 497.
  - 6. Welded plain bar mats: ASTM A 704, Grade 60.
  - 7. Fabricated deformed steel bar mats: ASTM A 184 and ASTM A 615, Grade 60 deformed bars.
  - 8. Galvanized reinforcing bars: ASTM A 767 and ASTM A 615, Grade 60.
  - 9. Plastic protected bar supports: CRSI Bar Support Specifications, Class 1 - Maximum Protection.
  - 10. Stainless steel protected bar supports: CRSI Bar Support Specifications, Class 2 - Moderate Protection.
  - 11. Precast concrete block bar supports: CRSI Bar Support Specifications, precast Blocks with Wires.
  - 12. Tie wires for reinforcement: 16-gauge or heavier, black annealed wire.
  - 13. Ferrous supports and ties for galvanized reinforcing steel shall be zinc coated.
- B. The following alternate materials are allowed:
  - 1. ASTM A 616 (Rail-steel), Grade 60 deformed bars for ASTM A 615 (Billet-steel), Grade 60 deformed bars.
  - 2. ASTM A 617 (Axle-steel) Grade 60 deformed bars for ASTM A 615 (Billet-steel), Grade 60 deformed bars.
  - 3. Selected heats of ASTM A 615, Grade 60 including supplementary requirement S1 deformed bars with a carbon equivalency (C.E.) of 0.55 or less for ASTM A 706.
- C. Mechanical reinforcing steel butt splices if approved by the Engineer shall be positive connecting taper threaded type employing a hexagonal coupler. They shall meet all ACI 318 Building Code requirements. Bar ends must be taper threaded with coupler manufacturer's bar threader to ensure proper taper and thread engagement. Bars shall be to required to manufacturer's recommended value.

Approved connectors are Lenton rebar splices as manufactured by Erico Products, Inc., 34600 Solon Road, Solon, Ohio 44139, (216) 248-0100.

1. Mechanical tension splices shall be designed to produce a splice strength of not less than one hundred twenty-five percent (125%) of the ASTM MJ specified minimum yield strength of the reinforcing.
2. Compression type mechanical splices shall provide concentric bearing from one bar to the other bar and shall be capable of developing the ultimate strength of the reinforcement in compression.

## **2.02 FABRICATION OF REINFORCEMENT**

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- A. Fabrication tolerances shall be in accordance with the CRSI, Code of Standard Practice-Fabrication.
- B. Bars shall be cold bent.
- C. Bars shall be bent around a revolving collar having a diameter of not less than that recommended by the CRSI, Code of Standard Practice-Detailing. Hooks shall conform to the same Code.
- D. Bars that are to be butt spliced, placed through limited diameter holes in metal or have a threaded end shall have the applicable end(s) saw-cut.

## **PART 3 - EXECUTION**

### **3.01 INSTALLATION**

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- A. Surface condition, bending, spacing, and tolerances of placement of reinforcement shall conform to the CRSI, Code of Standard Practice-Field Erection.
- B. Except as otherwise indicated on the Drawings, the minimum concrete cover of reinforcement shall be as follows:
  1. Concrete cast against and permanently exposed to earth; 3-in.
  2. Concrete surfaces in contact with soil, water, sewage, sludge or exposed to the weather; 2-in.
  3. Concrete surfaces not in contact with soil, water, sewage, sludge or exposed to the weather:
    - a. Beams, girders, columns: principal reinforcement, ties, stirrups or spirals - 1-1/2-inches
    - b. Walls and bottom steel of slabs - 1-inch
    - c. Shells and top steel of slabs - 3/4-inch
- C. Reinforcement which is to be exposed for a considerable length of time after being placed shall be painted with a heavy coat of neat cement slurry, if required by the Engineer.
- D. No reinforcing bars shall be welded either during fabrication or erection unless specifically called for on the Drawings, specified herein, or approved in writing by the Engineer. All bars that have been welded, including tack welds, without such approval shall be immediately removed from the work. When welding of reinforcement is approved or called for, it shall conform to the AWS Structural welding Code-Reinforcing Steel, AWS D1.4.

### **3.02 REINFORCEMENT AROUND OPENINGS**

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- A. Place an equivalent area of steel to that interrupted by an opening, pipe penetration, electrical conduit group or duct penetration around the opening or penetration. The bars shall have sufficient length to develop bond at each end beyond the opening or penetration.

### **3.03 SPLICING OF REINFORCEMENT**

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- A. Except as otherwise indicated on the Drawings, compression embedment and lap splices shall be minimum 30 diameters, but not less than 12 inches. The lap splice length for column vertical bars shall be based on the smaller bar size.
- B. Except as otherwise indicated on the Drawings, tension lap splices shall be in accordance with the applicable tables in the ACI 315 Detailing Manual. Class B splices shall be used when fifty percent (50%) or less of the bars are spliced within the required lap length, otherwise Class C splices shall be used.
- C. Except as otherwise indicated on the Drawings, splices in circumferential reinforcement in circular walls shall be Class C splices. Adjacent bars shall not be spliced within the required lap length.
- D. Splices in reinforcement for tension tie members and hangers shall be welded to develop, in tension, at least one-hundred-twenty-five percent (125%) of the specified yield strength of the bar. Splices in adjacent bars shall be offset the distance of a Class C splice. Splicing of bars in tension tie members and hangers shall be avoided whenever possible.
- E. Compression type mechanical connectors may be used for No. 9 or larger reinforcing bars in compression if approved in writing by the Engineer. The splice shall include concentric bearing from one bar to the other bar and shall be capable of developing one-hundred-twenty-five percent (125%) of specified yield strength. Splices in adjacent bars shall be offset at least 30 bar diameters.
- F. Splices in welded wire fabric shall be lapped not less than 1-1/2 courses or 12-inches. The spliced fabrics shall be tied together with wire ties at least 24-inches on center.

### **3.04 ACCESSORIES**

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- A. The Contractor is solely responsible for determining, providing and installing accessories such as chairs, chair bars, and the like in sufficient quantities and strength to adequately support the reinforcement and prevent its displacement during the erection of the steel and the placement of concrete and to provide spacings of bars with adequate cover as shown on the Drawings or specified herein.
- B. Precast concrete blocks with wires shall be used where the reinforcing steel is to be supported over soil.
- C. Stainless steel protected bar supports shall be used to firmly hold vertical reinforcement in position.
- D. Alternate methods of supporting top steel in slabs, such as steel channels supported on the bottom steel or vertical reinforcing steel fastened to the bottom and top mats, may be used if accepted by the Engineer.

### **3.05 INSPECTION**

---

- A. In no case shall any reinforcing steel be covered with concrete until the amount and position of the reinforcement has been observed by the Engineer and his permission given to proceed with placement of the concrete. The Engineer shall be given ample prior notice of the availability of set reinforcement for his review.

END OF SECTION

## **SECTION 03250 - CONCRETE ACCESSORIES**

### **PART 1 - GENERAL**

#### **1.01 SCOPE OF WORK**

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- A. Furnish all labor, materials, equipment and incidentals required to make all joints tight in the concrete as detailed on the Drawings and as specified herein.

#### **1.02 RELATED SECTIONS**

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- A. Section 03100 – Formwork
- B. Section 03200 – Concrete Reinforcement
- C. Section 03300 – Cast-in-place Concrete
- D. Section 03350 – Concrete Finishing

#### **1.03 SUBMITTALS**

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- A. Manufacturer's product data for all materials required to establish compliance with these Specifications shall be submitted for review and approval of the Engineer.

### **PART 2 - PRODUCTS**

#### **2.01 MATERIALS**

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- A. Waterstops shall be of the highest grade virgin polyvinyl chloride (PVC) meeting the latest revision of Corps of Engineers' Specification CRD-C-572. No scrap or reclaimed PVC shall be used in the compound. Waterstops required for expansion joints shall be 9 inches in width, 3/8-inch in web thickness dumbbell type with 3/4-inch I.D. center bulb, capable of withstanding a hydrostatic pressure of 150 feet. Waterstops required for all other joint conditions shall be 6-inches in width, 3/8-inch in web thickness, dumbbell type capable of withstanding a hydrostatic pressure of 125 feet. Manufacturers meeting the geometry and specifications are: Greenstreak Plastic Products, Box 7139, St. Louis, Missouri 63177, (314) 225-9400, Style No. 748 for the 6-inch by 3/8-inch and style 753 for the 9-inch by 3/8-inch; Vinylex Corporation, P.O. Box 7187, Knoxville, Tennessee 37921, (615) 690-2211, Catalog No. D6-38 for the 6-inch by 3/8-inch and DB9-38 for the 9-inch by 3/8-inch. Other products shall not be used without prior review and acceptance by the Engineer. Rubber waterstops meeting the latest revision of Corps of Engineers' Specification CRD-C-513 will be considered equal.
- B. Premolded joint filler (PJF) for interior expansion joints shall be self-expanding cork consisting of preformed strips that have been formed from clean granulated cork particles securely bound together by a synthetic resin of an insoluble nature. The PJF shall be capable of expanding 140 percent of its original thickness, which shall be 3/4-inch unless shown otherwise on the Drawings. The PJF shall meet the specification requirements of the latest revision of Corps of Engineers' Specification CRD-C-509, Type III and ASTM D 1752 Type III. Manufacturers meeting the specification requirements are: Sealtight Projects by W. R. Meadows, Inc., P.O. Box 543, Elgin, Illinois 60120, (312) 683-4500 and Tex-Mastic Products by J & P Petroleum Products, Inc., P.O. Box 4206, Dallas Texas 75208, (214) 331-5401. Other products shall not be used without prior review and acceptance by the Engineer.
- C. Premolded joint filler (PJF) for exterior expansion joints between concrete slabs and structural walls, where specifically shown on the Drawings shall be asphalt impregnated fiberboard conforming to the latest revision of ASTM D 1751. Thickness of the PJF shall be 3/4-inch unless otherwise shown on the Drawings. Manufacturers meeting the specification requirements are: Sealtight Products by W. R. Meadows, Inc., P.O.

Box 543, Elgin, Illinois 60120, (312) 683-4500 and Tex-Mastic Products by J & P Petroleum Products, Inc., P.O. Box 4206, Dallas Texas 75208, (214) 331-5401. Other products shall not be used without prior review and acceptance by the Engineer.

- D. Backer-rod shall be high-grade extruded closed-cell polyethylene foam that is completely compatible with polysulfide and urethane type sealants. Backer-rod shall also be ultraviolet stable, resistant to oils, chemicals, ozone and weathering. The size of the rod shall be 1-inch diameter for 3/4-inch wide joints. To the extent possible only full length rods shall be used; splices shall be minimized. Acceptable manufacturers are: Sonofoam by Sonneborn Building Products, 7711 Computer Avenue, Minneapolis, Minnesota 55435, (612) 835-3434 and Tex-Mastic Products by J & P Petroleum Products, Inc., P.O. Box 4206, Dallas, Texas 75208, (214) 331-5401. Other products shall not be used without prior review and acceptance by the Engineer.
- E. Mastic used to prevent bond at joints indicated on the Drawings shall be by Sika Corporation, Box 297, Lyndhurst, New Jersey 07071, (201) 933-8801, or approved equal. Primer shall be as recommended by the manufacturer.
- F. Materials for forming joints and load transfer devices for installation in street and roadway pavement slabs shall be in accordance with LADOTD Specifications, Section 601.10.

## **PART 3 - EXECUTION**

### **3.01 INSTALLATION**

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- A. Install waterstops for all joints indicated on the Drawings. Waterstops shall be continuous around all corners and intersections so that a continuous seal is provided. Splices shall be made by welding in accordance with the manufacturer's recommendations, subject to acceptance of the Engineer. The finished splices shall provide a cross-section that is dense and free of porosity. If rubber waterstops are used, provide factory formed corners, intersection pieces, splicing unions and approved joint cementing compounds.
- B. To properly secure waterstops before concrete is poured, drill holes in waterstops just below the bulb and center the waterstop in the joint. Tie to reinforcing steel with 16 gauge black annealed steel tying wire as specified in Section 03200 and secure in place so that the waterstop will be normal to the joint.
- C. The spacing of the ties shall match the spacing of the reinforcing, but need not be spaced less than 12 inches on center. The ties shall be secured to the reinforcing such that the waterstops will remain in the required position during concrete placement.
- D. Premolded joint fillers shall be installed at all locations shown on the Drawings. Exterior asphalt impregnated fiberboard expansion joints do not require a joint sealer, but shall stop 3/4-inch from the concrete surface. Interior expansion joints shall be sealed.
- E. All control joints shall be coated with mastic to prevent bond. Mastic shall be applied in strict compliance with the manufacturer's instructions.
- F. Joints, joint forming devices, and load transfer devices for street and roadway pavement shall be installed in accordance with the requirements of LADOTD Specifications, Section 601.10, and the typical details required in the LADOTD Standard Plans.

END OF SECTION

# SECTION 03300 - CAST-IN-PLACE CONCRETE

## **PART 1 - GENERAL**

### **1.01 SCOPE OF WORK**

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Furnish all labor, materials, equipment and incidentals required to place all cast-in-place concrete, reinforcing steel, forms, waterstops and miscellaneous related items, including sleeves, reglets, anchor bolts, inserts and embedded items, as shown on the Drawings and as specified.

### **1.02 GENERAL DESCRIPTION**

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- A. Concrete shall be composed of Portland cement, fine aggregate, coarse aggregate, water and admixtures as specified and shall be ready-mixed concrete produced by a plant acceptable to the Engineer. All constituents, including admixtures, shall be batched at the central batch plant.
- B. All work shall comply with the latest edition of ACI Specifications 301, 318 and 350.
- C. All testing and inspection services required shall be provided by the Owner. The cost of such work, except as specifically stated otherwise, shall be paid for by the Owner. Methods of testing shall comply in detail with the latest applicable ASTM Methods.
- D. Samples of constituents and of concrete as-placed will be subjected to laboratory tests. All materials incorporated in the Work shall conform to accepted samples.
- E. Under special circumstances, the Engineer may allow minor deviations from the material requirements specified, provided that the resulting concrete quality is not adversely affected or that a suitable adjustment in cement content is made to compensate for such deviations

### **1.03 REFERENCED STANDARDS**

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- A. ACI 301 – Structural Concrete for Buildings
- B. ACI 318 – Building Code Requirements for Reinforced Concrete
- C. ACI 350R – Environmental Engineering Structures
- D. ASTM C33 – Concrete Aggregates
- E. ASTM C150 – Portland Cement
- F. ASTM C260 – Air Entraining Admixtures for Concrete

### **1.04 SUBMITTALS**

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- A. The Contractor shall submit to the Engineer for approval a proposed design mix for each concrete strength and type required by these specifications. Information to be submitted for each type and strength shall include the following items:
  - 1. Sources of concrete mix design components including coarse aggregate, fine aggregate, cement, water, admixtures, and pozzolans where included.
  - 2. Concrete mix design
    - a. Constituent quantities per cubic yard.

- b. Water content: gallons/100 pounds cementitious materials.
  - c. Cement: type, manufacturer, and chemical analysis.
  - d. Mix design slump.
  - e. Average laboratory cylinder strength test results at 28-days for concrete mix design (include standard deviation). Provide results of seven and 14 day tests if available.
3. Laboratory sieve analysis and mechanical properties for coarse and fine aggregate.
  4. Admixture types and chemical compositions. (Include certification of compliance with ASTM reference standards and confirmation of any supplementary requirements included in these Specifications.)
- B. An additional mix design for each type and strength of concrete to be placed by pumping shall be submitted to the Engineer for approval.
  - C. Failure to include any item of information noted in Article 1.04 A for a given concrete strength or type shall be cause for requirement of a resubmittal by the Engineer.
  - D. The Contractor shall submit to the Engineer for acceptance, as provided in Section 01340, shop drawings showing placement of all joints of plywood forms, and rustications.
  - E. Concrete mix designs including fly-ash will not be acceptable.

### **1.05 QUALITY ASSURANCE**

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- A. The actual acceptance of aggregates and development of mix proportions to produce concrete complying with the specific requirements of this Section shall be determined by means of prior laboratory tests made with the constituents to be used on the Work.
- B. Well in advance of placing concrete, the Contractor shall discuss with the Engineer the proposed source of materials and concrete mixture which he proposes to use. He shall furnish samples of aggregate and cement for testing, deliver them to the laboratory designated by the Engineer, and permit ample time for the laboratory to develop a proposed design mix or to modify the design of the mix within the limits of these Specifications.
- C. The following limiting strengths, water contents and cement factors shall apply.

Table 03300-1

Minimum Compressive Strength, f <sub>c</sub> (psi at 28 days)	Maximum Water Content* (gals./100 lbs.)	Net Minimum Cement Factor** (100 lbs./c.y.)
2500	7.4	4.30
3000	6.2	5.64
4000	5.9	5.64
4000 @ 7 days	4.5	6.58

\* Maximum: decrease if possible. This represents total water in mix at time of mixing, including free water on aggregates and water in admixture solutions.

\*\* Minimum: increase as necessary to meet other requirements. These cement factors apply to "controlled" concrete subject to specific inspection.

1. Minimum cement content shall be as shown in Table 03300-1. The Contractor shall increase cement content as required to meet strength requirements.
  2. When high early-strength Portland cement is permitted, the same strength requirements shall apply except that the indicated strengths shall be attained at seven days instead of 28 days.
- D. If, during the progress of the work, it is impossible to secure concrete of the required workability and strength with the materials being furnished, the Engineer may order such changes in proportions or materials, or both, as may be necessary to secure the desired properties. All changes so ordered shall be made by the Contractor.
- E. If, during the progress of the work, the Contractor desires to use materials other than those originally accepted or if the materials from the sources originally accepted change in characteristics, the Contractor shall make new acceptance tests of aggregates and establish new design mixes. Such testing and design shall be accomplished with the assistance of a testing laboratory acceptable to the Engineer.
- F. Consistency of the concrete as measured by the ASTM C 143, shall be as shown in Table 03300-2.

Table 03300-2

Portion of Structure	Recommended	Slump (inches) Range
Pavement and slabs on ground	2	1-3
Plain footings, gravity walls, slabs and beams	2-3	1-4
Heavy reinforced foundation walls and footings	3-4	2-5
Thin reinforced walls and columns	4	3-5

Concrete shall be of a consistency which can be readily worked into the corners and angles of the forms and around the reinforcement, inserts, and wall castings without permitting materials to segregate or free water to collect on the surface. Consideration shall be given to the proposed methods of placing and compacting in establishing the consistency of the concrete.

- G. Entrained air as measured by ASTM C 231 shall be as indicated in Table 03300-3.

Table 03300-3

Concrete Placement	Total Air Measured at Discharge from Truck (%)
Finished slabs	3.0 maximum
All other	3.5 - 5.0

If the air entraining agent proposed for use in the mix requires testing methods other than ASTM C 231 to accurately determine air content, make special note of this requirement in the admixture submittal required under Article 1.04.

## 1.06 ACCEPTANCE TESTS

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- A. The actual proportioning of cement, aggregates, and water necessary to produce concrete complying with the

requirements of Table 03300-1, shall be determined by tests made with representative samples of the materials to be used for the Work. Tests shall be made by a testing laboratory selected by the Owner and approved by the Engineer. Testing shall comply with ASTM C 39.

- B. Cement shall be tested to certify compliance with the requirements of this Specification. Methods of testing shall comply with the appropriate Specifications, but the place, time, frequency, and method of sampling will be determined by the Engineer in accordance with the particular need.
- C. Samples of fine and coarse aggregates shall be furnished for examination and testing at least three weeks before the Contractor proposes to use them in the work.
- D. Water content of the concrete shall be based on a curve showing the relation between water content and seven and 28-day compressive strengths of concrete made using the proposed materials. The curves shall be determined by four or more points, each representing an average value of at least three test specimens at each age, and shall have a range of values sufficient to yield the desired data, including all the compressive strengths called for on the Drawings, without extrapolation. The water content of the concrete to be used, as determined from the curve, shall correspond to the following test strengths of the laboratory trial mixtures:

Table 03300-4

Design strength**	7 Days*	Min. Lab. Strength 28 Days
2500 psi	2000 psi	2900 psi
3000 psi	2500 psi	3400 psi
4000 psi	3500 psi	4600 psi
4000 psi @ 7 days	4000 psi	5600 psi

\* May be employed for preliminary designs

\*\* To be used for final designs

- E. In no case, however, shall the resulting mix conflict with the limiting values for maximum water content and net minimum cement factor as specified in Table 03300-1.
- F. Testing under Section 1.05 to establish conformity of the various concrete mix components and the mix design with the provisions of this Specification shall be at the Contractor's expense.

## PART 2 - PRODUCTS

### 2.01 MATERIALS

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- A. Materials shall comply with these Specifications and any State or local specification requirements.
- B. Cement for all cast-in-place concrete shall be domestic Portland cement (ASTM C 150, Type II) or high early strength Portland cement (ASTM C 150, Type III). Air entraining cements shall not be used. Cement brands shall be subject to approval by the Engineer.
  - 1. For all hydraulic and below grade structures use Type II cement.
  - 2. High early strength cement shall be used only after obtaining written approval from the Engineer.
  - 3. Use only Portland cement produced at locations approved and listed in the Qualified Products List of LADOTD.

C. Aggregates

1. Fine aggregate shall consist of washed inert natural sand conforming to the requirements of LADOTD Specifications, Section 1003.02, and the following detailed requirements:

a. Gradation:

Sieve (ASTM Specification Ell)	Percentage Passing
3/8 inch	100%
No. 4	95 - 100%
No. 16	45 - 90%
No. 50	7 - 30%
No. 100	0 - 7%
No. 200	0 - 3%
Fineness Modulus	2.60 - 3.00
Organic	See ASTM C 33
Silt	2.0% maximum
Mortar Strength Section 10	95% minimum as per ASTM C 87
Soundness	8% maximum loss, using magnesium sulfate, subjected to 5 cycles

2. Coarse aggregate shall consist of well-graded crushed stone or washed gravel conforming to the requirements of LADOTD Specifications Section 1003.02, and the following detailed requirements.

Organic	See ASTM C 33
Silt	1.0% maximum
Soundness	8% maximum loss, using magnesium sulfate, subjected to 5 cycles

3. Maximum coarse aggregate size shall be:

- 2-inch for mass concrete
- 1-inch for reinforced section 10-inches and over in thickness
- 3/4-inch for reinforced sections less than 10-inch thickness

The "Designated Size" and the corresponding gradations shown represent the end or combined gradation of the coarse aggregate to be used in the final concrete.

D. Water

1. Water shall be clean and free from injurious amounts of oil, acid, alkali, organic matter, or other deleterious substances.

2. Mortar specimens made with the water under examination and normal Portland cement shall have at least one-hundred percent (100%) of the strength of similar specimens made with distilled water when tested for 28-day strength in accordance with ASTM C 87.

3. Potable tap water will normally fulfill the requirements noted. Water from all other sources shall be tested and approved before use and shall not contain impurities in excess of the following limits:

- a. Acidity or alkalinity calculated in terms of calcium carbonate: 0.05%
- b. Total organic solids: 0.05%

- c. Total inorganic solids: 0.08%
  - d. Total chlorides as sodium chloride: 0.05%
- E. Admixtures
- 1. A water reducing agent such as Pozzoloth, WRDA or approved equal shall be used in all concrete. The admixture shall comply with ASTM Specification C 494, Type A or Type D, shall contain no chlorides, shall be non-toxic after thirty (30) days, and shall be compatible with the air entraining admixtures. Proportioning and mixing shall be as recommended by the manufacturer.
  - 2. Admixtures causing accelerated setting of cement in concrete shall not be used.
  - 3. Air entraining admixtures compatible with the concrete mix shall be used in moderation along with the water reducing agent to obtain the specified percent air in the resultant concrete.
- F. Non-Shrink Cement Grout: Non-shrink cement grout shall consist of cement, aggregate and additives formulated to meet the following volume change requirements. Early volume change (within 24 hours) as tested by ASTM C 827 shall be limited to zero percent (0%) shrinkage and four percent (4%) maximum expansion. Long term volume change of hardened non-shrink cement grout (after 1 day of cure) shall conform to the Corps of Engineers' Specification for Non-Shrink Grout, CRD-C621-82B. Shrinkage shall be zero percent (0%) and expansion limited to a maximum of 0.4 percent volume change. Cement additives required to meet this specification shall be recommended by the grout manufacturer, but shall be non-staining and non-metallic. Grout shall be equal to "Five Star" products by the U.S. Grout Corporation.
- G. Non-Shrink Epoxy Grout: Non-shrink epoxy grout shall meet plastic volume changes within the first four hours of zero percent (0%) shrinkage and four percent (4%) maximum expansion as tested by ASTM C 827. Restrained hardened epoxy grout shall have 0 percent shrinkage as tested by ASTM C 531. Epoxy grout shall have zero percent (0%) expansion in volume change after set under constant temperature conditions. Epoxy grout shall be one-hundred percent (100%) solids formulated with resin, hardener and aggregate as recommended by the manufacturer. Epoxy grout shall be equal to "Five Star" Epoxy products manufactured by the U.S. Grout Corporation.
- H. Bonding agents shall conform to ASTM C881, 2-component, 100% solids, moisture insensitive structural epoxy adhesive. Poly sulfide type epoxies are not acceptable. Acceptable products include "Sikadur 32 Hi-Mod" by Sika Corp or equal.

## **PART 3 - EXECUTION**

### **3.01 MEASURING MATERIALS**

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- A. Measure materials by weighing except as otherwise specified or where other methods are specifically authorized by the Engineer. The apparatus provided for weighing the aggregates and cement shall be suitably designed and constructed for this purpose. Scales shall have been certified by the local Sealer of Weights and Measures within one year of use and a copy of the certification shall be delivered to the Engineer prior to beginning of placement of concrete. The accuracy of all weighing devices shall be such that successive quantities can be measured to within one percent (1%) of the desired amount.
- B. Cement and each type of aggregate shall be weighed separately. Cement in standard packages (sacks) need not be weighed, but bulk cement and fractional packages shall be weighed.
- C. Water shall be measured by volume or by weight. The water-measuring devices shall be capable of control to one-half (2%) percent accuracy. All measuring devices shall be subject to approval by the Engineer.

- D. Admixtures shall be dispensed either manually with use of calibrated containers or measuring tanks, or by means of an automatic dispenser approved by the manufacturer of the specific admixture.

### **3.02 MIXING**

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- A. Concrete shall be ready-mixed concrete by equipment acceptable to the Engineer. No hand-mixing will be permitted. Adding water in controlled amounts during the mixing cycle shall be done only with the express approval of the Engineer and under his direction. The amount of water added shall be shown on each delivery invoice.
- B. Ready-mix concrete shall be transported to the site in watertight agitator or mixer trucks loaded not in excess of rated capacities for the respective conditions as stated on the name plate. Discharge at the site shall be within 1-1/2 hours after water was first introduced to the mix.
- C. Fill central plant and rolling stock equipment and methods shall comply with the latest Truck Mixer and Agitator Standards of the Truck Mixer Manufacturers' Bureau of the National Ready-Mixed Concrete Association, as well as ACI Standard 318 Section 5.2, and ASTM C 94.
- D. Retempering of concrete or mortar which has partially hardened (that is, mixing with or without additional cement, aggregate, or water) will not be permitted.
- E. Attention is called to the importance of dispatching trucks from the batching plant so they arrive at the site of the work just before the concrete is required, thus avoiding excessive mixing of concrete while waiting or delays in placing successive layers of concrete in the forms.

### **3.03 FIELD TESTS**

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- A. Sets of three (3) field control cylinder specimens will be taken at random by the Engineer during the progress of the Work, in compliance with ASTM C 31; the total number of specimens taken on the project shall average one (1) set per 100 cubic yards, and not less than one (1) set of specimens shall be taken on any one day. When average 28-day compressive strength of control cylinders in any set falls below the required compressive strength or below proportional minimum seven-day strengths (where proper relation between seven and 28-day strengths have been established by tests), proportions, water content, or temperature conditions shall be changed to achieve the required strengths.
- B. The Contractor shall cooperate in the making of tests by allowing free access to the work for the selection of samples, providing an insulated closed curing box for specimens, affording protection to the specimens against injury or loss through his operations, and furnishing material and labor required for the purpose of taking concrete cylinder samples. All shipping of specimens will be paid for by the Owner. Curing boxes shall be acceptable to the Engineer.
- C. Slump tests and concrete cylinders will be made in the field by the Owner's laboratory technician.
- D. Air entrainment shall be measured by the Owner's laboratory technician at the time of concrete deposit in compliance with ASTM C 231.

### **3.04 INSPECTION AND CONTROL**

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- A. The preparation of forms, placing of reinforcing steel, conduits, pipes, and sleeves, batching, mixing, transporting, placing, and ring of concrete shall be all times under the inspection of the Engineer.
- B. The Contractor shall advise the Engineer of his readiness to proceed at least 24 hours prior to each concrete placement. The Engineer will inspect the preparations for concreting including the preparation of previously

placed concrete, the reinforcing and the alignment and tightness of formwork. No placement shall be made without the inspection and acceptance of the Engineer.

### **3.05 CONCRETE APPEARANCE**

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- A. Concrete for the Work shall provide a homogeneous structure which, when hardened, will have the required strength, durability and appearance.
- B. Formwork , mixtures and workmanship shall be such that concrete surfaces, when exposed, will require no finishing.
- C. When concrete forms are stripped, the concrete surface when viewed in good lighting from 10-feet away shall be pleasing in appearance, and at 20-feet shall show no visible defects.

### **3.06 FORMS**

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- A. Forms shall be used for all cast-in-place concrete, including footings. Forms shall be constructed and placed so the resulting hardened concrete will conform to the shape, lines, dimensions, appearance, and elevations indicated on the Drawings. The Engineer shall have the right to approve or reject material for use in the construction or fabrication of formwork.
- B. Forms for all exposed exterior and interior concrete walls shall be Type A-C exterior grade plywood with the "A" veneer turned to the casting side. Rustications shall be as located and detailed on the Drawings. Moldings for chamfers and rustications shall be milled and planed smooth.
- C. Forms for all other cast-in-place concrete shall be made of wood, metal, or other acceptable material. Wood forms shall be constructed of sound lumber or plywood of suitable dimensions, free from knotholes and loose knots, where used for exposed surfaces, boards shall be dressed and matched. Plywood shall be sanded smooth and fitted with tight joints between panels. Metal forms shall be of an acceptable type for the class of work involved and of the thickness and design required for rigid construction.
- D. Edges of all form panels in contact with concrete shall be flush within 1/32-inch and forms for plane surfaces shall be such that the concrete will be plane within 1/16-inch in four (4) feet. Forms shall be tight to prevent the passage of mortar, water and grout.
- E. Forms for walls shall have removable panels at the bottom for cleaning, inspecting, and scrubbing-in of bonding paste. Forms for walls of considerable height shall be arranged with tremies and hoppers for placing concrete in a manner that will prevent segregation and accumulation of hardened concrete on the forms or reinforcing above the fresh concrete.
- F. Molding or bevels shall be placed to produce a 3/4-inch chamfer on all exposed projecting corners, unless otherwise noted on the Drawings. Provide similar chamfer strips at horizontal and vertical extremities of all wall placements to produce "clean" separation between successive placements as called for on the Drawings.
- G. Forms shall be sufficiently rigid to withstand vibration and to prevent displacement or sagging between supports. Forms shall be constructed so that the concrete will not be damaged by their removal. The Contractor shall be entirely responsible for the adequacy of the forming system.
- H. Forms, including new pre-oiled forms, shall be oiled before reinforcement is placed, with an approved nonstaining oil or liquid form coating not having a paraffin base.
- I. Before form material is reused, all surfaces in contact with concrete shall be thoroughly cleaned; all damaged places repaired; all projecting nails withdrawn; and all protrusions smoothed. Wood forms shall be pre-oiled before reuse.

- J. Form ties encased in concrete other than those specified in the following paragraph shall be designed so that after removal of the projecting part, no metal shall be within one-inch of the face of the concrete. That part of the tie to be removed shall be at least 2-inch diameter or be provided with a wood or metal cone at least 2-inch diameter and one inch long. Form ties in concrete exposed to view shall be the cone-washer type equal to the Richmond "Tyscru". Throughbolts or common wire shall not be used for form ties.
- K. Form ties for exposed exterior and interior walls shall be as specified in the preceding paragraph except that the cones shall be of approved wood or plastic conforming with the preceding dimensions or as otherwise shown on the Drawings.

### **3.07 PLACING AND COMPACTING**

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- A. Unless otherwise permitted, concrete placement begun on any day shall be completed, including finishing, in daylight of the same day.
- B. Place no concrete until reinforcing steel, pipes, conduits, sleeves, hangers, anchors, and other work required to be built into concrete have been inspected and approved by the Engineer. Remove water and foreign matter from forms and excavation. Place no concrete on frozen soil, and provide adequate protection against frost action during freezing weather. All soil preparation below slabs and footings shall be approved by the Engineer before placing concrete.
- C. Transport concrete from mixer to place of final deposit as rapidly as possible by methods which prevent separation of ingredients and displacement of reinforcement, and which avoid rehandling. Deposit no partially hardened concrete.
- D. "Cold joints" are to be avoided unless called for on the Drawings. If they occur, they are to be treated as bonded construction joints.
- E. At construction joints, the surfaces of the concrete already placed, including vertical and inclined surfaces, shall be thoroughly cleaned of foreign materials, laitance, and weak concrete and roughened with suitable tools to expose a fresh face. At least two hours before and again shortly before the new concrete is deposited, the joints shall be saturated with water. After glistening water disappears, the joints shall be given a thorough coating of neat cement slurry mixed to the consistency of very heavy paste. The surfaces shall receive a coating at least 1/8-inch thick, well scrubbed-in by means of stiff bristle brushes whenever possible. New concrete shall be deposited before the neat cement dries.
- F. Deposit concrete to maintain a horizontal plastic surface. Vertical lifts shall not exceed 24-inches. Vertical lifts of 18 inches are preferable.
- G. Chutes for conveying concrete shall be of U-shaped design sized to insure a continuous flow of concrete. Do not use flat (coal) chutes. Chutes shall be metal or metal-lined and each section shall have approximately the same slope. The slope shall be not less than 25 nor more than 45 degrees and shall be such as to prevent the segregation of the ingredients. The discharge end of the chute shall be provided with a baffle plate or spout to prevent segregation. If the discharge end of the chute is more than five (5) feet above the surface of the concrete in the forms, a spout shall be used, and the lower end maintained as near the surface of deposit as practicable. When the operation is intermittent, the chute shall discharge into a hopper. Chutes shall be thoroughly cleaned before and after each delivery or separate, continuous pour. Debris and any water generated by the cleaning of chutes shall be discharged outside the forms. Concrete shall not be allowed to flow horizontally over distances exceeding five (5) feet.
- H. Pumping of concrete is an acceptable method of placement. The proposed pumping equipment and concrete mix shall be submitted to the Engineer prior to usage for approval.
- I. In thin sections of considerable height, concrete shall be placed using suitable hoppers, spouts with restricted outlets, or other approved methods.

- J. Concrete shall be thoroughly compacted during and immediately after placement using suitable tools. Internal type mechanical vibrators shall be employed to produce the required quality of finish. vibration shall be done by experienced operators under close supervision and shall be of the duration required to produce homogeneity and optimum consolidation without permitting segregation of the solid constituents or "pumping" or migration of air. All vibrators shall be supplemented by proper wooden spades to prevent puddling adjacent to forms and to remove bubbles and honeycomb, especially for the top lifts of walls. All vibrators shall operate at minimum 10,000 rpm. At least one vibrator shall be used for every 10 cubic yards of concrete placed per hour. In addition, one spare vibrator in operating condition shall be on the site.
- K. Concrete slabs on the ground shall be well-tamped into place. Foundation materials shall be wet, tamped, and rolled until thoroughly compacted prior to placing concrete.
- L. Concrete shall be deposited continuously in layers of such thickness that no concrete will be deposited on concrete which has sufficiently hardened to cause the formation of seams and planes of weakness within the section. If a section cannot be placed continuously, construction joints may be located at points as provided for in the Drawings or as acceptable to the Engineer.

### **3.08 CURING AND PROTECTION**

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- A. Protect all concrete work against injury from the elements and defacements of any nature during construction operations.
- B. All concrete shall be treated immediately after concrete placing or finishing is completed to provide continuous moist curing above 50° F for at least seven (7) days (fourteen (14) days minimum for water-retaining structures), regardless of the ambient air temperature. Absorptive wood forms remaining in place will not be considered as a satisfactory means of curing. Forms and vertical surfaces shall be covered and kept moist with three layers of continuously saturated burlap, or by other approved means. Horizontal surfaces, slabs, etc. shall be ponded to a depth of 2-inch or kept continuously wet by use of sprinklers. Street pavement, driveways, and sidewalks shall be cured by application of a white pigmented liquid-membrane forming compound applied in strict conformance with LADOTD Specifications , Section 601.12. Liquid-membrane forming compounds shall conform to LADOTD Specifications Section 1011.01.
- C. Cured surfaces and slabs shall be protected from the direct rays of the sun to prevent checking and crazing until the concrete is 28 days old.
- D. Cold Weather Concreting:
  - 1. Concrete placed at air temperature below 40° F shall have a minimum temperature of 60° F. When the air temperature is below 40° F or near 40° F and falling, the water and aggregates shall be heated before mixing. Concrete shall be protected so the temperature at the surface will not fall below 50° F for at least seven (7) days after placing. No salt, manure, or other chemicals shall be used for protection. Overheating or non-uniformity of heating shall be prevented. The surface temperature of the concrete shall not exceed 95° F during heating operations.
  - 2. In cold weather, continuous warm curing (with supplementary heat when required) shall provide a total of 350 day-degrees (i.e., 5 days at 70° F, etc.) of heat.
  - 3. The Contractor shall submit for acceptance by the Engineer a Work Plan describing the methods and procedures he proposes to use for concrete placement and curing during periods with temperatures below 40° F.
- E. Hot Weather Concreting
  - 1. For this Specification, "hot weather" is defined as any combination of high air temperatures, low relative humidity, and wind velocity which produces a rate of evaporation as estimated by Figure 2.1.5

of ACI 305R approaching or exceeding 0.2 Ib/ft /hr.

2. Concrete placed during hot weather shall be batched, delivered, placed, cured and protected in compliance with the recommendations of the latest ACI Committee 305 Report and the additional requirements of this Specification.
  - a. Temperature of concrete being placed shall not exceed 90° F and every effort shall be made to maintain a uniform concrete mix temperature below this level. The temperature of the concrete shall be such that it will cause no difficulties from loss of slump, flash set or cold joints.
  - b. All necessary precautions shall be taken to promptly deliver and place the concrete upon its arrival at the job and to provide vibration immediately after placement.
  - c. The Engineer may direct the Contractor to immediately cover plastic concrete with polyethylene.
3. The Contractor shall submit for acceptance by the Engineer a work Plan describing the methods and procedures he proposes to use for concrete mixing, including cooling or addition of ice to the aggregates, placement, finishing and curing during hot weather periods.

### **3.09 REMOVAL OF FORMS**

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- A. Except as otherwise specifically authorized by the Engineer, forms shall not be removed before the concrete has cured as specified above in subparagraph 3.08.C and the concrete has attained a strength of at least 30 percent of the ultimate strength prescribed by the design, and not before reaching the following number of day-degrees (whichever is the longer):

Forms For:	Day Degree*
Beams and slabs (spanning or self supporting)	500
walls and vertical surfaces (non-water retaining)	100
walls and vertical surfaces (water retaining)	150
Beams and slabs on grade	50

\*Day-Degree : Total number of days times average daily air temperature at surface of concrete. For example, 5 days at a daily weighted average temperature of 60° F equal 300 day-degrees. Temperatures below 50° F not to be included.

- B. Shores shall not be removed until the concrete has attained at least seventy-five percent (75%) of the specified strength and also sufficient strength to support safely its own weight and any construction live loads that may be placed upon it.

### **3.10 FAILURE TO MEET REQUIREMENTS**

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- A. Should the strengths shown by the test specimens made and tested in compliance with the previous provisions fall below the values given in Table 03300-1, the Engineer shall have the right to require changes in proportions outlined to apply on the remainder of the Work. Furthermore, the Engineer shall have the right to require additional curing on those portions of the structure represented by the test specimens which failed. The cost of such additional curing shall be at the Contractor's expense. In the event that such additional curing does not give the strength required, as evidenced by core and/or load tests, the Engineer shall have the right to require strengthening or replacement of those portions of the structure which fail to develop the required strength. The cost of all such core borings and/or load tests and any strengthening or concrete replacement required because strengths of test specimens are below that specified, shall be entirely at the expense of the Contractor. In such

cases of failure to meet strength requirements, the Contractor and Engineer shall confer to determine what adjustment, if any, can be made in compliance with Sections 15 and 17 of ASTM C 94.

- B. When the tests on control specimens of concrete fall below the required strength, the Engineer will permit check tests for strengths to be made by means of typical cores drilled from the structure in compliance with ASTM C 42 and C 39. In case of failure of the latter, the Engineer, in addition to other recourses, may require, at the Contractor's expense, load tests on any one of the slabs, beams, piles, caps, and columns in which such concrete was used. Test need not be made until concrete has aged 60 days.
- C. Slabs or beams, under load test, shall be loaded with their own weights plus a superimposed load of 2 times design live load. The load shall be applied uniformly over portion being tested in an acceptable manner, and left in position for 24 hours. The structure shall be considered satisfactory if deflection "D" in feet, at end of 24-hour period does not exceed value:  $D = 0.001 L^2/t$  in which "L" is span in feet, "t" is depth of slab or beam in inches.
- D. If deflection exceeds "D" in the above formula, the concrete shall be considered faulty unless within 24 hours after removal of the load, slab or beam under test recovers at least seventy-five percent (75%) of observed deflection.
- E. Should the strength of test cylinders fall below sixty percent (60%) of the required minimum 28-day strength, the concrete shall be rejected and shall be removed and replaced.

### **3.11 PATCHING AND REPAIRS**

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- A. It is the intent of these Specification to require forms, mixture of concrete and workmanship so concrete surfaces, when exposed, will require no patching.
- B. As soon as the forms have been stripped and the concrete surfaces exposed, fins and other projections shall be removed, recesses left by the removal of form ties shall be filled, and surface defects which do not impair structural strength shall be repaired. Clean all exposed concrete surfaces and adjoining work stained by leakage of concrete, to approval of the Engineer.
- C. Immediately after removal of forms remove plugs and break off metal ties as required by Article 3.06. Holes are then to be promptly filled upon stripping as follows: Moisten the hole with water, followed by a 1/16-inch brush coat of neat cement slurry mixed to the consistency of a heavy paste. Immediately plug the hole with a 1-1.5 mixture of cement and concrete sand mixed slightly damp to the touch (just short of "balling"). Hammer the grout into the hole until dense, and an excess of paste appears on the surface in the form of a spiderweb. Trowel smooth with heavy pressure. Avoid burnishing.
- D. When patching or repairing exposed surfaces, the same source of cement and sand as used in the parent concrete shall be employed. Adjust color if necessary by addition of proper amounts of white cement. Rub lightly with a fine Carborundum stone at an age of one to five days if necessary to bring the surface down with the parent concrete. Exercise care to avoid damaging or staining the virgin skin of the surrounding parent concrete. Wash thoroughly to remove all rubbed matter.
- E. Defective concrete and honeycombed areas as determined by the Engineer shall be chipped down reasonably square and at least 1-inch deep to sound concrete by means of hand chisels or pneumatic chipping hammers. Irregular voids or surface stones need not be removed if they are sound, free of laitance, and firmly embedded in the parent concrete, subject to Engineer's final inspection. If honeycomb exists around reinforcement, chip to provide a clear space at least 3/8-inch wide all around the steel. For areas less than 1-1/2-inch deep, the patch may be made in the same manner as described above for filling form tie holes, care being exercised to use adequately dry (non-trowelable) mixtures and to avoid sagging. Thicker repairs will require build-up in successive 1-1/2-inch layers on successive days, each layer being applied (with slurry, etc.) as described above. To aid strength and bonding of the multiple layer repairs, the Engineer may order the use of non-shrink, non-metallic grout as specified.

F. Non-Shrink Grout (see material specification Article 2.01-F)

1. For small repairs and patching, the grout shall consist of the following minimum cement/sand proportions plus the manufacturer's recommended additives.

<u>Material</u>	<u>Volumes</u>	<u>Weights</u>
Cement	1.0	1.0
Sand	1.5	1.5

2. For very heavy (generally formed) patches, the Engineer may order the addition of pea gravel to the mixture and the proportions modified as follows: (Non-shrink additives by manufacturer)

<u>Material</u>	<u>Volumes</u>	<u>Weights</u>
Cement	1.0	1.0
Sand	1.0	1.0
Pea Gravel	1.5	1.5

### **3.12 MODIFICATION AND REPAIR TO EXISTING CONCRETE**

---

- A. Cut, repair, reuse, demolish, excavate or otherwise modify parts of the existing structures or appurtenances, as indicated on the Drawings, specified, or necessary to permit completion of the work. Finishes, joints, reinforcements, sealants, etc. are specified in respective sections of Specification. All work shall conform with other requirements of this Section and as shown on the Drawings.

- B. Mix proportions of patching or filling grout materials used in the modifications and repair to existing concrete as indicated on the Drawings shall be:

1. Then new grout other than non-shrink grout is shown to be connected to existing concrete, add the following cement mixtures depending on the depths called for or shown on the Drawings

- a. Equal to or less than 2-inches in dept

<u>Material</u>	<u>Volume</u>
Cement	1.0
Sand	2.0
Water = 5 gals/200 Ibs. cement	

- b. Greater than 2-inches to 12-inches in depth

<u>Material</u>	<u>Volume</u>
Cement	1.0
Pea Gravel	2.5
Sand	2.0
Water = 5 gals/100 Ibs. cement	

- c. Greater than 12-inch in depth

Material

Concrete as specified under  
2.01 MATERIALS in this Section

2. Non-shrink Cement Grout - As specified in Articles 2.01 F and 3.11 F in this Section.
3. Epoxy Bonding Agent
  - a. Epoxy bonding agent shall be a two component epoxy adhesive specifically formulated for bonding old concrete to new (plastic) concrete. Component A shall be an epoxy resin and Component B shall be epoxy hardener. The epoxy bonding agent shall be "Sikdatur 32, Hi-Mod", by Sika Corporation, Lyndhurst, NJ; "Pro Bond 821 or 822" by Protex Industries, Denver CO; "Concresive 1170" by Adhesive Engineering Company, San Carlos, CA; or equal.
  - b. The mixing ratio shall be as recommended by the manufacturer for the ambient temperature when placed. Furnish manufacturer's specific instruction for specific job application and obtain Engineer's review prior to purchase.
  - c. Epoxy bonding agent shall conform to ASTM C 881 and corresponding tests for bond strength and shrinkage as specified in ASTM C 882, C 883, and C 884.
  - d. The properties of the cured material shall meet the following:

Compressive Strength (ASTM D-695)  
48 hour - 1000 psi  
28 day - 7000 psi

Tensile Strength (ASTM D-638)  
7 day - 4000 psi

Bond Strength (ASTM C-882 or C-884) - 1500 psi
  - e. Approval requirements The Contractor must furnish notarized certification that the material proposed for use meets all of the above requirements and that the material has been previously used successfully for the purpose describe.
4. Non-shrink epoxy grout, when specifically called for on the Drawings, shall be as specified in Article 2.01 F. Proportions of aggregate shall be as recommended by the grout manufacturer for the specific installation.

C. Demolition of Existing Concrete

Concrete shown to be removed on the Drawings shall be done by line drilling at limits followed by jack-hammering in areas where concrete is to be taken out. The Contractor shall be responsible for removing concrete in such a manner that surrounding concrete or existing reinforcing to be left in place and existing in place equipment is not damaged. Sawcutting at limits of concrete to be removed shall be done where indicated on the Drawings.

D. Connection to Existing Concrete

1. Roughen surface of existing concrete to be connected to new materials by sand-blasting, chipping, or scarifying. Thoroughly clean area of concrete to receive new materials of loose particles and dust or other contaminating objects.
2. Existing reinforcing to be left in place as shown on the Drawings shall be wire brushed to remove rust or concrete. The existing reinforcing shall be cut, bent, or lapped to new reinforcing as shown on the

Drawings and provided with a minimum of one inch of cover all around and at ends of the bar. The reinforcing shall be thoroughly cleaned of loose particles and dust before incorporating in new materials.

3. Connection Methods

- a. Method A. After existing concrete surface at connection has been roughened and cleaned as specified above, thoroughly saturate and maintain saturation for a period of at least 12 hours. Brush on a 1/16-inch layer of cement and water mixed to the consistency of a heavy paste. Immediately after application of cement paste, place new concrete or grout mixture as detailed on the Drawings.
- b. Method B. After existing concrete surface has been roughened and cleaned as specified above, apply epoxy bonding agent at connection surface. The field preparation and application of the epoxy bonding agent shall comply strictly with the manufacturer's recommendations. Place new concrete or non-shrink grout to limits shown on the Drawings within time constraints recommended by the manufacturer.
- c. Method C for Dowels. Drill hole 1-1/2 times the diameter of the dowel. The drilled hole shall first be filled with non-shrink epoxy grout, then dowels shall be inserted by tapping. These holes shall be blown clear of loose particles and dust prior to installing epoxy. Place new epoxy grout mixture to depth shown on the Drawings.
- d. Method D for Dowels. Dowels and anchor bolts shall be set in existing concrete by the use of non-shrink cement grout in drilled holes. The diameter of the drilled hole shall be two inches larger than the diameter of the dowel or anchor bolt. The hole shall be thoroughly cleaned and non-shrink cement grout shall be placed in the bottom of hole. The dowel or anchor bolt is then inserted into place and the remaining void is filled by ramming in non-shrink cement grout. The dowel or anchor bolt shall have a minimum of 3/4-inches of grout between it and the drilled side of the hole. If the surface of the grout is to be exposed, the non-shrink grout shall be discontinued 2-inches from the surface and the remaining void filled with mortar matching the existing concrete as near as practical.
- e. Method E. Non-expanding polyester resin/aggregate glass capsule anchor system shall be set in existing concrete by drilling holes to the required depth to develop the full tensile and shear strengths of the anchor material being used. The anchor bolts system shall be installed per the manufacturer's recommendation in holes sized as required. The capsule anchor system shall be equal to Molly Parabond two part stud and capsule system by Emhart, 504 Mt. Laurel Avenue, Temple, PA, or the HVA Adhesive Anchoring System by Hilti Fastening Systems, Tulsa, OK. The capsule shall consist of a sealed glass capsule containing premeasured amounts of a polyester or vinyl ester resin, quartz sand aggregate, and a hardener contained in a separate vial within the capsule. The anchor stud bolt, rebar or other embedment item shall be tipped with a double 45 degree chamfered point, securely fastened into the chuck of a rotary percussion hammer drill, and drilled into the capsule filled hole. The anchor may be installed in horizontal, vertical and overhead positions.

E. Waterstops Set into Existing Concrete

Where waterstops are required to be set into existing concrete, reglets shall be cut as shown on the Drawings. The surface shall be thoroughly cleaned of all debris. The roughened surface shall be kept wet for at least 12 hours in an acceptable manner before pouring new concrete. All free water shall be removed and a layer of cement and water mixed to the consistency of a heavy paste shall be placed to coat the existing concrete. The waterstop shall be bedded in the reglet with non-shrink cement grout prior to placing the new concrete. Where waterstops are called to be placed laying flat against existing concrete, the concrete surface shall be thoroughly cleaned of all debris and the waterstop bonded to the concrete using the epoxy bonding compound specified in Method B above.

- F. Where existing reinforcing is exposed due to saw cutting and removal of existing concrete, a coating or surface treatment of epoxy protectant shall be applied to the entire cut surface. The epoxy manufacturer shall submit to the Engineer for review specifications for the epoxy mortar material to be used. The epoxy protectant shall be formulated for the intended application.

### **3.13 INSTALLATION SCHEDULE**

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- A. Concrete for structures shall have minimum 28 day compressive strength of 4,000 psi unless noted otherwise on the Drawings or in these specifications.
- B. Concrete fill and duct encasement shall have a minimum compressive strength at twenty-eight (28) days of 2,500 psi.
- C. Concrete for street or roadway pavement replacement shall have a minimum compressive strength at seven (7) days of 4,000 psi.
- D. Concrete for sidewalks and miscellaneous slabs shall have a minimum compressive 28 day strength of 3,000 psi.

### **3.14 FINISHING OF FORMED SURFACES**

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- A. General:
1. After removal of forms, the surfaces of concrete shall be given one or more of the finishes specified below in locations designated by the contract documents.
  2. When finishing is required to match a small sample furnished to the contractor, the sample finish shall be reproduced on an area at least 100 sq.ft. in an inconspicuous location designated by the architect/engineer before proceeding with the finish in the specified location.
- B. As-Cast Finishes:
1. Rough Form Finish - No selected form facing materials shall be specified for rough form finish surfaces. Tie holes and defects shall be patched. Fins exceeding 1/4 inch in height shall be chipped off or rubbed off. Otherwise, surfaces shall be left with the texture imparted by the forms.
  2. Smooth Form Finish - The form facing material shall produce a smooth, hard, uniform texture on the concrete. It may be plywood, tempered concrete-form-grade hardboard, metal, plastic, paper, or other approved material capable of producing the desired finish. The arrangement of the facing material shall be orderly and symmetrical, with the number of seams kept to the practical minimum. It shall be supported by studs or other backing capable of preventing excessive deflection. Material with raised grain, torn surfaces, worn edges, patches, dents, or other defects which will impair the texture of the concrete surface shall not be used. Tie holes and defects shall be patched. All fins shall be completely removed.
- C. Rubbed Finishes:
1. General - The following finishes shall be produced on concrete with a smooth form finish. Where smooth rubbed finish is to be applied, the forms shall have been removed and necessary patching completed as soon after placement as possible without jeopardizing the structure.
  2. Smooth Rubbed Finish - Smooth rubbed finish shall be produced on newly hardened concrete no later than the day following form removal. Surfaces shall be wetted and rubbed with carborundum brick or other abrasive until uniform color and texture are produced. No cement grout shall be used other than the cement paste drawn from the concrete itself by the rubbing process.

3. Grout Cleaned Finish - No cleaning operations shall be undertaken until all contiguous surfaces to be cleaned are completed and accessible. Cleaning as the work progresses shall not be permitted. Mix 1 part portland cement and 1½ parts fine sand with sufficient water to produce a grout having the consistency of thick paint. White portland cement shall be substituted for a part of the gray portland cement in order to produce a color matching the color of the surrounding concrete, as determined by a trial patch. Wet the surface of the concrete sufficiently to prevent absorption of water from the grout and apply the grout uniformly with brushes or a spray gun. Immediately after applying the grout, scrub the surface vigorously with a cork float or stone to coat the surface and fill all air bubbles and holes. While the grout is still plastic, remove all excess grout by working the surface with a rubber float, sack, or other means. After the surface whitens from drying (about thirty minutes at normal temperatures), rub vigorously with clean burlap. The finish shall be kept damp for at least 36 hours after final rubbing.
- D. Unspecified Finish:
1. General - If the finish is not designated in the contract documents, the following finishes shall be used as applicable.
  2. Rough Form Finish - For all concrete surfaces not exposed to public view.
  3. Smooth Form Finish - For all concrete surfaces exposed to public view.
- E. Related Unformed Surfaces:
1. Tops of walls or buttresses, horizontal offsets, and similar unformed surfaces occurring adjacent to formed surfaces shall be struck smooth after concrete is placed and shall be floated to a texture reasonably consistent with that of the formed surfaces. Final treatment on formed surfaces shall continue uniformly across the unformed surfaces.

### **3.15 FINISH OF FLOORS AND SLABS**

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- A. Scratched Finish - After the concrete has been placed, consolidated, struck off, and leveled, the surface shall be roughened with stiff brushes or rakes before final set.
- B. Floated Finish - After the concrete has been placed, consolidated, struck off, and leveled, the concrete shall not be worked further until ready for floating. Floating with a hand float or with a bladed power trowel equipped with float shoes, or with a powered disc float shall begin when the water sheen has disappeared and when the surface has stiffened sufficiently to permit the operation. During or after the first floating, planeness of surface shall be checked with a 10 foot straightedge applied at not less than two different angles. All high spots shall be cut down and all low spots filled during this procedure. The slab shall then be refloated immediately to a uniform sandy texture.
- C. Troweled Finish - The surface shall first be float-finished as specified. It shall next be power troweled, and finally hand troweled. The first troweling after power floating shall produce a smooth surface which is relative free of defects by which may still show some trowel marks. Additional trowelings shall be done by hand after the surface has hardened sufficiently. The final troweling shall be done when a ringing sound is produced as the trowel is moved over the surface. The surface shall be thoroughly Consolidated by the hand troweling operations. The finished surface shall be essentially free of trowel marks and uniform in texture and appearance. On surfaces intended to support floor coverings, any defects of sufficient magnitude to show through the floor covering shall be removed by grinding.
- D. Broom or Belt Finish - Immediately after the concrete has received a float finish, it shall be given a coarse transverse scored texture by drawing a broom or burlap belt across the surface.

- E. Unspecified Finish:
1. When type of finish is not specified in the contract documents, the following finishes shall be used as applicable:
    - a. Scratched Finish - For surfaces intended to receive bonded applied cementitious applications.
    - b. Floated Finish - For surfaces intended to receive roofing, waterproofing membranes, or sand bed terrazzo.
    - c. Troweled Finish - For floors intended as walking surfaces or for reception of floor coverings.
    - d. Broom or Belt Finish - For sidewalks and garage floors and ramps.

### **3.16 SCHEDULE OF FINISHES**

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- A. Concrete not exposed to view and not scheduled to receive additional applied finish: Rough Form Finish.
- B. Exterior vertical concrete exposed to view: Smooth Rubbed Finish.
- C. Interior vertical concrete exposed to view except water containment structures: Smooth Rubbed Finish.
- D. Interior vertical concrete in water containment structures: Smooth Form Finish.
- E. Interior and exterior underside of concrete exposed to view: Smooth Rubbed Finish.
- F. Surface of exterior walkways and miscellaneous slabs: Broom Finish.
- G. Surface of water containment slabs which will receive grout topping: Scratched Finish.
- H. Interior concrete floors of sludge dewatering building and office/storage building: Troweled Finish with a light broom texture.

### **3.17 FIELD CONTROL**

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- A. The Engineer may have cores taken from any questionable area in the concrete work such as construction joints and other locations as required for determination of concrete quality. The results of tests on such cores shall be the basis for acceptance, rejection or determining the continuation of concrete work.
- B. The Contractor shall cooperate in obtaining cores by allowing free access to the Work and permitting the use of ladders, scaffolding and such incidental equipment as may be required. The Contractor shall repair all core holes. The work of cutting and testing the cores will be at the expense of the Owner, if the cores show that the concrete meets the specified requirements, and at the expense of the Contractor, if the cores show the concrete to be substandard.

### **3.18 LEAKAGE TESTING OF WATER-RETAINING STRUCTURES**

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- A. The Contractor will be allowed to use plant effluent water for leakage testing and shall make necessary provisions for routing the water for testing from the chlorine contact basin to the structure being tested.
- B. Testing shall not begin until the structure has been cleaned, all concrete components have attained full design strength, and in no case less than 14 days after all concrete pouring operations for the structure are complete.
- C. Fill structure to maximum operating level and maintain this water surface elevation for a period of 3 days prior to testing. The rate of filling shall be approved by the Engineer.

- D. Delay backfilling of the structure until testing is complete.
- E. Water-Retaining Structures are considered acceptable if:
  - 1. There are no visible leakage or visible damp areas.
  - 2. The volume of leakage rate does not exceed 0.1 percent of tank volume in any 24 hour period.
- F. Structures which fail the leakage test shall be repaired as approved by the Engineer prior to retesting. Repairs and retesting shall be at no additional cost to the Owner.

END OF SECTION

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# SECTION 03350 - CONCRETE FINISHING

## **PART 1 - GENERAL**

### **1.01 SCOPE OF WORK**

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- A. Furnish all labor, materials, equipment and incidentals required to finish cast-in-place concrete surfaces as specified herein.

### **1.02 RELATED SECTIONS**

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- A. Section 03100 – Concrete Formwork
- B. Section 03200 – Concrete Reinforcement
- C. Section 03250 – Concrete Accessories
- D. Section 03300 – Cast-In-Place Concrete

### **1.03 REFERENCED STANDARDS**

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- A. ACI 301 – Structural Concrete for Building
- B. ACI 318 – Building Code Requirements for Concrete

### **1.04 SCHEDULE OF FINISHES**

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- A. Concrete for the project shall be finished in the various specified manners either to remain as natural concrete or to receive an additional applied finish or material under another section.
- B. The base concrete for the following conditions shall be finished as noted and as further specified herein:
  - 1. Concrete to receive dampproofing - Off-form finish, See Article 3.01.D.
  - 2. Concrete where not exposed in the finished work and not scheduled to receive an additional applied finish or material - Off-form finish. See Article 3.01.D.
  - 3. Exposed exterior vertical concrete including above grade tank walls and beams - Rubbed finish. See Article 3.01.E.
  - 4. Interior or exterior horizontal concrete not requiring floor hardener or sealer - Floated finish. See Article 3.02.A.
  - 5. Concrete for exterior walks, interior and exterior stairs - Broomed finish perpendicular to direction of traffic. See Article 3.02.B.
  - 6. Concrete on which process liquids flow or in contact with sludge - Steel trowel finish. See Article 3.02.C.
  - 7. Concrete to receive roofing Steel trowel finish. See Article 3.02.C.
  - 8. Concrete to receive hardener - Wood float finish, non-slip. See Article 3.02.D.
  - 9. Interior horizontal concrete to receive floor sealer - Wood float finish. See Article 3.02.E.
  - 10. Streets and Roadway pavement concrete to receive a drag finish in accordance with LADOTD

specifications, Section 601.11, Paragraph G.

### **1.05 RESPONSIBILITY FOR CHANGING FINISHES**

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- A. The surface finishes specified for concrete to receive additional applied finishes or materials are the finishes required for the proper application of the actual products specified. Where, different products are approved for use, it shall be the Contractor's responsibility to determine if changes in finishes are required and to provide the proper finishes to receive these products.
- B. Changes in finishes made to accommodate products different from those specified shall be performed at no additional cost to the Owner. Submit the proposed new finishes and their construction methods to the Engineer for acceptance.

### **1.06 MANUFACTURER'S SUPERVISION**

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The manufacturer of curing compound, sealer or hardener shall make available at no extra cost, upon 72 hours notification, the services of a qualified field representative to make clear to the user the application of the product under prevailing job conditions.

## **PART 2 - PRODUCTS**

### **2.01 MATERIALS**

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Floor hardener shall be Frictex H aluminum oxide abrasive aggregate by Sonneborn, Minneapolis, Minnesota or equal as accepted by the Engineer. Floor sealer shall be Kure-N-Seal, acrylic-based, transparent polymer by Sonneborn, Minneapolis, Minnesota or approved equal by W.R. Grace or others.

## **PART 3 - EXECUTION**

### **3.01 FORMED SURFACES**

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- A. Forms shall not be removed before the requirements of Section 03300, Article 3.09.A have been met.
- B. Care shall be exercised to prevent damaging edges or obliterating the lines of chambers, rustications or corners when removing the forms or doing any other work adjacent thereto.
- C. Clean all exposed concrete surfaces and adjoining work stained by leakage of concrete, to the satisfaction of the Engineer.
- D. Concrete to receive dampproofing, tank interiors, and concrete not exposed in the finished work shall have off-form finish with fins and other projections removed and tie cones and defects filled as specified under Section 03300.
- E. Rubbed Finish
  - 1. Immediately upon stripping forms and before concrete has changed in color, all fins shall be carefully removed with a hammer. While the wall is still damp apply a thin coat of medium consistency neat cement slurry by means of bristle brushes to provide a bonding coat within all pits, air holes or blemishes in the parent concrete; avoid coating large areas of the finished surface with this slurry.
  - 2. Before the slurry has dried or changed color, apply a dry (almost crumbly) grout consisting of one part by volume cement to 1-1/2 parts by volume of clean masonry sand having a fineness modulus of approximately 225 and complying with the gradation requirements of the ASTM C-404. Grout shall be uniformly applied by means of damp (neither dripping wet nor dry) pads of coarse burlap approximately, 6-inch square, used as a float. Grout shall be well scrubbed into the pits and air holes

to provide a dense mortar in the imperfections to be patched.

3. Allow the mortar to partially harden for one or two hours depending upon the weather. If the air is hot and dry, keep the wall damp during this period using a fine, fog spray. When the grout has hardened sufficiently so it can be scraped from the surface with the perpendicular edge of a steel trowel without damaging the grout in the small pits or holes, cut off all that can be removed with a trowel. Grout allowed to remain on the wall too long will get too hard and will be difficult to remove.
4. Allow the surface to dry thoroughly and rub it vigorously with clean dry burlap to completely remove any dried grout. No visible film of grout should remain after this rubbing. The entire cleaning operation for any area must be completed the day it is started. Do not leave grout on surfaces overnight. Allow sufficient time for grout to dry after it has been cut with the trowel so it can be wiped off clean with the burlap.
5. On the day following the repair of pits, air holes and blemishes, the walls again shall be wiped off clean with dry, used pieces of burlap containing old hardened mortar which will act as a mild abrasive. After this treatment, there shall be no built-up film remaining on the parent surface. If, however, such is present, a fine abrasive stone shall be used to remove all such material without breaking through the surface film of the original concrete. Such scrubbing shall be light and sufficient only to remove excess material without working up a lather or mortar or change the texture of the concrete.
6. A thorough wash-down with stiff bristle brushes shall follow the final bagging or stoning operation in order that no extraneous materials remain on the surface of the wall. The wall shall be sprayed with a fine fog spray periodically to maintain a continually damp condition for at least three (3) days after the application of the repair grout.

### **3.02 FLOORS AND SLABS (EXCEPTING STREET PAVEMENT)**

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#### **A. Floated Finish:**

##### **1. Machine Floating:**

Screed floors and slabs with straightedges to the established grades shown on the plans. Immediately after final screening, a dry cement/sand shake in the proportion of two (2) sacks of Portland cement to 350 pounds of coarse natural concrete sand shall be sprinkled evenly over the surface at the rate of approximately 500 pounds per 1,000 square feet of floor. Neat, dry cement shall not be sprinkled on the surface. When the concrete has hardened sufficiently to support the weight of the power float used without digging in or disrupting the level surface, the shake shall be thoroughly floated into the surface with a heavy revolving disc type power compacting machine capable of providing a 200 pound compaction force distributed over a 24-inch diameter disc. This compacting machine shall be the "Kelly Power Float with Compaction Control" as manufactured by Kelley Industries of SSP Construction Equipment, Inc.; P.O. Box 2038, Pomona, CA 91766; (714) 623-6184, or equal acceptable to the Engineer. Troweling machines equipped with float (shoe) blades that are slipped over the trowel blades may be used for floating. Floating with a troweling machine equipped with normal trowel blades shall not be permitted. The use of any floating or troweling machine which has a water attachment for wetting the concrete surface during finishing of a floor shall act as a mild abrasive. After this treatment, there shall be no not be permitted. Floating should start along walls and around columns and then move systematically across the surface leaving a matte finish.

NOTE: This operation (application of the cement/sand shake) may be eliminated at the discretion of the Engineer if the base slab concrete exhibits adequate fattiness and homogeneity, and the need is not indicated.

##### **2. Hand Floating:**

In lieu of power floating, small areas as defined by the Engineer may be compacted by hand floating. The dry cement/sand shake specified in Subparagraph 1 above shall be used unless eliminated by the Engineer. Screed the floors and slabs with straightedges to the established grades shown on the plans. While the concrete is still green, but sufficiently hardened to support a finisher and kneeboards with no more than 1/4-inch indentation, wood float to a true, even plane with no coarse aggregate visible. Sufficient pressure shall be used on the wood floats to bring moisture to the surface.

3. Finishing Tolerances:

Floors and slabs shall be level with a tolerance of 1/8-inch when checked with a 10-foot straightedge placed anywhere on the slab in any direction, except where drains occur, in which case floors shall be pitched to drains such that there are no high spots left undrained. Failure to meet either of the above requirements shall be cause for removal, grinding, or other correction as directed by the Engineer.

B. Broom Finish:

Finish concrete as specified in Article 3.02A and, if required, 3.02D. Then draw a stiff bristle broom lightly across the surface in the direction of drainage, or in the case of walks and stairs, perpendicular to the direction of traffic to provide a non-slip surface.

C. Steel Trowel Finish:

Finish concrete as specified in Article 3.02A and, if required, 3.02D. Then hand steel trowel to a smooth hard even finish free from high or low spots or other defects.

### **3.03 STREET AND ROTARY PAVEMENT SLABS**

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Final strike-off, consolidation and finishing of street and roadway pavement slabs shall be performed in accordance with LADOTD specifications, Section 601.11.

### **3.04 APPROVAL OF FINISHES**

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- A. All concrete surfaces, when finished, will be inspected by the Engineer.
- B. Surfaces which, in the opinion of the Engineer, are unsatisfactory shall be refinished or reworked until accepted by the Engineer.
- C. After finishing horizontal surfaces, regardless of the finishing procedure specified, the concrete shall be cured in accordance with Section 03300, unless otherwise directed by the Engineer.

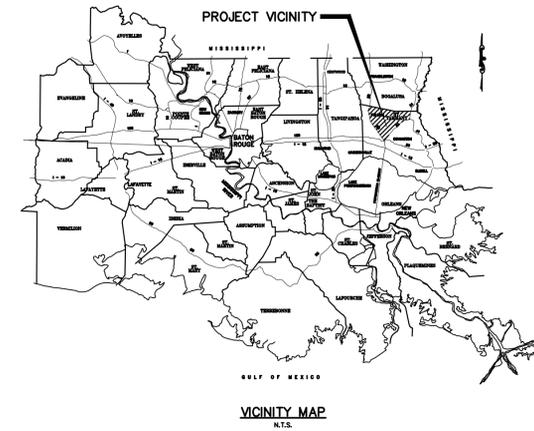
END OF SECTION

# ST. TAMMANY PARISH

## ROSEDOWN WAY DRAINAGE - PHASE 2

### PEC PROJECT NO. 11813

### FEBRUARY 2026

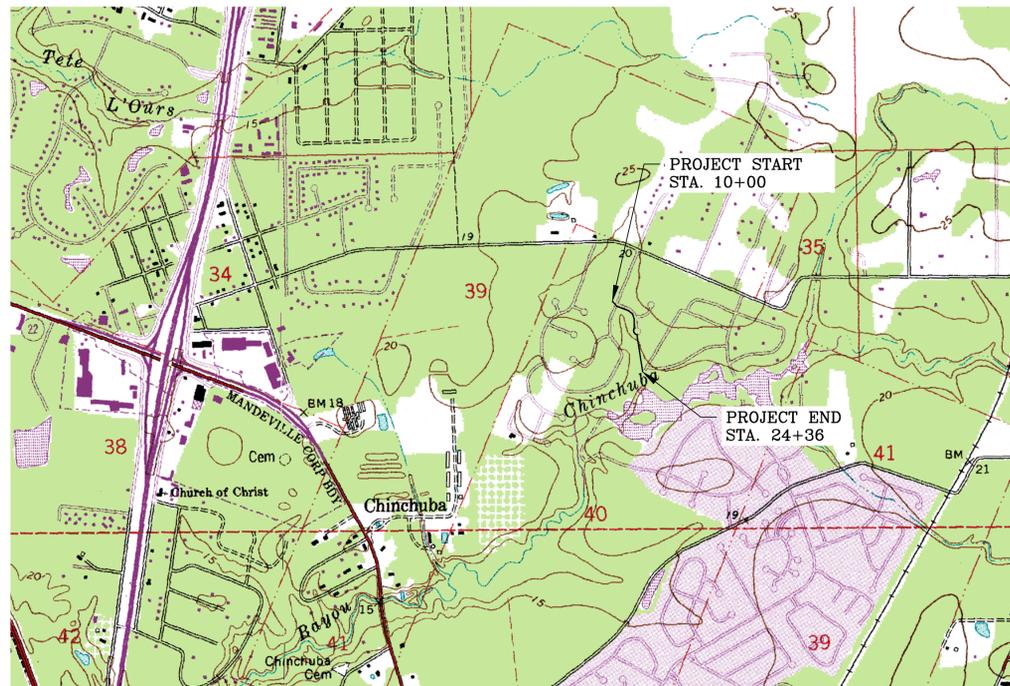


**INDEX TO SHEETS**

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	INDEX MAP
2A	GENERAL NOTES AND LEGEND
2B	SUMMARY OF ESTIMATED QUANTITIES
3-6	PROPOSED DRAINAGE PLAN

**LADOTD STANDARD PLANS**

SHEET NO.	DESCRIPTION
BM-01	BEDDING & BACKFILL FOR DRAINAGE STRUCTURES (2 SHEETS)
CB-01	CONCRETE OPEN TOP CATCH BASIN
CB-02	CONCRETE OPEN TOP CATCH BASIN
CCSM-6-7-R-45	REINFORCED CONCRETE BOX CULVERT (STRAIGHT WINGS 45 DEGREE CROSSING)
CP-01	PORTLAND CEMENT CONCRETE PAVEMENT DETAILS (3 SHEETS)
DW-01	DRIVEWAYS ON CURBED ROADWAYS
DW-01	DRIVEWAYS ON NON-CURBED ROADWAYS
DW-01	TURNOUT AND DRIVEWAY TIE-IN DETAILS
EC-01	TEMPORARY EROSION CONTROL DETAILS (2 SHEETS)
MC-01	DETAILS OF GRATES, GRATE FRAMES AND COVERS FOR CATCH BASINS AND MANHOLES (2 SHEETS)
PRCB-01	PRECAST REINFORCED CONCRETE BOX CULVERTS (DETAILS AND SPECIFICATIONS)
TTC-02	TEMPORARY TRAFFIC CONTROL (LAYOUT FOR WORK LESS THAN 15 FEET FROM THE TRAVELED WAY)
TTC-03	TEMPORARY TRAFFIC CONTROL (LAYOUT FOR LANE CLOSURES ON TWO LANE ROADS NEAR INTERSECTIONS)
TTC-04	TEMPORARY TRAFFIC CONTROL (LAYOUT FOR LANE CLOSURES ON TWO LANE ROADS)
JP-1	JEFFERSON PARISH CONFLICT STRUCTURES STANDARD DETAIL



**LOCATION MAP**

SCALE: 1"=1000'

**PARISH PRESIDENT**

**MIKE COOPER**

**COUNCIL MEMBERS**

- RICK SMITH**
- LARRY ROLLING**
- MARTHA J. CAZAUBON**
- KATHY SEIDEN**
- PAT PHILLIPS**
- CHERYL TANNER**
- JOE IMPASTATO**
- PAT BURKE**
- DAVID COUGLE**
- MAUREN "MO" O'BRIEN**
- ARTHUR LAUGHLIN**
- JERRY BINDER**
- JEFF CORBIN**
- JIMMY STRICKLAND**

- DISTRICT 1**
- DISTRICT 2**
- DISTRICT 3**
- DISTRICT 4**
- DISTRICT 5**
- DISTRICT 6**
- DISTRICT 7**
- DISTRICT 8**
- DISTRICT 9**
- DISTRICT 10**
- DISTRICT 11**
- DISTRICT 12**
- DISTRICT 13**
- DISTRICT 14**

**DIRECTOR OF ENGINEERING**

**DANIEL P. HILL, P.E.**



**TYPE OF CONSTRUCTION: MUNICIPAL AND PUBLIC WORKS**

SUBSURFACE DRAINAGE, REINFORCED CONCRETE BOX CULVERT AND HEADWALLS, CONCRETE PAVEMENT, CONCRETE DRIVES, CONCRETE REVETMENT, SANITARY SEWER CONFLICT BOXES



G:\1181315 - Issued for Bid\02 - Index Map.dwg [SHEET 2] Jan 29, 2026 - 4:56pm by wbroussard

DATE	REVISIONS	BY	DATE	REVISIONS	BY
02/26	ISSUED FOR BID	WJB			
11/25	30% FINAL PLANS	WJB			
09/25	OWNER REVIEW	WJB			

ST TAMMANY PARISH,  
LOUISIANA  
OWNER

ROSEDOWN WAY DRAINAGE - PHASE 2  
INDEX MAP  
TITLE

DESIGNED:	WJB	SCALE:	1" = 80'
DRAWN:	WJB	DATE:	FEBRUARY 2026
CHECKED:	JHS		
APPROVED:	TAA		



PROJECT NO.  
11813  
SHEET NO.  
2

**GENERAL NOTES:**

1. THE CONTRACTOR IS ADVISED THAT HE MUST COMPLY WITH ALL SPECIAL PROVISIONS AND TECHNICAL SPECIFICATIONS AS STATED IN THE PROJECT CONSTRUCTION SPECIFICATIONS AND CONTRACT DOCUMENTS.
2. ALL ELEVATIONS SHOWN ON THE PLANS ARE LOUISIANA STATE PLANE COORDINATE SYSTEM, SOUTH ZONE (1702), DERIVED FROM LSU C4G REAL TIME NETWORK, NAVD 88 (GEOID 18).
3. DUST CONTROL – THE CONTRACTOR SHALL TAKE REASONABLE MEASURES TO PREVENT OR MINIMIZE UNNECESSARY AIR BORNE DUST. ALL SURFACES SUBJECT TO DUSTING SHALL BE KEPT MOIST WITH WATER OR BY APPLICATION OF CHEMICAL DUST SUPPRESSANT. DUSTY MATERIALS SHALL BE COVERED TO PREVENT DUST FROM BLOWING AT NO DIRECT PAY.
4. NOISE CONTROL – THE CONTRACTOR SHALL TAKE REASONABLE MEASURES TO AVOID UNNECESSARY NOISE. SUCH MEASURES SHALL BE APPROPRIATE FOR NORMAL AMBIENT SOUND LEVELS IN THE AREA DURING WORKING HOURS AT NO DIRECT PAY IN ACCORDANCE WITH ALL ST. TAMMANY PARISH ORDINANCES.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TEMPORARY DRAINAGE WITHIN THE PROJECT AREA DURING CONSTRUCTION AND SHALL NOT RESTRICT DRAINAGE FLOW OR IMPEDE DRAINAGE DURING RAIN EVENTS AT NO DIRECT PAY.
6. THE CONTRACTOR SHALL NOT SCALE THE DRAWINGS FOR CONSTRUCTION PURPOSES.
7. THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AND ANY OTHER APPLICABLE FEDERAL, STATE, AND LOCAL SAFETY REQUIREMENTS FOR THIS PROJECT.
8. THE CONTRACTOR SHALL PROVIDE FOR THE MOVEMENT OF PEDESTRIANS AND TRAFFIC FOR THE DURATION OF THE CONSTRUCTION IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, 11TH EDITION, 2023 OR LATEST EDITION. NO DIRECT PAY ITEM.
9. THE APPARENT PROPERTY LINES, RIGHTS-OF-WAY LINES, OR SERVITUDE LINES SHOWN ARE THE LIMITS OF CONSTRUCTION UNLESS OTHERWISE NOTED ON THE PLANS.
10. ALL DIMENSIONS SHOWN ARE DESIGN DIMENSIONS. ACTUAL DIMENSIONS MAY VARY IN THE FIELD AND SHALL BE VERIFIED BY THE CONTRACTOR. THE CONTRACTOR WILL ADHERE TO THE DESIGN DIMENSIONS IN THE FIELD TO THE NEAREST PRACTICAL LIMITS AS DETERMINED BY THE PROJECT ENGINEER IF TOLERANCES ARE NOT SPECIFIED.
11. THE CONTRACTOR SHALL PROVIDE A PROPOSED HAUL ROUTE FOR ALL EQUIPMENT OR MATERIALS HAULED TO OR FROM THE CONSTRUCTION SITE PRIOR TO THE START OF CONSTRUCTION. THE ROUTE MUST BE APPROVED BY THE PARISH ENGINEERING DIVISION PRIOR TO THE START OF CONSTRUCTION. ALL DUMP TRUCKS SHALL BE COVERED TO PREVENT MATERIAL FROM FALLING ON ROADWAY.
12. THE CONTRACTOR IS TO NOTIFY AFFECTED RESIDENTS AND BUSINESSES OF CONSTRUCTION A MINIMUM OF ONE WEEK PRIOR TO START OF CONSTRUCTION. IF CONSTRUCTION IS DELAYED, THE CONTRACTOR SHALL NOTIFY RESIDENTS AND BUSINESSES ONE WEEK PRIOR TO NEW CONSTRUCTION DATE. NOTIFICATIONS SHALL BE VIA DOOR HANGING FLYERS.
13. TYPICAL SECTIONS SHOWN ON THE PLANS MAY BE VARIED SLIGHTLY BY THE PROJECT ENGINEER IN THE FIELD IF CONDITIONS JUSTIFY SUCH A VARIATION. THE CONTRACTOR SHALL NOT BE ENTITLED TO AN EXTRA PAYMENT OTHER THAN WHATEVER INCREASE IN CONTRACT QUANTITIES ARE INVOLVED.
14. THE CONTRACTOR SHALL BE RESPONSIBLE TO ESTABLISH PROPOSED GRADES AS SHOWN ON THE PLANS FOR ALL ROADS TO MAINTAIN POSITIVE DRAINAGE TO THE NEAREST CATCH BASINS OR DROP INLETS WITHOUT PONDING WATER IN ROADWAYS.
15. THE CONTRACTOR IS TO COORDINATE WITH THE LOCAL GARBAGE, TRASH, AND MAIL PICK UP FOR EACH PROPERTY OWNER.
16. CONTRACTOR TO PROVIDE CLEARING AND GRUBBING NECESSARY TO CONSTRUCT PROJECT.
17. EXACT LOCATIONS OF EXISTING DRAINAGE STRUCTURES TO BE REMOVED SHALL BE DETERMINED IN THE FIELD PRIOR TO BIDDING AND CONSTRUCTION. ALL ASSOCIATED COSTS SHALL BE INCLUDED IN BID.

**UTILITIES**

1. LOCATIONS OF EXISTING UTILITIES SHOWN ON THE PLANS WERE TAKEN FROM FIELD SURVEYS AND BEST AVAILABLE SOURCES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION, DEPTH AND SIZE OF ALL UNDERGROUND EXISTING UTILITIES AND STRUCTURES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE LIABLE FOR ANY DAMAGES OR DOWNTIME CAUSED BY FAILURE TO COMPLY WITH THESE REQUIREMENTS. ANY CONFLICT BETWEEN EXISTING UTILITIES AND PROPOSED IMPROVEMENTS SHOULD BE REPORTED TO THE ENGINEER FOR COORDINATION. ALL COSTS TO BE INCLUDED UNDER THE BID ITEM FOR CONSTRUCTION LAYOUT PER LUMP SUM.
2. WHEN APPLICABLE, THE JOINING OF NEW AND EXISTING DRAINAGE PIPES SHALL BE IN ACCORDANCE WITH THE LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES 2016 EDITION SECTION 701 OTHERWISE IT HAS TO BE PER THE MANUFACTURER RECOMMENDATION AND THE ENGINEER'S APPROVAL
3. LOUISIANA 1-CALL MUST BE CONTACTED PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES AND SHALL REPORT ANY DAMAGE TO THE APPLICABLE UTILITY ENTITIES IMMEDIATELY AFTER IT OCCURS. ANY REPAIRS (IF REQUIRED) TO THE DAMAGED PRIVATE UTILITIES SHALL BE MADE BY THE APPLICABLE UTILITY ENTITIES. ALL REPAIR COST SHALL BORNE BY THE CONTRACTOR.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL PUBLIC UTILITY SERVICES DURING CONSTRUCTION UNLESS A DISRUPTION IS REQUIRED AS PART OF THE WORK.
6. ALL PIPES CALLED OUT TO BE ABANDONED IN PLACE SHALL BE FILLED WITH A LOW STRENGTH FLOWABLE FILL UNLESS OTHERWISE SPECIFIED. THE PIPE SHALL BE CAPPED WITH A CONCRETE OR MORTAR MATERIAL. PRECAST CONCRETE CAPS 3" THICK GROUTED IN PLACE MAY BE USED. ALL CAPS SHALL BE WATERTIGHT AND SHALL BE AT NO DIRECT PAY.
7. SALVAGEABLE PARISH DRAINAGE, SEWER, AND SIGNAGE PROPERTY SUCH AS MANHOLE COVERS, FRAMES, GRATES AND SIGNS SHALL BE HAULED, UNLOADED, AND STACKED (AT NO DIRECT PAY). CONTRACTOR TO CONTACT ST. TAMMANY PARISH TO DETERMINE EXACT LOCATION OF WHERE TO HAUL AND UNLOAD SALVAGEABLE ITEMS.
8. SALVAGEABLE WATER LINE PARISH PROPERTY SUCH AS HYDRANTS, MANHOLE COVERS, FRAMES, GRATES, AND VALVES SHALL BE HAULED, UNLOADED, AND STACKED (AT NO DIRECT PAY). CONTRACTOR TO CONTACT ST. TAMMANY PARISH TO DETERMINE EXACT LOCATION OF WHERE TO HAUL AND UNLOAD SALVAGEABLE ITEMS.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ANY MAIL BOXES IN KIND THAT ARE DAMAGED DUE TO CONSTRUCTION ACTIVITIES.
10. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING WATER, SEWER, AND GAS SERVICE TYPES, SIZES, AND DEPTHS ENCOUNTERED PRIOR TO BEGINNING CONSTRUCTION. CONTRACTOR SHALL INCLUDE ALL ASSOCIATED COSTS IN BID. EXISTING UTILITIES (INCLUDING WATER, GAS, ELECTRIC, CABLE, TELEPHONE, ETC.) ARE TO BE RELOCATED BY OTHERS AND ARE NOT INCLUDED IN THIS CONTRACT.

UTILITY PROVIDERS:  
 ELECTRIC: CLECO POWER, LLC.  
 GAS: ATMOS ENERGY  
 WATER: MAGNOLIA WATER UTILITY CO.  
 TELEPHONE: AT&T DISTRIBUTION  
 CABLE: CHARTER COMMUNICATIONS

**TRAFFIC CONTROL**

1. ALL WORK PERFORMED UNDER THIS SECTION SHALL BE PAID UNDER THE TEMPORARY SIGNS AND BARRICADES ITEM UNLESS SPECIFICALLY NOTED. PERMANENT SIGNING OR PERMANENT SIGNAL WORK WILL BE PAID UNDER THEIR OWN RESPECTIVE ITEMS.
2. NO LESS THAN FIFTEEN (15) WORKING DAYS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT A DETAILED TEMPORARY TRAFFIC CONTROL PLAN, TO BE PAID UNDER THE TEMPORARY SIGNS AND BARRICADES ITEM, TO THE ST. TAMMANY PARISH ENGINEERING DIVISION FOR REVIEW AND APPROVAL. THE PLAN WILL INCLUDE A COMPLETE CONSTRUCTION SIGNAGE, TRAFFIC MAINTENANCE AND PUBLIC SAFETY PLAN, WHICH AT A MINIMUM INCLUDES THE FOLLOWING:
  - a. A SIGN INVENTORY – A LIST OF ALL EXISTING TRAFFIC CONTROL DEVICES (SIGNS, RAISED PAVEMENT MARKINGS, ETC.) ACCURATELY LOCATED ON THE PLANS.
  - b. A PLAN FOR THE PROPOSED ROUTE ON WHICH CONSTRUCTION MATERIAL AND EQUIPMENT ARE TO BE TRANSPORTED TO OR FROM THE CONSTRUCTION SITE.
  - c. A DETOUR PLAN SHOWING PROPOSED ROUTES FOR LOCAL AND TRANSIENT TRAFFIC ON WHICH LOCATIONS OF DETOUR TRAFFIC CONTROL DEVICES AND CONSTRUCTION ZONE OR WORK ZONE TRAFFIC CONTROL DEVICES ARE SHOWN. TRAFFIC CONTROL DEVICE APPLICATIONS AND METHODS SHALL BE IN COMPLIANCE WITH PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 11TH EDITION, 2023 OR LATEST EDITION UNLESS OTHERWISE DIRECTED IN THE FIELD BY ST. TAMMANY PARISH ENGINEERING.
  - d. THE CONTRACTOR SHALL PROVIDE WEEKLY PROGRESS UPDATES TO THE OWNER. THIS INCLUDES, BUT IS NOT LIMITED TO, CURRENT AND PROJECTED ROAD CLOSURES, ALTERNATE ROUTES, IMPLEMENTED DETOUR ROUTES, ESTIMATED DURATION OF ROAD CLOSURES AND PROGRESS OF CONSTRUCTION FOR ALL CONSTRUCTION LOCATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ACCURATE SCHEDULES THAT SHOW ANTICIPATED ROAD CLOSURES, ROAD CONSTRUCTION BEGINNING AND ENDING DATES AND ANY RESULTING DETOUR LOCATIONS AND DATES TO THE PROJECT ENGINEER AND THE OWNER. THIS INFORMATION WILL BE UPLOADED TO THE OWNER'S WEBSITE TO INFORM RESIDENTS OF CONSTRUCTION ACTIVITIES. THESE SCHEDULES SHALL BE ACCURATE AND UPDATED AS REQUIRED IF ANTICIPATED DATES CHANGE DUE TO WEATHER, DELAYS, ETC. CONTRACTOR SHALL SUBMIT ROAD CLOSURE FORMS FOR APPROVAL NO LESS THAN FIFTEEN (15) WORKING DAYS PRIOR TO CLOSING ANY ROADWAY.
3. THE CONSTRUCTION TRAFFIC CONTROL SIGNS, BARRICADES, WARNING LIGHTS, DEVICES, AND METHODS SHALL ADHERE TO PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), 11TH EDITION, 2023 OR LATEST EDITION, UNLESS OTHERWISE NOTED IN THE FIELD BY THE ENGINEERING DIVISION OF ST. TAMMANY PARISH.
4. NO SIGNS, SIGNALS OR TRAFFIC CONTROL DEVICES SHALL BE REMOVED OR COVERED WITHOUT THE ST. TAMMANY PARISH ENGINEERING DEPARTMENT'S APPROVAL. THE CONTRACTOR ACCEPTS ALL RESPONSIBILITIES DURING THE TIME OF REMOVAL. THE CONTRACTOR WILL NOTIFY THE PARISH TRAFFIC ENGINEER AND/OR LDDOT TRAFFIC ENGINEER IN WRITING SEVEN (7) WORKING DAYS IN ADVANCE WHEN CONTROLS ARE TO BE REMOVED AND REINSTALLED. ALL TRAFFIC CONTROL DEVICES AND ASSOCIATED HARDWARE (SIGNS, SIGNALS, CONDUITS, CABLES, MARKINGS, ETC.) REMOVED OR DAMAGED DURING THE EXECUTION OF THIS CONTRACT, OTHER THAN AS PROVIDED FOR IN THIS CONTRACT, SHALL BE REPLACED AT NO COST TO THE OWNER
5. ANY DAMAGE TO EXISTING TRAFFIC DEVICES CAUSED BY THE CONTRACTOR'S WORK SHALL BE IMMEDIATELY REPORTED BY THE CONTRACTOR TO THE ST. TAMMANY PARISH ENGINEERING DEPARTMENT. REPAIRS SHALL BE PERFORMED BY THE CONTRACTOR OR BY ST. TAMMANY PARISH DEPARTMENT OF PUBLIC WORKS, AT THE DISCRETION OF THE ST. TAMMANY PARISH PUBLIC WORKS DIRECTOR WITH ALL ASSOCIATED COSTS BEING PAID BY THE CONTRACTOR.
6. PAVEMENT MARKINGS, STRIPING, AND TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED AS SHOWN ON THE STRIPING PLANS OR AS DIRECTED BY ST. TAMMANY PARISH ENGINEERING DEPARTMENT. ALL INSTALLATIONS SHALL BE AS PER THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), 11TH EDITION, 2023 OR LATEST EDITION. (THERE SHALL BE NO DIRECT PAY ITEM FOR REMOVAL OF EXISTING MARKINGS.)
7. FOR WORK LOCATED ALONG STATE AND FEDERAL HIGHWAY RIGHTS-OF-WAY, PRIOR TO START OF CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT TO THE LA DOTD FOR REVIEW AND APPROVAL A UTILITY PERMIT APPLICATION INCLUDING BUT NOT LIMITED TO A TRAFFIC CONTROL PLAN. CONTACT DOTD FOR A LISTING OF STATE AND FEDERAL HIGHWAYS.
8. THE CONTRACTOR IS TO ADVISE THE ENGINEER OF ANY ROAD CLOSURES AT LEAST TWO (2) WEEKS IN ADVANCE OF THE CLOSURE. THE ADVISEMENT IS TO INCLUDE WHETHER THE ROADWAY WILL HAVE PARTIAL OR FULL CLOSURE, AND THE LOCATION, DATE, ESTIMATED DURATION, AND THE LIMITS OF THE CLOSURE.
9. IF BOTH ROADWAY LANES ARE TO BE REPLACED, ONE LANE OF TRAFFIC MUST BE OPEN AT ALL TIMES UNLESS APPROVED BY THE OWNER IN WRITING.

**ROADWAYS**

1. CONCRETE PANELS SHALL BE REMOVED AND REPLACED FROM JOINT TO JOINT (WHETHER FOR ROADWAYS, DRIVEWAYS OR SIDEWALKS). THE CONTRACTOR SHALL SAWCUT TO PRESERVE THE INTEGRITY OF THE JOINT. SAWCUTTING SHALL BE STRAIGHT AND FULL DEPTH AT NO DIRECT PAY UNLESS OTHERWISE STATED IN THE CONTRACT SPECIFICATIONS
2. CONTRACTOR SHALL EXERCISE CAUTION WHEN REMOVING CONCRETE OR ASPHALT PAVEMENT ADJACENT TO PAVEMENT THAT IS TO REMAIN (WHETHER FOR ROADWAYS, DRIVEWAYS OR SIDEWALKS). ANY DAMAGE TO THE ADJACENT PAVEMENT SHALL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF ST. TAMMANY PARISH AT THE CONTRACTOR'S EXPENSE. THIS MAY INCLUDE MILL/OVERLAY, PATCHING, OR FULL REPLACEMENT OF DAMAGED AREAS.
3. CONTRACTOR SHALL CONSTRUCT THE FINAL GRADE OF THE NEW PAVEMENT TO MATCH THE ADJACENT PAVEMENT ELEVATIONS AND ENSURE THAT THE EDGE OF THE PAVEMENT PROFILE IS SMOOTH IN ACCORDANCE WITH THE LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES LATEST EDITION. A STRAIGHT EDGE SHALL BE USED IN LIEU OF A PROFILEGRAPH.

**LANDSCAPING**

1. THE CONTRACTOR SHALL NOTIFY THE ST. TAMMANY PARISH ENGINEERING DEPARTMENT AT LEAST TWO (2) WEEKS PRIOR TO THE START OF CONSTRUCTION SO AS TO ALLOW TIME FOR THE ST. TAMMANY PARISH ENGINEERING DEPARTMENT TO INSPECT ANY TREES THAT WILL BE AFFECTED OR REMOVED DURING THIS PROJECT.
2. NO VEHICLES, EQUIPMENT, WORK, AND/OR SUPPLIES MAY BE STORED OR PLACED ON UNPAVED SURFACES WITHIN THE DRIP LINE OF A TREE.
3. THE CONTRACTOR SHALL NOT REMOVE ANY TREES UNLESS CALLED TO BE REMOVED IN THE PLANS OR AS DIRECTED BY THE ST. TAMMANY PARISH DEPARTMENT OF ENGINEERING.

**SURVEY NOTES:**

1. SURVEY PERFORMED BY FORTE & TABLADA, INC.
2. WETLAND DELINEATION OR ENVIRONMENTAL ASSESSMENTS WERE NOT PERFORMED NOR WERE WITHIN THE SCOPE OF THE SURVEY.
3. ACCORDING TO F.E.M.A. FLOOD INSURANCE RATE MAP NO. 22103C0314F, DATED 04-30-2008 THIS PROPERTY IS LOCATED IN FLOOD ZONES "X AND AE" (AREAS OF 100-YEAR FLOOD; BASE FLOOD ELEVATIONS AND FLOOD HAZARD FACTORS DETERMINED ELEV. = 15 FT.). BASE FLOOD ELEVATIONS ARE SUBJECT TO CHANGE AND SHOULD BE VERIFIED WITH THE ST. TAMMANY PARISH FLOOD PLAIN MANAGER PRIOR TO ANY CONSTRUCTION.

**LEGEND**

●	FOUND PROPERTY CORNER	---	APPARENT PROPERTY LINE
⊖	DRAIN INLET	---	APPARENT SERVITUDE LINE
⊕	SEWER MANHOLE TOP	---	DITCH TOP BANK
⊗	SEWER CLEANOUT	---	DITCH TOE
⊕	POWER JUNCTION BOX	---	DITCH CENTERLINE
⊕	POWER TRANSFORMER	---	ROAD CENTERLINE
*	LIGHT POLE	---	EDGE OF ASPHALT
●	POWER DROP	---	EDGE OF CONCRETE
⊕	TELEPHONE PEDESTAL	---	EDGE OF GRAVEL
⊕	CROSS CONNECT BOX	---	6' WOOD FENCE LINE
⊕	WATER METER	---	STORM DRAIN CULVERT
⊕	WATER VALVE	---	SANITARY SEWER LINE
●	FIRE HYDRANT	---	BUILDING PERIMETER
⊕	TV PEDESTAL	---	MAJOR CONTOUR
⊕	MAILBOX	---	MINOR CONTOUR
---	SIGN	---	UNDERGROUND WATER LINE
⊕	SHRUB	---	UNDERGROUND GAS LINE
⊕	TREE	---	TOPO BREAKLINE
⊕	GAS METER	---	WOODS EDGE
⊕	GAS VALVE	---	
⊕	MECHANICAL POINT	---	
⊕	PROPOSED CATCH BASIN	---	
⊕	PROPOSED CONFLICT BOX	---	
---	PROPOSED STORM DRAIN PIPE	---	
⊕	PROPOSED CONCRETE	---	
⊕	PROPOSED LIMESTONE	---	
⊕	PROPOSED RIP RAP	---	

G:\1181315 - Issued for Bid\02A - General Notes and Legend.dwg [SHEET 24] Feb 02, 2026 - 11:00am by wbroussard

ST TAMMANY PARISH,  
 LOUISIANA  
 OWNER

ROSEDOWN WAY DRAINAGE – PHASE 2  
 GENERAL NOTES AND LEGEND  
 TITLE

DESIGNED: WJB	SCALE: N.T.S.
DRAWN: WJB	DATE: FEBRUARY 2026
CHECKED: JHS	APPROVED: TAA

**PEC** PROFESSIONAL ENGINEERING CONSULTANTS CORPORATION  
 A Division of Forte & Tablada

STATE OF LOUISIANA  
 WIDE J. BROUSSARD  
 License No. 48106  
 PROFESSIONAL ENGINEER  
 IN  
 CIVIL ENGINEERING  
 2/2/2026

PROJECT NO. 11813  
 SHEET NO. 2A

G:\1181315 - Issued for Bid\02A - General Notes and Legend.dwg [SHEET 2B] Jan 29, 2026 - 4:57pm by wbrussard

Mobilization	1	Lump Sum
Construction Layout	1	Lump Sum
Clearing and Grubbing	1	Acre
Removal of Structures and Obstructions (Includes Tree Removal, Existing Headwalls, and Catch Basins)	1	Lump Sum
Removal of Fence	1,000	L.F.
Removal of Existing Storm Drainage Pipe (Various Sizes, Types, and Depths)	750	L.F.
Saw Cutting Portland Cement Concrete Pavement (Includes Roads, Sidewalk, and Drives)	2,000	L.F.
Removal of Portland Cement Concrete Pavement (Includes Base Material, Driveways, Sidewalks, Roads, and Curb)	1,100	S.Y.
Concrete Walk (4" Thick) with 2" Sand Leveling Course	5	S.Y.
Portland Cement Concrete Pavement (6" Thick) (Driveways & Road)	1,095	S.Y.
Type 610 Limestone Base (8" Thick)	1,095	S.Y.
Geotextile Fabric (For Portland Cement Concrete Pavement)	1,095	S.Y.
Storm Drain Pipe Arch (24" Equiv. RCPA)	41	L.F.
Storm Drain Pipe Arch (60" Equiv. RCPA)	906	L.F.
Reinforced Concrete Box Culvert (Cast-in-Place or Precast) (7'X4')	150	L.F.
Reinforced Concrete Box Culvert Headwall	1	Each
Catch Basin (CB-01)	2	Each
Catch Basin (CB-02)	10	Each
Catch Basin (CB-02) (Conflict Box)	2	Each
Sanitary Sewer Conflict Box (Cast-In-Place)	3	Each
Concrete Cast-In-Place Revetment (6" Thick)	775	S.Y.
Rip Rap (CL 30)	105	S.Y.
Exploratory Excavation	10	Each
Temporary Silt Fencing	1,700	L.F.
Temporary Sediment Check Dams (Hay)	5	Each
Rebuild Fence (8' Wood)	1,000	L.F.
Hydroseeding	1	Acre
Temporary Traffic Control (Temporary Signs and Barricades)	1	Lump Sum
Concrete Curb and Gutter (Barrier Type)	110	L.F.
15" RCP (Connection to Box Culvert)	20	L.F.
Grade, Shape, Compact Existing Drainage Ditch for Placement of Concrete Revetment	1	Lump Sum

02/26	ISSUED FOR BID	WJB			
11/25	30% FINAL PLANS	WJB			
09/25	OWNER REVIEW	WJB			
DATE	REVISIONS	BY	DATE	REVISIONS	BY

ST TAMMANY PARISH,  
LOUISIANA  
OWNER

ROSEDOWN WAY DRAINAGE - PHASE 2  
SUMMARY OF ESTIMATED QUANTITIES  
TITLE

DESIGNED: WJB	SCALE: N.T.S.
DRAWN: WJB	DATE: FEBRUARY 2026
CHECKED: JHS	
APPROVED: TAA	

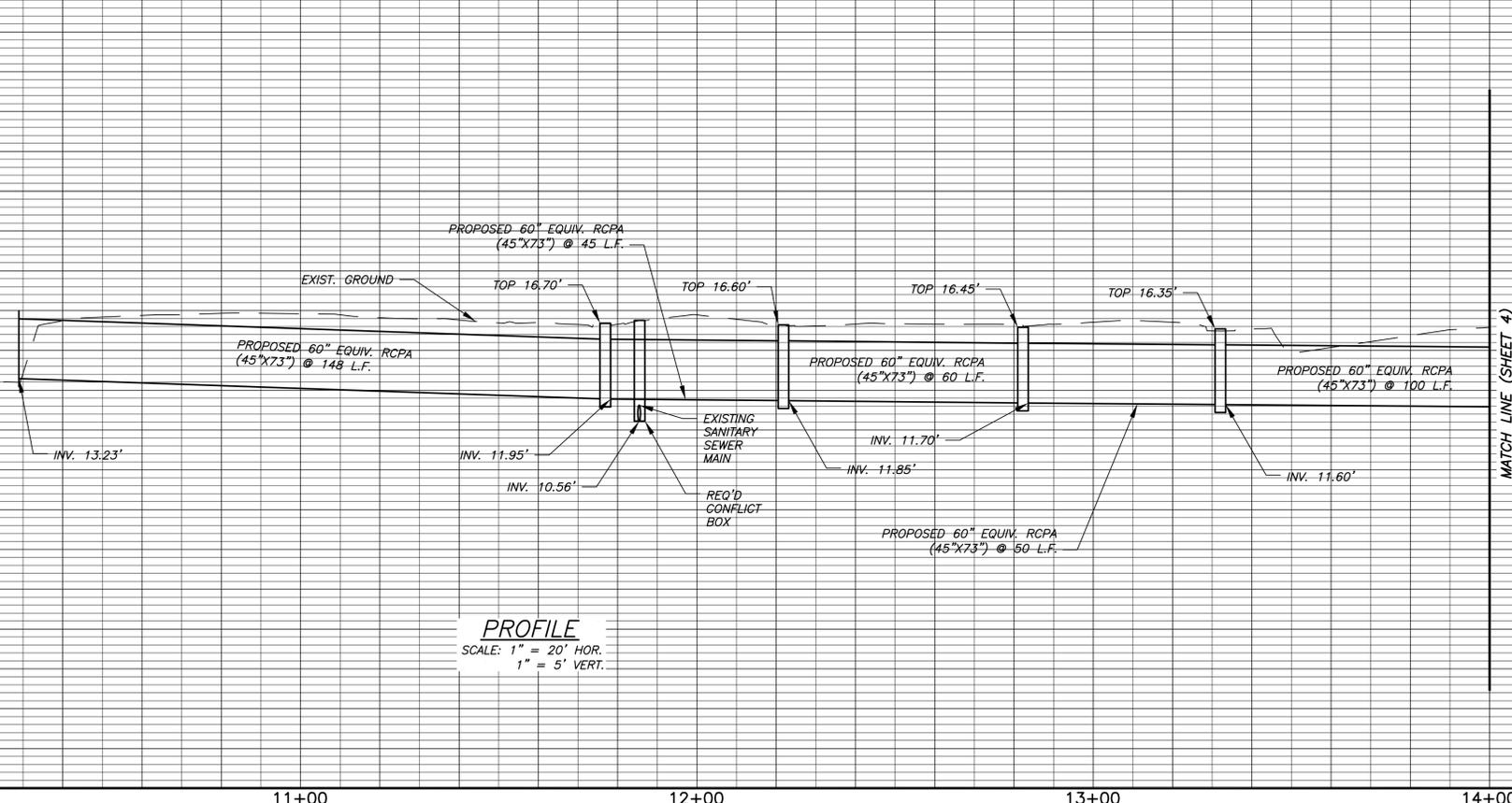
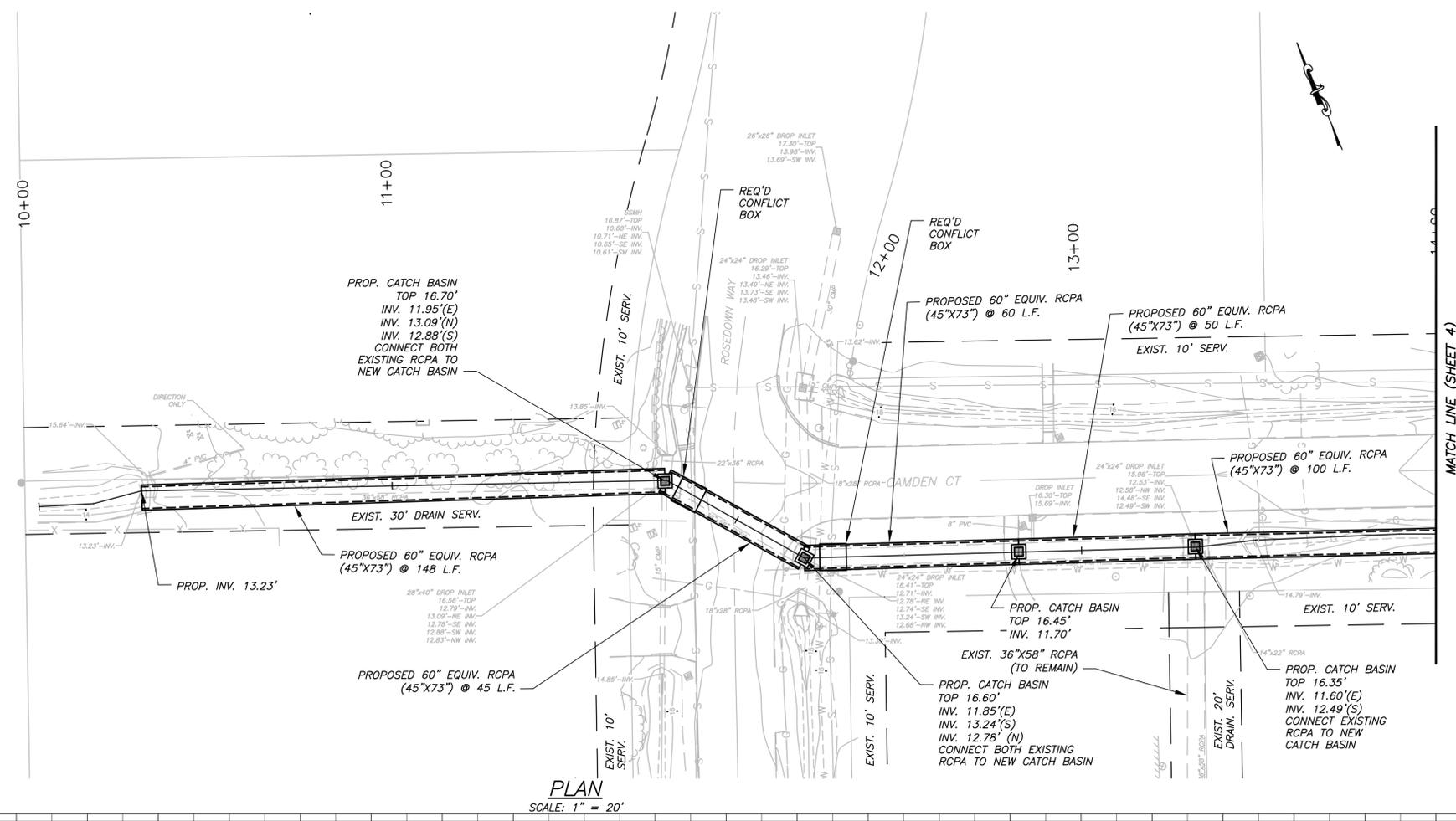


PROJECT NO. 11813  
SHEET NO. 2B

GENERAL NOTES (APPLIES TO ALL SHEETS):

- UTILITY WARNING**

The Contractor is advised that existing overhead and underground utilities such as (but not limited to) electrical lines and poles, telephone cable, gas lines, water lines, and sanitary sewers exist in the rights-of-way where the proposed improvements are to be installed, all in accordance with the provisions of R.S. 38:2223. It shall be the Contractor's responsibility to protect these existing utilities during the construction of the work to be installed under this Contract and any damage to the existing utilities caused by the negligent acts of the Contractor shall be repaired by the Contractor at his expense. The Contractor shall contact Louisiana One (1) Call (1-800-272-3020) a minimum of 48 hours prior to beginning construction in the work area.
- CONTRACTOR SHALL VERIFY THE EXACT SIZE, TYPE, DEPTH AND LOCATION OF ALL EXISTING DRAINAGE TO BE CONNECTED TO THIS WORK PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL VERIFY THE EXACT SIZE, TYPE, DEPTH, AND LOCATION OF ALL EXISTING UTILITIES (INCLUDING SERVICES) PRIOR TO STARTING CONSTRUCTION. ANY CONFLICT BETWEEN EXISTING UTILITIES AND PROPOSED IMPROVEMENTS SHOULD BE REPORTED TO THE PROJECT ENGINEER FOR COORDINATION.
- ALL PROPOSED CATCH BASINS SHALL BE CB-02 UNLESS OTHERWISE NOTED.
- ALL PROPOSED CATCH BASINS SHALL HAVE TYPE "B" CAST IRON GRATES UNLESS OTHERWISE NOTED.
- CONTRACTOR HAS THE OPTION OF FURNISHING AND INSTALLING CAST-IN-PLACE REINFORCED CONCRETE CATCH BASIN IN LIEU OF PRECAST CONCRETE CATCH BASIN AT NO ADDITIONAL COST.
- CONFLICT BOX LOCATIONS SHOWN ARE APPROXIMATE EXACT LOCATIONS OF CONFLICT BOXES SHALL BE DETERMINED IN THE FIELD PRIOR TO ORDERING MATERIALS OR STARTING CONSTRUCTION.
- CONTRACTOR TO PROVIDE CLEARING AND GRUBBING NECESSARY TO CONSTRUCT PROJECT.
- CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE AWAY FROM ROADS AND HOUSES AT ALL TIMES DURING CONSTRUCTION.
- REFER TO SHEET 2A FOR ADDITIONAL NOTES AND LEGEND.
- CONTRACTOR TO REMOVE AND REPLACE CONCRETE ROAD, SIDEWALKS, AND DRIVES PER DOTD STANDARD DETAILS (CP-01 AND DW-01).
- EXISTING WATER MAINS AND SERVICES TO BE RELOCATED BY OTHERS AND IS NOT INCLUDED IN THIS CONTRACT.
- EXISTING GAS MAINS AND SERVICES TO BE RELOCATED BY OTHERS AND IS NOT INCLUDED IN THIS CONTRACT.



C:\1181315 - Issued for Bid\03-06 - Plan.dwg [SHEET 3] Feb 02, 2026 - 10:54am by wbroussard

DATE	REVISIONS	BY	DATE	REVISIONS	BY
02/26	ISSUED FOR BID	WJB			
11/25	30% FINAL PLANS	WJB			
09/25	OWNER REVIEW	WJB			

ST. TAMMANY PARISH,  
LOUISIANA  
OWNER

ROSEDOWN WAY DRAINAGE - PHASE 2  
PROPOSED DRAINAGE PLAN  
TITLE

DESIGNED: WJB	SCALE: HOR. 1"=20' VERT. 1"=5'
DRAWN: WJB	DATE: FEBRUARY 2026
CHECKED: JHS	
APPROVED: TAA	

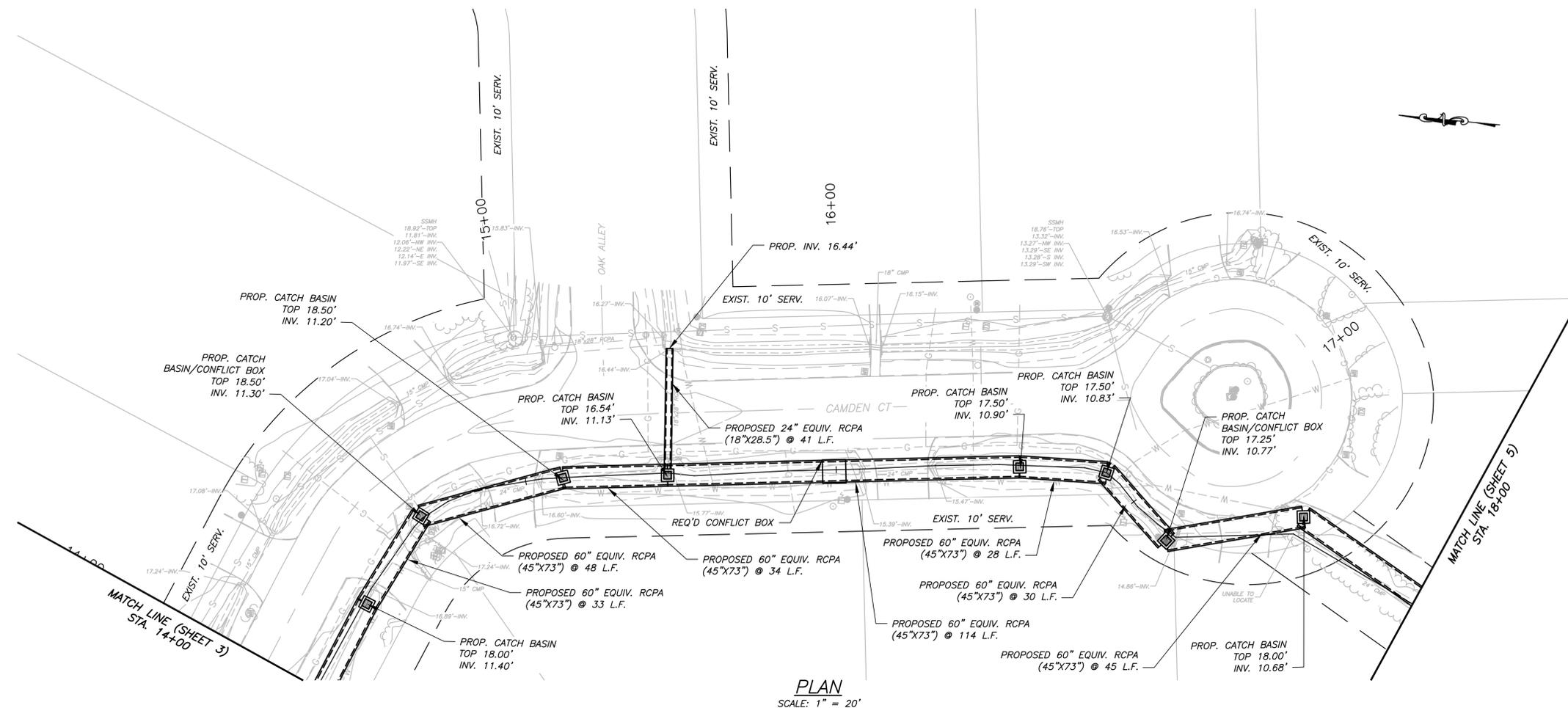
**PEC** PROFESSIONAL ENGINEERING CONSULTANTS CORPORATION  
A Division of Forte & Tablada

PROJECT NO. 11813  
SHEET NO. 3

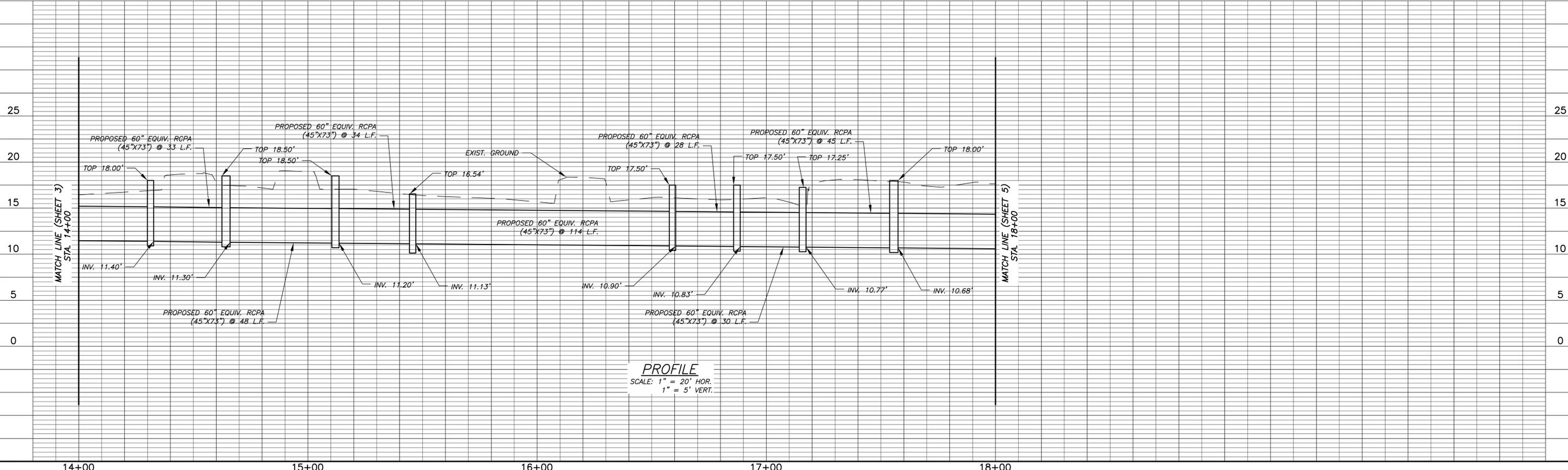
GENERAL NOTES (APPLIES TO ALL SHEETS):

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PLAN  
SCALE: 1" = 20'



PROFILE  
SCALE: 1" = 20' HOR.  
1" = 5' VERT.

C:\181315 - Issued for Bid\03-06 - Plan.dwg [SHEET 4] Feb 02, 2026 - 10:54am by wbroussard

DATE	REVISIONS	BY	DATE	REVISIONS	BY
02/26	ISSUED FOR BID				
11/25	30% FINAL PLANS				
09/25	OWNER REVIEW				

ST. TAMMANY PARISH,  
LOUISIANA  
OWNER

ROSEDOWN WAY DRAINAGE - PHASE 2  
PROPOSED DRAINAGE PLAN  
TITLE

DESIGNED: WJB	SCALE: HOR. 1"=20' VERT. 1"=5'
DRAWN: WJB	DATE: FEBRUARY 2026
CHECKED: JHS	
APPROVED: TAA	

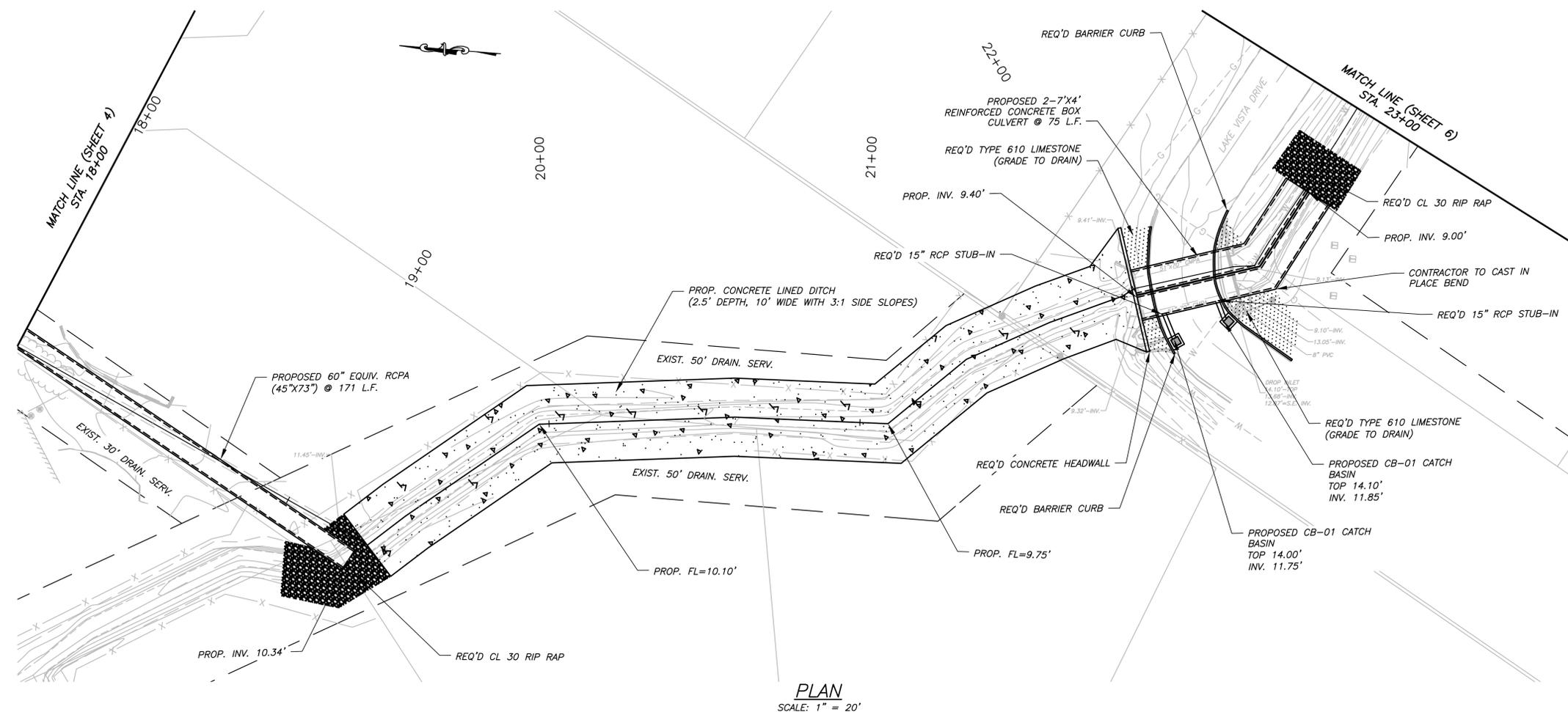


PROJECT NO. 11813  
SHEET NO. 4

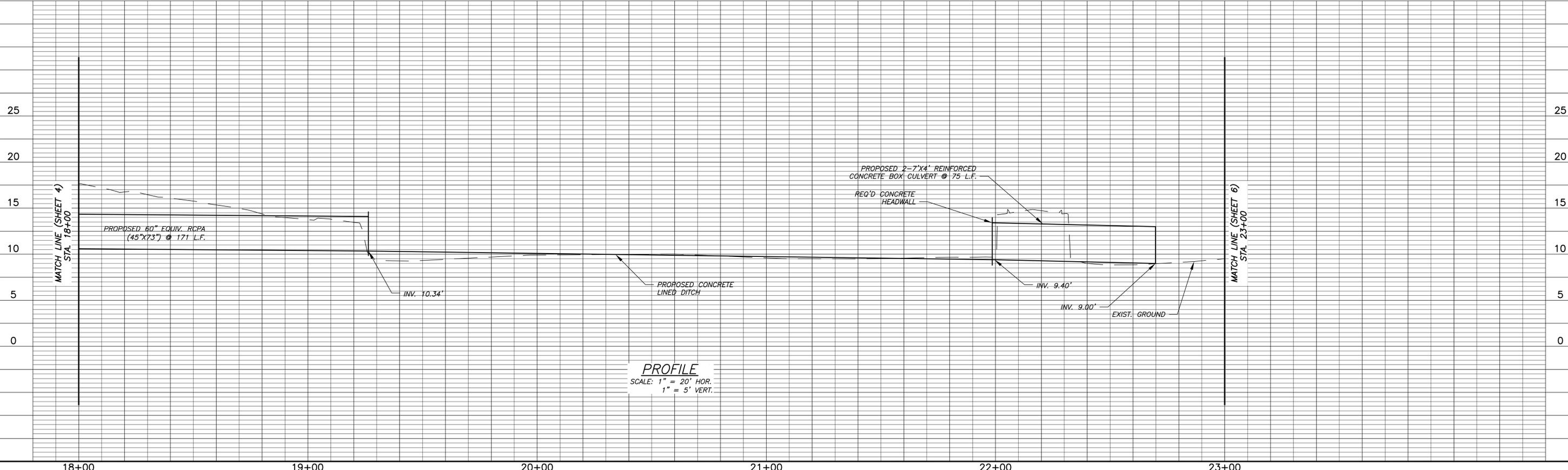
GENERAL NOTES (APPLIES TO ALL SHEETS):

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PLAN  
SCALE: 1" = 20'



PROFILE  
SCALE: 1" = 20' HOR.  
1" = 5' VERT.

C:\1181315 - Issued for Bid\03-06 - Plan.dwg [SHEET 5] Feb 02, 2026 - 10:54am by wbroussard

DATE	REVISIONS	BY	DATE	REVISIONS	BY
02/26	ISSUED FOR BID	WJB			
11/25	30% FINAL PLANS	WJB			
09/25	OWNER REVIEW	WJB			

ST. TAMMANY PARISH,  
LOUISIANA  
OWNER

ROSEDOWN WAY DRAINAGE - PHASE 2  
PROPOSED DRAINAGE PLAN  
TITLE

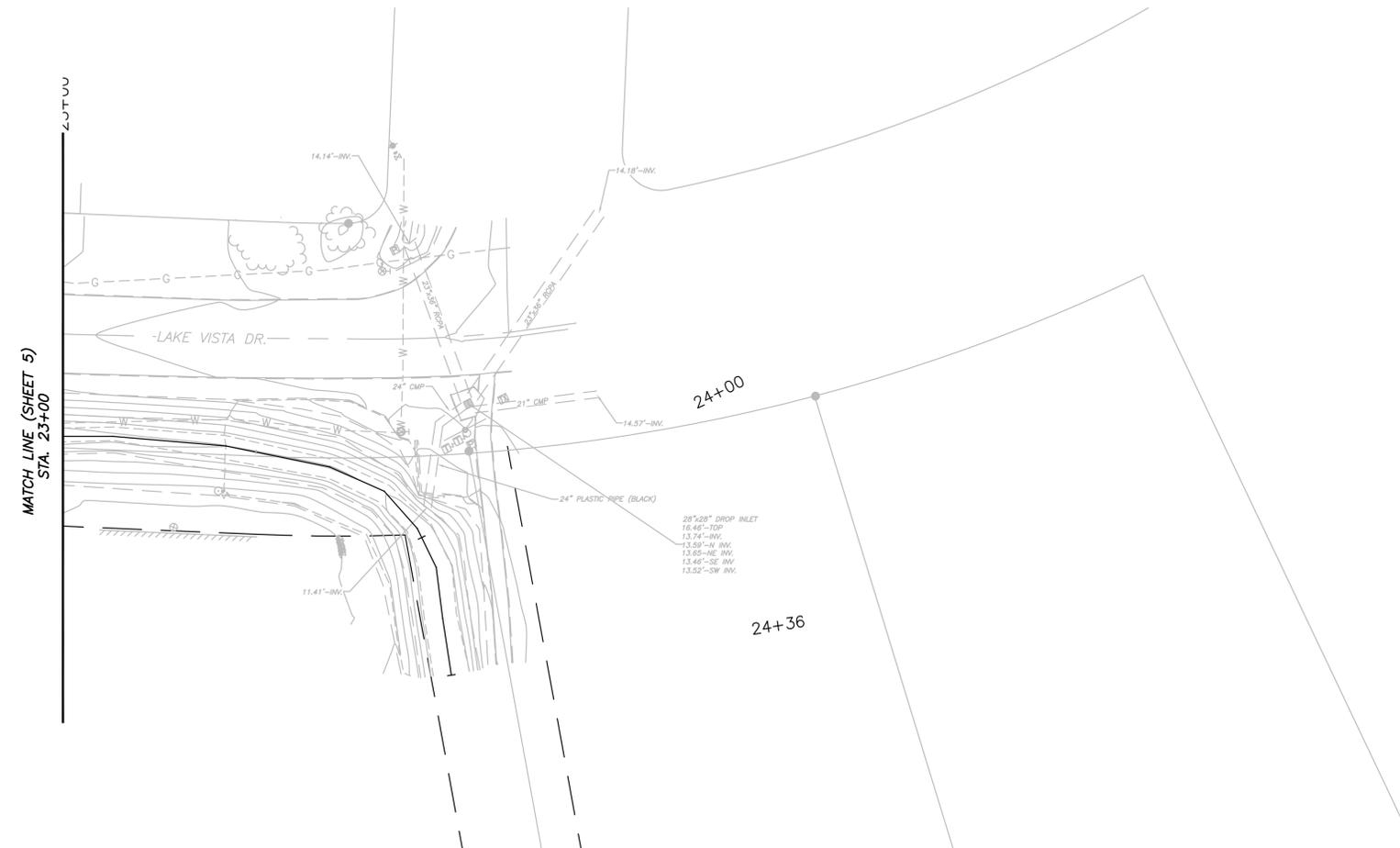
DESIGNED: WJB	SCALE: HOR. 1"=20' VERT. 1"=5'
DRAWN: WJB	DATE: FEBRUARY 2026
CHECKED: JHS	
APPROVED: TAA	



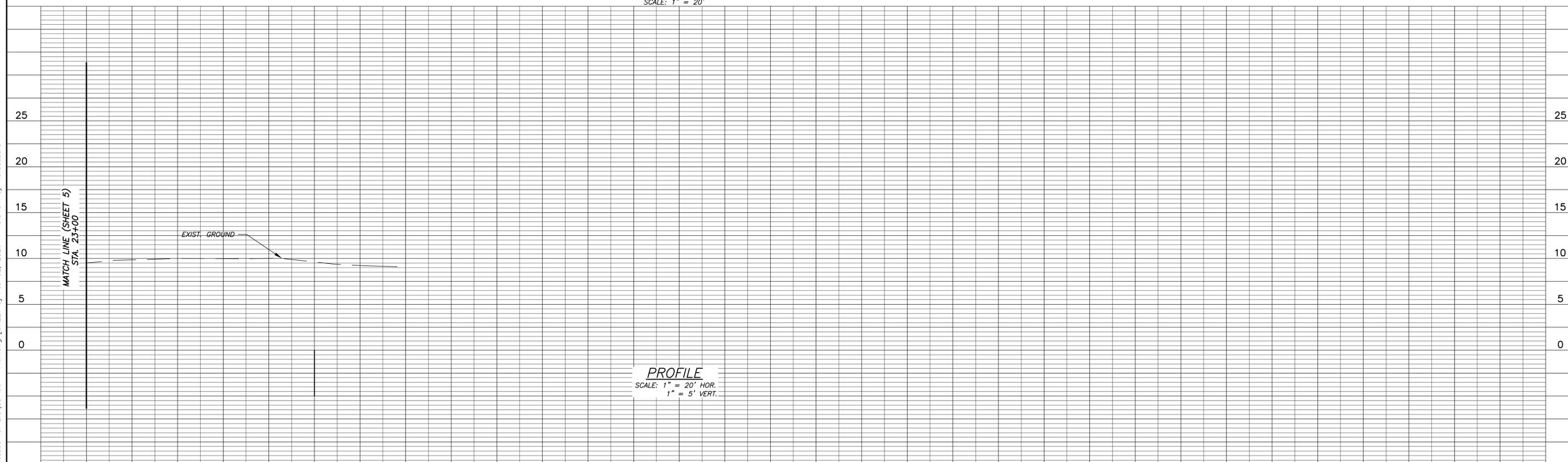
PROJECT NO. 11813  
SHEET NO. 5

GENERAL NOTES (APPLIES TO ALL SHEETS):

1. **UTILITY WARNING**  
 The Contractor is advised that existing overhead and underground utilities such as (but not limited to) electrical lines and poles, telephone cable, gas lines, water lines, and sanitary sewers exist in the rights-of-way where the proposed improvements are to be installed, all in accordance with the provisions of R.S. 38:2223. It shall be the Contractor's responsibility to protect these existing utilities during the construction of the work to be installed under this Contract and any damage to the existing utilities caused by the negligent acts of the Contractor shall be repaired by the Contractor at his expense. The Contractor shall contact Louisiana One (1) Call (1-800-272-3020) a minimum of 48 hours prior to beginning construction in the work area.
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PLAN  
SCALE: 1" = 20'



PROFILE  
SCALE: 1" = 20' HOR.  
1" = 5' VERT.

C:\181315 - Issued for Bid\03-06 - Plan.dwg [SHEET 6] Feb 02, 2026 - 10:54am by wbroussard

DATE	REVISIONS	BY	DATE	REVISIONS	BY
02/26	ISSUED FOR BID	WJB			
11/25	30% FINAL PLANS	WJB			
09/25	OWNER REVIEW	WJB			

ST. TAMMANY PARISH,  
LOUISIANA  
OWNER

ROSEDOWN WAY DRAINAGE - PHASE 2  
PROPOSED DRAINAGE PLAN  
TITLE

DESIGNED: WJB	SCALE: HOR. 1"=20' VERT. 1"=5'
DRAWN: WJB	DATE: FEBRUARY 2026
CHECKED: JHS	
APPROVED: TAA	

**PEC** PROFESSIONAL ENGINEERING CONSULTANTS CORPORATION  
A Division of Forte & Tablada

PROJECT NO. 11813  
SHEET NO. 6

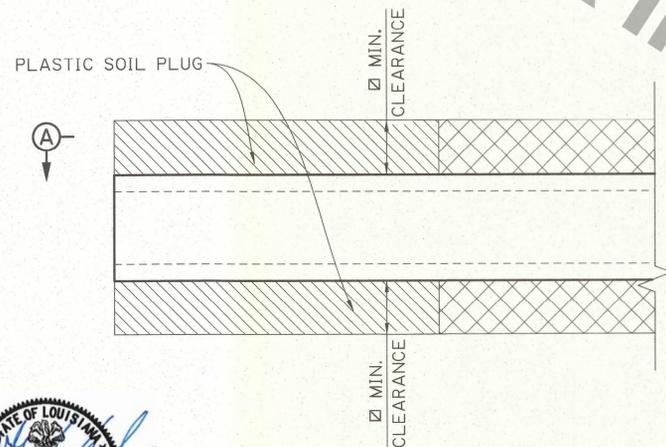
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10/23/2023

**GENERAL NOTES :**

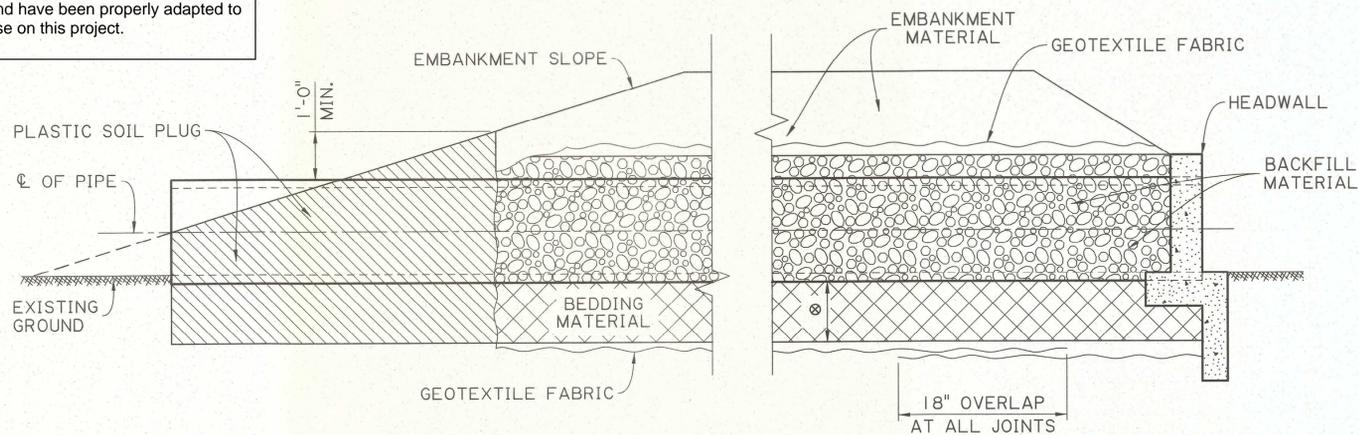
1. REINFORCED CONCRETE PIPE AND FLEXIBLE PIPE ARE SHOWN AS TYPICAL STRUCTURES. DETAILS ALSO APPLY TO REINFORCED CONCRETE BOX CULVERT, REINFORCED CONCRETE PIPE ARCH, CORRUGATED METAL PIPE ARCH, AND CORRUGATED STRUCTURAL PLATE STRUCTURES.
2. CONSTRUCTION COVER REQUIREMENTS MAY EXCEED FINAL COVER.
3. CROSS DRAIN DETAILS APPLY TO ALL REACHES OF PIPE UNDER RIGID OR FLEXIBLE ROADWAYS.
4. FOR STRUCTURES INSTALLED OUTSIDE THE LIMITS OF THE ROADWAY, THE 12" OF FINAL BACKFILL ABOVE TYPE B BACKFILL UP TO THE EXISTING GROUND SHALL BE PLASTIC SOIL BLANKET MATERIAL. IF THE EMBANKMENT TO BE INSTALLED IS GREATER THAN 12" ABOVE EXISTING GROUND IN THE AREA OVER THE STRUCTURE, THEN THE PLASTIC SOIL BLANKET IS NOT REQUIRED AND TYPE B BACKFILL MAY EXTEND TO EXISTING GROUND.

MINIMUM TRENCH CLEARANCE		
TYPE OF STRUCTURE	INSIDE DIAMETER	MIN. CLEARANCE
REINFORCED CONCRETE	ALL	18"
FLEXIBLE PIPE	<48"	18"
FLEXIBLE PIPE	≥48"	24"

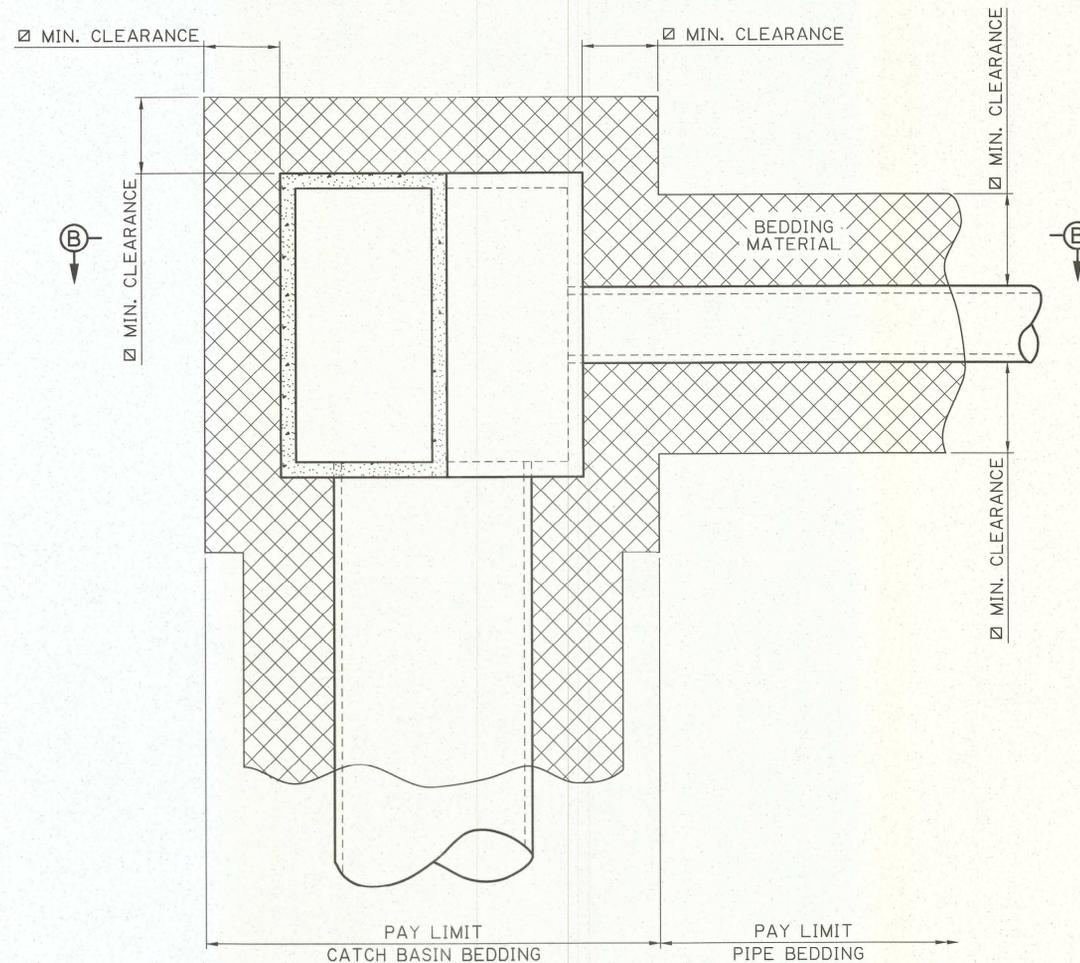


**TYPICAL CROSS DRAIN INSTALLATION**  
WITH AND WITHOUT HEADWALL  
(EMBANKMENT MATERIAL NOT SHOWN FOR CLARITY)  
NTS

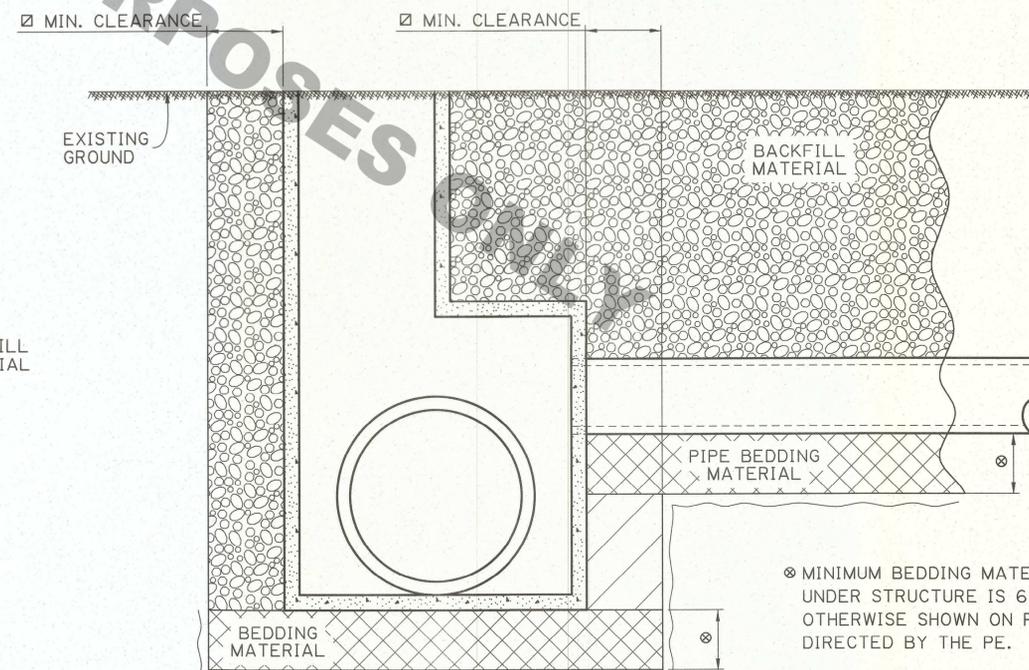
These standard plans have been properly examined by me, the undersigned professional engineer. I have determined that these plans comply with all applicable codes and have been properly adapted to use on this project.



**SECTION A-A**  
WITH AND WITHOUT HEADWALL  
NTS



**TYPICAL CATCH BASIN AND STORM DRAIN INSTALLATION**  
NTS



MINIMUM BEDDING MATERIAL THICKNESS UNDER STRUCTURE IS 6 INCHES UNLESS OTHERWISE SHOWN ON PLANS OR AS DIRECTED BY THE PE.

**SECTION B-B**  
NTS



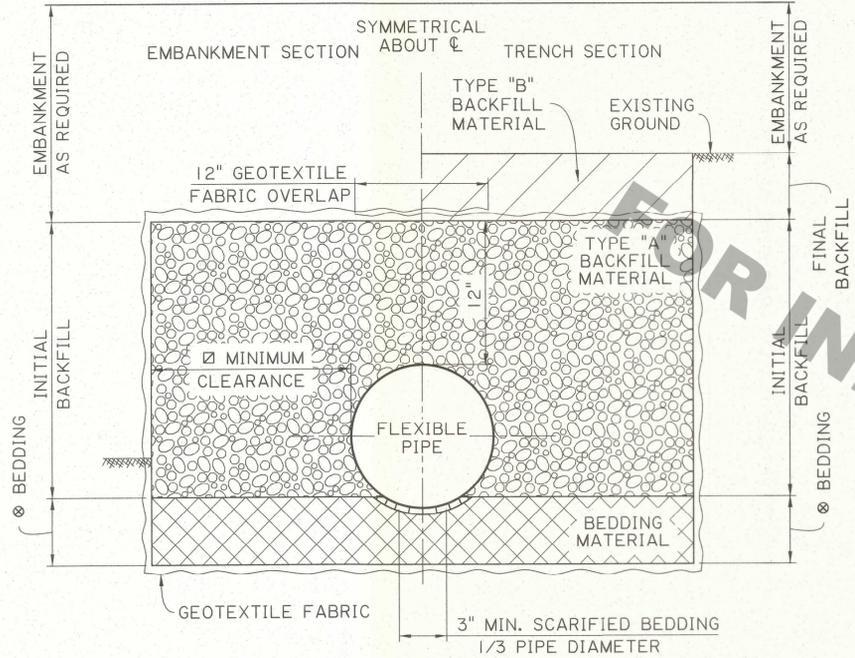
SHEET NUMBER		PARISH		CONTROL SECTION		STATE PROJECT	
DESIGN	C. NICKEL	CHECK	J. RAUSER	DETAIL	L. HASTINGS	CHECK	A. NICKEL
REVIEW	C. NICKEL	SERIES # 1 OF 2		<p>APPROVED BY CHIEF ENGINEER: <i>[Signature]</i> DATE: 10/26/2023</p>			
<p><b>DRAINAGE STRUCTURES</b> <b>BEDDING &amp; BACKFILL</b></p>							
<p>STANDARD PLAN: BM-01</p>							
<p><b>DOTD</b> LOUISIANA DEPARTMENT OF TRANSPORTATION &amp; DEVELOPMENT PAVEMENT &amp; GEOTECHNICAL SERVICES</p>							

MINIMUM TRENCH CLEARANCE		
TYPE OF STRUCTURE	INSIDE DIAMETER	MIN. CLEARANCE
REINFORCED CONCRETE	ALL	18"
FLEXIBLE PIPE	<48"	18"
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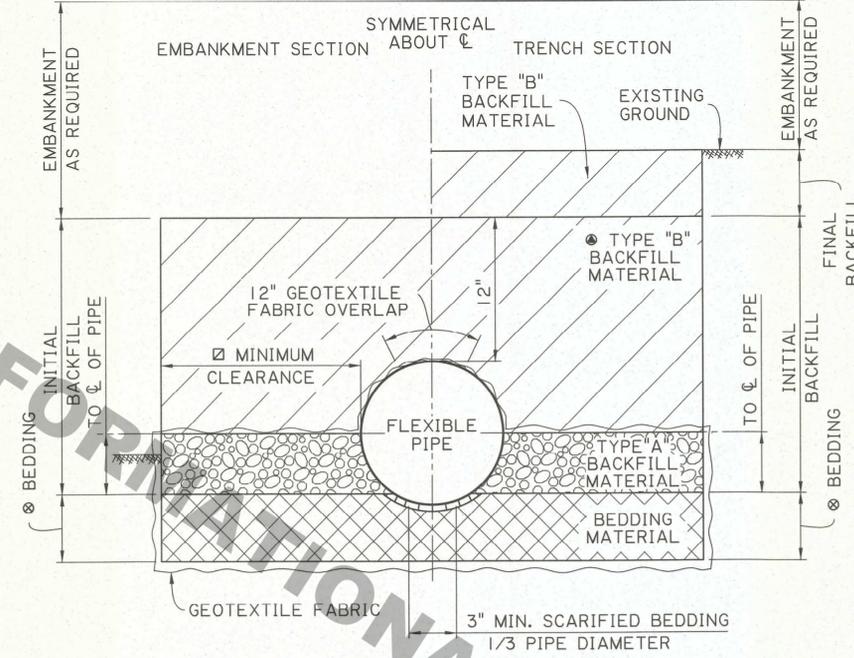


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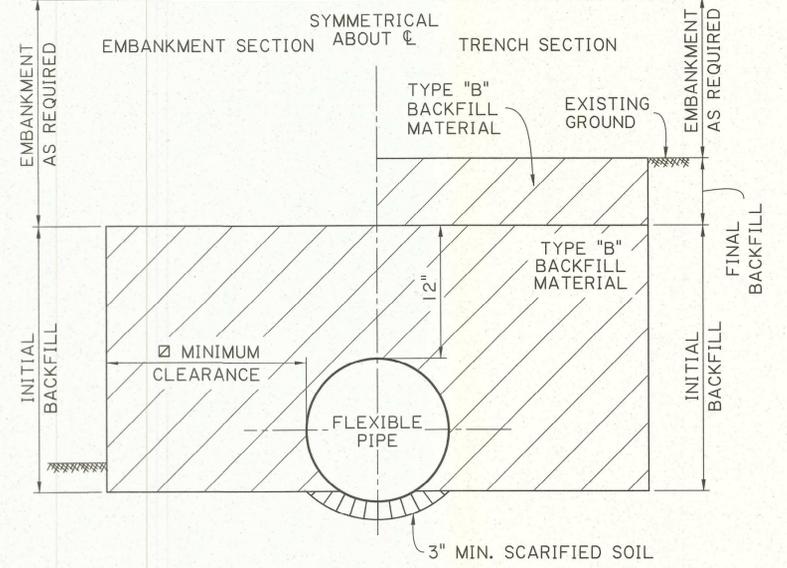
- ⊗ MINIMUM BEDDING MATERIAL THICKNESS UNDER STRUCTURE IS 6 INCHES UNLESS OTHERWISE SHOWN ON PLANS OR AS DIRECTED BY THE PE.
- △ NO BEDDING MATERIAL REQUIRED UNLESS OTHERWISE SPECIFIED ON THE PLANS OR AS DIRECTED BY THE PE.
- REFER TO NOTE 3 ON SHEET 1 OF THIS SERIES.



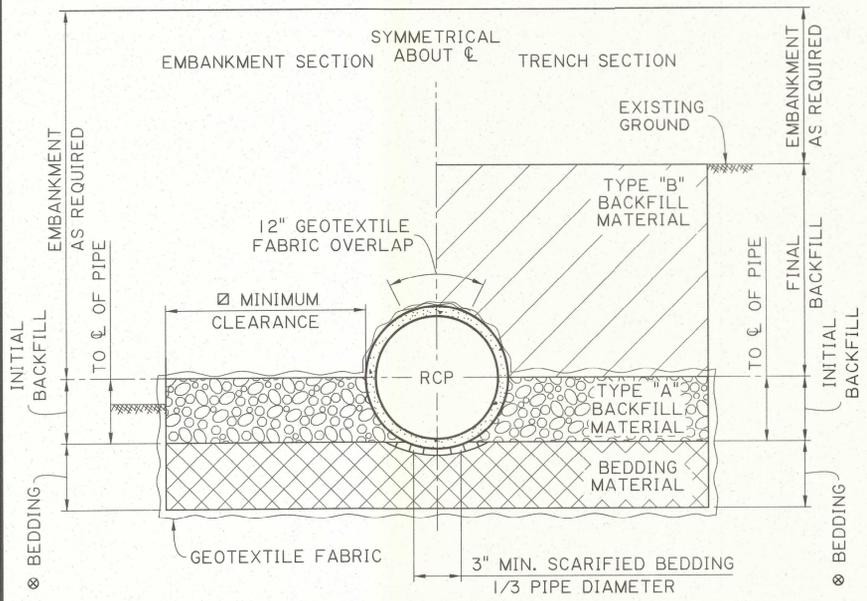
**FLEXIBLE PIPE CROSS DRAIN**  
TRENCH AND EMBANKMENT INSTALLATIONS  
SCALE: 1/2" = 1'-0"



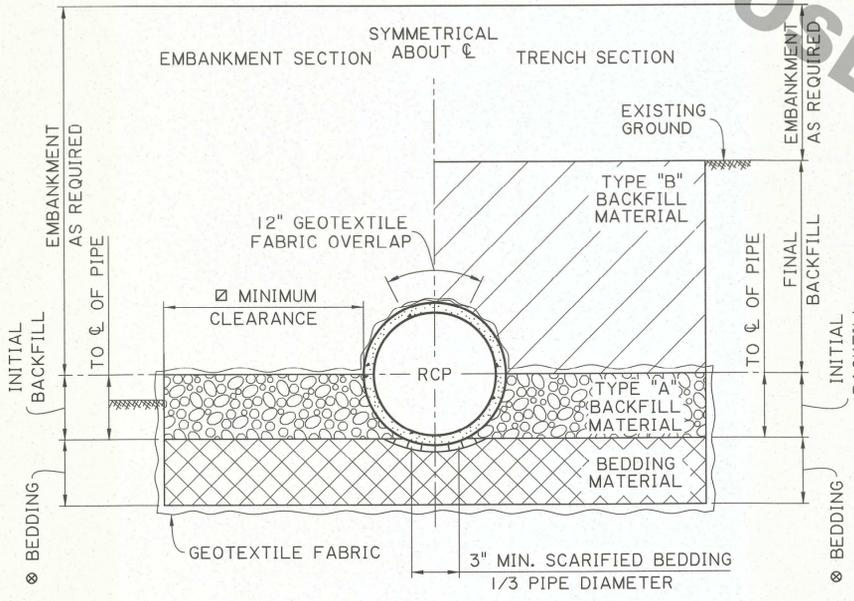
**FLEXIBLE PIPE STORM DRAIN**  
TRENCH AND EMBANKMENT INSTALLATIONS  
SCALE: 1/2" = 1'-0"



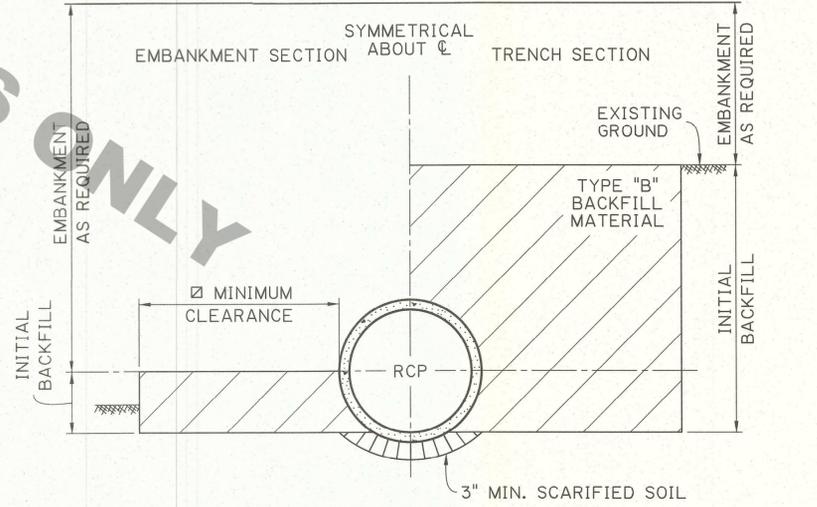
**△ FLEXIBLE PIPE SIDE DRAIN**  
TRENCH AND EMBANKMENT INSTALLATIONS  
SCALE: 1/2" = 1'-0"



**REINFORCED CONCRETE PIPE CROSS DRAIN**  
TRENCH AND EMBANKMENT INSTALLATIONS  
SCALE: 1/2" = 1'-0"



**REINFORCED CONCRETE PIPE STORM DRAIN**  
TRENCH AND EMBANKMENT INSTALLATIONS  
SCALE: 1/2" = 1'-0"



**△ REINFORCED CONCRETE PIPE SIDE DRAIN**  
TRENCH AND EMBANKMENT INSTALLATIONS  
SCALE: 1/2" = 1'-0"

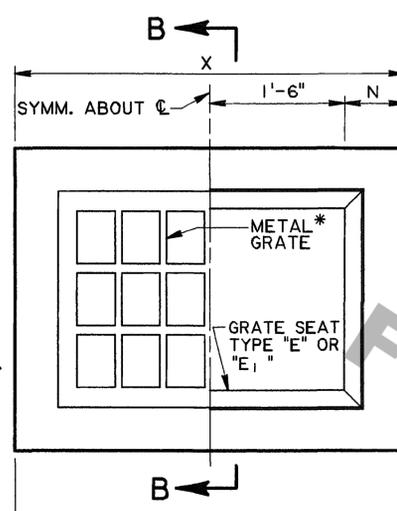
SHEET NUMBER	
DESIGN	C. NICKEL
CHECK	J. RAUSER
DETAIL	L. HASTINGS
CHECK	A. NICKEL
REVIEW	C. NICKEL
SERIES	# 2 OF 2

APPROVED BY CHIEF ENGINEER:  
*Christopher J. Nickel*  
DATE: 10/26/2023



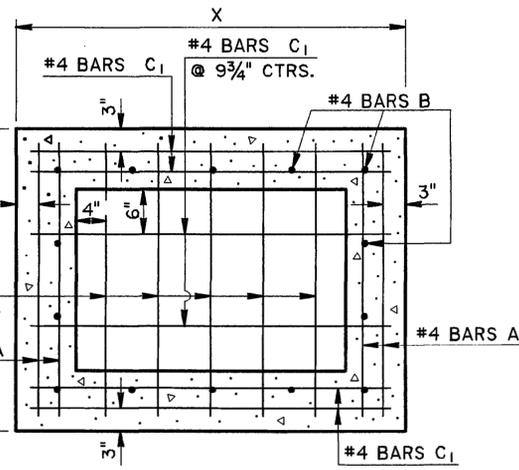
DRAINAGE STRUCTURES  
TYPICAL SECTIONS FOR CROSS DRAINS & SIDE DRAINS  
STANDARD PLAN  
BM-01





**PLAN**

\* GRATE TO BE TYPE "B" OR "C"  
TYPE "B" SHOWN.

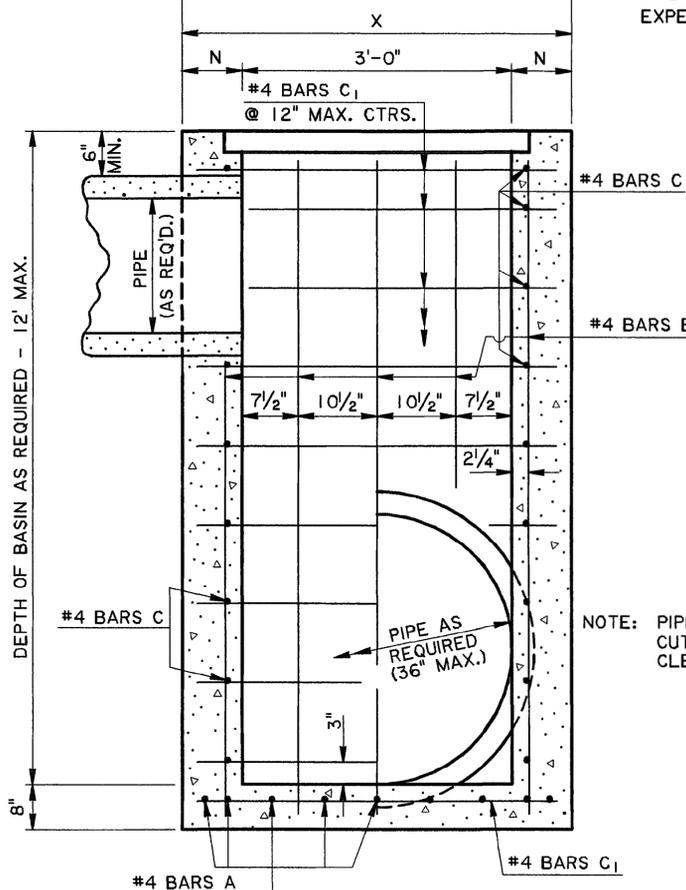


**HORIZONTAL SECTION**

SHOWING BOTTOM SLAB REINFORCING STEEL

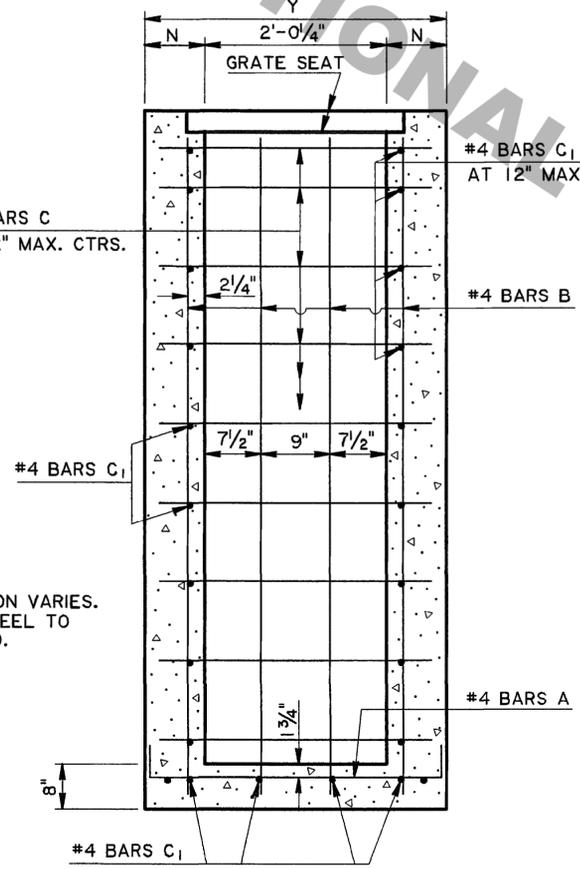
NOTE: TYPE "B" GRATE TO BE USED  
WHERE NO PEDESTRIAN TRAFFIC  
IS EXPECTED.

TYPE "C" GRATE TO BE USED  
WHERE PEDESTRIAN TRAFFIC IS  
EXPECTED.



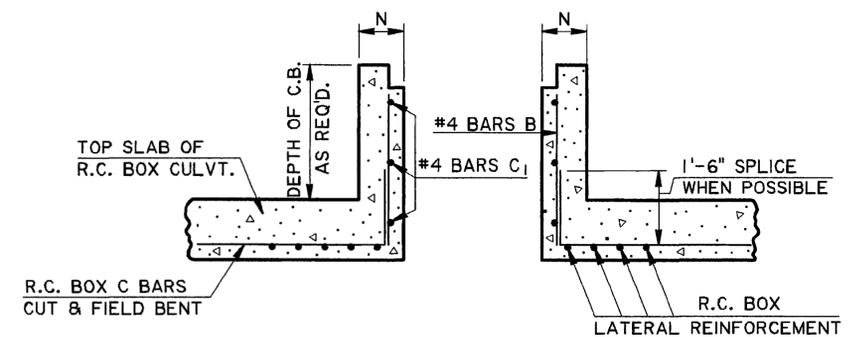
**SECTION A-A**

NOTE: PIPE SIZE & LOCATION VARIES.  
CUT REINFORCING STEEL TO  
CLEAR, AS REQUIRED.



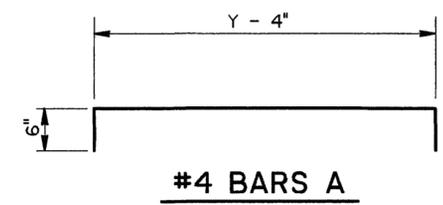
**SECTION B-B**

DIMENSIONS			
DEPTH OF BASIN	N	X	Y
FT.	IN.	FT.- IN.	FT.- IN.
0 - 8	7	4-2	3-2 1/4
8.1 - 12	8	4-4	3-4 1/4

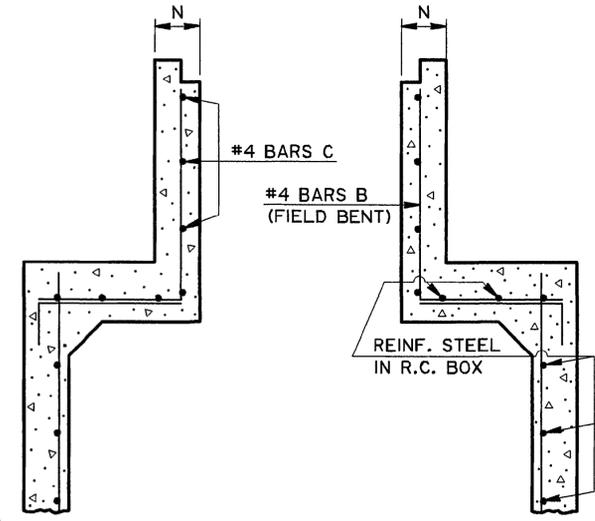


**LONGITUDINAL SECTION**

SHOWING CATCH BASIN  
USED WITH R.C. BOX CULVERT.



**#4 BARS A**



**TRANSVERSE SECTION**

SHOWING CATCH BASIN  
USED WITH R.C. BOX CULVERT.

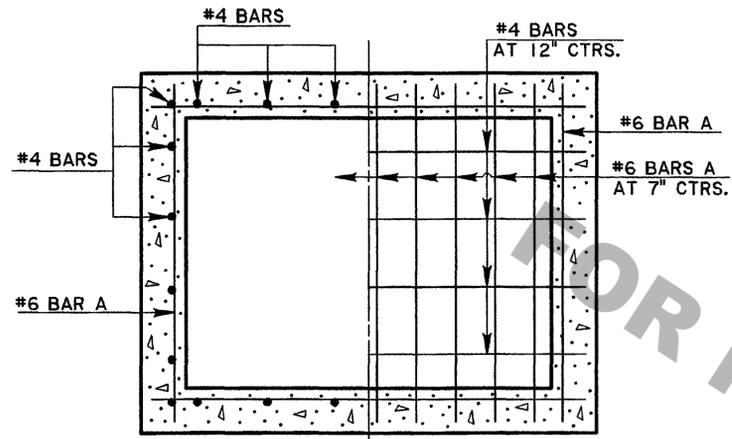
**GENERAL NOTES:**

- SECTION 702 OF THE CURRENT DOTD STANDARD SPECIFICATIONS SHALL APPLY.
- DIMENSIONS RELATING TO REINFORCING STEEL ARE TO BAR CENTERS.
- VERTICAL REINFORCING STEEL MAY BE SPLICED. SPLICE LENGTH IS 35 DIAMETERS.
- FOR DETAILS OF GRATE AND SEAT, SEE STD. PLAN MC-01 (TYPE B OR C).
- SEE PLANS FOR TYPE OF GRATE TO BE USED FOR EACH CATCH BASIN.

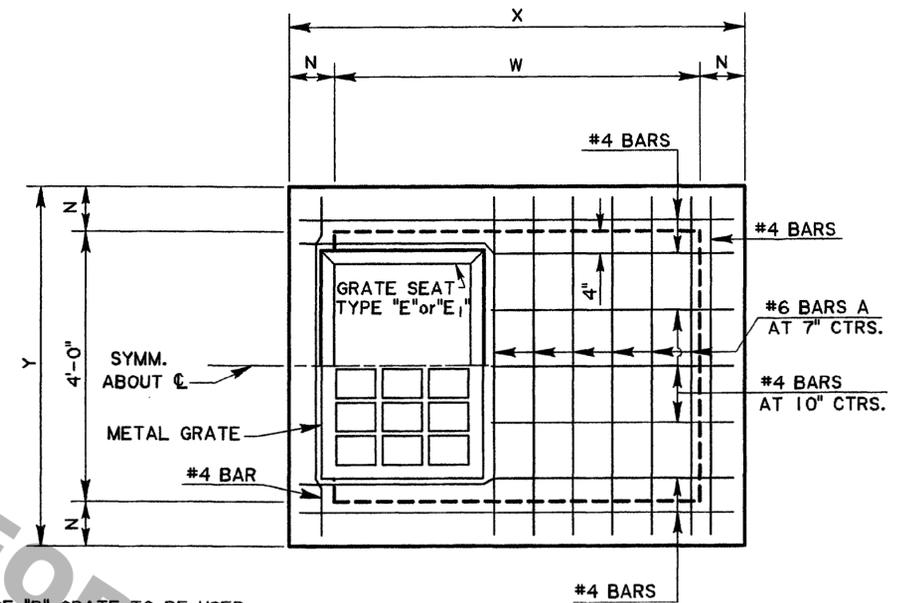


These standard plans have been properly examined by me, the undersigned professional engineer. I have determined that these plans comply with all applicable codes and have been properly adapted to use on this project.

SHEET NUMBER		PARISH		DESIGNED	PAA	CHECKED	KAJ	FEDERAL PROJECT		STATE PROJECT	
11-2-00	Converted Metric CB-01M to English CB-01	DATE	11-31-97	Detailed	KAJ	Checked	WMR				
REVISION DESCRIPTION											
APPROVED BY: <i>R. Broussard</i> DATE: 11-2-00											
CHIEF ENGINEER											
<b>CONCRETE OPEN TOP CATCH BASIN</b> Max. Pipe: 36" x 24" Max. Depth: 12' To Be Used in Conjunction With Std. Plan MC-01											
STANDARD PLAN CB-01											
HYDRAULICS SECTION											



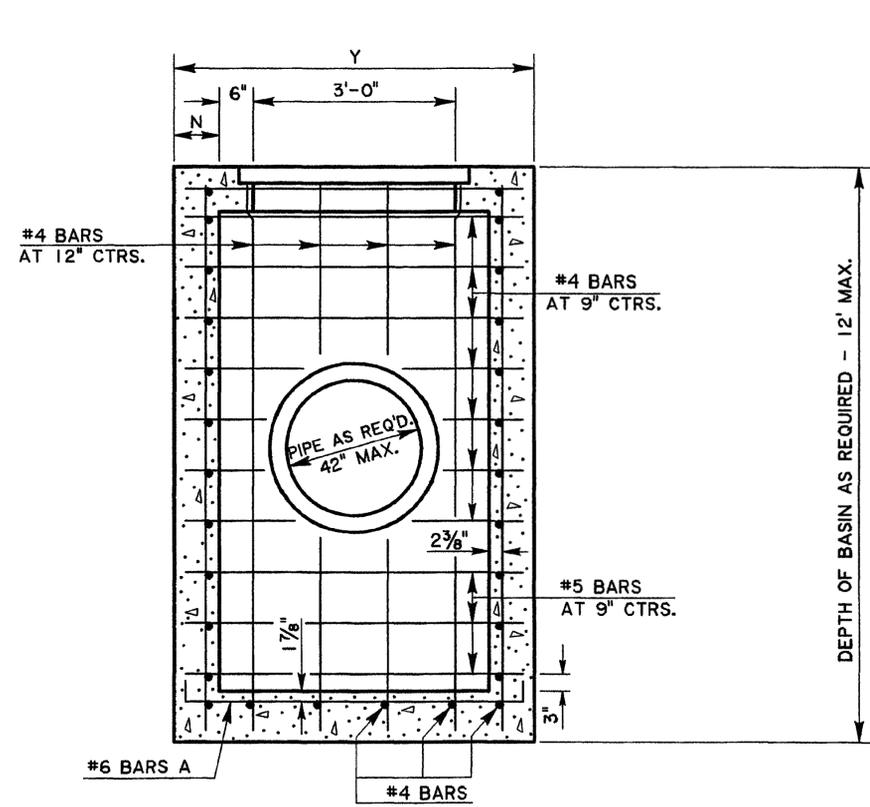
**SECTIONAL PLAN**  
(SHOWING BOTTOM SLAB & WALLS)



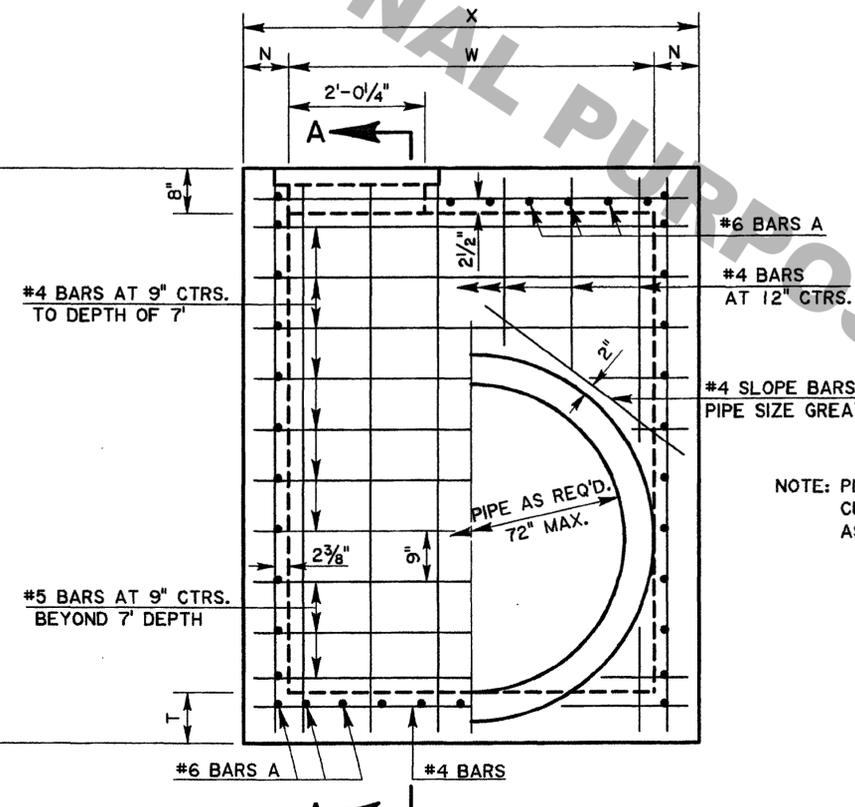
**PLAN**  
GRATE TO BE TYPE "B" or "C".  
TYPE "B" SHOWN.

TRUNK PIPE	DEPTH TO 8'					DEPTH 8' TO 12'				
	N	T	W	X	Y	N	T	W	X	Y
42	7	9	4-3	5-5	5-2	8	9	4-3	5-7	5-4
48	7	9	4-10	6-0	5-2	8	9	4-10	6-2	5-4
54	7	9	5-5	6-7	5-2	8	9	5-5	6-9	5-4
60	7	10	6-0	7-2	5-2	8	10	6-0	7-4	5-4
66	7	10	6-7	7-9	5-2	8	10	6-7	7-11	5-4
72	7	10	7-2	8-4	5-2	8	10	7-2	8-6	5-4

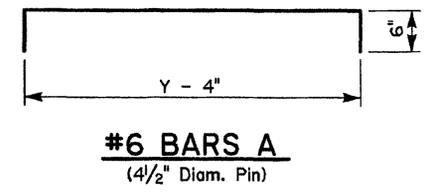
NOTE: X AND W DIMENSIONS MAY BE VARIED FOR SKEWED PIPE, BUT W SHALL NOT EXCEED 7'-2".



**SECTION A-A**



**ELEVATION**



**#6 BARS A**  
(1/2" Diam. Pin)

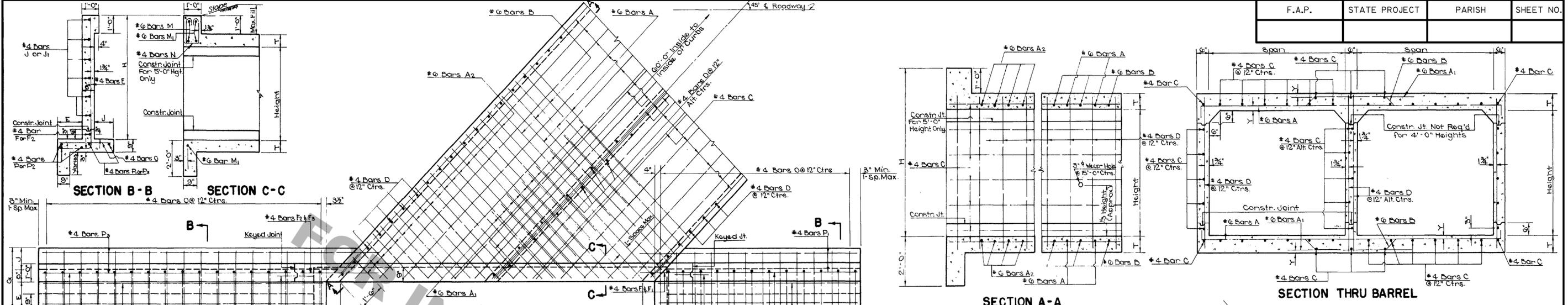
NOTE: PIPE SIZE & LOCATION VARIES. CUT REINFORCING STEEL TO CLEAR, AS REQUIRED.

**GENERAL NOTES:**  
SECTION 702 OF THE CURRENT DOTD STANDARD SPECIFICATIONS SHALL APPLY.  
DIMENSIONS RELATING TO REINFORCING STEEL ARE TO BAR CENTERS.  
VERTICAL REINFORCING STEEL MAY BE SPLICED. SPLICE LENGTH IS 35 DIAMETERS.  
FOR DETAILS OF GRATE AND SEAT, SEE STD. PLAN MC-01 (TYPE B OR C).  
SEE PLANS FOR TYPE OF GRATE TO BE USED FOR EACH CATCH BASIN.

These standard plans have been properly examined by me, the undersigned professional engineer. I have determined that these plans comply with all applicable codes and have been properly adapted to use on this project.

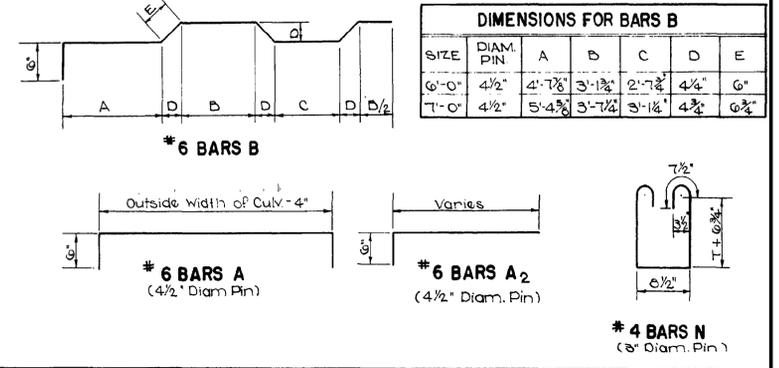


SHEET NUMBER	PARISH	FEDERAL PROJECT	STATE PROJECT
DESIGNED PAA	CHECKED KAJ	DATE 1-31-97	SHEET 1 OF 1
11-2-00	Converted Metric CB-02M to English CB-02	JCM	BY
REVISION DESCRIPTION	REVISION DESCRIPTION	DATE	DATE 11-2-00
APPROVED BY	CHEF ENGINEER	DATE	DATE 11-2-00
<p>CONCRETE OPEN TOP CATCH BASIN Max. Pipes: 72" x 42" Max. Depth: 12'</p>			
<p>To Be Used in Conjunction With Std. Plan MC-01</p>			
<p>HYDRAULICS SECTION</p>			



F.A.P.	STATE PROJECT	PARISH	SHEET NO.
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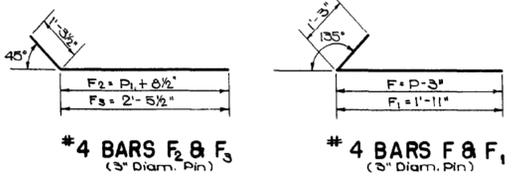
SIZE	DIAM. PIN	A	B	C	D	E
6'-0"	4 1/2"	4'-7 1/2"	3'-1 1/2"	2'-7 1/2"	4 1/2"	6"
7'-0"	4 1/2"	5'-4 3/4"	3'-7 1/4"	3'-1 1/4"	4 1/2"	6 3/4"



DIMENSIONS														QUANTITIES				OPENINGS				
OPENINGS		MAX. FILL		BARREL		WINGS AND CURBS						PER LIN. FT. OF BARREL		60'-0" CULVERT								
SIZE	NO.	AREA	SLABS	WALLS	T	Y	E	J	G	H	L	L1	P	P1	M	STEEL	CONCRETE	STEEL	CONCRETE	NO.	SIZE	
FEET		Sq. Ft.	FT.	FT.	IN.	IN.	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	POUNDS	CU. YDS.	POUNDS	CU. YDS.		FEET	
6x4	2	40	10		0	1 1/2	10	2-9	5-6	10-6 1/2	14-6 1/2	10-0	13-10			42-1 1/2	127.76	0.9074	9.190	11.79	2	
	3	72	20	12	0	1 1/2	10	2-9	5-6	10-6 1/2	14-6 1/2	10-0	13-10			52-1 1/4	193.32	1.3117	13.724	96.56	3	6x4
	4	96	20	12	0	1 1/2	10	2-9	5-6	10-6 1/2	14-6 1/2	10-0	13-10			61-3 3/4	256.66	1.7161	16.431	125.32	4	6x4
	5	120	20	12	0	1 1/2	10	2-9	5-6	10-6 1/2	14-6 1/2	10-0	13-10			70-0 1/2	324.45	2.1204	23.242	152.09	5	6x4
	6	144	20	12	0	1 1/2	10	2-9	5-6	10-6 1/2	14-6 1/2	10-0	13-10			79-6 3/4	401.17	2.5247	26.373	176.65	6	6x4
6x5	2	60	15		0	1 1/2	10	2-9	5-6	10-6 1/2	14-6 1/2	10-0	13-10			47-10 1/2	131.76	0.9630	9.701	78.94	2	
	3	90	15	7	0	1 1/2	10	2-9	5-6	10-6 1/2	14-6 1/2	10-0	13-10			57-0 1/2	196.66	1.3656	14.320	107.67	3	6x5
	4	120	15	7	0	1 1/2	10	2-9	5-6	10-6 1/2	14-6 1/2	10-0	13-10			66-2 3/4	265.56	1.8087	19.117	135.00	4	6x5
	5	150	15	7	0	1 1/2	10	2-9	5-6	10-6 1/2	14-6 1/2	10-0	13-10			75-5 1/2	332.46	2.2315	24.007	163.73	5	6x5
	6	180	15	7	0	1 1/2	10	2-9	5-6	10-6 1/2	14-6 1/2	10-0	13-10			84-7 3/4	410.52	2.6544	29.223	191.66	6	6x5
7x4	2	56	12		0 1/2	1 1/2	10	2-9	5-6 1/2	10-6 1/2	14-6 1/2	10-0	13-10			45-9 1/2	149.66	1.0540	10.662	61.42	2	
	3	84	12	12	0 1/2	1 1/2	10	2-9	5-6 1/2	10-6 1/2	14-6 1/2	10-0	13-10			56-4 3/4	227.84	1.5309	16.640	112.93	3	7x4
	4	112	12	12	0 1/2	1 1/2	10	2-9	5-6 1/2	10-6 1/2	14-6 1/2	10-0	13-10			66-11 1/2	305.20	2.0077	21.616	144.44	4	7x4
	5	140	12	12	0 1/2	1 1/2	10	2-9	5-6 1/2	10-6 1/2	14-6 1/2	10-0	13-10			77-0 1/2	382.66	2.4848	27.456	175.94	5	7x4
	6	168	12	12	0 1/2	1 1/2	10	2-9	5-6 1/2	10-6 1/2	14-6 1/2	10-0	13-10			86-2 3/4	472.54	2.9614	33.672	207.43	6	7x4



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**BILL OF REINFORCING STEEL FOR 60'-0" CULVERT**

BARREL REINFORCEMENT										CURBS AND WINGS REINFORCEMENT										
OPENINGS	#6 BARS A	#6 BARS A1	#6 BARS A2	#6 BARS D	#4 BARS C	#4 BARS D	#4 BARS E	#4 BARS F	#4 BARS F1	#4 BARS F2	#4 BARS F3	#4 BARS J	#4 BARS O	#4 BARS P	#4 BARS P1	#4 BARS P2	#4 BARS P3	#4 BARS M	#4 BARS M1	#4 BARS X
Size	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Feet	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length
6x4	2	84	142	14	112	5-2	7	14	80	2-1	7.0000	13-2	7	66	14-5 1/2	14	46	63-10	189	5-0
	3	14	20-8	14	244	5-2	7	14	124	2-1	7.0000	19-7	7	76	21-3	14	68	63-10	252	5-0
	4	62	27-2	14	406	5-2	7	14	172	2-1	7.0000	26-7	7	82	26-0 1/2	14	90	63-10	315	5-0
	5	50	33-6	14	560	5-2	7	14	216	2-1	7.0000	33-0	7	92	34-10	14	112	63-10	378	6-0
	6	40	40-2	14	764	5-2	7	14	260	2-1	7.0000	39-5	7	104	43-9 1/2	14	134	63-10	441	5-0
6x5	2	84	142	14	112	5-2	7	14	80	2-1	7.0000	13-2	7	66	14-5 1/2	14	46	63-10	189	6-0
	3	14	20-8	14	244	5-2	7	14	124	2-1	7.0000	19-7	7	76	21-3	14	72	63-10	252	6-0
	4	62	27-2	14	406	5-2	7	14	172	2-1	7.0000	26-7	7	82	26-0 1/2	14	90	63-10	315	6-0
	5	50	33-6	14	560	5-2	7	14	216	2-1	7.0000	33-0	7	92	34-10	14	116	63-10	378	6-0
	6	40	40-2	14	764	5-2	7	14	260	2-1	7.0000	39-5	7	104	43-9 1/2	14	141	63-10	441	6-0
7x4	2	66	10-2	13	122	5-6	8 1/2	104	2-1	6.5000	15-7 1/2	6 1/2	66	16-6	13	50	63-10	189	5-1	
	3	74	23-6	13	268	5-6	8 1/2	104	2-1	6.5000	22-6 1/2	6 1/2	76	24-4	13	74	63-10	252	5-1	
	4	60	31-2	13	448	5-6	8 1/2	104	2-1	6.5000	30-3 1/2	6 1/2	60	32-2	13	96	63-10	315	5-1	
	5	46	36-6	13	656	5-6	8 1/2	104	2-1	6.5000	37-10 1/2	6 1/2	46	40-0	13	122	63-10	378	5-1	
	6	32	46-4	13	892	5-6	8 1/2	104	2-1	6.5000	45-5 1/2	6 1/2	32	50-0	13	146	63-10	441	5-1	

① Incl. One 1'-6" Lap Splice.  
 ② Incl. One 2'-2" Lap Splice.  
 ③ Does Not Incl. Lap Splice When Bar Length Exceeds 40'-0" Add One 2'-2" Lap Splice.

④ #6 Bars X to be 3/8" #3 Smooth and Gressed for 1'-0" of Length.  
 APPROVED BY: *Dempsey D. ...*  
 CHIEF ENGINEER DATE: 1-5-78

NO.	DATE	DESCRIPTION	BY
1-5-78		Rev. Weep Hole Note	W.T.J.
6-10-78		Rev. Slope Intercept	W.T.J.
6-8-78		Rev. General Notes For Steel	W.E.M.
8-27-81		Added Bar Steel	W.E.M.

General Notes:  
 Construction Specifications: Latest Approved La. Dept. of Hwys. Standard Specifications.  
 Design Specifications: A.A.S.H.O. 1961 as Amended by Int. Specs. 1964  
 Live Load: HS 20-44 or Military, whichever is Greater.  
 All Concrete to be Class "A".  
 All Exposed Corners to Have 3/4" Chamfer Unless Otherwise Noted.  
 Reinforcement Shall Be Billet-Steel A.S.T.M. A 615 or Rail-Steel A.S.T.M. A 616 or Aste-Steel A.S.T.M. A 617.  
 Dimensions Relating to Reinforcing Steel are to Bar Centers.  
 A 1'-6" Square of Plastic Filter Cloth (See Qualified Products List) shall be placed in contact with Concrete behind each Weep Hole, in addition to approx. 2 Cu. Ft. of Concrete Sand.  
 For Detail of Joints, See Std. Plan C.M.-49.

**C-C-S-M-6-7-R-45°-1**

STANDARD PLAN  
 MULTIPLE OPENINGS  
 REINF. CONCRETE BOX CULVERT  
 STRAIGHT WINGS 45° CROSSING  
 2:1 SPILL SLOPE NORMAL TO CHANNEL  
 6'x4' 6'x5' 7'x4'

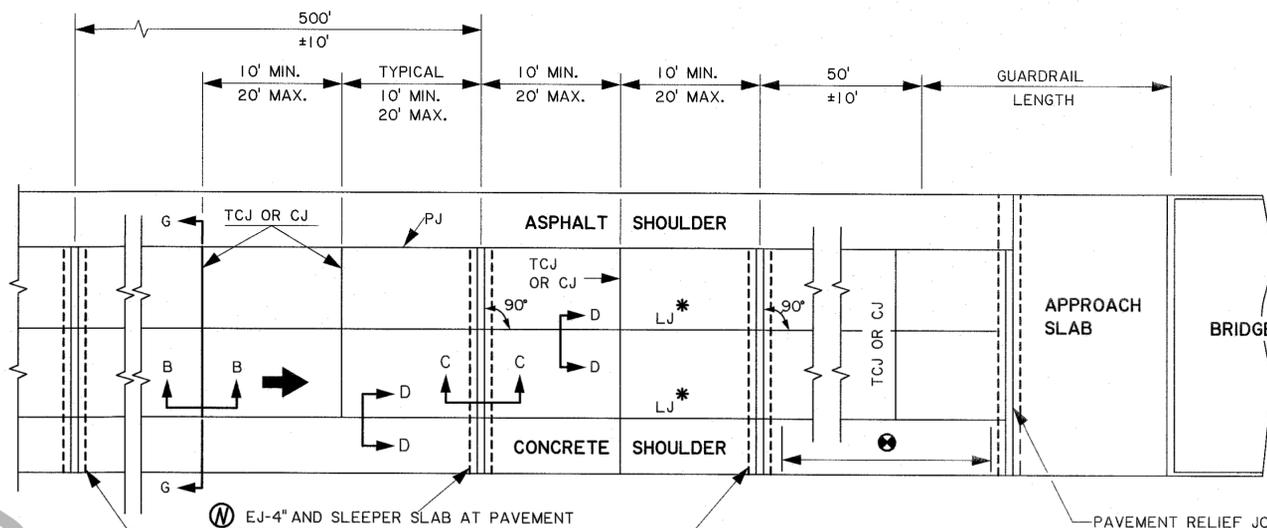
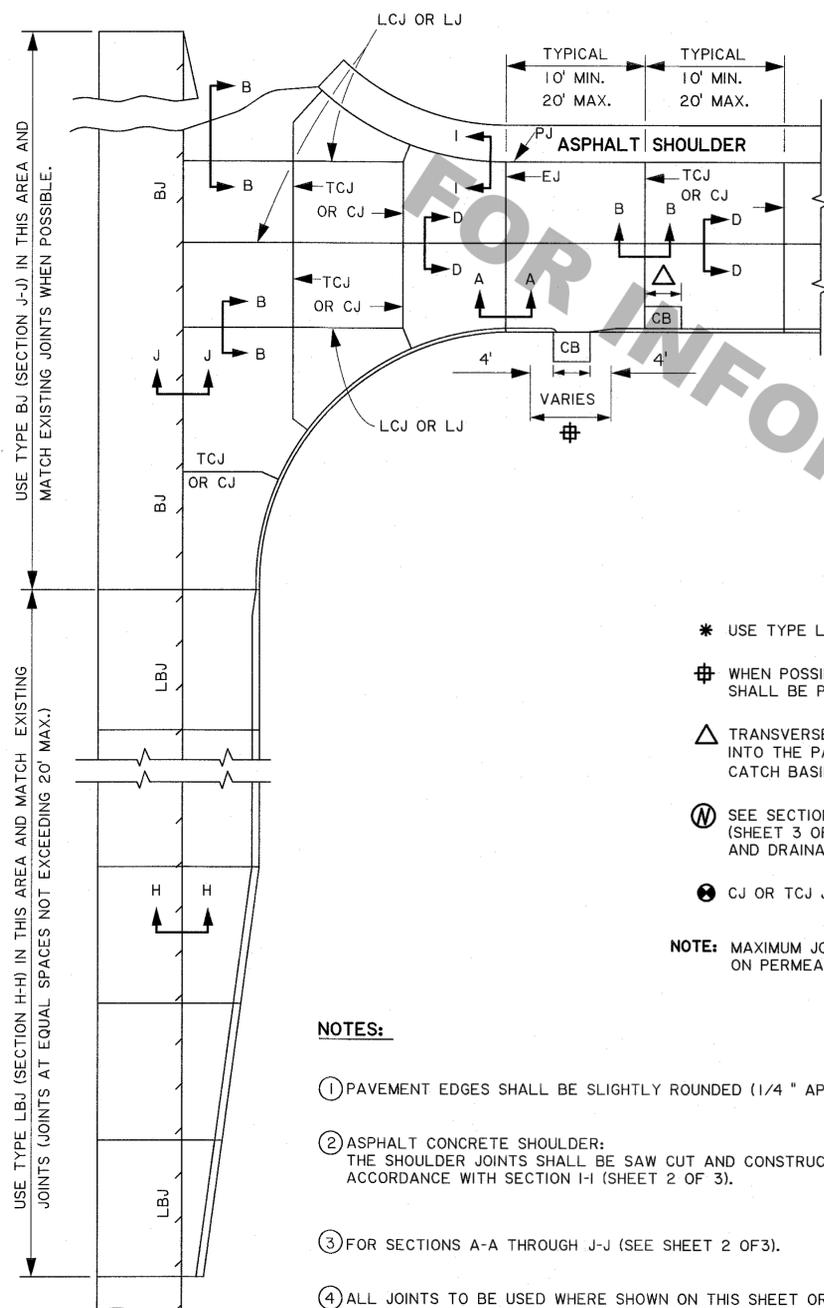
DESIGNED: E. J. Martel  
 CHECKED: W. E. Grice  
 IN CHARGE OF: W. E. Grice



2/2/2026

These standard plans have been properly examined by me, the undersigned professional engineer. I have determined that these plans comply with all applicable codes and have been properly adapted to use on this project.

PLAN VIEW  
ROADWAY SHOWING JOINTS



JOINT ABBREVIATIONS:

- LJ - LONGITUDINAL JOINT
- EJ - TRANSVERSE EXPANSION JOINT
- TCJ - TRANSVERSE CONTRACTION JOINT
- CJ - CONSTRUCTION JOINT
- LCJ - LONGITUDINAL CONSTRUCTION JOINT
- LBJ - LONGITUDINAL BUTT JOINT
- BJ - TRANSVERSE BUTT JOINT
- PJ - PAVEMENT EDGE SEAL JOINT

USE TYPE BJ (SECTION J-J) IN THIS AREA AND MATCH EXISTING JOINTS WHEN POSSIBLE.

USE TYPE LBJ (SECTION H-H) IN THIS AREA AND MATCH EXISTING JOINTS (JOINTS AT EQUAL SPACES NOT EXCEEDING 20' MAX.)

- \* USE TYPE LCJ JOINT WITH SPLIT SLAB CONSTRUCTION.
- ⊕ WHEN POSSIBLE, AT CATCH BASINS NO JOINTS SHALL BE PLACED IN THE LIMITS SHOWN.
- △ TRANSVERSE JOINTS NEAR CATCH BASIN (CB-07, 08 & 09) THAT EXTEND INTO THE PAVEMENT SHALL BE ADJUSTED TO COINCIDE WITH ONE EDGE OF THE CATCH BASIN OR THE CENTER OF THE CATCH BASIN. SEE DETAIL E (SHEET 3 OF 3).
- Ⓝ SEE SECTION C-C (SHEET 2 OF 3) AND DETAIL "G" (SHEET 3 OF 3) FOR EJ-4" JOINT, SLEEPER SLAB AND DRAINAGE DETAILS. (REQUIRED (3) PLACES.)
- ⊙ CJ OR TCJ JOINTS AT 20' MAX. CTRS.

NOTE: MAXIMUM JOINT SPACING AT 18' WHEN PAVEMENT IS PLACED ON PERMEABLE BASE. (SEE SECTION 307)

NOTES:

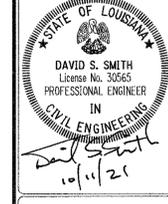
- ① PAVEMENT EDGES SHALL BE SLIGHTLY ROUNDED (1/4" APPROX.).
- ② ASPHALT CONCRETE SHOULDER: THE SHOULDER JOINTS SHALL BE SAW CUT AND CONSTRUCTED IN ACCORDANCE WITH SECTION I-I (SHEET 2 OF 3).
- ③ FOR SECTIONS A-A THROUGH J-J (SEE SHEET 2 OF 3).
- ④ ALL JOINTS TO BE USED WHERE SHOWN ON THIS SHEET OR AS SHOWN ELSEWHERE IN THE PLANS OR AS OTHERWISE DIRECTED BY THE ENGINEER.
- ⑤ ON TYPE EJ ALTERNATE JOINTS, SPOT WELD ALTERNATE ENDS OF DOWEL BARS TO DOWEL BASKETS AND PLACE EXPANSION TUBES ON FREE ENDS OF DOWEL BARS.
- ⑥ FOR DESIGN SPEEDS GREATER THAN 45MPH: SAW CUT AND CONSTRUCT THE TYPE LJ, TCJ, AND CJ JOINTS AS IN DETAILS "A, B OR C" TO A DEPTH OF 1/3 INCHES. THOROUGHLY CLEAN THE JOINT FACES BY SANDBLASTING; FOLLOWED BY AN OIL-FREE AIR JET IMMEDIATELY PRIOR TO SEALING WITH A Poured OR EXTRUDED SEALANT CONFORMING TO SECTION 1005.
- ⑦ FOR DESIGN SPEEDS OF 45MPH OR LESS:
  - A. SAW CUT AND SEAL TYPE LJ JOINTS AS DESCRIBED IN NOTE 6.
  - B. CONSTRUCT TYPE TCJ OR CJ JOINTS AS DESCRIBED IN NOTE 6 OR CONSTRUCT WITH A REMOVABLE FORMING DEVICE AS SPECIFIED IN DETAIL "C" (SHEET 3 OF 3). THOROUGHLY CLEAN THE JOINT FACES BY SANDBLASTING; FOLLOWED BY AN OIL-FREE AIR JET IMMEDIATELY PRIOR TO SEALING WITH A Poured OR EXTRUDED SEALANT CONFORMING TO SECTIONS 601 AND 1005. WITH A COMBINATION JOINT FORMER/SEALER AS SHOWN IN DETAIL "D" (SHEET 3 OF 3), THE SEALER SHALL CONFORM TO SECTION 1005 AND BE INSTALLED IN ACCORDANCE WITH SECTION 601 AND NO ADDITIONAL SEALANT IS REQUIRED.
- ⑧ EXCEPT AS NOTED BELOW, DOWEL BARS & TIE BARS SHALL BE HELD IN PLACE BY SUPPORTS SIMILAR TO THE ONES SHOWN, OR APPROVED EQUALS. APPROVED MECHANICAL PLACEMENT OF DOWEL BARS AND TIE BARS WILL BE ALLOWED WITH ALL PAVING METHODS.
- ⑨ INSTALL GEOTEXTILE FABRIC (TYPE B, C, OR D) UNDER ALL TCJ, CJ, AND EJ ALTERNATE JOINTS WHEN CONCRETE PAVEMENT IS PLACED ON PERMEABLE BASE. WHEN DOWEL BARS ARE MECHANICALLY IMPLANTED, THE GEOTEXTILE FABRIC SHALL BE ANCHORED TO THE BASE COURSE WITH PINS.
- ⑩ WHEN CONSTRUCTING CONCRETE CURB AND GUTTER ADJACENT TO NEW P.C.C. PAVEMENT, USE TYPE LCJ JOINT. WHEN ADJACENT TO EXISTING P.C.C. PAVEMENT, USE TYPE LBJ JOINT. THE FIRST LOAD TRANSFER DEVICE SHALL BE INSTALLED 18" FROM THE PAVEMENT EDGE.
- ⑪ TRANSVERSE EXPANSION JOINTS ARE NOT TO BE USED FOR CONSTRUCTION JOINTS.
- ⑫ CONCRETE SHOULDERS:
  - A. CONSTRUCT TCJ JOINTS IN ACCORDANCE WITH SECTION B-B (SHEET 2 OF 3).
  - B. CONSTRUCT LCJ JOINTS IN ACCORDANCE WITH TYPE LCJ DETAIL AND LJ JOINTS IN ACCORDANCE WITH TYPE LJ DETAIL. SEE SECTION D-D (SHEET 2 OF 3).
  - C. USE THE MAXIMUM SHOULDER THICKNESS WHEN DETERMINING DOWEL BAR AND TIE BAR SIZES IN TABLE 1.
  - D. WHEN SKEWED JOINTS ARE USED ON MAINLINE PAVING THE SHOULDER TCJ JOINTS MAY BE SKEWED OR CONSTRUCTED AT 90°.
  - E. SHOULDER JOINTS AND JOINT MATERIALS SHALL MATCH THE MAINLINE.
  - F. HEIGHT OF DOWEL BASKET SHALL BE BASED ON THE THINNEST SHOULDER THICKNESS. VARYING HEIGHT DOWEL BASKETS WILL BE ALLOWED TO KEEP THE DOWEL BAR LOCATED WITH TOLERANCE.
- ⑬ TIE BARS SHALL NOT BE PLACED WITHIN 18" OF CONTRACTION OR EXPANSION JOINTS.

TABLE 1 - SCHEDULE OF DIMENSIONS  
(ALL DIMENSIONS ARE IN INCHES)

SLAB THICKNESS	SMOOTH DOWEL BARS			DEFORMED TIE BARS			KEYWAY	
	SIZE (DIA.)	LENGTH	SPACING	SIZE (DIA.)	LENGTH	SPACING	A ±1/4"	B ±1/4"
8	1 1/4	18	12	1/2	24	24	2 1/2	1 1/4
9	1 1/4	18	12	1/2	24	24	2 1/2	1 1/4
10	1 1/2	18	12	5/8	30	24	2 1/2	1 1/4
11	1 1/2	18	12	5/8	30	24	2 1/2	1 1/4
12	1 1/2	18	12	5/8	30	24	3	1 1/2
13	1 1/2	18	12	5/8	30	24	3	1 1/2
14	1 1/2	18	12	5/8	30	24	3	1 1/2

SHEET NUMBER	
PARISH	
CONTROL SECTION	
STATE PROJECT	

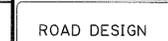
DESIGN	T. LAM
CHECK	T. SMITH
DETAIL	T. LAM
CHECK	D. SMITH
REVIEW	
SERIES #	1 OF 3



APPROVED BY CHIEF ENGINEER:  
*David S. Smith*  
DATE: 10/13/2021



PORTLAND CEMENT CONCRETE PAVEMENT DETAILS  
STANDARD PLAN CP-01



NOT TO SCALE

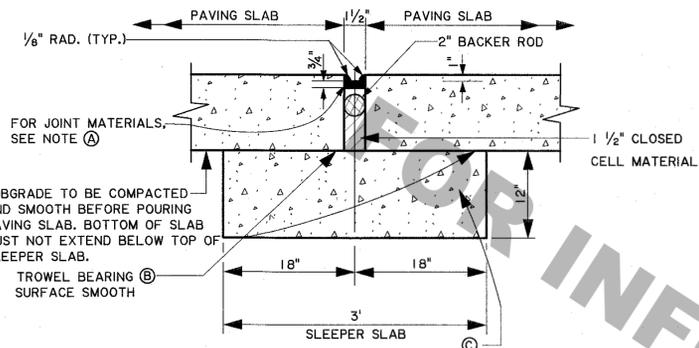
ROAD DESIGN



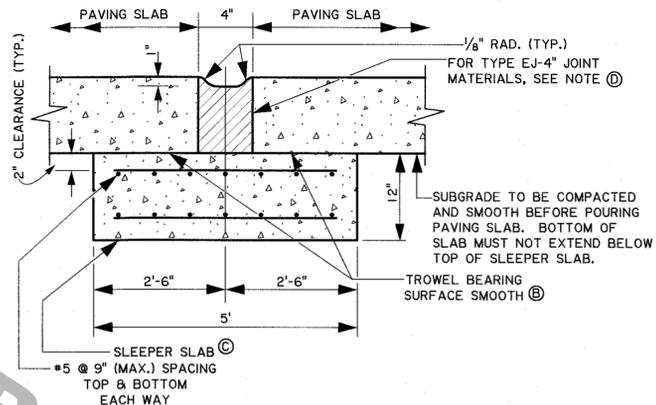
These standard plans have been properly examined by me, the undersigned professional engineer. I have determined that these plans comply with all applicable codes and have been properly adapted to use on this project.

**NOTES:**

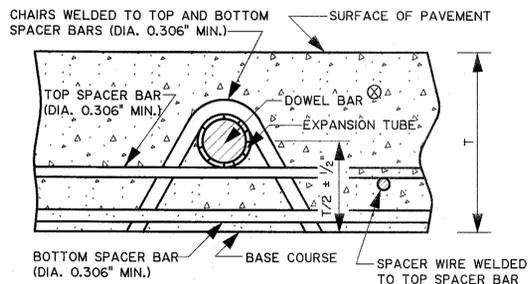
- (A) ONE OR TWO COMPONENT SILICONE CONFORMING TO SECTION 1005.
- (B) TAR PAPER EQUIVALENT TO 30 lbs./100 ft<sup>2</sup> SHALL BE PLACED BETWEEN THE SLEEPER SLAB AND THE PAVING SLAB.
- (C) SLEEPER SLAB SHALL BE CONSTRUCTED OF CLASS "A1" OR PAVEMENT TYPE CONCRETE AND INCLUDED IN THE COST OF THE PAVEMENT. PROVIDE DEFORMED GRADE 60 REINFORCING STEEL.
- (D) JOINT SHALL BE FILLED WITH A PREFORMED POLYURETHANE FOAM TYPE FILLER CONFORMING TO SECTION 1005.
- (E) SEE DETAIL "G" - EJ-4" BASE DRAIN OUTLET FOR UNDERDRAIN DETAILS (SHEET 3 OF 3)



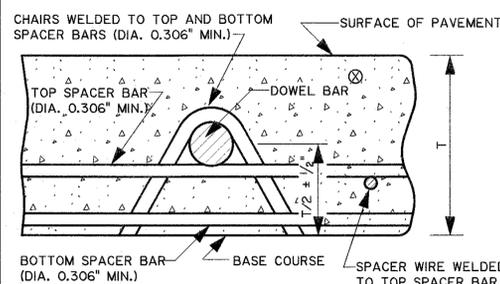
**SECTION A-A  
TYPE EJ-1 1/2"**



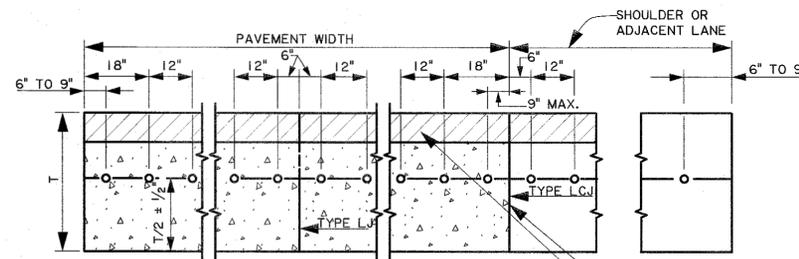
**SECTION C-C  
TYPE EJ-4" JOINT  
AND SLEEPER SLAB**



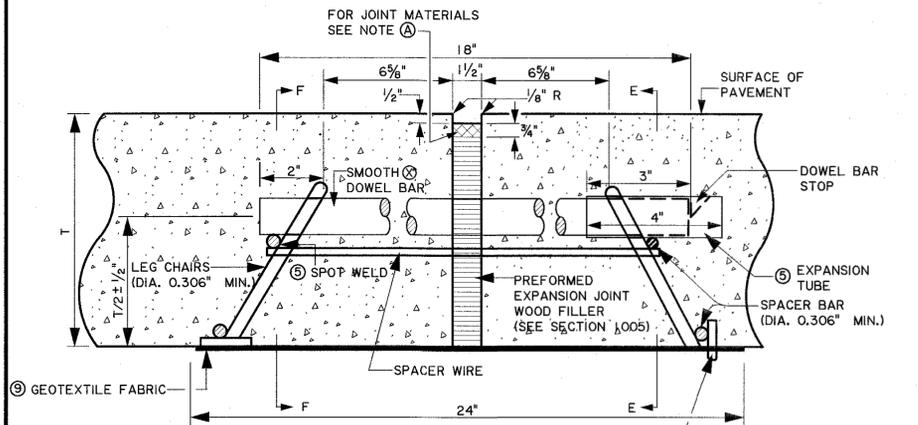
**SECTION E-E**  
SEE TABLE I (SHEET 1 OF 3)



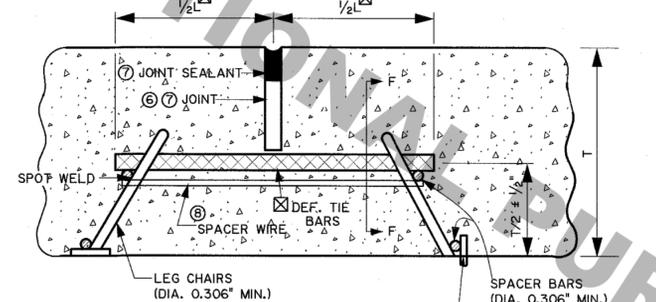
**SECTION F-F**  
SEE TABLE I (SHEET 1 OF 3)



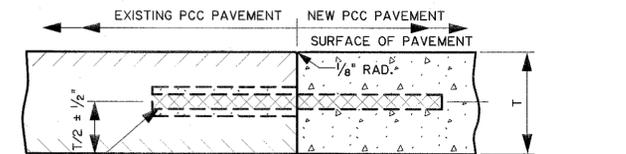
**SECTION G-G**  
DOWEL BAR SPACING FOR TYPE TCJ, CJ, AND EJ JOINTS



**SECTION B-B  
TYPE TCJ OR CJ**  
(TRANSVERSE CONTRACTION JOINT OR CONSTRUCTION JOINT)  
SEE TABLE I (SHEET 1 OF 3)

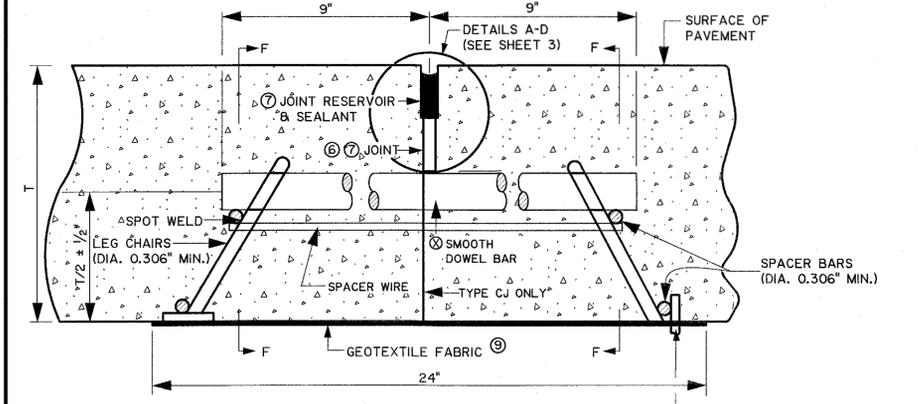


**SECTION D-D  
TYPE LJ (WITHOUT KEYWAY)**  
(LONGITUDINAL JOINT)  
(REQUIRED WHEN PAVEMENT WIDTH EXCEEDS 15') (SEE NOTE 6)  
SEE TABLE I (SHEET 1 OF 3)

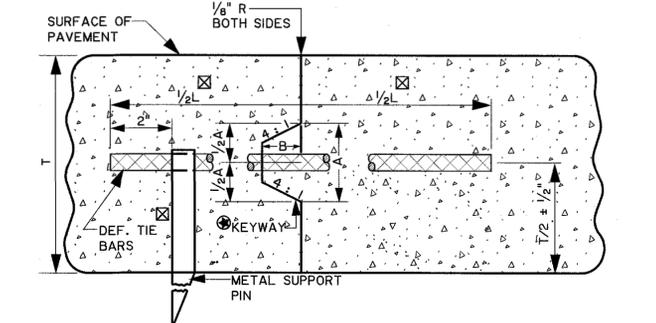


**SECTION H-H  
TYPE LBJ**  
(LONGITUDINAL BUTT JOINT)

DEFORMED TIE BARS OF THE SIZE, LENGTH AND ONE HALF THE SPACING SPECIFIED IN TABLE I SHALL BE USED. THE BARS SHALL BE INSTALLED IN EXISTING PAVEMENT BY DRILLING HOLES 1/8" LARGER THAN THE BAR DIAMETER TO A REQUIRED DEPTH OF 1/2 THE BAR LENGTH. THE HOLES SHALL BE DRILLED AND FILLED IN ACCORDANCE WITH SECTION 601 BEFORE INSERTION OF THE TIE BARS.



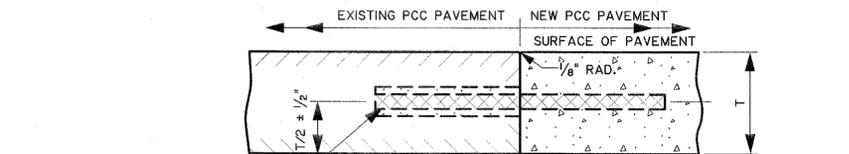
**SECTION B-B  
TYPE TCJ OR CJ**  
(TRANSVERSE CONTRACTION JOINT OR CONSTRUCTION JOINT)  
SEE TABLE I (SHEET 1 OF 3)



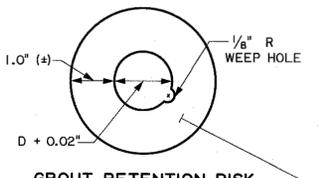
**SECTION D-D  
TYPE LCJ (WITH KEYWAY)**  
(LONGITUDINAL CONSTRUCTION JOINT)

FOR KEYWAY DIMENSIONS A & B SEE TABLE I. IN LIEU OF THE KEYWAY, ONE OF THE FOLLOWING OPTIONS WILL BE ALLOWED:  
A. INSTALL TIE BARS OF THE SIZE SHOWN IN TABLE I, AT 1/2 THE SPACING.  
B. INSTALL TIE BARS 1/4" LARGER THAN THE TIE BAR DIAMETER SHOWN IN TABLE I, AT THE SAME SPACING.

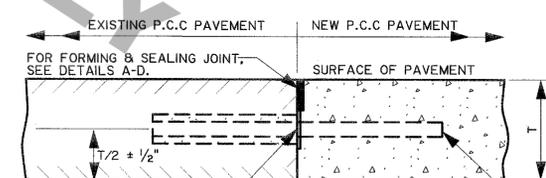
SEE TABLE I (SHEET 1 OF 3)



**SECTION I-I  
TYPE PJ**  
(HOT Poured SEALANT SECTION 1005)



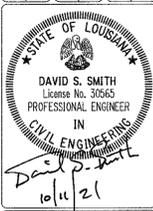
**GROUT RETENTION DISK**  
D = DOWEL DIAMETER (INCLUDING PROTECTIVE COATING)



**SECTION J-J  
TYPE BJ**  
(TRANSVERSE BUTT JOINT)

SMOOTH DOWEL BARS OF THE SIZE, LENGTH AND SPACING SPECIFIED IN TABLE I SHALL BE USED. THE BARS SHALL BE INSTALLED IN EXISTING PAVEMENT BY DRILLING HOLES 1/8" LARGER THAN THE BAR DIAMETER TO A REQUIRED DEPTH OF 1/2 THE BAR LENGTH. THE HOLES SHALL BE DRILLED AND FILLED IN ACCORDANCE WITH SECTION 601 BEFORE INSERTION OF THE DOWEL BARS.

SHEET NUMBER	
PARISH	
CONTROL SECTION	
STATE PROJECT	
DESIGN	T. LAM
CHECK	D. SMITH
DETAIL	T. LAM
CHECK	D. SMITH
REVIEW	
SERIES #	2 OF 3



APPROVED BY CHIEF ENGINEER:  
*David P. Smith*  
DATE: 10/13/2021



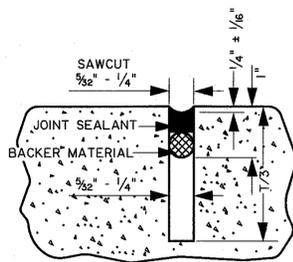
PORTLAND CEMENT CONCRETE PAVEMENT DETAILS  
STANDARD PLAN CP-01



NOT TO SCALE

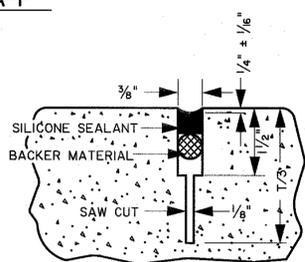
ROAD DESIGN

**DETAILS "A-F"**



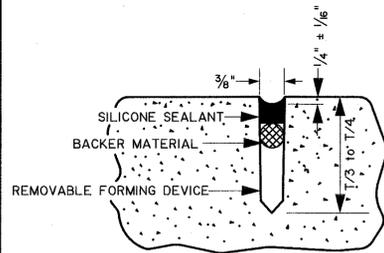
**DETAIL "A"**

USE THIS DETAIL IN CONJUNCTION WITH TYPE TCJ (SECTION B-B) AND TYPE LJ JOINT (SECTION D-D) AND NOTES 6 & 7 ON SHEET #1.



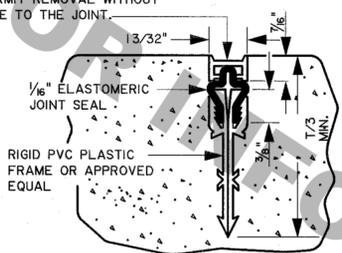
**DETAIL "B"**

REMOVE CAP AFTER CONCRETE HAS HARDENED SUFFICIENTLY TO PERMIT REMOVAL WITHOUT DAMAGE TO THE JOINT.



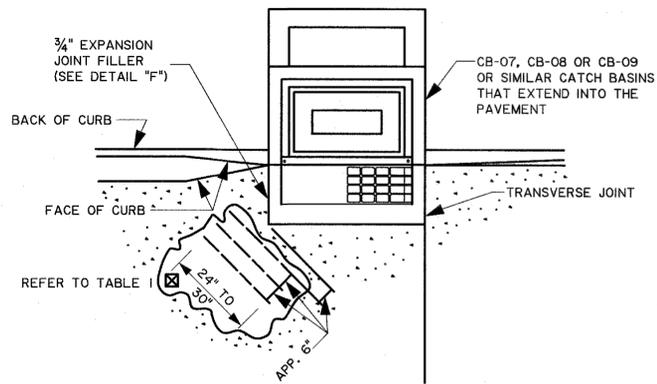
**DETAIL "C"**

NOT ALLOWED FOR DESIGN SPEEDS GREATER THAN 45 MPH.

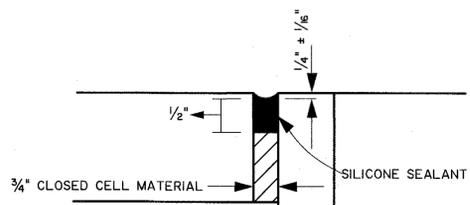


**DETAIL "D"**

NOT ALLOWED WHEN THE PAVEMENT IS PLACED ON PERMEABLE BASES  
NOT ALLOWED FOR DESIGN SPEEDS GREATER THAN 45 MPH.



**DETAIL "E"**  
TRANSVERSE JOINT AT CATCH BASIN



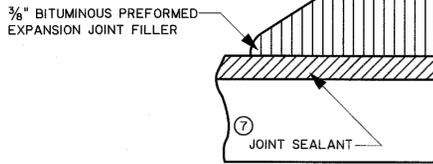
**DETAIL "F"**

AFTER CATCH BASIN TOP IS POURED, THE TOP OF THE 3/4" JOINT FILLER IS TO BE REMOVED TO THE DEPTH SHOWN PRIOR TO SEALING. THE CURB FACES ADJACENT TO THE BASIN SHALL ALSO BE SEALED. JOINT FACES SHALL BE CLEANED IN ACCORDANCE WITH SECTION 601.

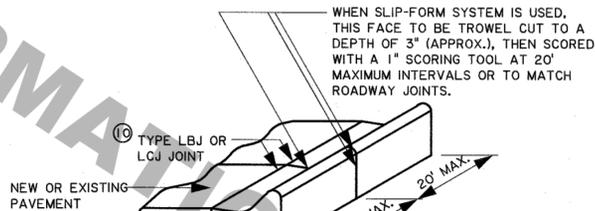
NOTE: SEE STANDARD PLAN DW-01 AND PLANS FOR CURB PLACEMENT DETAILS.

NOTE:

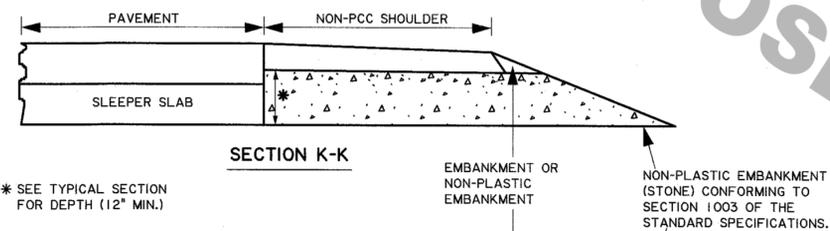
WHEN CURB IS POURED MONOLITHICALLY WITH PAVEMENT, THE BITUMINOUS PREFORMED EXPANSION JOINT FILLER SHALL EXTEND TO THE TOP OF JOINT INSERT. WHEN TRANSVERSE JOINTS ARE CONSTRUCTED BY SAWING, THE INITIAL SAW CUT SHALL EXTEND THROUGH THE CURBED SECTION (CURB AND UNDERLYING PAVEMENT). THE SUBSEQUENT WIDENING CUT FOR THE JOINT SEALANT RESERVOIR SHALL EXTEND INTO THE CURB FOR A DISTANCE NECESSARY TO ENSURE THE SPECIFIED RESERVOIR DEPTH IS BEING MAINTAINED AT THE GUTTER LINE. ALL CURB FACES REGARDLESS OF CURB TYPE SHALL BE SEALED WHEN TRANSVERSE JOINT IS SAWED THROUGH CURB.



**JOINT FILLER DETAIL FOR INTEGRAL CONCRETE CURB (MOUNTABLE OR BARRIER TYPE)**

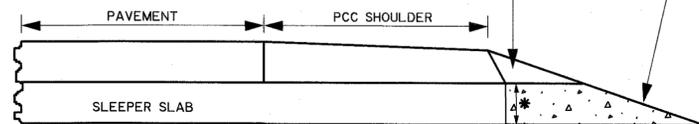


**DETAIL SHOWING JOINTS IN CONCRETE CURB AND GUTTER (EXTEND ALL TCJ THROUGH CURB & GUTTER)**

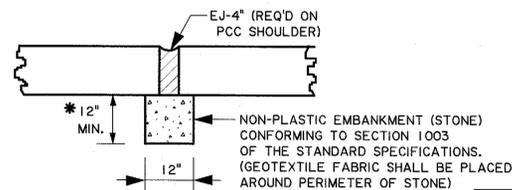


**SECTION K-K**

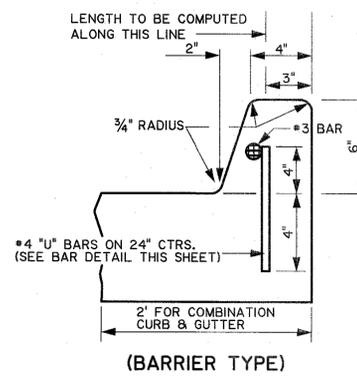
\* SEE TYPICAL SECTION FOR DEPTH (12" MIN.)



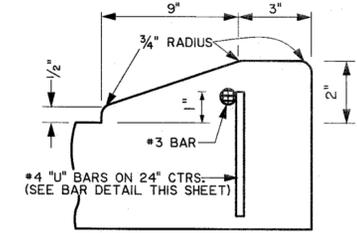
**SECTION L-L (WITH CONCRETE SHOULDER)**



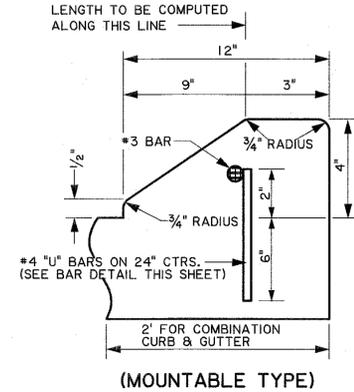
**SECTION M-M (SLEEPER SLAB NOT SHOWN)**



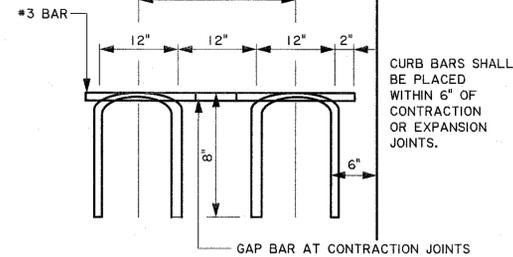
**(BARRIER TYPE)**



**MODIFIED BARRIER OR MOUNTABLE CURB THRU DRIVEWAY**



**(MOUNTABLE TYPE)**



**BAR DETAIL**

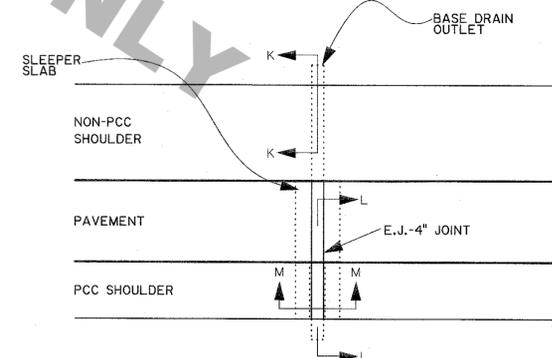
SHOWING DIMENSIONS AND SPACING OF #4 "U" BARS AND LONGITUDINAL BARS FOR CONC. CURB

**CURB DETAILS**

NOTES:

- POUR CURB INTEGRAL WITH PCC PAVEMENT OR GUTTER TO INSURE MONOLITHIC CONSTRUCTION UNLESS OTHERWISE APPROVED BY THE ENGINEER. CURB BARS ARE NOT REQUIRED WHERE CURB IS CONSTRUCTED MONOLITHIC WITH THE PAVEMENT.
- ALL BARS SHOWN SHALL BE DEFORMED REINFORCING STEEL.
- WHEN REPLACING OR ADDING CONCRETE CURB TO EXISTING PAVEMENT, CONNECT THE NEW CONCRETE CURB TO THE PAVEMENT WITH THE DEFORMED REINFORCING STEEL SHOWN BY DRILLING HOLES INTO THE EXISTING PAVEMENT 1/8" LARGER THAN THE BAR DIAMETER. ANCHOR THE BARS WITH AN APPROVED EPOXY RESIN SYSTEM FROM THE DOTD AML. APPLY EPOXY ADHESIVE, COMPLYING WITH AASHTO M235, TYPE V, TO THE SURFACE AREA WHERE THE CONCRETE CURB WILL BE PLACED. INCLUDE ALL COST RELATED TO THE CONSTRUCTION OF THE CURB, INCLUDING THE DRILLED HOLES, DEFORMED REINFORCING BARS, AND EPOXY, IN THE UNIT PRICE FOR THE CURB ITEM.

A BASE DRAIN OUTLET WILL BE REQUIRED AT E.J.-4 JOINTS UNLESS A SHOULDER UNDER DRAIN SYSTEM IS SPECIFIED ON THE PLANS, IN WHICH CASE, THE SHOULDER UNDER DRAIN FOR THE E.J. JOINT SHALL BE CONNECTED TO THE NEAREST STORM SEWER OR DISCHARGED THROUGH A HEADWALL. THE COST FOR THE BASE DRAIN OUTLET FOR THE E.J. JOINT IS TO BE INCLUDED IN THE COST OF THE PAVEMENT.



**PLAN - BASE DRAIN OUTLET AT 4" E.J. E.J.-4 JOINTS**

**DETAIL "G" - E.J.-4" BASE DRAIN OUTLET**

These standard plans have been properly examined by me, the undersigned professional engineer. I have determined that these plans comply with all applicable codes and have been properly adapted to use on this project.



SHEET NUMBER	PARISH	CONTROL SECTION	STATE PROJECT
	T. LAM	D. SMITH	3 OF 3
DESIGN CHECK	T. LAM	D. SMITH	
DETAIL CHECK	T. LAM	D. SMITH	
REVIEW			
SERIES #			

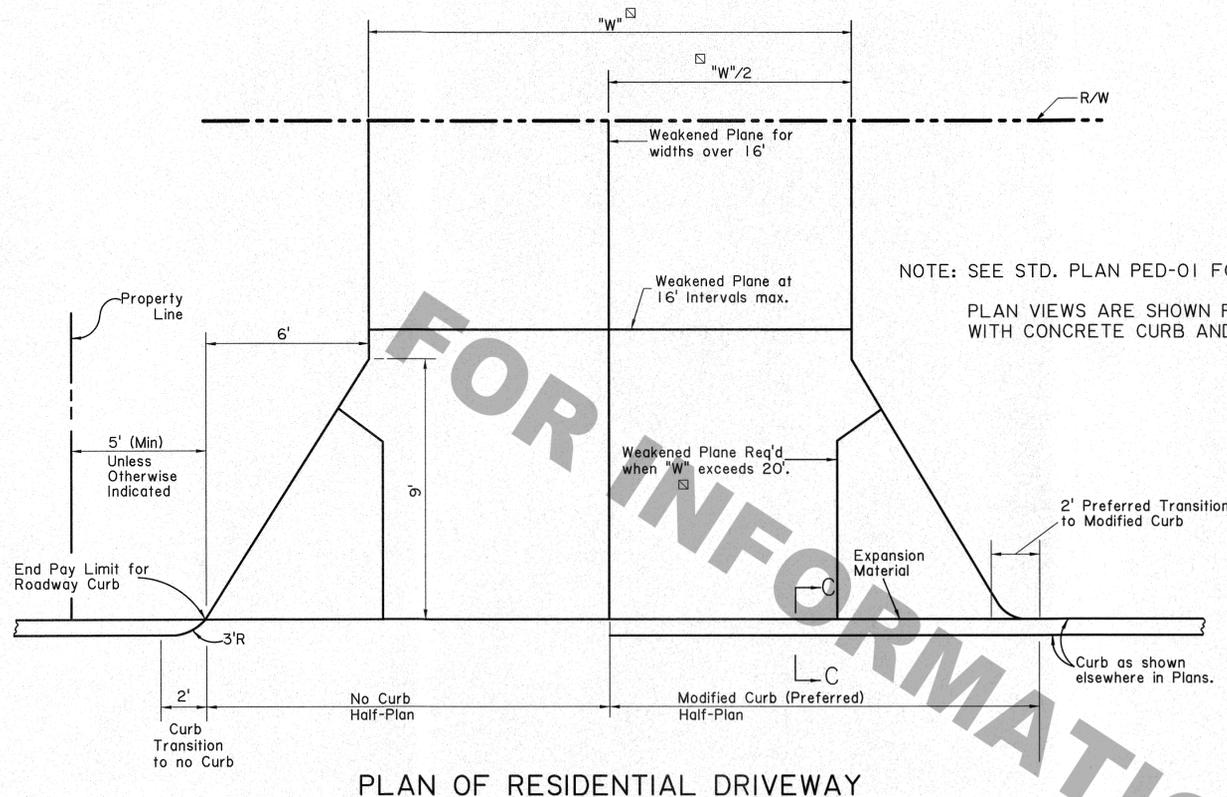
STATE OF LOUISIANA  
DAVID S. SMITH  
License No. 30665  
PROFESSIONAL ENGINEER  
IN  
CIVIL ENGINEERING  
10/13/2021

APPROVED BY CHIEF ENGINEER: *[Signature]* DATE: 10/13/2021

PORTLAND CEMENT CONCRETE PAVEMENT DETAILS  
STANDARD PLAN CP-01

DOTD  
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT  
ROAD DESIGN

NOT TO SCALE

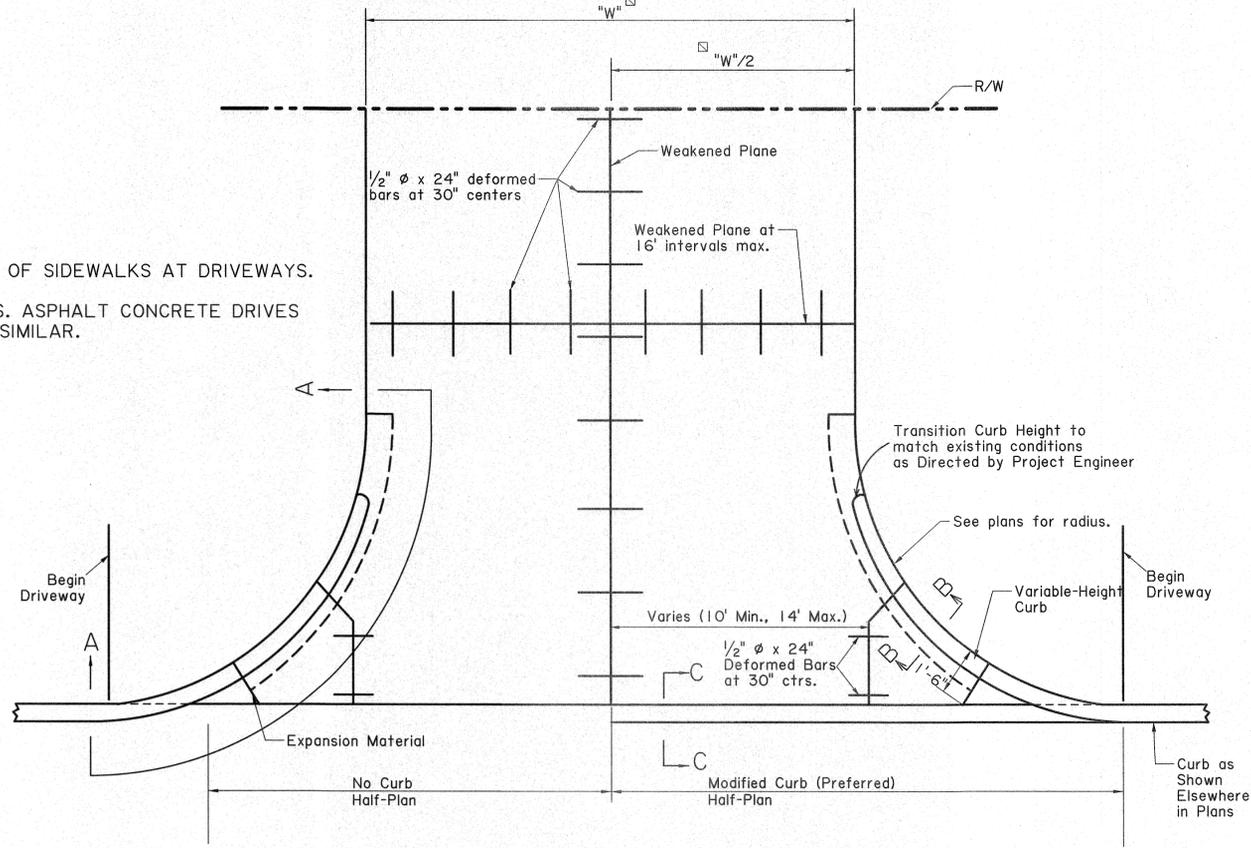


### PLAN OF RESIDENTIAL DRIVEWAY

NOTE: MODIFIED CURB TO BE PAID FOR AS CURB AND WILL BE USED AS SHOWN IN THE PLANS OR WHEN DIRECTED BY THE PROJECT ENGINEER.  
RADI TRANSITION SHAPE MAY BE USED IN LIEU OF A FLARE.

W = Width as per plans

NOTE: SEE STD. PLAN PED-01 FOR TREATMENT OF SIDEWALKS AT DRIVEWAYS.  
PLAN VIEWS ARE SHOWN FOR PCC DRIVES. ASPHALT CONCRETE DRIVES WITH CONCRETE CURB AND GUTTER ARE SIMILAR.

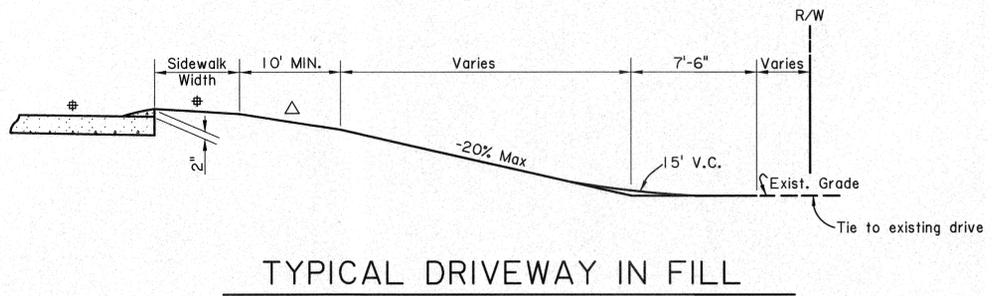


### PLAN OF COMMERCIAL DRIVEWAY

NOTE: MODIFIED CURB TO BE PAID FOR AS CURB AND WILL BE USED AS SHOWN IN THE PLANS OR WHEN DIRECTED BY THE PROJECT ENGINEER.

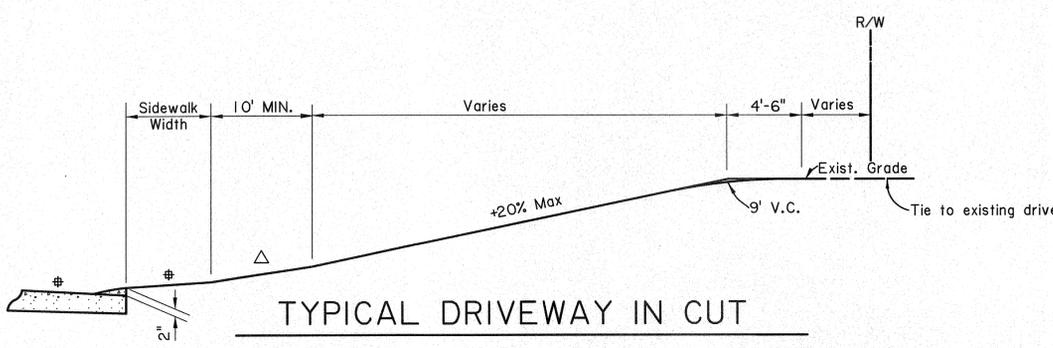
WHEN CURB IS REQUIRED ALONG RADII OF DRIVEWAY, PAYMENT FOR TOE WALL AND CURB WILL BE INCLUDED IN THE PRICE FOR DRIVEWAY ITEMS.

WHEN CURB IS NOT REQUIRED ALONG RADII, TRANSITION CURB AS SHOWN ON RESIDENTIAL DRIVEWAY.

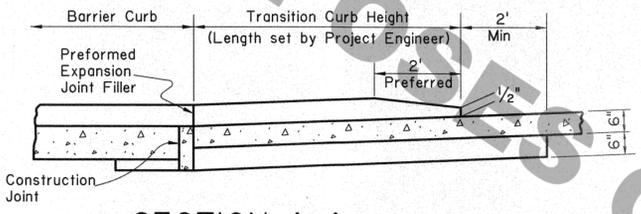


### TYPICAL DRIVEWAY IN FILL

- NOTES:
1. DRIVEWAY PROFILES SHOWN ASSUME A SIDEWALK ADJACENT TO THE CURB.
  2. MAXIMUM DRIVEWAY GRADE SHALL BE 20% (25% FOR SPECIAL CASES). MAXIMUM BREAK IN GRADE WITHOUT A VERTICAL CURVE SHALL BE 10% FOR CRESTS AND 9% FOR SAGS, AT NOT LESS THAN 10' INTERVALS.
  3. ROADWAY AND SIDEWALK SLOPES VARY AS PER PLANS.

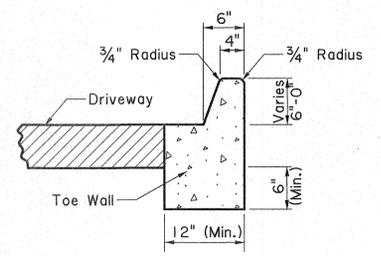


### TYPICAL DRIVEWAY IN CUT



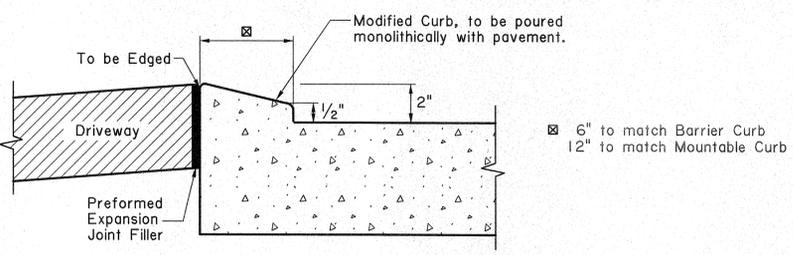
### SECTION A-A

(Weakened Plane not shown.)



### SECTION B-B

NOTE: For PCC Driveway, Curb, Toe Wall & Driveway to be poured monolithically.



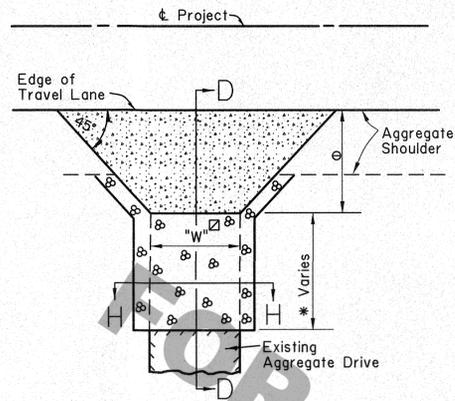
### SECTION C-C

NOTE: See Std. Plan CP-01 for Curb construction



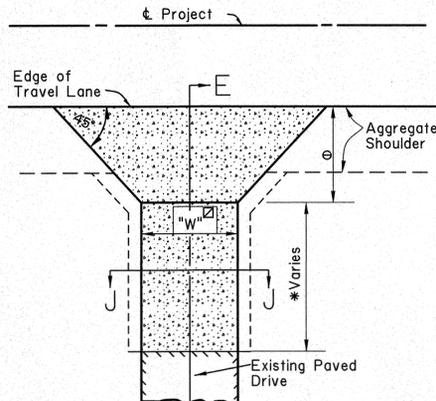
These standard plans have been properly examined by me, the undersigned professional engineer. I have determined that these plans comply with all applicable codes and have been properly adapted to use on this project.

SHEET NUMBER	PARISH	DESIGN	CHECK	DETAIL	CHECK	REVIEW	STATE PROJECT
	P. TONEY	P. TONEY	P. TONEY	P. TONEY	R. MC MILLAN	D. SMITH	I OF 3
APPROVED BY CHIEF ENGINEER: <i>Aidan Eymard</i> DATE: 8/4/2022							
DRIVEWAYS ON CURBED ROADWAYS STANDARD PLAN DW-01							
STANDARD PLAN							



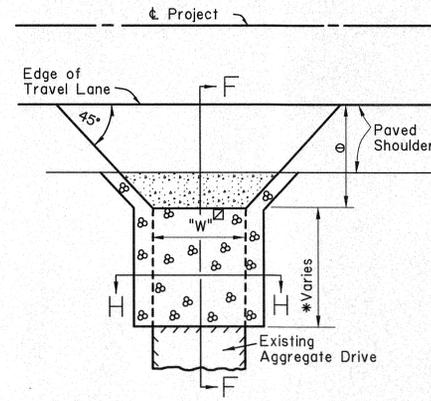
TYPE "A"

Paved Driveway Flare Along Aggregate Shoulder



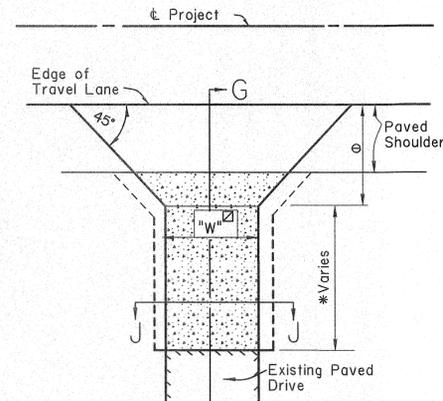
TYPE "B"

Paved Driveway Flare Along Aggregate Shoulder Connecting Existing Paved Drive



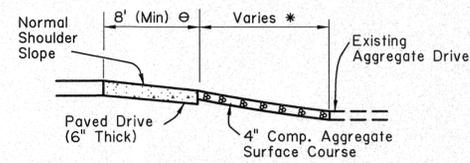
TYPE "C"

Paved Driveway Flare Along Paved Shoulder

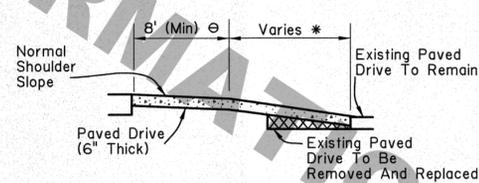


TYPE "D"

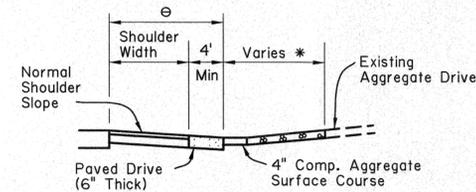
Paved Driveway Flare Along Paved Shoulder Connecting Existing Paved Drive



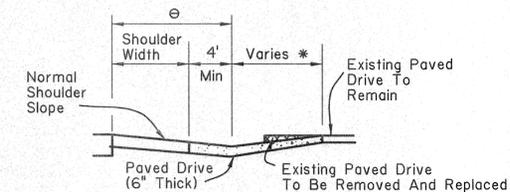
SECTION D-D



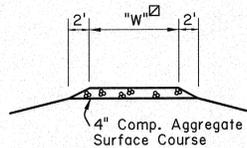
SECTION E-E



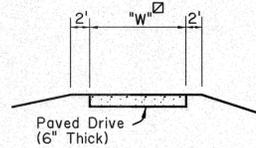
SECTION F-F



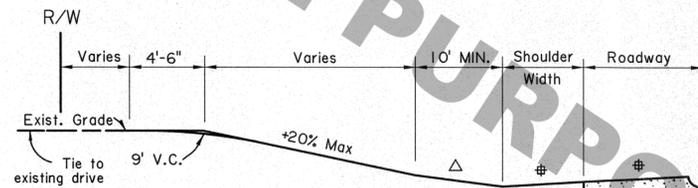
SECTION G-G



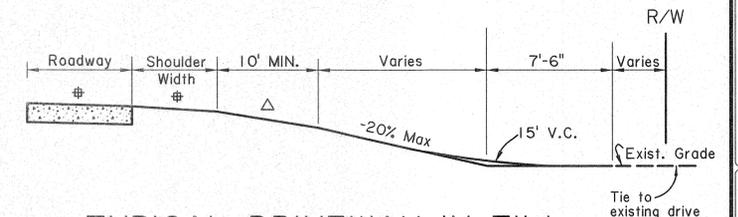
SECTION H-H



SECTION J-J



TYPICAL DRIVEWAY IN CUT



TYPICAL DRIVEWAY IN FILL

W = Width as per plans

NOTES:

1. PORTLAND CEMENT CONCRETE DRIVES WILL BE CONSTRUCTED TO REPLACE OR CONNECT TO EXISTING CONCRETE DRIVES.
- \* 2. SEE PLANS: APPLIES WHERE EXISTING DRIVE IS TO BE REMOVED FOR ROADWAY CONSTRUCTION AND/OR TO ACHIEVE VERTICAL GEOMETRY REQUIREMENTS.
3. PAVEMENT SHALL EXTEND 8' MINIMUM FROM EDGE OF PAVED ROADWAY SURFACE (TRAVEL LANE) FOR SINGLE-FAMILY RESIDENTIAL/NON-COMMERCIAL AGRICULTURE TYPE CONNECTIONS, AND 25' FOR TRAFFIC GENERATOR (COMMERCIAL) TYPE CONNECTIONS, OR AS PER THE PLANS. PAVED DRIVEWAY FLARE SHALL EXTEND 4' MINIMUM FROM EDGE OF PAVED SHOULDER. RADII TRANSITION SHAPE MAY BE USED IN LIEU OF FLARE.
4. COMPACTION OF SUBGRADE AND GRADING WORK FOR CONSTRUCTION OF DRIVES SHALL BE SATISFACTORY TO THE ENGINEER AND PAYMENT SHALL BE INCLUDED IN THE DRIVEWAY ITEMS.
5. MAXIMUM DRIVEWAY GRADE SHALL BE 20% (25% FOR SPECIAL CASES). MAXIMUM BREAK IN GRADE WITHOUT A VERTICAL CURVE SHALL BE 10% FOR CRESTS AND 9% FOR SAGS, AT NOT LESS THAN 10' INTERVALS.
- # 6. ROADWAY AND SHOULDER SLOPES VARY AS PER PLANS



These standard plans have been properly examined by me, the undersigned professional engineer. I have determined that these plans comply with all applicable codes and have been properly adapted to use on this project.

LEGEND

- ASPHALT
- AGGREGATE
- REMOVAL

DESIGN	P. TONEY	PARISH	
CHECK	R. MCMILLAN	CONTROL SECTION	
CHECK	P. TONEY	STATE PROJECT	
REVIEW	D. SMITH	SERIES #	2 OF 3



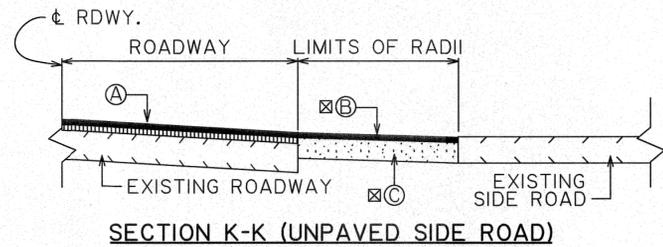
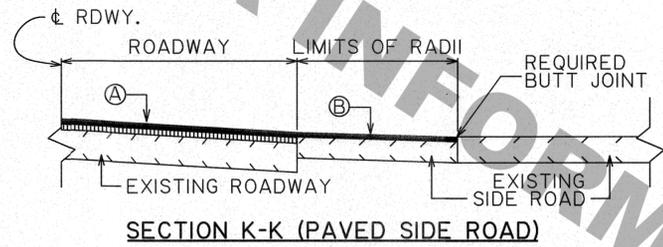
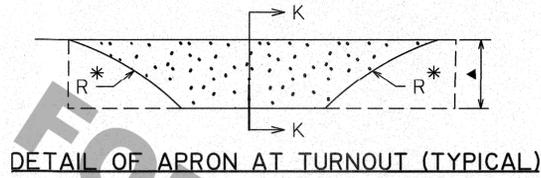
APPROVED BY CHIEF ENGINEER:  
*Aidan Eymard*  
DATE: 8/2/2022



DRIVEWAYS ON NON-CURBED ROADWAYS



### TURNOUT TIE-IN DETAILS FOR OVERLAY PROJECTS



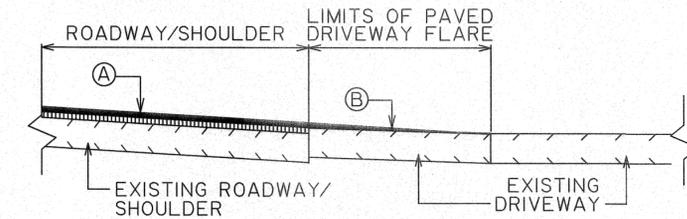
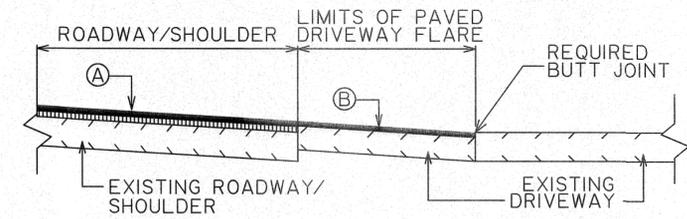
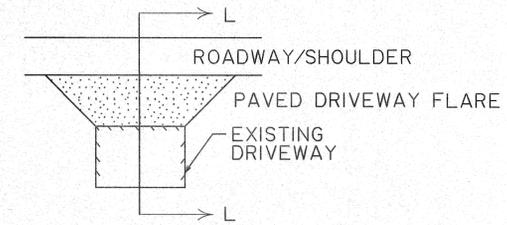
- Ⓐ ASPHALT CONCRETE (COURSES AND TYPES SHOWN ON ROADWAY TYPICAL SECTION)
- Ⓑ ASPHALT CONCRETE (THICKNESS SHALL MATCH ROADWAY WEARING SURFACE)
- ⓐ ASPHALT CONCRETE BASE COURSE
- \* MATCH EXISTING RADIUS
- ▲ VERTICAL TRANSITION FROM ROADWAY TO BUTT JOINT TIE-IN WHERE NEEDED
- ⓐ TOTAL THICKNESS OF WEARING COURSE AND BASE COURSE SHALL BE A MINIMUM OF 6"



2/2/2024

These standard plans have been properly examined by me, the undersigned professional engineer. I have determined that these plans comply with all applicable codes and have been properly adapted to use on this project.

### DRIVEWAY TIE-IN DETAILS FOR OVERLAY PROJECTS

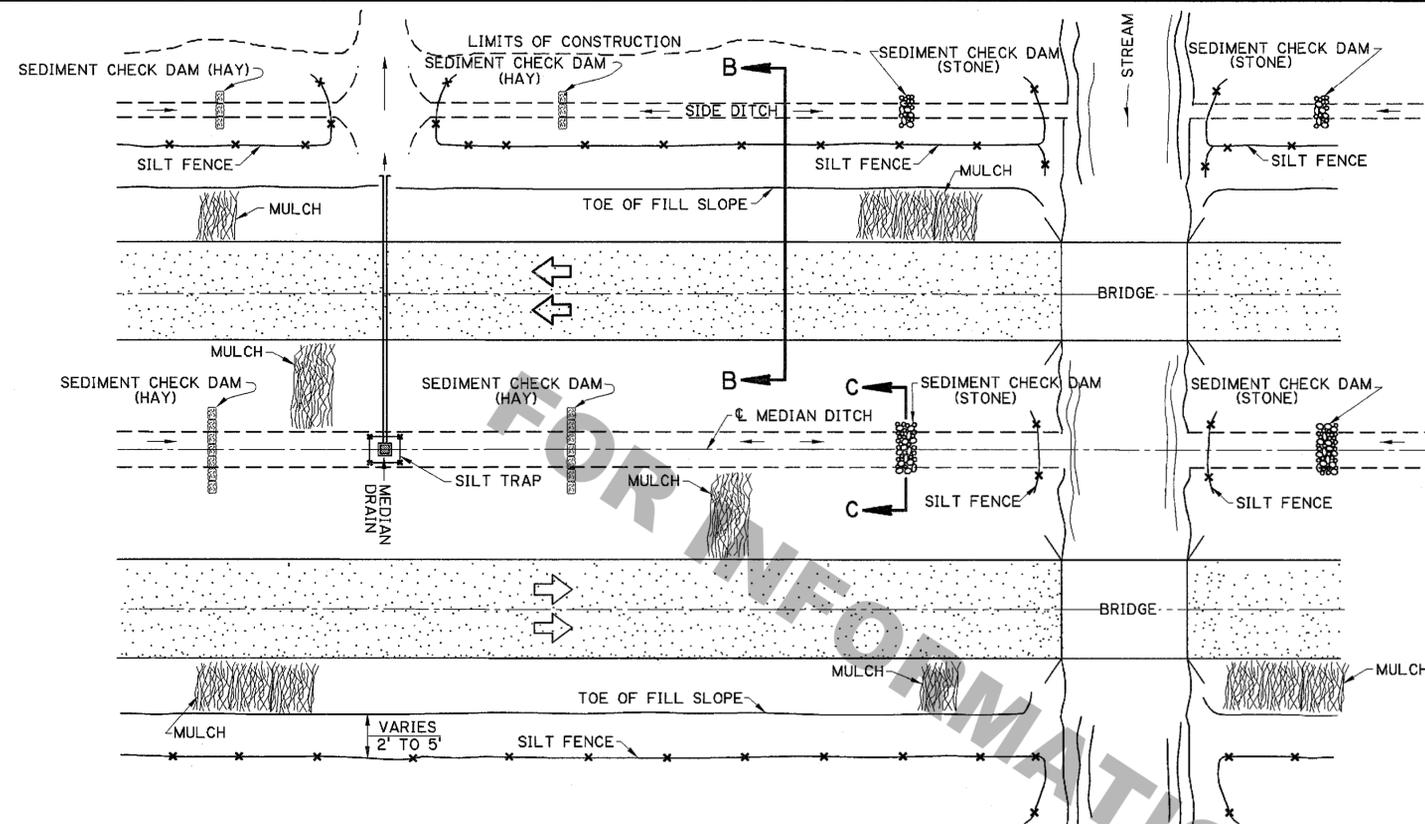


- Ⓐ ASPHALT CONCRETE (COURSES AND TYPES SHOWN ON ROADWAY TYPICAL SECTION)
- Ⓑ ASPHALT CONCRETE (THICKNESS SHALL MATCH ROADWAY WEARING COURSE)

NOTES:

1. DRIVE WIDTHS AND FLARE DIMENSIONS TO BE ADJUSTED TO MATCH EXISTING CONDITIONS AS DIRECTED BY THE PROJECT ENGINEER.
2. TYPE OF TIE-IN AND LENGTH OF OVERLAY TRANSITION TO BE SET BY PROJECT ENGINEER TO ACHIEVE A SUITABLE CONNECTION FOR EXISTING DRIVE.
3. REFER TO SHEET 2 OF DW-01 FOR SUGGESTED TIE-IN CRITERIA OF STEEP GRADES.

SHEET NUMBER		PARISH		CONTROL SECTION		STATE PROJECT	
DESIGN	P. TONEY	CHECK	R. MCMILLAN	DETAIL	P. TONEY	CHECK	R. MCMILLAN
REVIEW	D. SMITH	SERIES # 3 OF 3		APPROVED BY CHIEF ENGINEER:			
				DATE: 9/14/2022			
TURNOUT AND DRIVEWAY TIE-IN DETAILS							
STANDARD PLAN DW-01							
STANDARD PLAN							

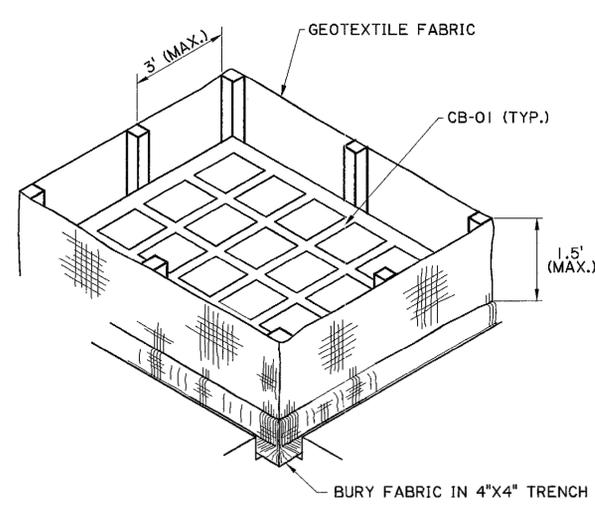


PLAN SHOWING TYPICAL TEMPORARY EROSION CONTROL

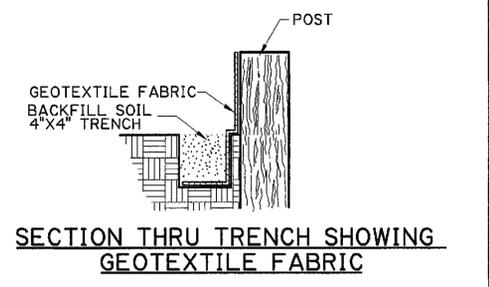
MULCHES

MULCHES ARE THE APPLICATION OF MATS OF MATERIAL PLACED ON THE SOIL SURFACE TO PREVENT EROSION BY PROTECTING THE SOIL SURFACE FROM RAINDROP IMPACT AND TO REDUCE THE VELOCITY OF OVERLAND FLOW. MULCHES CAN BE ORGANIC OR SYNTHETIC. MULCHES SHALL BE IN ACCORDANCE WITH PROJECT SPECIFICATIONS FOR TEMPORARY EROSION CONTROL. A FEW GUIDELINES FOR THE USE OF MULCHES ARE:

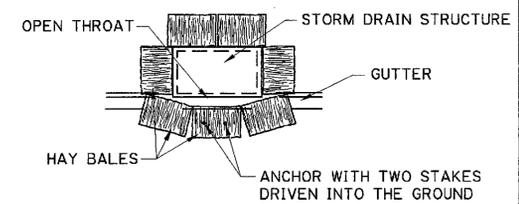
1. USE ON CUT AND EMBANKMENT SLOPES WHICH HAVE NOT BEEN COMPLETED TO PLAN GRADE OR WHERE THE WEATHER OR SOIL CONDITIONS WILL NOT PERMIT COMPLETING THEM WITHIN A REASONABLE TIME
2. USE ON CLEARED, GRUBBED, AND SCALPED AREAS WHERE SOIL EROSION IS LIKELY TO OCCUR
3. USE WITH TEMPORARY SEEDING



ISOMETRIC VIEW SHOWING GEOTEXTILE FABRIC (BACKFILL SOIL NOT SHOWN)



SECTION THRU TRENCH SHOWING GEOTEXTILE FABRIC



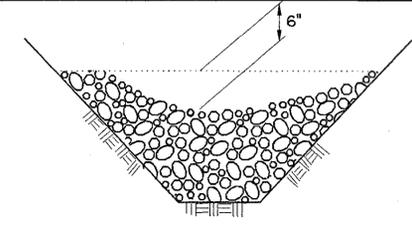
PLAN SHOWING HAY BALES

PAY ITEM: TEMPORARY HAY OR STRAW BALES

TEMPORARY INLET SILT TRAP

THE TEMPORARY DROP INLET SILT TRAP IS TO BE USED FOR SMALL DRAINAGE AREAS (LESS THAN 1 ACRE) WHERE THE STORM DRAIN IS FUNCTIONAL BEFORE THE AREA IS STABILIZED. THE TRAP CAN BE EITHER GEOTEXTILE FABRIC OR HAY BALES.

1. THE GEOTEXTILE FABRIC SHALL CONFORM TO PROJECT SPECIFICATIONS FOR GEOTEXTILE FABRIC (CLASS G).
2. WOODEN STAKES SUPPORTING THE FABRIC SHALL BE 2" X 2" OR 2" X 4" WITH A MINIMUM LENGTH OF 3 FEET. THE STAKES SHALL BE SPACED AROUND THE INLET AT A MAXIMUM SPACING OF 3 FEET.
3. THE HEIGHT OF THE FABRIC ABOVE THE INLET SHALL BE LIMITED TO 1.5' AND THE BOTTOM OF THE FABRIC SHALL BE BURIED IN A TRENCH APPROXIMATELY 4" WIDE BY 4" DEEP. THE FABRIC SHALL BE STAPLED TO THE POST WITH 1/2" STAPLES.
4. THE TRAP SHOULD BE INSPECTED REGULARLY AND AFTER EACH STORM. THE SEDIMENT SHOULD BE REMOVED AND EACH STAKE SHOULD BE FIRMLY IN THE GROUND.
5. HAY BALES SHALL BE PLACED SO THAT THE BINDING WIRE OR TWINE IS NOT IN CONTACT WITH THE GROUND.



SECTION C-C

TEMPORARY SEDIMENT CHECK DAM (STONE)

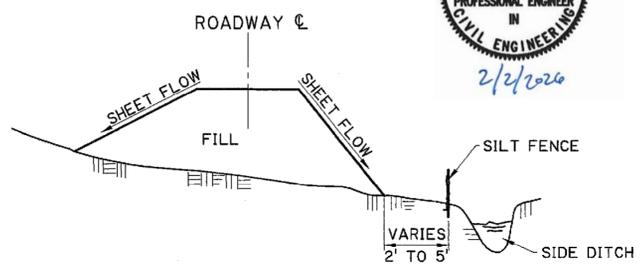
PAY ITEM: TEMPORARY SEDIMENT CHECK DAM (STONE)

NOTES:

A STONE CHECK DAM IS A SMALL TEMPORARY DAM CONSTRUCTED ACROSS A SWALE OR DRAINAGE DITCH. THE PURPOSE OF THIS MEASURE IS TO REDUCE THE VELOCITY OF CONCENTRATED STORM WATER FLOWS, THEREBY REDUCING EROSION OF THE SWALE OR DITCH. THE STONE CHECK DAM WILL TRAP SMALL AMOUNTS OF SEDIMENTS GENERATED IN THE DITCH ITSELF, HOWEVER IT SHOULD NOT BE USED AS A SEDIMENT TRAPPING DEVICE. A FEW BASIC DESIGN GUIDELINES FOR THE USE OF STONE CHECK DAMS ARE:

1. USE IN SMALL OPEN CHANNELS WHICH DRAIN 10 ACRES OR LESS
2. DO NOT USE IN A LIVE STREAM
3. USE IN A TEMPORARY DITCH OR SWALE WHICH, BECAUSE OF THEIR SHORT LENGTH OF SERVICE, CANNOT RECEIVE A NON-ERODIBLE LINING
4. USE IN PERMANENT DITCHES OR SWALES WHICH WILL NOT RECEIVE A PERMANENT LINING FOR AN EXTENDED PERIOD OF TIME
5. USE IN TEMPORARY OR PERMANENT DITCHES OR SWALES WHICH NEED PROTECTION DURING THE ESTABLISHMENT OF GRASS LININGS
6. FOR STONE SPECIFICATIONS, SEE PROJECT SPECIFICATIONS FOR RIPRAP, (CLASS 2 LB)

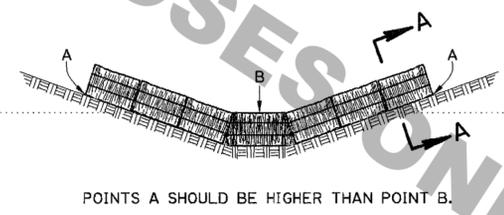
These standard plans have been properly examined by me, the undersigned professional engineer. I have determined that these plans comply with all applicable codes and have been properly adapted to use on this project.



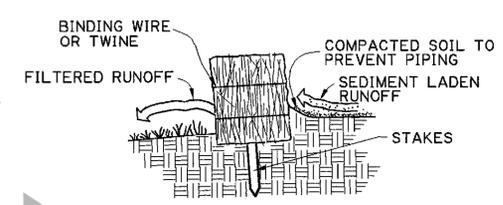
SECTION B-B

TEMPORARY SILT FENCE APPLICATION

(FOR CONSTRUCTION DETAILS AND SPECIFICATIONS SEE SHEET 2 OF 2.)



ELEVATION



SECTION A-A

TEMPORARY SEDIMENT CHECK DAM (HAY)

PAY ITEM: TEMPORARY SEDIMENT CHECK DAM (HAY)

NOTES:

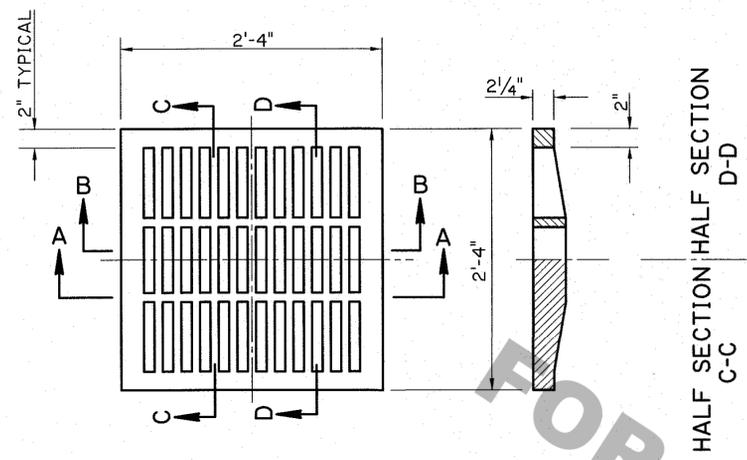
- A HAY BALE BARRIER IS A TEMPORARY SEDIMENT BARRIER CONSISTING OF A ROW OF ENTRENCHED AND ANCHORED BALES OF STRAW OR HAY. THE HAY BALE BARRIER IS ALSO USED AS A CHECK DAM TO REDUCE THE VELOCITY IN SMALL DITCHES OR SWALES. THE HAY BALES SHALL BE IN ACCORDANCE WITH PROJECT SPECIFICATIONS FOR TEMPORARY EROSION CONTROL. A FEW BASIC DESIGN GUIDELINES FOR THE USE OF A HAY BALE BARRIER ARE:
1. USE WHERE EROSION WOULD OCCUR IN THE FORM OF SHEET AND RILL EROSION
  2. USE IN MINOR SWALES OR DITCHES WHERE THE MAXIMUM DRAINAGE AREA IS 2 ACRES
  3. ONLY USE WHERE THE EFFECTIVENESS IS REQUIRED FOR LESS THAN 3 MONTHS
  4. DO NOT USE IN LIVE STREAMS OR IN SWALES OR DITCHES WHERE THERE IS A POSSIBILITY OF A WASHOUT

SHEET NUMBER	PARISH	DESIGNED	DATE
	FEDERAL PROJECT	CHECKED	1-14-94
	STATE PROJECT	DATE	1 OF 2
	REVISION DESCRIPTION	BY	DATE
10-1-08	REMOVE SPECIFIC PAY ITEM NOS., GENERAL REVISIONS	MH	10-1-08
	APPROVED BY	DATE	
	CHIEF ENGINEER		

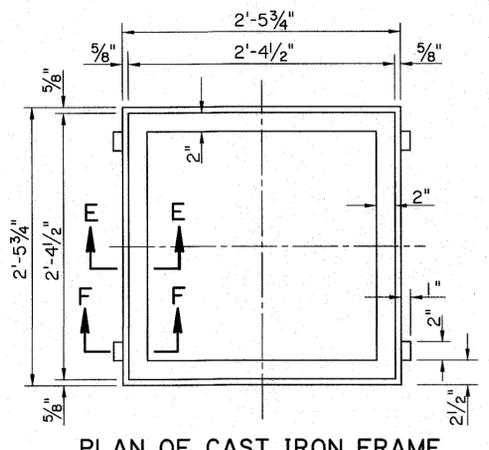
TEMPORARY EROSION CONTROL DETAILS EC-01

HYDRAULICS SECTION

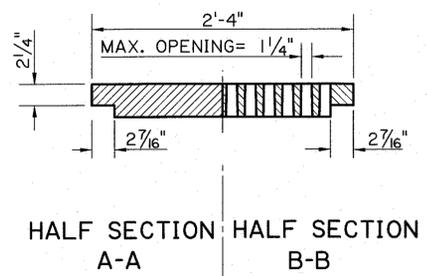




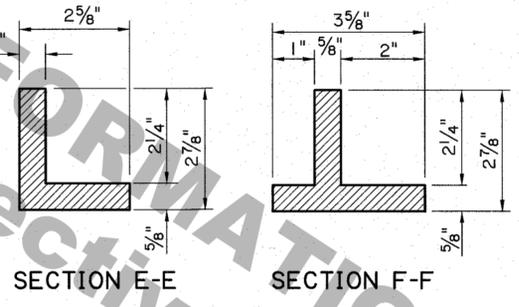
PLAN OF CAST IRON GRATE



PLAN OF CAST IRON FRAME

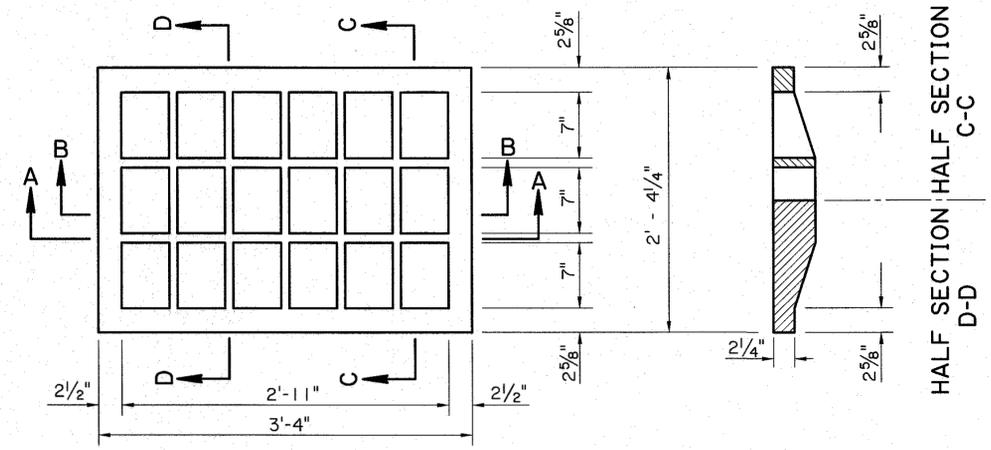


HALF SECTION HALF SECTION A-A B-B

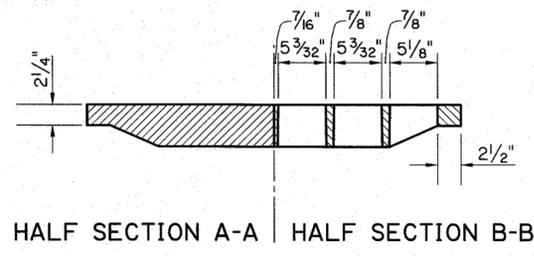


SECTION E-E SECTION F-F

**TYPE "A"**  
CAST IRON GRATE & FRAME  
MIN. OPENING = 290 SQ. IN. AREA



PLAN OF CAST IRON GRATE



HALF SECTION A-A HALF SECTION B-B



These standard plans have been properly examined by me, the undersigned professional engineer. I have determined that these plans comply with all applicable codes and have been properly adapted to use on this project.

**TYPE "B"**  
CAST IRON GRATE

NOTE: UNLESS OTHERWISE STATED, TYPE "E" FRAME WILL BE USED WITH THIS GRATE.

**TYPE "C"**

**STEEL DRAIN GRATE**

- NOTES:
1. GRATES TO BE GALVANIZED AFTER FABRICATION.
  2. UNLESS OTHERWISE STATED, TYPE "E" FRAME IS TO BE USED WITH THESE GRATES. (SEE SHEET 2)
  3. SUPPLIER OF GRATE ALSO IS TO FURNISH PRE-FITTED GRATE FRAME.

**WELDED & SEALED DRAIN GRATE**

ALL JOINTS FULL DEPTH 1/4" FILLET WELDS WITH SEAL WELDS TOP AND BOTTOM UNLESS NOTED OTHERWISE.

ALL BEARING BARS TO BE SET FLUSH ON GRATE FRAME.

WEIGHT OF DRAIN GRATE = 233 LBS. ± 5%

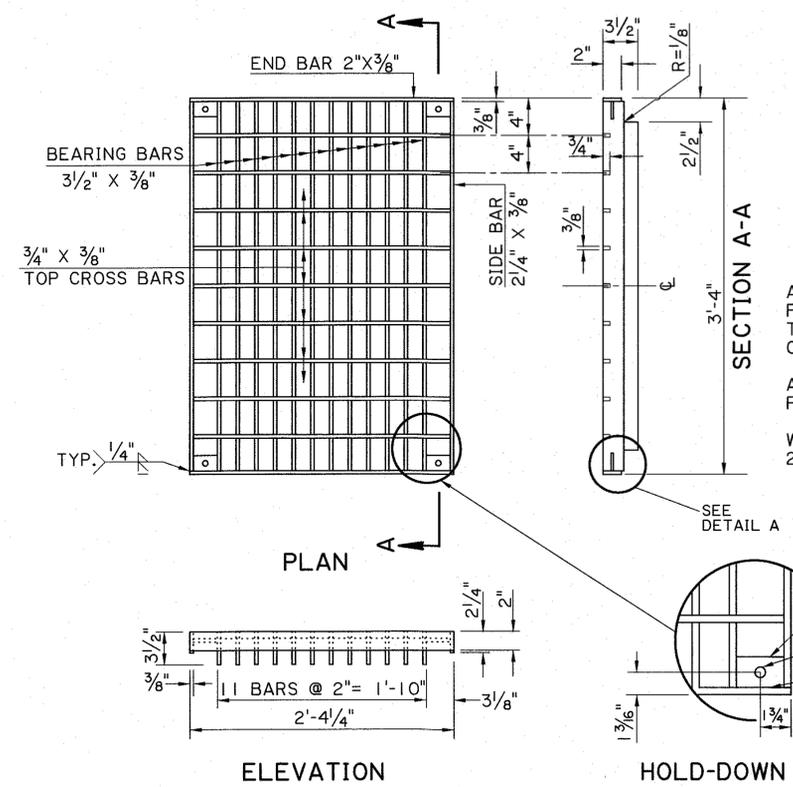
**RIVETED RETICULINE DRAIN GRATE (ALTERNATE)**

ALL JOINTS FULL DEPTH 1/4" FILLET WELDS WITH SEAL WELDS TOP AND BOTTOM UNLESS NOTED OTHERWISE.

ALL BEARING BARS TO BE SET FLUSH ON GRATE FRAME.

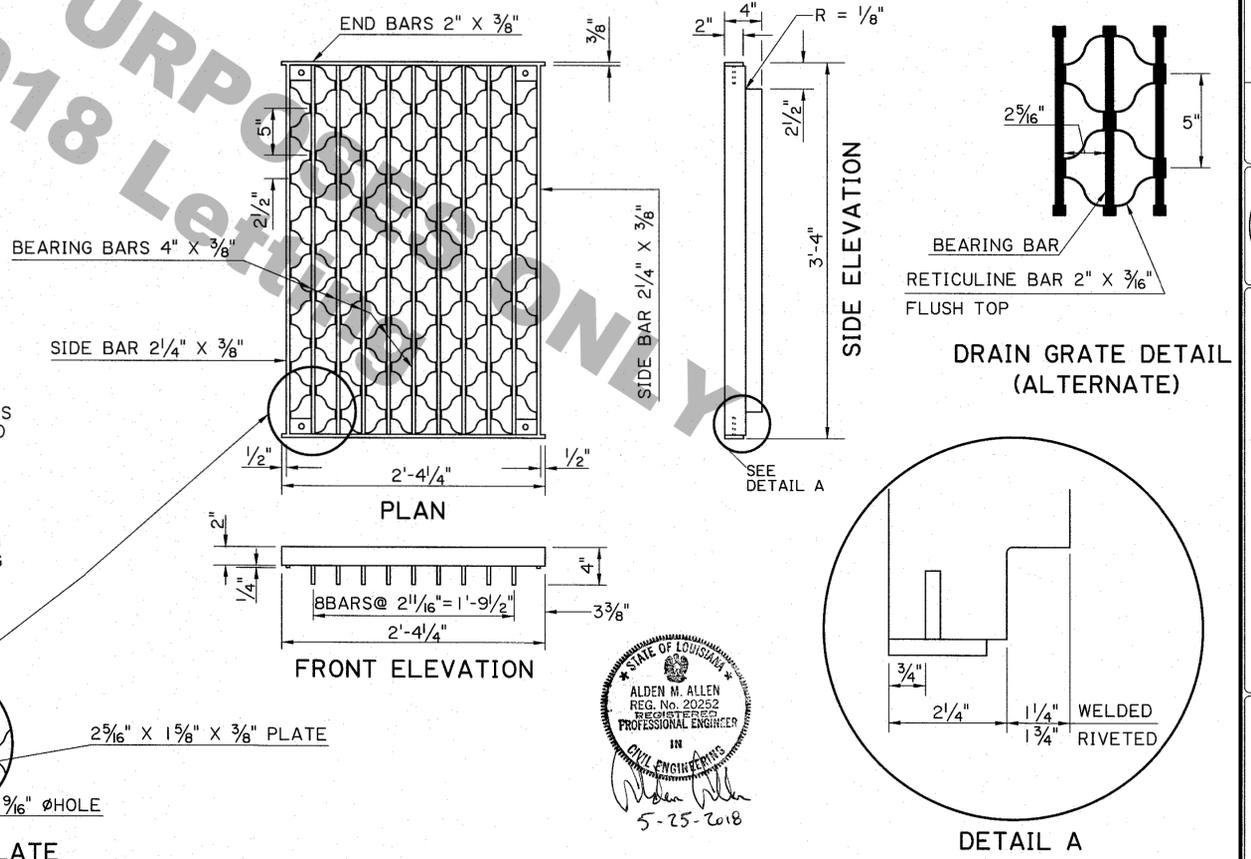
CENTER TO CENTER OF BEARING BARS EQUAL 2 5/16" PLUS BEARING BAR THICKNESS.

WEIGHT OF DRAIN GRATE = 266 LBS. ± 5%



ELEVATION

HOLD-DOWN PLATE



PLAN

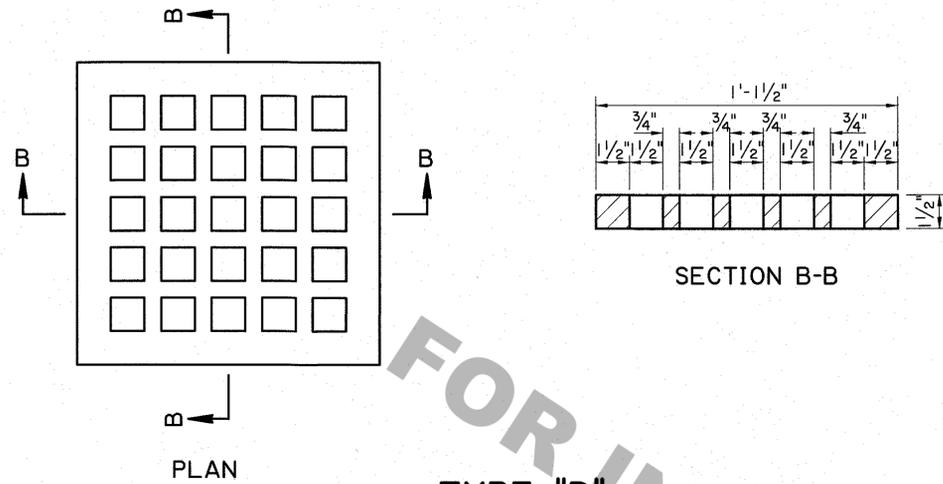
FRONT ELEVATION

DRAIN GRATE DETAIL (ALTERNATE)

DETAIL A

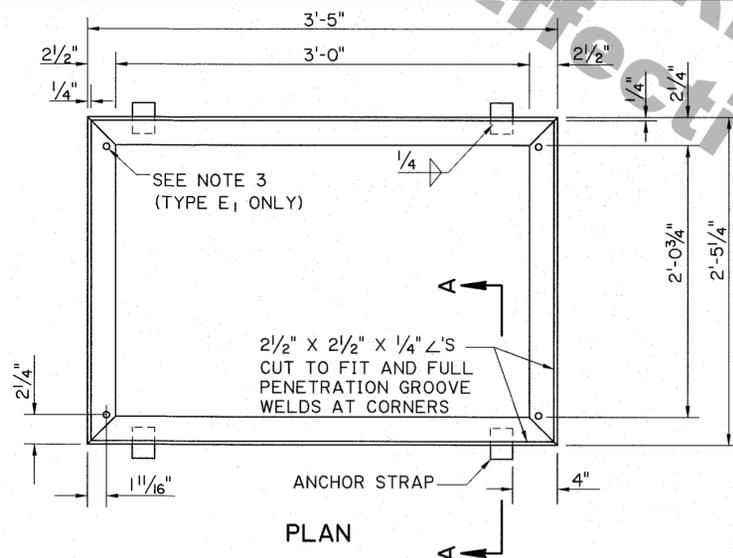


SHEET NUMBER	PARISH	DESIGNED	AMA	CONTROL	SECTION	STATE	PROJECT
		CHECKED	AMA	SECTION			
		DATE	9/01/17				
		REVISION DESCRIPTION					
		DATE	5/25/18				
		APPROVED BY					
		DATE					
		CHIEF ENGINEER					
DETAILS OF GRATES, GRATE FRAMES AND COVERS FOR CATCH BASINS AND MANHOLES							
STANDARD PLAN MC-01							
DOTD HYDRAULICS SECT.							

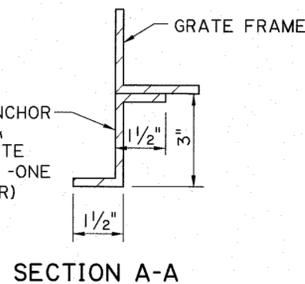


**TYPE "D"**

CAST IRON GRATE  
WEIGHT OF CASTING = 49 LBS



PLAN

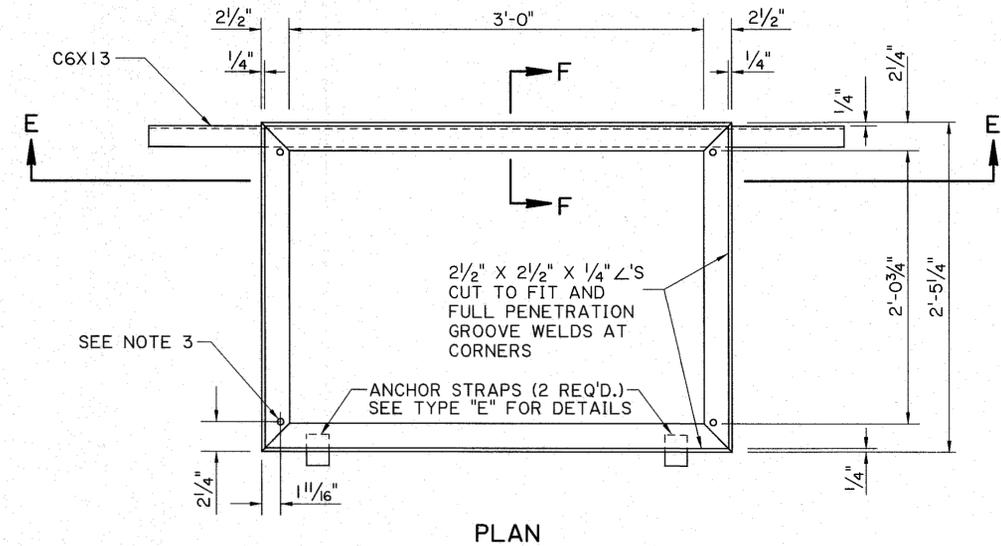


**TYPE "E" AND "E1"**  
STEEL GRATE FRAME

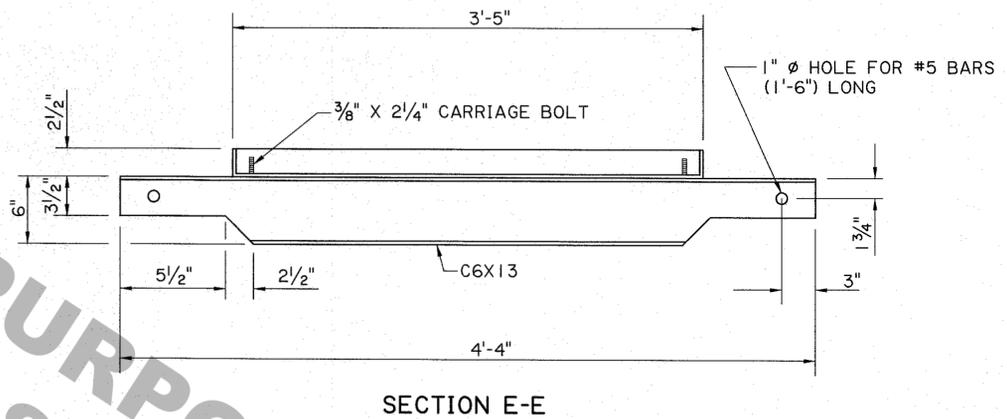
- NOTES:
1. GRATE FRAME TO BE GALVANIZED AFTER FABRICATION
  2. WEIGHT OF GRATE FRAME = 52 LBS
  3. SQUARE PUNCH HOLE PRIOR TO GALVANIZING. ADD A 3/8"  $\phi$  x 2 1/4" LONG -16 UNC ROUND HEAD SQUARE NECK CARRIAGE BOLT WITH JAM NUT, HEX HEAD NUT, AND FLAT WASHER (ALL STAINLESS STEEL) AFTER FRAME IS GALVANIZED.



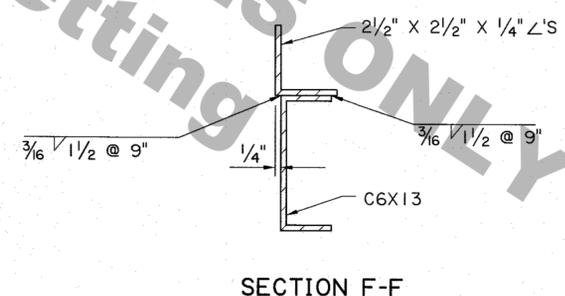
These standard plans have been properly examined by me, the undersigned professional engineer. I have determined that these plans comply with all applicable codes and have been properly adapted to use on this project.



PLAN



SECTION E-E



SECTION F-F

**TYPE "F"**  
STEEL GRATE FRAME

- NOTES:
1. GRATE FRAME TO BE GALVANIZED AFTER FABRICATION
  2. WEIGHT OF GRATE FRAME = 52 LBS  $\pm$  5%
  3. SQUARE PUNCH HOLE PRIOR TO GALVANIZING. ADD A 3/8"  $\phi$  x 2 1/4" LONG -16 UNC ROUND HEAD SQUARE NECK CARRIAGE BOLT WITH JAM NUT, HEX HEAD NUT, AND FLAT WASHER (ALL STAINLESS STEEL) AFTER FRAME IS GALVANIZED.

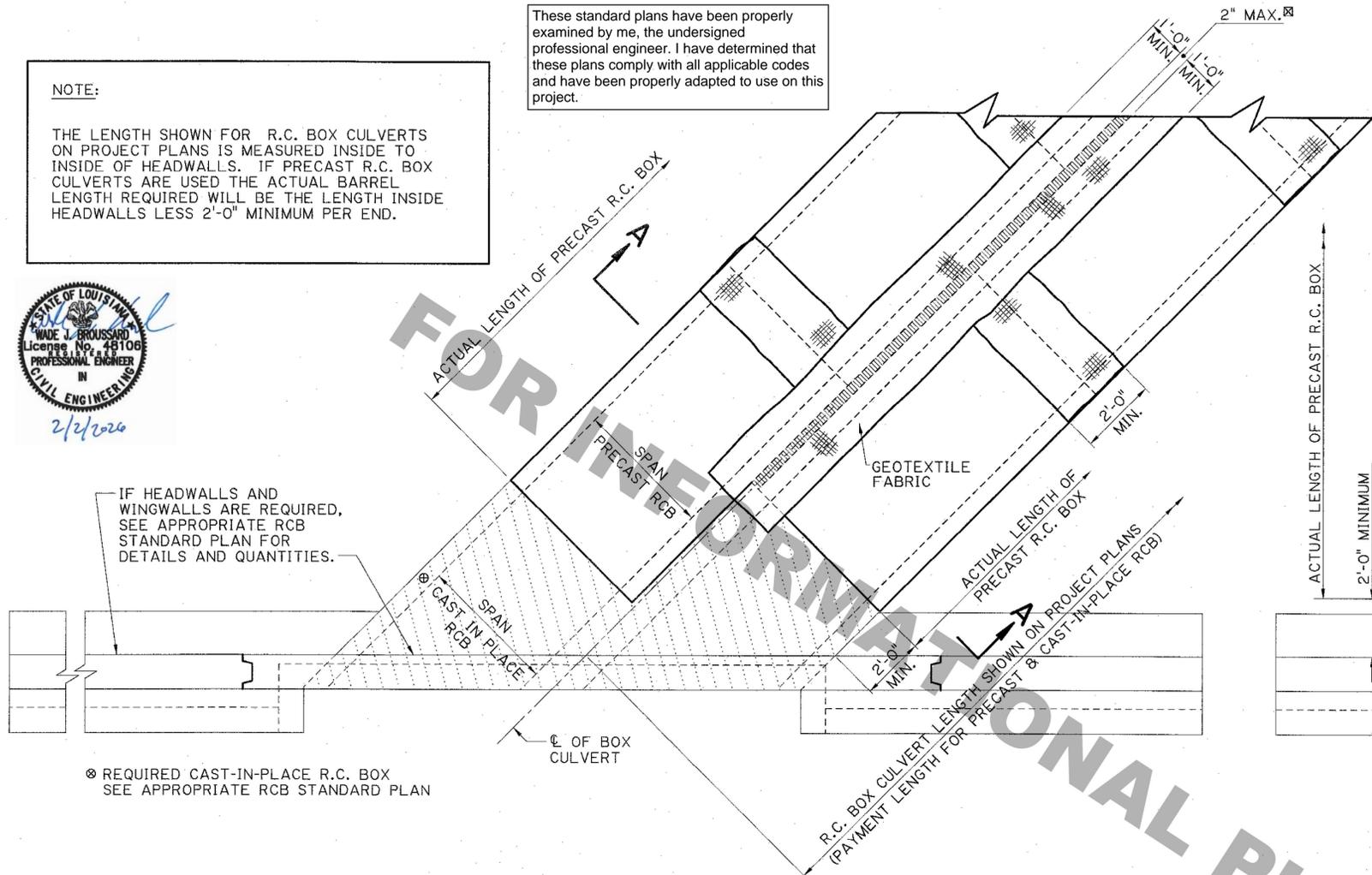


SHEET NUMBER		PARISH		CONTROL SECTION		STATE PROJECT	
DESIGNED	AMA	CHECKED	AMA	DETAILED	TL	CHECKED	AMA
REVISION DESCRIPTION						DATE	5/25/18
DETAILS OF GRATES, GRATE FRAMES AND COVERS FOR CATCH BASINS AND MANHOLES						DATE	9/01/17
STANDARD PLAN MC-01						SERIES NUMBER	2 OF 6
DOTD HYDRAULICS SECT.						APPROVED BY	DATE

**NOTE:**

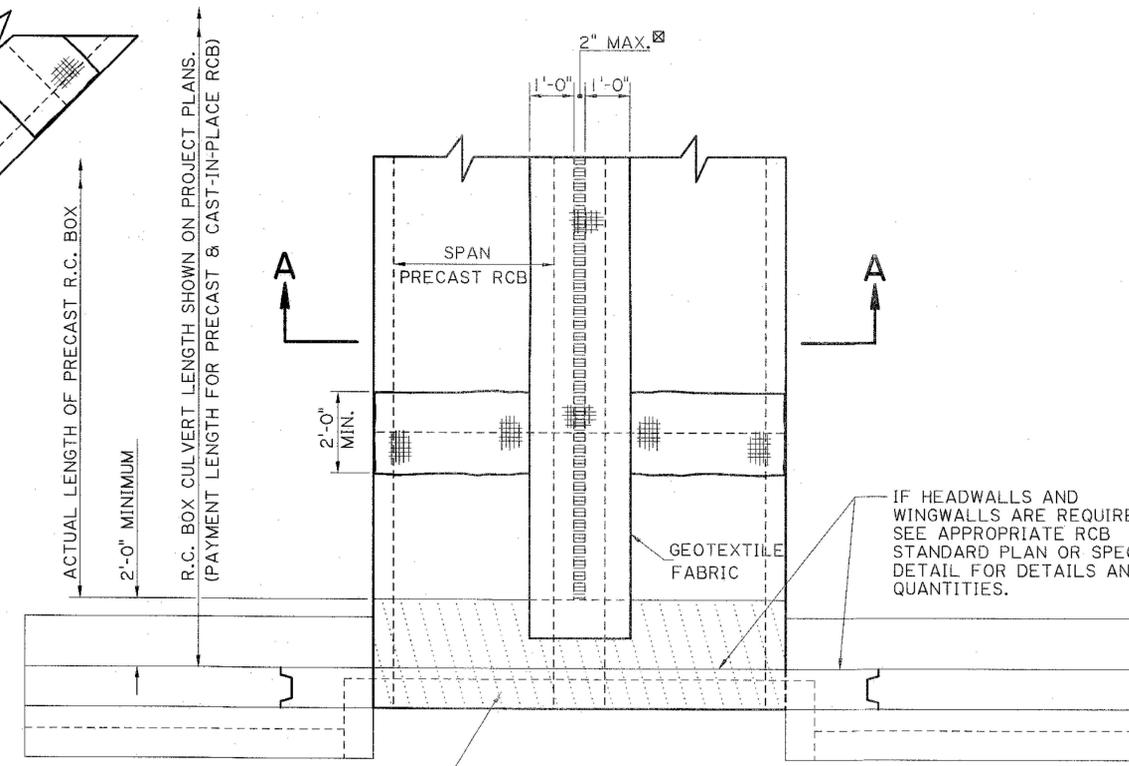
THE LENGTH SHOWN FOR R.C. BOX CULVERTS ON PROJECT PLANS IS MEASURED INSIDE TO INSIDE OF HEADWALLS. IF PRECAST R.C. BOX CULVERTS ARE USED THE ACTUAL BARREL LENGTH REQUIRED WILL BE THE LENGTH INSIDE HEADWALLS LESS 2'-0" MINIMUM PER END.

These standard plans have been properly examined by me, the undersigned professional engineer. I have determined that these plans comply with all applicable codes and have been properly adapted to use on this project.



**PLAN SHOWING MULTIPLE PRECAST RCB CULVERTS ON A SKEWED CROSSING WITH HEADWALLS**

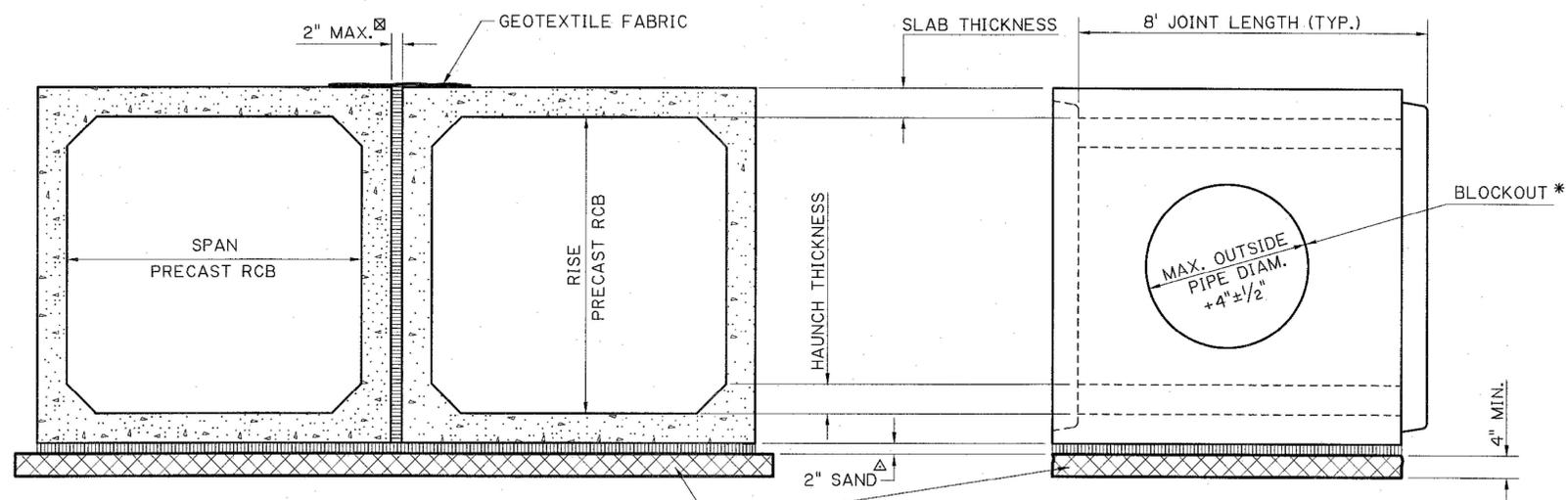
2" MAX. SPACE ALLOWED BETWEEN PRECAST UNITS, IF NECESSARY, TO BE END BLOCKED AND FILLED WITH SAND OR FLOWABLE FILL. COST TO BE INCLUDED IN COST OF PRECAST RCB.



**PLAN SHOWING MULTIPLE PRECAST RCB CULVERTS ON A STRAIGHT (90°) CROSSING WITH HEADWALLS**

**GENERAL NOTES**

- 1) FOR GENERAL SPECIFICATIONS OF PRECAST RCB SEE SECTION 805 AND 1016 OF THE LA DOTD STANDARD SPECIFICATIONS.
- 2) A MINIMUM 2 FOOT WIDE STRIP OF GEOTEXTILE FABRIC SHALL COVER THE ADJOINING LONGITUDINAL EDGES OF MULTI-BARREL BOXES AND JOINTS BETWEEN PRECAST UNITS. FABRIC EDGES AND ENDS SHALL BE SUITABLY SECURED. GEOTEXTILE FABRIC SPECIFICATIONS SHALL CONFORM TO THE SPECIFICATIONS FOR PIPE UNDER SECTION 1019 OF THE LA DOTD STANDARD SPECIFICATIONS. COST TO BE INCLUDED IN COST OF PRECAST RCB.
- 3) #4 DOWEL BARS, MINIMUM 20" LONG (10" EMBEDDED) AT 12" CENTERS ARE REQUIRED, TO CONNECT THE LAST PRECAST UNIT TO ANY CAST-IN-PLACE SECTION OF BOX.
- \* 4) BLOCKOUTS FOR PIPE INTO PRECAST RCB'S ARE THE RESPONSIBILITY OF THE CONTRACTOR. BLOCKOUT LOCATIONS ARE AS DIRECTED BY THE PROJECT ENGINEER. BLOCKOUT SHALL NOT BE GREATER THAN 1/2 THE RISE OF PRECAST RCB AND SHALL NOT BE LOCATED IN THE HAUNCH.
- Δ 5) IN ADDITION TO BEDDING MATERIAL, A MINIMUM 4 INCH THICK, CLASS R CONCRETE, WORKING TABLE WILL BE REQUIRED FOR 6' X 6' AND LARGER PRECAST RCB FIELD INSTALLATIONS. AN ADDITIONAL 2 INCHES OF SAND SHALL BE PLACED AND LEVELED UPON THE CONCRETE WORKING TABLE. COST OF WORKING TABLE AND SAND TO BE INCLUDED IN COST OF PRECAST RCB.
- ⊗ 6) FOR THE CAST-IN-PLACE PORTIONS OF THE CULVERT, THE REBAR SIZE AND SPACING SHALL MATCH OR EXCEED THE PRECAST SECTIONS. CONTRACTOR TO USE APPROVED PRECAST RCB SHOP DRAWING FOR REBAR REQUIREMENTS.
- 7) WALL AND SLAB THICKNESSES MAY VARY IN THE TRANSITION AREA BETWEEN THE LAST PRECAST UNIT AND THE CAST-IN-PLACE SECTION OF THE BOX AND HEADWALL. CONTRACTOR SHALL MAKE ADJUSTMENTS TO THE DIMENSIONS AND QUANTITIES OF REINFORCING STEEL AND CONCRETE IN THE CAST-IN-PLACE SECTIONS AS NECESSARY AT NO ADDITIONAL COST.



**SECTION A-A**

**SIDE ELEVATION OF PIPE JOINT SHOWING MAXIMUM BLOCKOUT AND PIPE DIAMETER**

⊗ REQUIRED 4" MIN. WORKING TABLE FOR LARGER PRECAST RCB'S. SEE NOTE 5 OF THE GENERAL NOTES.

SHEET NUMBER	PARISH	CONTROL SECTION	STATE PROJECT
DESIGN	CHECK	DETAIL	CHECK
REVIEW	REVIEW	SERIES #	OF

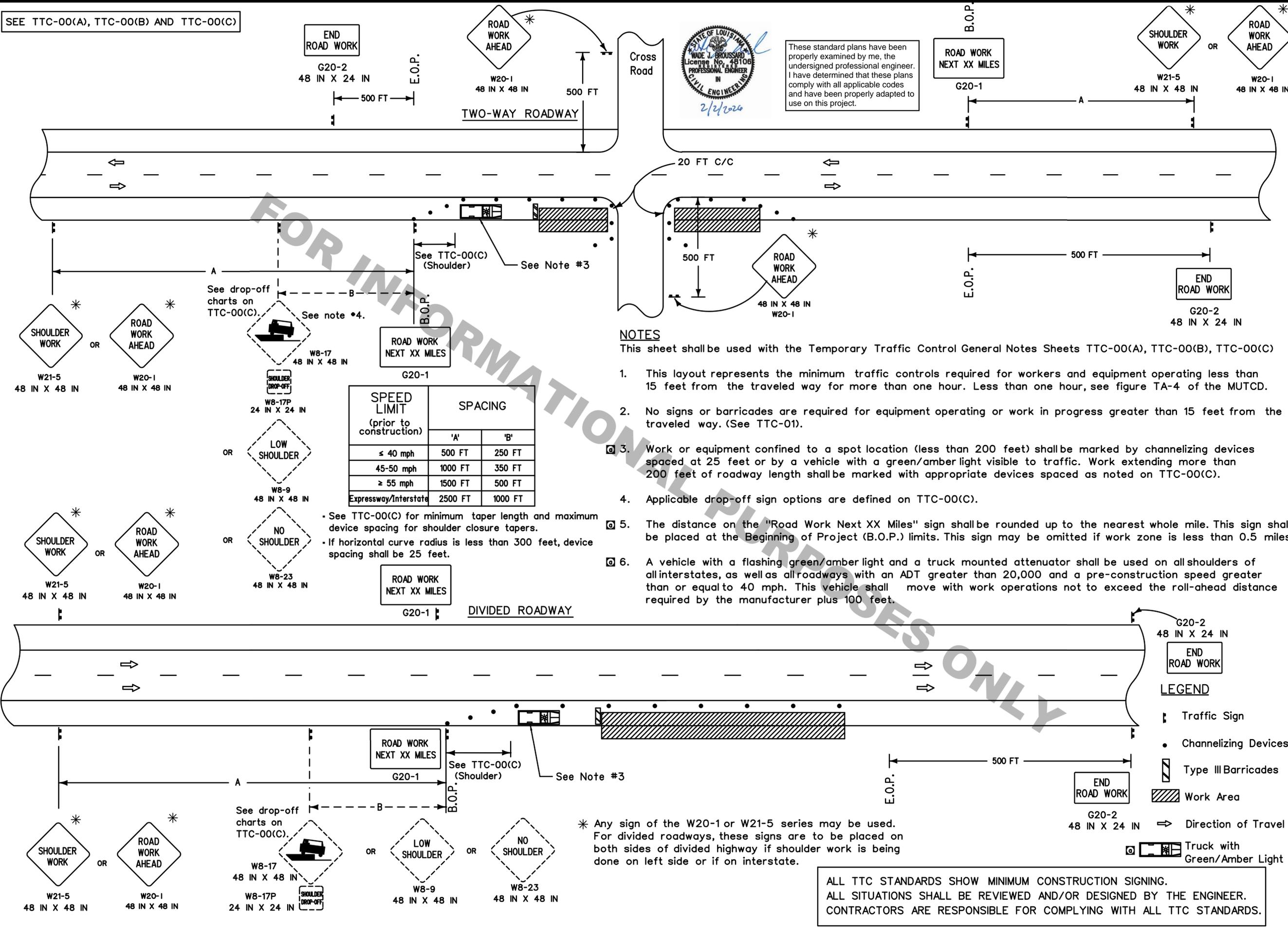
APPROVED BY CHIEF ENGINEER: *Mitra Hashemieh* DATE: 7/20/2022

REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING  
 MITRA HASHEMIEH  
 REG. NO. 28546  
 7/19/2022

PRECAST REINFORCED CONCRETE BOX CULVERTS  
 DETAILS AND SPECIFICATIONS  
 STANDARD PLAN PRCB-01

LOUISIANA DEPARTMENT OF TRANSPORTATION & INFRASTRUCTURE  
 HYDRAULICS SECTION

SEE TTC-00(A), TTC-00(B) AND TTC-00(C)



These standard plans have been properly examined by me, the undersigned professional engineer. I have determined that these plans comply with all applicable codes and have been properly adapted to use on this project.

**NOTES**

This sheet shall be used with the Temporary Traffic Control General Notes Sheets TTC-00(A), TTC-00(B), TTC-00(C)

1. This layout represents the minimum traffic controls required for workers and equipment operating less than 15 feet from the traveled way for more than one hour. Less than one hour, see figure TA-4 of the MUTCD.
2. No signs or barricades are required for equipment operating or work in progress greater than 15 feet from the traveled way. (See TTC-01).
3. Work or equipment confined to a spot location (less than 200 feet) shall be marked by channelizing devices spaced at 25 feet or by a vehicle with a green/amber light visible to traffic. Work extending more than 200 feet of roadway length shall be marked with appropriate devices spaced as noted on TTC-00(C).
4. Applicable drop-off sign options are defined on TTC-00(C).
5. The distance on the "Road Work Next XX Miles" sign shall be rounded up to the nearest whole mile. This sign shall be placed at the Beginning of Project (B.O.P.) limits. This sign may be omitted if work zone is less than 0.5 miles.
6. A vehicle with a flashing green/amber light and a truck mounted attenuator shall be used on all interstates, as well as all roadways with an ADT greater than 20,000 and a pre-construction speed greater than or equal to 40 mph. This vehicle shall move with work operations not to exceed the roll-ahead distance required by the manufacturer plus 100 feet.

SPEED LIMIT (prior to construction)	SPACING	
	'A'	'B'
≤ 40 mph	500 FT	250 FT
45-50 mph	1000 FT	350 FT
≥ 55 mph	1500 FT	500 FT
Expressway/Interstate	2500 FT	1000 FT

- See TTC-00(C) for minimum taper length and maximum device spacing for shoulder closure tapers.
- If horizontal curve radius is less than 300 feet, device spacing shall be 25 feet.

**LEGEND**

- Traffic Sign
- Channelizing Devices
- Type III Barricades
- Work Area
- Direction of Travel
- Truck with Green/Amber Light

ALL TTC STANDARDS SHOW MINIMUM CONSTRUCTION SIGNING.  
ALL SITUATIONS SHALL BE REVIEWED AND/OR DESIGNED BY THE ENGINEER.  
CONTRACTORS ARE RESPONSIBLE FOR COMPLYING WITH ALL TTC STANDARDS.

STATE OF LOUISIANA  
DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

TRAFFIC ENGINEERING

DESIGN: B. BOUCHER  
CHECK: M. RILOVICH

APPROVED BY CHIEF ENGINEER: [Signature]

DATE: Feb. 7, 2025

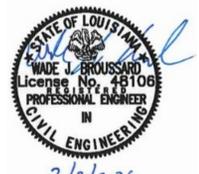
MINOR CORRECTIONS: [ ]  
REVISION OR CHANGE ORDER DESCRIPTION: [ ]

NO. 4-3-24  
DATE

TTC-02

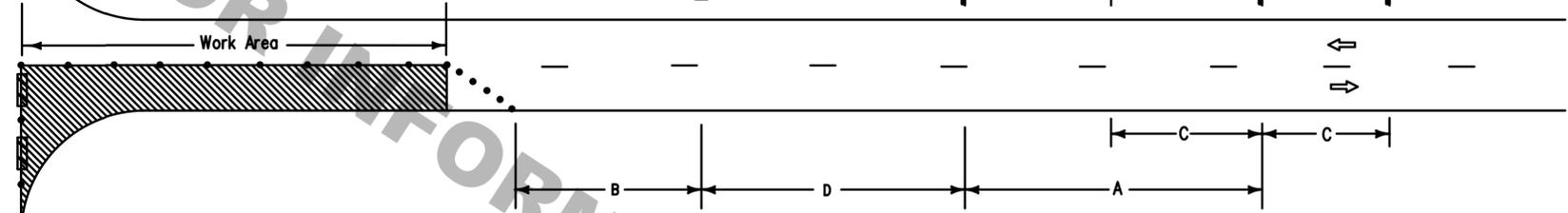
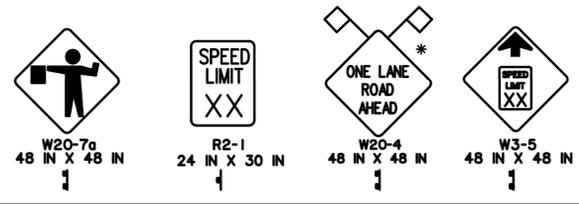
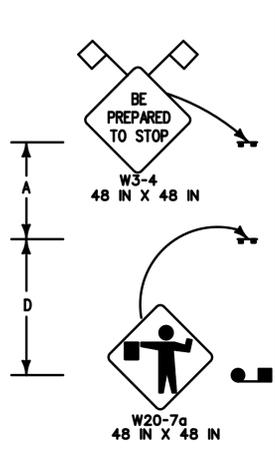
TEMPORARY TRAFFIC CONTROL LAYOUT FOR WORK LESS THAN 15 FEET FROM THE TRAVELED WAY

SEE TTC-00(A), TTC-00(B), TTC-00(C), AND TTC-00(D)

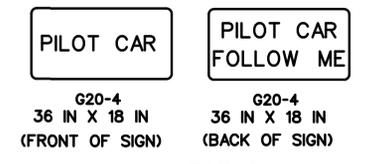


These standard plans have been properly examined by me, the undersigned professional engineer. I have determined that these plans comply with all applicable codes and have been properly adapted to use on this project.

For use when work area is less than or equal to 500 feet from nearest crossroad travel lane, but work area does not encroach crossroad travel lanes.



- ### PILOT CAR
- If used, a pilot car shall guide a queue of vehicles through the work zone or diversion.
  - It shall be used in restricted visibility operations such as lime or cement stabilization, chip seals, or operations in hilly or curvy terrains, where flaggers cannot see each other (no clear line-of-sight).
  - The operation of the pilot vehicle shall be coordinated with flagging operations or other controls at each end of the one-lane section and all major driveways and street intersections.
  - The pilot car sign should be mounted 7 feet above roadway in a position visible to oncoming and following traffic.
  - ☑ ● The pilot car shall have a green/amber beacon light.
  - The sign mounted on the vehicle shall be two-sided.



### LEGEND

- ⬇ Traffic Sign
- Channelizing Devices
- ▨ Type III Barricades
- ▨ Work Area
- 🚶 Flagger
- 🚓 Type B Light
- ➡ Direction of Travel
- ☑ 🚚 Truck with Green/Amber Light and TMA

SPEED LIMIT (prior to construction)	SPACING			
	'A'	'B'	'C'	'D'
≤ 40 mph	500 FT	100 FT	N/A	125 FT
45-50 mph	1000 FT	350 FT	500 FT	350 FT
> 50 mph	1500 FT	500 FT	800 FT	500 FT

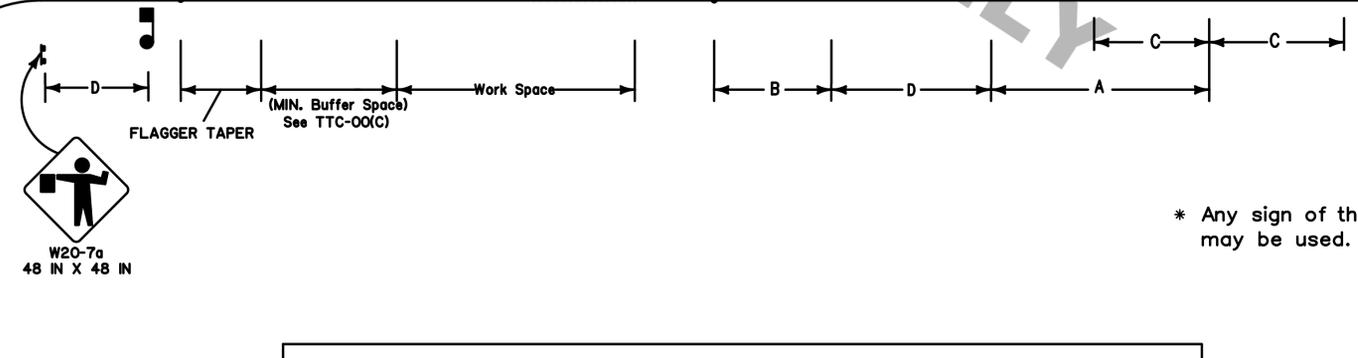
For use when work area is more than 500 feet and less than 1600 feet from nearest crossroad travel lane.



### NOTES

This sheet shall be used with the Temporary Traffic Control General Notes Sheets TTC-00(A), TTC-00(B), TTC-00(C), and TTC-00(D).

1. This layout represents the minimum traffic controls required for lane closures on two-lane roads with two-way traffic less than 1600 feet from an intersection. For advance signing see TTC-00(D).
2. Visual or radio contact shall be required between flaggers at all times. The flagger shall be visible from flagger sign.
3. Only law officers shall direct traffic against a traffic signal indication.
4. If work area is greater than 1600 feet see TTC-04.
5. If a pilot car is required then the contractor is not required to have channelizing devices in the tangent section.
6. A vehicle with a flashing green/amber light and a truck mounted attenuator shall be used on all roadways with an ADT greater than 20,000 and a pre-construction speed greater than or equal to 40 mph. This vehicle shall move with work operations not to exceed the roll-ahead distance required by the manufacturer plus 100 feet.



ALL TTC STANDARDS SHOW MINIMUM CONSTRUCTION SIGNING.  
ALL SITUATIONS SHALL BE REVIEWED AND/OR DESIGNED BY THE ENGINEER.  
CONTRACTORS ARE RESPONSIBLE FOR COMPLYING WITH ALL TTC STANDARDS.

STATE OF LOUISIANA  
DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

TRAFFIC ENGINEERING

DESIGN: B. BOUCHER  
CHECK: M. RILOVICH

APPROVED BY CHIEF ENGINEER: [Signature]

DATE: Feb. 7, 2025

MINOR CORRECTIONS  
REVISION OR CHANGE ORDER DESCRIPTION

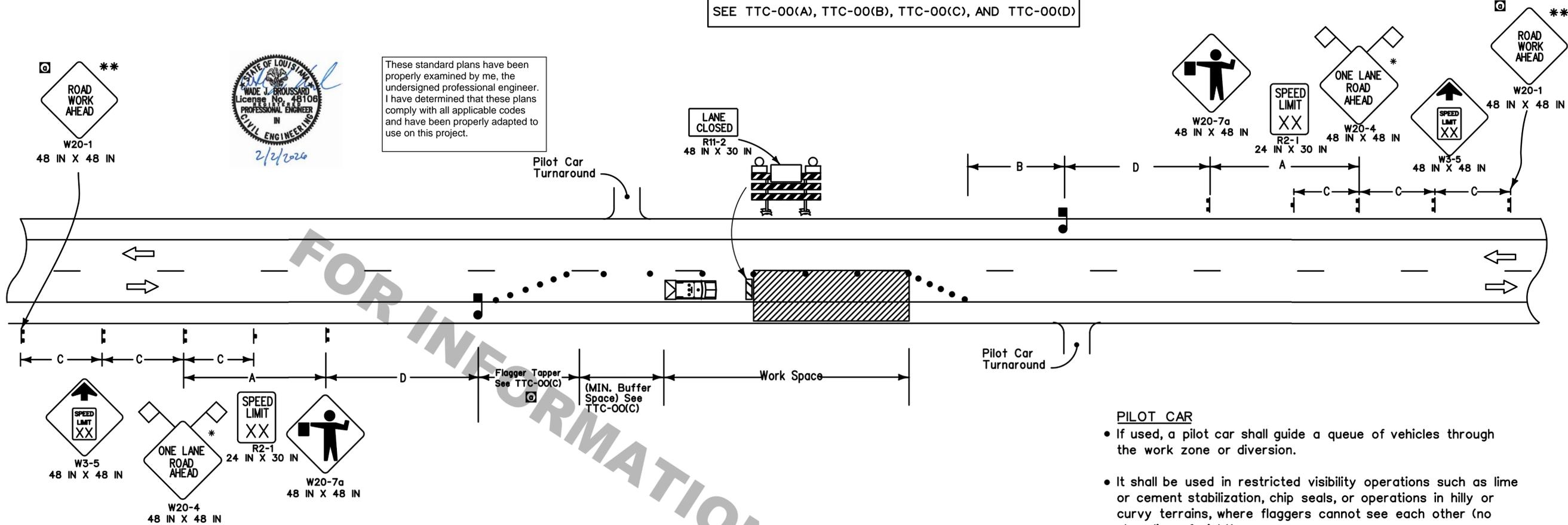
NO. 4-3-24 DATE

TTC-03

SEE TTC-00(A), TTC-00(B), TTC-00(C), AND TTC-00(D)



These standard plans have been properly examined by me, the undersigned professional engineer. I have determined that these plans comply with all applicable codes and have been properly adapted to use on this project.



**NOTES**

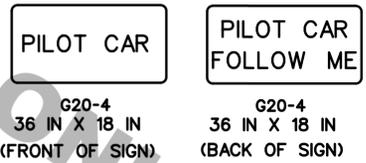
This sheet shall be used with the Temporary Traffic Control General Notes Sheets TTC-00(A), TTC-00(B), TTC-00(C) and TTC-00(D).

- This layout represents the minimum traffic controls required for lane closures on two-lane roads with two-way traffic greater than 1600 feet from an intersection. For this type of closure either a flagger or a pilot car will be required. For advance signing see TTC-00(D).
- To prevent vehicles from entering the work area against the flow of traffic, an additional flagger shall be stationed at each intersection, major driveway, railroad crossing, or crossing within the work area.
- For projects in rural areas the distance between flaggers shall not exceed:
  - (A) 2.5 miles for ADT < 2,500
  - (B) 2.0 miles for 2,500 < ADT < 5,000
  - (C) 1.5 miles for ADT > 5,000
- The flagger station shall be near the beginning of the taper and shall have adequate sight distance to be visible to oncoming traffic. If sight distance cannot be achieved, the distance between flaggers may be extended for a short duration.
- Visual or radio contact shall be required between flaggers at all times. The flagger shall be visible from the flagger sign.

- If a pilot car is required then the contractor is not required to have channelizing devices in the tangent section.
- If work zone is less than 1600 feet from an intersection see TTC-03.

**PILOT CAR**

- If used, a pilot car shall guide a queue of vehicles through the work zone or diversion.
- It shall be used in restricted visibility operations such as lime or cement stabilization, chip seals, or operations in hilly or curvy terrains, where flaggers cannot see each other (no clear line-of-sight).
- The operation of the pilot vehicle shall be coordinated with flagging operations or other controls at each end of the one-lane section and all major driveways and street intersections.
- The pilot car sign should be mounted 7 feet above roadway in a position visible to oncoming and following traffic.
- The pilot car shall have a green/amber beacon light.
- The sign mounted on the vehicle shall be two-sided.



SPEED LIMIT (prior to construction)	SPACING			
	'A'	'B'	'C'	'D'
≤ 40 mph	500 FT	100 FT	N/A	125 FT
45-50 mph	1000 FT	350 FT	500 FT	350 FT
≥ 55 mph	1500 FT	500 FT	800 FT	500 FT

- \* Any sign of the W20-4 series may be used.
- \*\* For extended length projects, if the distance between the current working area and beginning of the project exceeds 2500', an additional W20-1 should be added before the W3-5 sign to remind traffic of the work area.

**LEGEND**

- Traffic Sign
- Flagger
- Channelizing Devices
- Type III Barricades
- Work Area
- Type B Light
- Direction of Travel
- Truck with Green/Amber Light and TMA

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STATE OF LOUISIANA  
 DEPARTMENT OF TRANSPORTATION & DEVELOPMENT  
 TRAFFIC ENGINEERING

DESIGN: B. BOUCHER  
 CHECK: M. RILOVICH  
 DETAIL: [ ]  
 REVIEW: [ ]  
 SERIES: [ ]

APPROVED BY CHIEF ENGINEER: [Signature]  
 DATE: Feb. 7, 2025

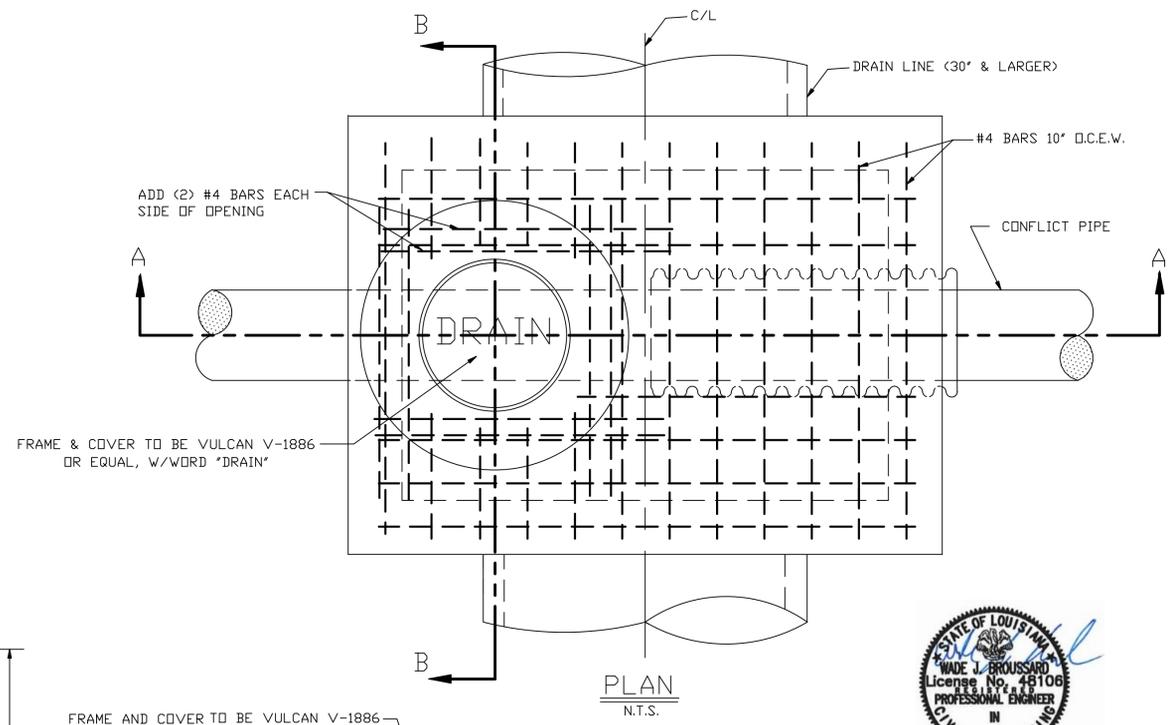
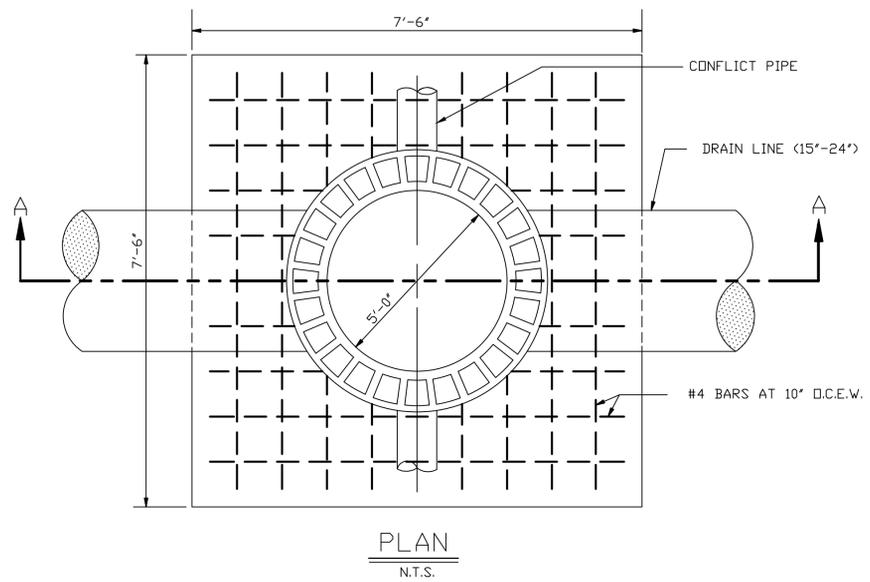
BRB BY: [ ]  
 ADD W20-1 SIGN, PROJECT LENGTH, MINOR CORRECTIONS  
 REVISION OR CHANGE ORDER DESCRIPTION

4-3-24 DATE  
 4-3-24 DATE

NO. [ ]

TTC-04

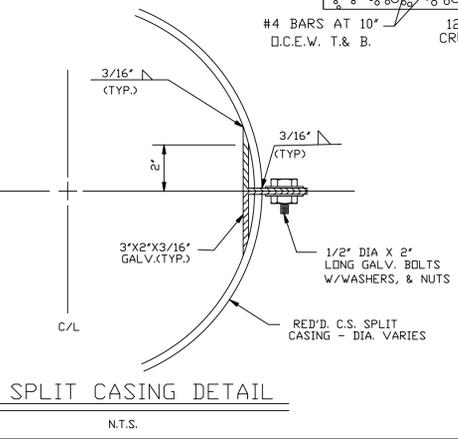
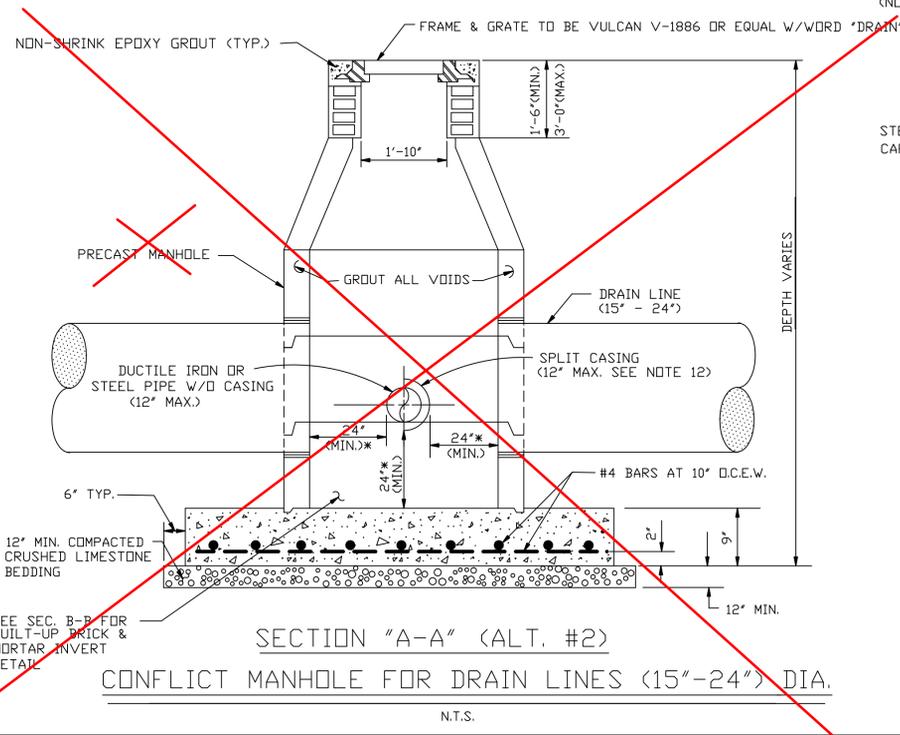
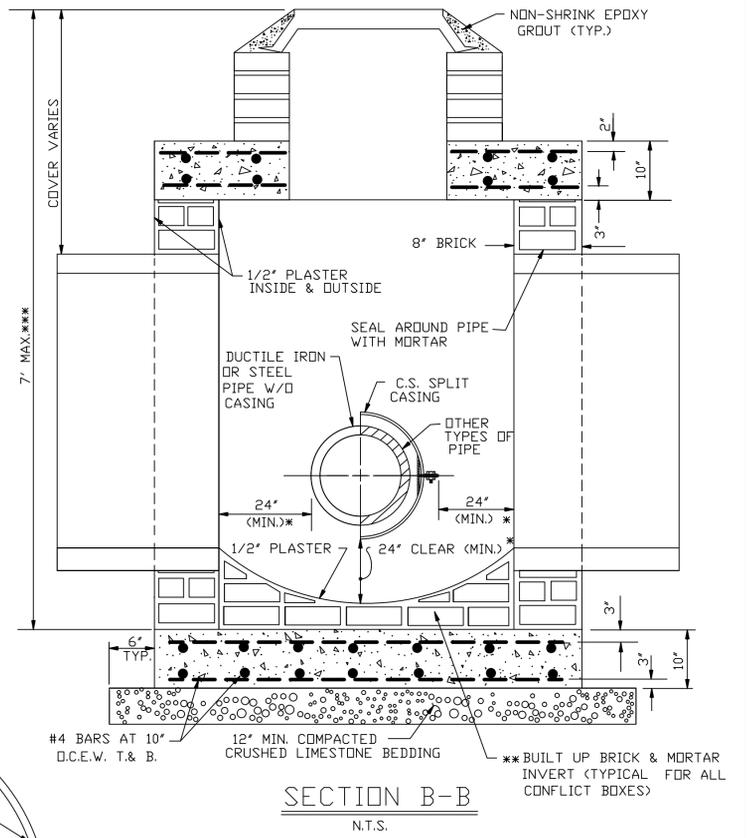
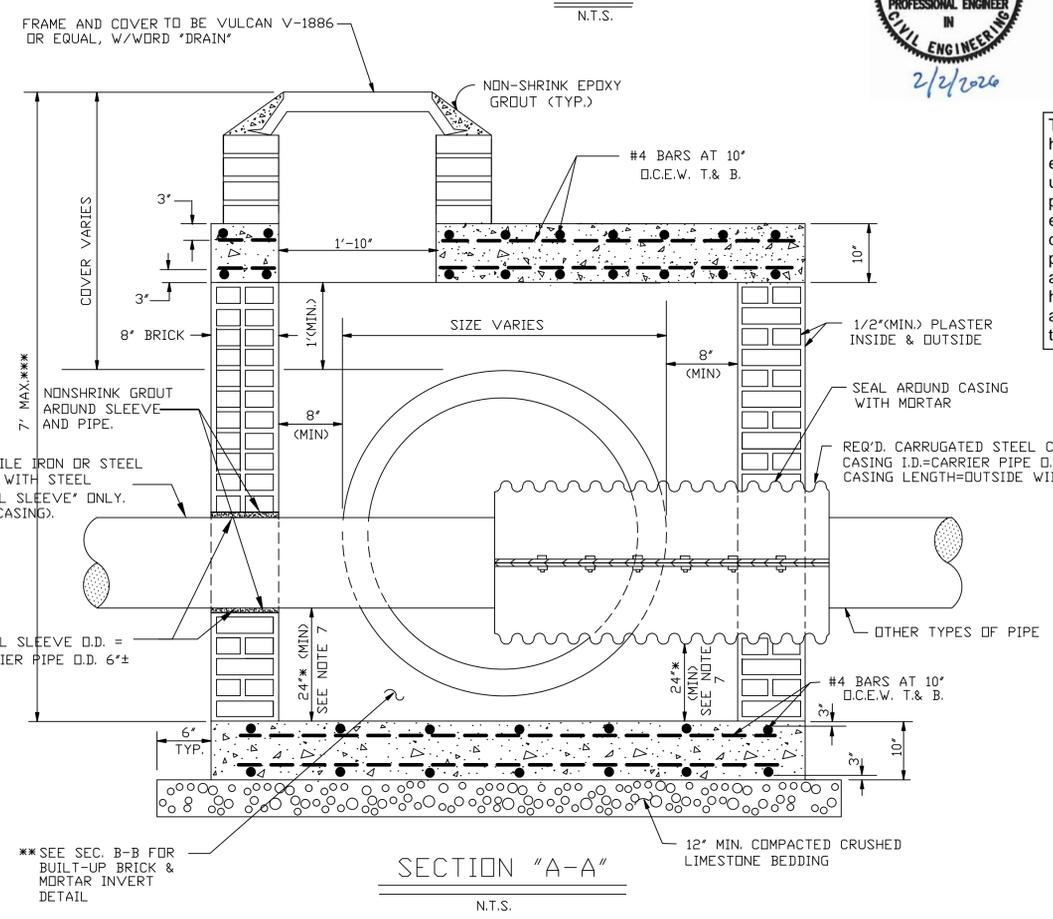
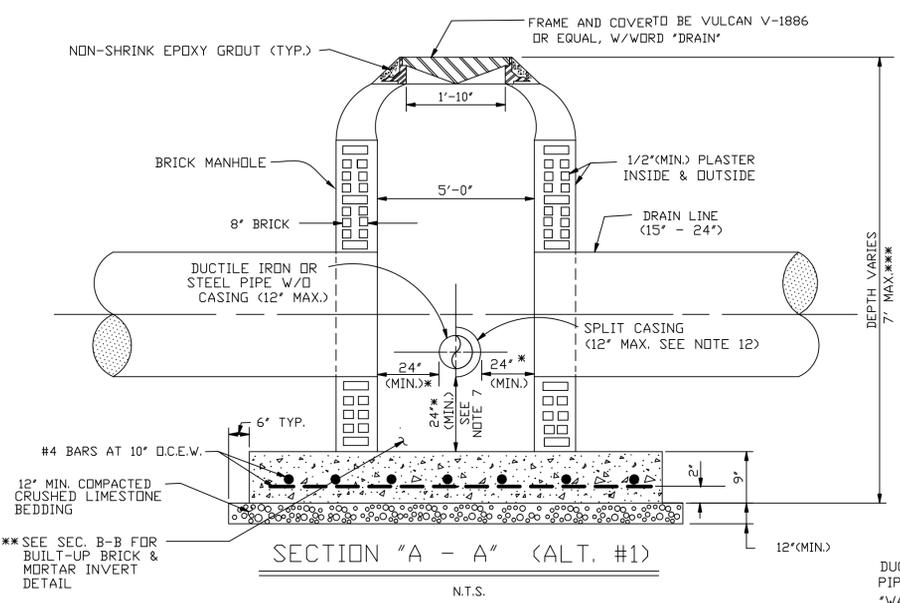
TEMPORARY TRAFFIC CONTROL LAYOUT FOR LANE CLOSURES ON TWO LANE ROADS WITH TWO-WAY TRAFFIC (FLAGGING OPERATIONS)



- NOTES:**
1. CONCRETE STRENGTH TO BE 3000 PSI (MIN.) AT 28 DAYS.
  2. REINFORCING STEEL SHALL CONFORM TO A.S.T.M. DESIGNATION A6150-GRADE 60.
  3. ALL MASONRY TO BE LAID WITH RUNNING BOND AND HEADER COURSE, EVERY FOURTH LAYER.
  4. THE MORTAR SHOULD BE TYPE 'A', (C250 PSI COMPRESSION).
  5. SPLIT CASING SHALL BE GALVANIZED STEEL, POLYMER COATED (10MIL./10MIL.) IN ACCORDANCE WITH AASHTO DESIGNATIONS M-218, M-245 AND M-246; 16 GAGE.
  6. THE BRICK SHALL CONFORM TO AASHTO DESIGNATION M91, MANHOLE BRICK GRADE MM.
  7. IF BOTTOM ELEVATION OF THE CONFLICT IS ABOVE THE UPPER 3RD. OF THE INSIDE DIAMETER OF THE DRAIN LINE THE INVERT OF THE CONFLICT BOX COULD BE THE SAME AS THE INVERT OF THE DRAIN LINE SUBJECT TO THE APPROVAL OF THE PARISH.
  8. ALL WATER LINES IN CONFLICT BOX SHALL BE DUCTILE IRON PIPE. OTHER PIPE MATERIAL SHALL BE INSTALLED IN SPLIT CASING.
  9. CLEARANCES SHOWN ARE NOT FOR HYDRAULIC DESIGN PURPOSES, BUT ARE MINIMUM CLEARANCES REQUIRED FOR PROPER INSPECTION AND MAINTENANCE OF THE DRAINAGE SYSTEM. THE 24" MIN. CLEARANCES SHOWN WILL EXTEND FROM INNER WALL SURFACES OR THE INVERT OF THE CONFLICT BOX TO THE OUTSIDE OF THE CASING OR THE OUTER EDGE OF THE CASING FLANGE, WHICHEVER IS APPLICABLE. ALL CLEARANCES MODIFIED CONFLICT BOXES SHALL BE DESIGNED AND CONSTRUCTED, IF NECESSARY, TO PROVIDE FOR SMOOTH AND ADEQUATE FLOW OF THE DESIGN RUNOFF. AND OPENINGS OF MODIFIED CONFLICT BOXES SHALL BE COMPATIBLE WITH AND SIZED FOR THE DRAIN LINES IN CONFLICT. ONE OF THE FOLLOWING BOXES MUST BE CHECKED:
    - FOR MODIFIED CONFLICT BOX SEE DRAINAGE STRUCTURES DETAIL SHEETS.
    - USE PARISH STANDARD, THIS SHEET, NO MODIFIED CONFLICT BOX DETAIL IS INCLUDED IN THESE DRAWINGS.
  10. MANHOLE STEPS SHALL BE INSTALLED IN CONFLICT BOXES 4'-0" DEEP AND OVER. MANHOLE STEPS SHALL CONFORM TO PARISH STANDARDS.
  11. BRICK CONFLICT BOXES OVER 7' DEEP WILL REQUIRE 12" THICK WALLS BELOW THE 7' DEPTH.
  12. THE PREFERRED METHOD OF INSTALLING SPLIT CASINGS IS TO HAVE THE FLANGES IN 3 O'CLOCK/9 O'CLOCK POSITIONS AS SHOWN IN SEC. B-B. INSTALLING SPLIT CASINGS WITH FLANGES IN OTHER POSITIONS SUCH AS 6 O'CLOCK/12 O'CLOCK POSITION IS PERMISSIBLE IN MANHOLES, WHICH ARE LIMITED TO 5'-0" IN DIAMETER.
  13. PRECAST CONFLICT MANHOLES WILL NOT BE ALLOWED.



These standard plans have been properly examined by me, the undersigned professional engineer. I have determined that these plans comply with all applicable codes and have been properly adapted to use on this project.



JEFFERSON PARISH DEPARTMENT OF ENGINEERING

**CONFLICT STRUCTURES (STANDARD DETAIL)**

DRAWN BY:	DATE:	REVISION BY:	DATE:
P.D.	05/31/96	P.D.	07/25/01
REV. TO AUTOCAD-LT:	DATE:	REVISION BY:	DATE:
P.D.	01/16/04	J.C.	12/06/11
REVISION BY:	DATE:	REVISION BY:	DATE:
J.W.	10/22/15	-	-
REVISION BY:	DATE:	REVISION BY:	DATE:
-	-	-	-
KGES:	AUTOCAD LT. 2012	VIN:	CONFLICT BOX.DWG
FILE NUMBER:	1892		

SHT 1 OF 1