STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

CONSTRUCTION PROPOSAL
FOR
CITY OF NEW ORLEANS

FEDERAL AID PROJECT

STATE PROJECT NO. 742-36-0123
WOODLAND DRIVE REHABILITATION
(TULLIS DR. TO GENERAL DEGAULLE DR.)
ORLEANS PARISH

STATE OF LOUISIANA
EDWIN L. LANTZER
REG. No. 24733
REGISTERED PROFESSIONAL ENGINEER IN MECHANICAL ENGINEERING

Edwin Lantzer

17 DECEMBER 2008

STATE PROJECT NO. 742-36-0123
TABLE OF CONTENTS

NOTICE TO CONTRACTORS (10/08)

Electronic bids and electronic bid bonds for the following project will be downloaded by the Department of Transportation and Development (DOTD) on **Wednesday, January 28, 2009**. **Paper bids and paper bid bonds will not be accepted.** Electronic bids and electronic bid bonds must be submitted through www.bidx.com prior to the electronic bidding deadline. Beginning at 10:00 a.m., all bids will be downloaded and posted online at http://www.dotd.la.gov/cgi-bin/construction.asp. No bids are accepted after 10:00 a.m.

DBE GOAL PROJECT
STATE PROJECT NO. 742-36-0123
FEDERAL AID PROJECT NO. 3603(500)
DESCRIPTION: WOODLAND DRIVE REHABILITATION (TULLIS DR. TO GENERAL DEGAULLE DR.)
PARISH: ORLEANS
LENGTH: 0.309 mile.
TYPE: GRAD, DRAINAGE STRUCTURES, WATER AND SEWER SYSTEMS, CLASS II BASE COURSE, PORTLAND CEMENT CONCRETE PAVEMENT, AND RELATED WORK.
LIMITS: State Project No. 742-36-0123: LOCATED ON WOODLAND DRIVE FROM ITS JCT WITH TULLIS DRIVE to ITS JCT WITH GENERAL DEGAULLE DRIVE.
LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT FOR: CITY OF NEW ORLEANS (Contracting Agency).
ESTIMATED COST RANGE: $5,000,000 to $7,500,000
PROJECT ENGINEER: ECM CONSULTANTS, INC.; (504) 885-4080.
DOTD COORDINATOR: CAPOTE, NELSON; (504) 361-6495.
PROJECT MANAGER: RIGGS, LAURA.

Bids must be prepared and submitted in accordance with Section 102 of the 2006 Louisiana Standard Specifications for Roads and Bridges as amended by the project specifications, and must include all information required by the proposal.

Paper plans and/or proposals may be obtained in Room 101-A of the DOTD Headquarters Administration Building, 1201 Capitol Access Road in Baton Rouge, or by contacting the DOTD; Email: sharonknight@dotd.la.gov, Phone (225) 379-1111, FAX: (225) 379-1714, or by written requests sent to the Louisiana Department of Transportation and Development, Project Control Section, P. O. Box 94245, Baton Rouge, LA 70804-9245. Proposals will not be issued later than 24 hours prior to the time set for opening bids. All Addenda, Amendments, Letters of Clarification, and Withdrawal Notices will be posted online. **Paper notices will not be distributed.** Construction proposal information may be accessed via the Internet at www.dotd.la.gov. From the home page, select ***Doing Business with DOTD*** from the left-hand menu, then select the appropriate letting date found under the ***Construction Letting Information*** pop-up menu. All project specific notices are posted under ***Construction Proposal Documents*** for this project. **It will be the responsibility of the bidder to check for updates.** If paper copies of the proposal are desired, the proposal cost is $25.00. If paper copies of the plans are desired, the cost of the plans is $14.50 for complete plans. The purchase price for paper plans and proposals is non-refundable. Additionally, plans and specifications may be seen at the Project Engineer's office or in Room 101-A of the DOTD's Headquarters Administration Building in Baton Rouge. Upon request, the Project Engineer will show the work.

All questions concerning the plans shall be submitted via the Electronic Plans Distribution Center known as **Falcon**. Questions submitted within 96 hours of the bid deadline may not be answered prior to bidding. Falcon may be accessed via the Internet at www.dotd.la.gov. From the home page, select ***Doing Business with DOTD*** from the left-hand menu, then select ***Construction Letting Information*** on the pop-up menu. On the Construction Letting Information page, select the link, ***DOTD's Plan Room***. Login to Falcon (or request an ID if a first-time user). Once logged in, you will have access to view Project Information, submit a question concerning the project, and view the plans. All submitted questions will be forwarded by email to the Project Manager and the Project Engineer for a response.

The U. S. Department of Transportation (DOT) operates a toll free "Hotline" Monday through Friday, 8:00 a.m. to 5:00 p.m., eastern time. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should call 1-800-424-9071. All information will be treated confidentially and caller anonymity will be respected.

GENERAL BIDDING REQUIREMENTS (08/06): The specifications, contract and bonds governing the construction of the work are the 2006 Edition of the Louisiana Standard Specifications for Roads and Bridges, together with any supplementary specifications and special provisions attached to this proposal.

Bids shall be prepared and submitted in accordance with Section 102 of the Standard Specifications.

The plans herein referred to are the plans approved and marked with the project number, route and Parish, together with all standard or special designs that may be included in such plans. The bidder declares that the only parties interested in this proposal as principals are those named herein; that this proposal is made without collusion or combination of any kind with any other person, firm, association, or corporation, or any member or officer thereof; that careful examination has been made of the site of the proposed work, the plans, Standard Specifications, supplementary specifications and special provisions above mentioned, and the form of contract and payment, performance, and retainage bond; that the bidder agrees, if this proposal is accepted, to provide all necessary machinery, tools, apparatus and other means of construction and will do all work and furnish all material specified in the contract, in the manner and time therein prescribed and in accordance with the requirements therein set forth; and agrees to accept as full compensation therefore, the amount of the summation of the products of the quantities of work and material incorporated in the completed project, as determined by the engineer, multiplied by the respective unit prices herein bid.

It is understood by the bidder that the quantities given in this proposal are a fair approximation of the amount of work to be done and that the sum of the products of the approximate quantities multiplied by the respective unit prices bid shall constitute gross sum bid, which sum shall be used in comparison of bids and awarding of the contract.

The bidder further agrees to perform all extra and force account work that may be required on the basis provided in the specifications.

The bidder further agrees that within 15 calendar days after the contract has been transmitted to him, he will execute the contract and furnish the Department satisfactory surety bonds.

If this proposal is accepted and the bidder fails to execute the contract and furnish bonds as above provided, the proposal guaranty shall become the property of the Department; otherwise, said proposal guaranty will be returned to the bidder; all in accordance with Subsection 103.04.

MANDATORY ELECTRONIC BIDS AND ELECTRONIC BID BONDS SUBMISSION (10/08): This project requires mandatory electronic bidding. All Specifications, whether Standard, Supplemental or Special Provisions, are hereby amended to delete any references regarding paper bids and the ability to submit paper bid forms.

The contractor shall register online to be placed on the Louisiana Department of Transportation and Development (LA DOTD) prospective bidders list or for information only list.

Modifications to proposal documents will be posted on the Department's website at the following URL address: www.dotd.la.gov/cgi-bin/construction.asp.

LA DOTD shall not be responsible if the bidder cannot complete and submit a bid due to failure or incomplete delivery of the files submitted via the internet.

DBE PARTICIPATION IN FEDERAL AID CONSTRUCTION CONTRACTS (02/07): This project is a DBE goal project. In accordance with the Required Contract Provisions for DBE Participation in Federal Aid Construction Contracts elsewhere herein, the DBE goal for approved subcontracting work on this project is 15.0 percent of the total contract bid price. The contractor shall submit DOTD Form OMF-1A (Request to Sublet) and have it approved by the Department before any subcontract work is done on the project. Only those businesses certified by the Department as Disadvantaged Business Enterprises (DBEs) may be utilized in fulfillment of the DBE goal requirement. Such businesses are those certified by the Louisiana Unified Certification Program on the basis of ownership and control by persons found to be socially and economically disadvantaged in accordance with Section 8(a) of the Small Business Act, as amended and Title 49, Code of Federal Regulations, Part 26 (49 CFR 26).

BUY AMERICA PROVISIONS (03/95): Pursuant to the "Buy America Provisions" of the Surface Transportation Assistance Act (STAA) of 1982 as promulgated by current FHWA regulation 23 CFR 635.410 and the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) amendment to (STAA), all steel and iron materials permanently installed on this project shall be manufactured, including application of a coating, in the United States, unless a waiver of these provisions is granted. Coating includes all processes which protect or enhance the value of the material to which the coating is applied. The request for waiver must be presented in writing to the Department by the contractor. Such waiver may be granted if it is determined that:

(1) The application of Buy America Provisions would be inconsistent with the public interest or

(2) Such materials are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality.

Minimal use of foreign steel and iron materials will be allowed without waiver provided the cost of these materials does not exceed 0.1 percent of the total contract cost or $2,500, whichever is greater; however, the contractor shall make written request to the DOTD Construction Engineering Administrator for permission to use such foreign materials and shall furnish a listing of the materials, their monetary value, and their origin and place of production.

The burden of proof for the origin and place of production and any request for waiver is the responsibility of the contractor.

Prior to the use of steel and iron materials in the project, the contractor shall furnish Mill Test Reports to the engineer for such steel and iron materials, accompanied by a notarized certification stating that the Mill Test Reports represent the steel and iron materials to be furnished and that such materials were produced and fabricated in the United States.

Pig iron and processed, pelletized, and reduced iron ore are exempt from the Buy America Provisions.

DEFINITIONS AND TERMS (07/07): Subsection 101.03 of the Standard Specifications is amended to include the following.

Contracting Agency. A city, levee board, police jury or other governing authority of a parish, state office, agency, board, commission, public corporation or other political subdivision of the State, in whose name the contract will be executed. Whenever the term "Department" is used as Owner, it shall mean the Contracting Agency. Whenever the term "Department" is used as Engineer, it shall mean the Engineer.

Technical Specifications. Requirements pertaining to a specific method of performing the work and to quantities and qualities of materials to be furnished.

The definition for "Proposal/ Bid Guaranty" is deleted and following substituted.

Proposal/Bid Guaranty. The required security furnished with a bid. The only form of security acceptable is a Bid Bond.

INTENT OF CONTRACT (11/95): Subsection 104.01, Intent of Contract, is amended to include the following.

(a) Covenant of Good Faith and Fair Dealing.

This contract imposes an obligation of good faith and fair dealing in its performance and enforcement.

The contractor and the Department agree from the beginning to focus on creative cooperation, to avoid adverse confrontation, and to foster mutual respect, along with a positive commitment to honesty and integrity, and agree to the following mutual duties.

(1) Each will function within the laws and statutes applicable to their duties and responsibilities.
(2) Each will communicate in an open and candid manner.
(3) Each will assist in the other's performance.
(4) Each will avoid hindering the other's performance.
(5) Each will proceed to fulfill its obligations diligently.
(6) Each will cooperate in the common endeavor of the contract.

(b) Voluntary Partnering.

The Louisiana Department of Transportation and Development intends to encourage the foundation of a cohesive partnership with the contractor and its principal subcontractors and suppliers. This partnership will be structured to draw on the strengths of each organization to identify and achieve reciprocal goals. The objective is a cooperative approach to contract management that will reduce costs, litigation, and "stress" while completing the project in accordance with the plans and specifications.

This partnership will be bilateral in makeup, and participation in partnering will be totally voluntary and is not a requirement of the contract.

A partnering conference is to be implemented and held prior to beginning construction. The contractor's management personnel and the Project Engineer will initiate a partnering development conference. They, working with the assistance of the District Construction Engineer, will make arrangements to determine the facilitator, the attendees at the conference, agenda of the conference, duration, and location. Persons required to be in attendance will be the Project Engineer and key project personnel; the contractor's on-site project manager and key project supervision personnel of both the prime and principal subcontractors and suppliers. The project design engineers, FHWA, key company representatives, and key local government personnel will also be invited to attend as necessary. The contractor and DOTD will also be required to have Regional/District and Corporate/State level managers on the project team.

Any cost associated with effectuating this partnering will be agreed to by both parties and will be shared equally and will be paid for in accordance with Subsection 109.04. The contractor, DOTD, FHWA and all others invited to the partnering conference will be responsible for any expenses incurred by their respective employees which includes salaries, travel, and lodging.

Follow-up conferences may be held periodically throughout the duration of the contract as agreed by the contractor and the DOTD.

The establishment of a partnership charter on a project will not change the legal relationship of the parties to the contract nor relieve either party from any of the terms of the contract. This partnership charter is intended only to establish an environment of cooperation and communication between all parties involved with the completion of the project.

MAINTENANCE OF TRAFFIC (08/06): Subsection 104.03 of the 2006 Standard Specifications is amended to include the following requirements.

The contractor shall provide for and maintain through and local traffic at all times and shall conduct his operations in such manner as to cause the least possible interference with traffic at junctions with roads, streets and driveways.

The contractor shall conduct his paving operations on one side of the roadway at a time. The side of the roadway, including shoulder, that is open to traffic shall be clear at all times.

When the plans show asphaltic concrete pavement layers to be placed in thicknesses of 2 inches (50 mm) or less, the contractor will be permitted to pave in one lane for a full day; the adjacent lane may be paved the following workday. When pavement layers are greater than 2 inches (50 mm) thickness, the contractor shall place approximately 1/2 of each day's production in one lane and the remainder in the adjacent lane.

At the end of each day's paving operations, temporary pavement markings shall be in place and proper signs and barricades displayed. During the period that all lanes are open to traffic, the contractor shall neither store material nor park equipment on roadway shoulders.

All asphaltic concrete pavement new construction, overlays, and shoulder surfacing operations open to traffic shall be conducted in accordance with the following requirements.

1. Shoulder Subgrade Preparation: Any required embankment widening shall be completed before placement of the asphaltic concrete overlay. All vegetation shall be removed from existing shoulders before beginning temporary or final shoulder construction.

2. Temporary Shoulder Construction: Temporary shoulder construction described herein shall be completed at the end of each day's operations for all asphaltic concrete courses except the final wearing course. There shall be no drop-off from the pavement edge to the shoulder. The contractor shall blade and shape existing shoulder material against, and approximately level with, the top of the pavement surfacing to form a temporary shoulder with a uniform slope from the pavement edge to the existing shoulder line, or to a point 10 feet (3 m) from the pavement edge. If existing shoulder materials are insufficient, the contractor shall furnish, place and shape additional shoulder surfacing materials to form the temporary shoulder. Existing and/or additional materials for temporary shoulders shall be to the satisfaction of the engineer. Compaction shall be by approved methods.

No direct payment will be made for constructing and subsequently reshaping temporary shoulders, except payment for additional materials under appropriate pay items.

PERMITS, LICENSES, TAXES AND INSURANCE (04/01). Section 107 of the Standard Specifications is amended as follows.

Subsection 107.02, Permits, Licenses, Taxes and Insurance. This subsection is deleted and the following substituted.

107.02 PERMITS, LICENSES, TAXES AND INSURANCE. Contractors shall procure temporary permits and licenses for the work, pay charges, fees, and taxes, and give notices necessary to due and lawful prosecution of the work.

The contractor shall maintain, at a minimum, the following insurance coverages:

(a) Workers Compensation in compliance with state law, with the exception that the contractor's Employer liability is to be at least $1,000,000 when work is to be over water and involves maritime exposures. For the coverage provided in this subpart the contractor's Insurer will have no right of recovery or subrogation against the State of Louisiana, the Louisiana Department of Transportation and Development, or **City of New Orleans.**

(b) Commercial General Liability Insurance with a combined single limit per occurrence for bodily injury and property damage. The aggregate loss limit must be on a per project basis. This insurance shall include coverage for bodily injury and property damage, and include coverage for Premises-Operation; Broad form Contractual Liability; Products and Completed Operation; Use of Contractors and Subcontractors; Personal Injury; Broad form Property Damage; explosion, collapse and underground (XCU) coverage. The required combined single limit amount of insurance shall be as provided in Table 107-1.

(c) A separate Owner's and Contractor's Protective (OCP) Liability Policy shall be supplied by the contractor naming the Louisiana Department of Transportation and Development and **City of New Orleans** as the named insured. The required combined single OCP limit amount shall be as provided in Table 107-1.

(d) Business Automobile Liability Insurance with a combined single limit per occurrence for bodily injury and property damage. This insurance shall include bodily injury and property damage coverage for owned automobiles, hired automobiles and non-owned automobiles. The required combined single limit amount of insurance shall be as provided in Table 107-1 below.

TABLE 107-1
Insurance Requirements

INITIAL CONTRACT AMOUNT	MINIMUM INSURANCE
Up to $1,000,000	$ 1,000,000
From $1,000,001 to $2,000,000	$ 2,000,000
Over $2,000,000	$ 5,000,000

The following shall be included as provisions in each policy:

(a) The insurance company (ies) issuing the policy (ies) shall have no recourse against the State of Louisiana, the Department of Transportation and Development, or **City of New Orleans** for payment of any premiums or for assessments under any form of the policy.

(b) Any and all deductibles in the above described insurance policy (ies) shall be assumed by and be at the sole risk of the contractor.

Insurance is to be placed with insurance companies authorized in the State of Louisiana with an A. M. Best's rating of A-: VI or higher. This rating requirement may be waived for Workers Compensation coverage only.

Should any policies be canceled, the contractor shall immediately notify the Department of Transportation and Development and **City of New Orleans.**

Upon failure of the contractor to furnish, deliver and maintain such insurance as required, this contract, at the election of **City of New Orleans,** may be immediately declared suspended,

discontinued or terminated. Failure of the contractor to maintain any required insurance shall not relieve the contractor from any liability under the contract, nor shall the insurance requirements be construed to conflict with the obligations of the contractor concerning indemnification under Subsection 107.17.

The contractor is responsible for requiring and verifying that all subcontractors working on the project maintain appropriate types and levels of insurance coverage.

PUBLIC CONVENIENCE AND SAFETY (09/05): Subsection 107.07 of the Standard Specifications is amended to include the following.

The procurement of police officers for public safety during construction shall be in accordance with the Department's Policy for Use of Police Officers in Construction/Maintenance Work Zones. The DOTD project engineer shall determine the need for police officers to assist in controlling traffic in a particular work zone. The number of officers needed, the tasks they will perform, and their location within the work zone will vary as a function of the zone type. Police officers shall be placed at strategic locations at times during construction as determined by the DOTD project engineer.

The three types of law enforcement services are Police Presence, Police Enforcement and Police Traffic Control. Police Presence is defined as the use of police officers at the beginning of the active work zone area utilizing their blue lights to gain the attention of drivers. Police Enforcement is utilized when enforcement is required to enhance the safe operation of the work zone. Police Traffic Control is to be used in detour / diversion situations.

The DOTD project engineer will extend an invitation to the appropriate Louisiana State Police (LSP) Troop Commander to attend the pre-construction conference.

Prior to commencing the work on the project, the contractor shall contact the LSP Troop Commander to obtain law enforcement services of police officers during construction. If the LSP Troop is unable to provide law enforcement services for the project work zone, the LSP Troop Commander or the contractor will extend the invitation to the appropriate local law enforcement authorities.

Police officers will report directly to the contractor. However, the contractor will not have the authority to direct the placement of the police officer or the patrol vehicle in situations that are contrary to established procedures and/or could endanger the police officer. The DOTD project engineer will make the final determination on all issues regarding police officer responsibility in work zones.

Prior to the beginning of the shift, the contractor shall provide a daily work zone briefing to the police officer. For major changes in traffic patterns, advanced notification shall be provided to the police agency working the detail. This information should also be provided to the motoring public through the DOTD district and / or the LSP Troop.

The contractor shall pay for law enforcement services provided by the police officers based on the hourly wage and vehicle rate fee schedule below. The Department will reimburse the contractor monthly for the incurred cost. The contractor shall furnish time record documentation with the request for reimbursement. The provisions of Subsection 109.04 shall not apply to this reimbursement.

The agreed upon fee schedule for police officers in the work zone is as follows:

$25 per vehicle per day - vehicle use fee

$40 per hour per officer (one officer per vehicle) (minimum 2 hours).

ENVIRONMENTAL PROTECTION (08/06): Subsection 107.14 of the 2006 Standard Specifications is amended to include the following paragraphs at the end of this subsection.

The project engineer will complete and submit the Small Construction Activity Completion Report to the LADEQ by January 28th of the year following the calendar year of project acceptance and stabilization.

The use of erosion control features or methods other than those in the contract shall be as directed.

The Storm Water Pollution Prevention Plan shall be comprised of Section 204 of the standard specifications along with applicable supplemental specifications and special provisions, and Standard Plan EC-01, "Temporary Erosion Control Details."

SUBLETTING OF CONTRACT (01/83): In accordance with Subsection 108.01 of the Standard Specifications, the following items are designated as "Specialty Items":

Item 729-01, Sign (Type A)
Item 729-08-A, Mounting (2 ½" Post)
Item 731-02, Reflectorized Raised Pavement Markers
Item 732-01-A, Plastic Pavement Striping (4" Width)
Item 732-01-B, Plastic Pavement Striping (6" Width)
Item 732-01-C, Plastic Pavement Striping (8" Width)
Item 732-01-D, Plastic Pavement Striping (12" Width)
Item 732-01-E, Plastic Pavement Striping (24" Width)
Item S-009, Gravel Bed and Filter Cloth Over Tree Roots
Item S-010, Tree Removal
Item S-011, Tree Trimming
Item S-012, Root Pruning
Item S-013, New Tree (Savannah Holly – 2" Min. Caliper, 12' Min. Height)
Item S-016, Street Name Sign on New Post
Item S-016, Project Sign
Item S-036, Water Main (8") With Main Line Fittings (PVC-C900)
Item S-037, Water Main (12") With Main Line Fittings (PVC-C900)
Item S-038, Water Main (12") With Main Line Fittings (Ductile Iron)
Item S-039, Water Valve (8")
Item S-040, Water Valve (12")
Item S-041, Valve Manhole (S&WB of N.O. DWG. #6179-F-2)
Item S-042, Fire Hydrant (S&WB of N.O. DWG. #6179-F-2)
Item S-043, Replace 1" Water House Connection (from Main to Meter) with Reducer as Needed.
Item S-044, Replace 4" Water House Connection (from Main to Meter) with Reducer as Needed.
Item S-045, Replace 8" Water House Connection (from Main to Meter) with Reducer as Needed.
Item S-046, Eight (8") Inch Water Line Main Offset (Up to 48")
Item S-047, Twelve (12") Inch Water Line Offset (Up to 48")
Item S-048, Remove Mud and Debris from Inside of Water Meter Box
Item S-049, Adjust Complete Water Meter Box to Grade

Item S-050, Replace Broken Water Meter Box
Item S-051, Plug Existing Water or Sewer Main (Up to 12" Diameter)
Item S-052, Install Eight (8") Inch Sewer Main (8.1' to 10.0' Deep)
Item S-053, Install Eight (8") Inch Sewer Main (10.0' to 12.0' Deep)
Item S-054, Install Ten (10") Inch Sewer Main (8.1' to 10.0' Deep)
Item S-055, Install Ten (10") Inch Sewer Main (10.1' to 12.0' Seep)
Item S-056, Install Twelve (12") Inch Sewer Main (10.1' to 12.0' Deep)
Item S-057, Sewage Force Main (12") With Main Line Fittings (PVC-C900)
Item S-058, Sewage Force Main (12") With Main Line Fittings (Ductile Iron)
Item S-059, Twelve (12") Sewage Force Main Offset (Up to 48")
Item S-060, Sewer Manhole (S&WB of N.O. DWG. #6178-B6)
Item S-061, Replace Existing Sewer House Connection from New Main to Property Line (S&WB of N.O. DWG. # 6312-E5_A&B)
Item S-062, Adjust Manhole (Up to 6") with Brick and Mortar
Item S-063, Adjust Manhole (Over 6" and Up To 36") with Brick and Mortar
Item S-064, Relocation of Existing Light Standards

DETERMINATION AND EXTENSION OF CONTRACT TIME (01/04): Subsection 108.07 Determination and Extension of Contract Time is amended to include the following.

The contractor shall document for each month of scheduled construction, the occurrence of adverse weather conditions having an impact on controlling items of work. An adverse weather day is one on which rainfall or wet soil conditions will prevent construction operations from proceeding for at least 5 continuous hours of the day or 65 percent of the normal work day, whichever is greater, with the normal working force engaged in performing the controlling item of work. If the contractor submits a written request for additional contract time due to adverse weather conditions, the contractor's request will be considered only for adverse weather days in excess of the allowable number of days per month stated below. An equitable adjustment in contract time will be made at the conclusion of the project by comparing the total number of excess adverse weather days requested by the contractor to the number of adverse weather days that were included in the construction schedule but were not used. Contract time will not be reduced due to the adjustments for adverse weather. An adjustment in the contract time due to adverse weather will not be cause for an adjustment in the contract amount.

The following are anticipated adverse weather days that the contractor shall include in each month of his calendar day construction schedule.

January	11 days	May	5 days	September	4 days
February	10 days	June	6 days	October	3 days
March	8 days	July	6 days	November	5 days
April	7 days	August	5 days	December	8 days

PAYMENT ADJUSTMENT (05/06): Section 109, Measurement and Payment of the Standard Specifications is amended to add the following.

This project is not designated for payment adjustments for asphalt cements or fuels.

PLASTIC PAVEMENT MARKINGS (09/07): Section 732 of the 2006 Standard Specifications and the supplemental specifications thereto, is amended as follows.

Subsection 732.03, Construction Requirements for Plastic Pavement Marking Material.

Heading (a) is amended as follows.

The first paragraph is deleted and the following substituted.

(a) Equipment for Standard (Flat) Thermoplastic Marking Material: The application equipment shall consist of an extrusion die or a ribbon gun that simultaneously deposits and shapes lines at a thickness of 90 mils (2.3 mm) or greater on the pavement surface. When restriping onto existing thermoplastic markings, only a ribbon gun shall be used. Finished markings shall be continuous and uniform in shape, and have clear and sharp dimensions. Applicators shall be capable of producing various widths of traffic markings. Applicators shall produce sharply defined lines and provide means for cleanly cutting off stripe ends and applying broken lines. The ribbon extrusion die or shaping die shall not be more than 2 inches (50 mm) above the roadway surface during application. A spray application will only be allowed when applying 40 mil (1.0 mm) thermoplastic.

Heading (e) is deleted and the following substituted.

(e) Application of Surface Primer: A single component surface primer will be required prior to placement of preformed plastic markings over an existing painted stripe, over oxidized asphalt, or when striping over existing thermoplastic on portland cement concrete surfaces unless otherwise directed by the engineer. A two component epoxy primer sealer will be required prior to placement of thermoplastic materials on portland cement concrete surfaces unless otherwise directed by the engineer.

ASPHALT MATERIALS AND ADDITIVES (04/08): Section 1002 of the 2006 Standard Specifications and the supplemental specifications thereto is amended as follows.

Subsection 1002.02, Asphalt Material Additives is amended as follows.

Table 1002-1, Performance Graded Asphalt Cements is deleted and the following substituted.

Table 1002-1
Performance Graded Asphalt Cements

Property	AASHTO Test Method	PG82-22rm[6]	PG76-22m	PG70-22m	PG64-22	PG58-28
		Spec.	Spec.	Spec.	Spec.	Spec.
Tests on Original Binder:						
Rotational Viscosity @ 135°C, Pa·s [1]	T 316	3.0	3.0	3.0	3.0	3.0
Dynamic Shear, 10 rad/s, G*/Sin Delta, kPa	T 315	1.00+ @ 82°C	1.00+ @ 76°C	1.00+ @ 70°C	1.30+ @ 64°C	1.00+ @ 58°C
Flash Point, °C	T 48	232+	232+	232+	232+	232+
Solubility, % [2]	T 44	N/A	99.0+	99.0+	99.0+	99.0+
Separation of Polymer, 163°C, 48 hours, degree C difference in R & B from top to bottom [5]	ASTM D 7173 AASHTO T 53	---	2-	2-	---	---
Force Ductility Ratio (f_2/f_1, 4°C, 5 cm/min., f_2 @ 30 cm elongation)[3]	T 300	---	0.30+	---	---	---
Force Ductility, (4°C, 5 cm/min, 30 cm elongation, kg)[3]	T 300	---	---	0.23+	---	---
Tests on Rolling Thin Film Oven Residue:	T 240					
Mass loss, %	T 240	1.00-	1.00-	1.00-	1.00-	1.00-
Dynamic Shear, 10 rad/s, G*/Sin Delta, kPa	T 315	2.20+ @ 82°C	2.20+ @76°C	2.20+ @ 70°C	2.20+ @ 64°C	2.20+ @ 58°C
Elastic Recovery, 25°C, 10 cm elongation, % [4]	T 301	60+	60+	40+	---	---
Ductility, 25°C, 5 cm/min, cm	T 51	---	---	---	100+	---
Tests on Pressure Aging Vessel Residue:	R 28					
Dynamic Shear, @ 25°C, 10 rad/s, G* Sin Delta, kPa	T 315	5000-	5000-	5000-	5000-	5000- @ 19°C
Bending Beam Creep Stiffness, S, MPa @ -12°C.	T 313	300-	300-	300-	300-	300- @ -18°C
Bending Beam Creep Slope, m value,@ -12°C	T 313	0.300+	0.300+	0.300+	0.300+	0.300+ @ -18°C

[1]The rotational viscosity will be measured to determine product uniformity. The rotational viscosity measured by the supplier shall be noted on the Certificate of Delivery. A binder having a rotational viscosity of 3.0 Pa·s or less will typically have adequate mixing and pumping capabilities. Binders with rotational viscosity values higher than 3.0 Pa·s should be used with caution and only after consulting with the supplier as to any special handling procedures and guarantees of mixing and pumping capabilities.

[2]Not all polymers are soluble in the specified solvents. If the polymer modified asphalt digested in the solvent will not pass the filter media, a sample of the base asphalt used in making the polymer modified asphalt should be tested for solubility. If the solubility of the base asphalt is at least 99.0%, the material will be considered as passing.
[3]AASHTO T 300 except the second peak (f2) is defined as the stress at 30 cm elongation.
[4]AASHTO T 301 except elongation shall be 10 cm.
[5]Prepare samples per ASTM D 7173. Determine softening point of top and bottom per AASHTO T 53.
[6]The quality assurance plan for this product will require the contractors who use this material to submit written documentation of tank cleaning annually. Contractors must have tank mixers. Written certificates of analysis from the asphalt binder supplier confirming rubber source and size distribution of rubber used shall be furnished to the Materials Laboratory.

Add the following Table 1002-12, Anionic Trackless Tack Coat Grade NTSS-1HM.

Table 1002-12
Anionic Trackless Tack Coat Grade NTSS-1HM

Property	AASHTO Test Method	Specification Deviation	
		100% Pay	50% Pay or Remove[1]
Viscosity, Saybolt Furol @ 25°C, s	T 59	15 - 100	---
Storage Stability, 24 Hour, %	T 59	1.0-	---
Settlement, 5 Days, %	T 59	5.0-	---
Residue by Distillation, %	T 59	50+	49-
Oil Distillate, %	T 59	1.0-	---
Sieve Test[2], (Retained on the 850 μm), %	T 59	0.3-	---
Tests on Residue			
Penetration @ 25°C, 100g, 5s, dmm	T 49	20-	---
Softening Point, Ring and Ball, °C	T 53	65+	64-
Solubility, %	T 44	97.5+	---
DSR @ 25°C; G*Sin δ, 10 rad / s, kPa	T 315	1.0+	---

[1] At the option of Engineer.
[2] Sieve tests may be waived if no application problems are present in the field.

COOPERATION WITH UTILITIES (07/07): Subsection 105.06 of the Standard Specifications is amended to include the following.

Utility facilities will be removed, relocated, adjusted or abandoned in accordance with agreements between the Department and utility owners listed below. Starting dates for such work will be determined by the engineer and may be different for each utility and may not be underway concurrently with the contractor's work or with other utility relocations. Utility relocations can be within the construction limits covered by this contract. The furnishing of the following estimated completion times for utility work is for information purposes only and will not relieve the contractor of any requirements of this subsection nor will it preclude the granting

of contract time credits in accordance with the provisions of this subsection. A utility company calendar day shall be the same as defined in Subsection 101.03 of the standard specifications.

UTILITY OWNER	Estimated Calendar Days After Right-Of-Way Is Clear
Entergy Gas 3734 Tulane Avenue New Orleans, LA 70119	45
Bell South 1010 Hancock Street Gretna, LA 70053	0
Cox Cable 2121 airline Drive Metairie, LA 70001	10

ITEMS S-001 THRU S-064: These items are described in the Technical Specifications as included elsewhere in the construction proposal.

Payment will be at the unit contract price under the following:

Item S-001, Saw Cut Concrete Curb, Pavement, Sidewalk, Driveway, etc. According To Plans (Full Depth), per linear foot.

Item S-002, Utility Excavation (Up to 6' Deep), per each.

Item S-003, Utility Excavation (Over 6' Deep), per each.

Item S-004, Unsuitable Subgrade Excavation and Sand Filling (Vehicular Measurement), per cubic yard.

Item S-005, Compact Existing Subgrade, per lump sum.

Item S-006, Plug Existing 42" Diameter Drain Line, per each.

Item S-007, Tap and Connect Storm Drain (Up to 18") to 60" Equivalent RCPA, per each.

Item S-008, Hand-Formed and Poured In Place Concrete Curb, per linear foot.

Item S-009, Gravel Bed and Filter Cloth Over Tree Roots, per square yard.

Item S-010, Tree Removal, per each.

Item S-011, Tree Trimming, per lump sum.

Item S-012, Root Pruning, per each.

Item S-013, New Tree (Savannah Holly – 2" Min. Caliper, 12' Min. Height), per each.

Item S-014, Asphaltic Concrete for Pot Hole Repair on access Route and for Temporary Surfacing, per ton.

Item S-015, Street Name Sign on New Post, per each.

Item S-016, Project Sign, per each.

Item S-017, Reinforced Concrete Pipe (15"), per linear foot.

Item S-018, Reinforced Concrete Pipe (18"). per linear foot.

Item S-019, Reinforced Concrete Pipe (21"), per linear foot.

Item S-020, Reinforced Concrete Pipe (36"), per linear foot.

Item S-021, Reinforced Concrete Arch Pipe (48" Equiv.), per linear foot.

Item S-022, Reinforced Concrete Arch Pipe (60" Equiv.), per linear foot.

Item S-023, Yard Drain Service Line (6" PVC), per linear foot.
Item S-024, Yard Drain Service Line (10" PVC), per linear foot.
Item S-025, Reinforced Concrete WYE – New (15" x 15"), per each.
Item S-026, Reinforced Concrete WYE – New (18" x 15"), per each
Item S-027, Reinforced Concrete WYE – New (21" x 15"), per each.
Item S-028, Junction Box (S&WB of N.O. – DWG. # D-3937), per each.
Item S-029, No. 1 Standard Manhole (S&WB of N.O. – DWG. # D-870), per each.
Item S-030, No. 3 Standard Manhole (S&WB of N.O. – DWG. # D-870), per each.
Item S-031, No. 1 Standard Catch Basin (S&WB of N.O. – DWG. # D-873), per each.
Item S-032, Double No. 1 Standard Catch Basin (S&WB of N.O. – DWG. # D-873-A), per each.
Item S-033, Single Mountable Catch Basin (S&WB of N.O. – DWG. # D-3431-A), per each.
Item S-034, Double Mountable Catch Basin (S&WB of N.O. – SWG. # D-3431-B), per each.
Item S-035, Drop Inlet (30" x 24") (S&WB of N.O. – DWG. # D-3264), per each.
Item S-036, Water Main (8") With Main Line Fittings (PVC-C900), per linear foot.
Item S-037, Water Main (12") With Main Line Fittings (PVC-C900), per linear foot.
Item S-038, Water Main (12") With Main Line Fittings (Ductile Iron), per linear foot.
Item S-039, Water Valve (8"), per each.
Item S-040, Water Valve (12"), per each.
Item S-041, Valve Manhole (S&WB of N.O. DWG. # 6179-F-2), per each.
Item S-042, Fire Hydrant (S&WB of N.O. DWG. # 6179-F-2), per each.
Item S-043, Replace 1" Water House Connection (from Main to Meter) with Reducer as Needed, per each.
Item S-044, Replace 4" Water House Connection (from Main to Meter), per each.
Item S-045, Replace 8" Water House Connection (from Main to Meter), per each.
Item S-046, Eight (8") Inch Water Main Offset (Up to 48"), per each.
Item S-047, Twelve (12") Inch Water Line Offset (Up to 48"), per each.
Item S-048, Remove Mud and Debris from Inside of Water Meter Box, per each.
Item S-049, Adjust Complete Water Meter Box to Grade, per each.
Item S-050, Replace Broken Water Meter Box, per each.
Item S-051, Plug Existing Water or Sewer Main (Up to 12" Diameter), per each.
Item S-052, Install Eight (8") Inch Sewer Main (8.1' to 10.0' Deep), per linear foot.
Item S-053, Install Eight (8") Inch Sewer Main (10.1' to 12.0' Deep), per linear foot.
Item S-054, Install Ten (10") Inch Sewer Main (8.1' to 10.0' Deep), per linear foot.
Item S-055, Install Ten (10") Inch Sewer Main (10.1' to 12.0' Deep), per linear foot.
Item S-056, Install Twelve (12") Inch Sewer Main (10.1' to 12.0' Deep), per linear foot.
Item S-057, Sewage Force Main (12") With Main Line Fittings (PVC-C900), per linear foot.
Item S-058, Sewage Force Main (12") With Main Line Fittings (Ductile Iron), per linear foot.
Item S-059, Twelve (12") Inch Sewage Force Main Offset (Up to 48"), per each
Item S-060, Sewer Manhole (S&WB of N.O. DWG. # 6178-B6), per each.
Item S-061, Replace Existing Sewer House Connection from New Main to Property Line (S&WB of N.O. DWG. # 6312-E5-A&B), per each.

Item S-062, Adjust Manhole (Up to 6") with Brick and Mortar, per each.
Item S-063, Adjust Manhole (Over 6" and Up To 36") with Brick and Mortar, per each.
Item S-064, Relocation of Existing Light Standards, per each.

CONTRACT TIME (03/05): The entire contract shall be completed in all details and ready for final acceptance in accordance with Subsection 105.17(b) within two hundred twenty-five (225) calendar days.

Prior to assessment of contract time, the contractor will be allowed 30 calendar days from the date stipulated in the Notice to Proceed to commence with portions of the contract work including but not limited to assembly periods, preparatory work for materials fabrications such as test piles, or other activities which hinder progress in the beginning stages of construction. Prior to issuance of the Notice to Proceed, the Department will consider extending the assembly period upon written request from the contractor justifying the need for additional time.

The contractor shall be responsible for maintenance of traffic from the beginning of the assembly period. During the assembly period, the contractor will be allowed to do patching and other maintenance work necessary to maintain the roadway with no time charges when approved by the engineer.

If the contractor begins regular construction operations prior to expiration of the assembly period, the assessment of contract time will commence at the time construction operations are begun.

(08/08)

LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
SUPPLEMENTAL SPECIFICATIONS
(FOR 2006 STANDARD SPECIFICATIONS)

TABLE OF CONTENTS

PART I – GENERAL PROVISIONS

PART II – EARTHWORK

PART III – BASE COURSES

PART V – ASPHALTIC PAVEMENTS

PART VI – RIGID PAVEMENT

PART VII – INCIDENTAL CONSTRUCTION

PART VIII – STRUCTURES

PART IX – PORTLAND CEMENT CONCRETE

PART X – MATERIALS

LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
SUPPLEMENTAL SPECIFICATIONS

The 2006 Louisiana Standard Specifications for Roads and Bridges and supplemental specifications thereto are amended as follows.

PART I – GENERAL PROVISIONS

SECTION 101 – GENERAL INFORMATION, DEFINITIONS, AND TERMS:
Subsection 101.03 – Definitions (07/07), Pages 3 – 13).

Delete the definition for "Proposal/Bid Guaranty" and substitute the following.

Proposal / Bid Guaranty. The required security furnished with a bid. The only form of security acceptable is a Bid Bond.

SECTION 102 – BIDDING REQUIREMENTS:
Subsection 102.09 – Proposal / Bid Guaranty (07/07), Page 19.

Delete the contents of this subsection and substitute the following.

PROPOSAL/BID GUARANTY. Each bid shall be accompanied by a proposal/bid guaranty in an amount not less than five percent of the total bid amount when the bidder's total bid amount as calculated by the Department in accordance with Subsection 103.01 is greater than $50,000. No proposal/bid guaranty is required for projects when the bidder's total bid amount as calculated by the Department is $50,000 or less. The official total bid amount for projects that include alternates is the total of the bidder's base bid and all alternates bid on and accepted by the Department. The proposal/bid guaranty submitted by the bidder shall be a bid bond made payable to the contracting agency as specified on the bid bond form provided in the construction proposal. No other form of security will be accepted.

The bid bond shall be on the "Bid Bond" form provided in the construction proposal, on a form that is materially the same in all respects to the "Bid Bond" form provided, or on an electronic form that has received Department approval prior to submission. The bid bond shall be filled in completely, shall be signed by an authorized officer, owner or partner of the bidding entity, or each entity representing a joint venture; shall be signed by the surety's agent or attorney-in-fact; and shall be accompanied by a notarized document granting general power of attorney to the surety's signer. The bid bond shall not contain any provisions that limit the face amount of the bond.

The bid bond will be written by a surety or insurance company that is in good standing and currently licensed to write surety bonds in the State of Louisiana by the Louisiana Department of Insurance and also conform to the requirements of LSA-R.S. 48:253.

All signatures required on the bid bond may be original, mechanical reproductions, facsimiles or electronic. Electronic bonds issued in conjunction with electronic bids must have written Departmental approval prior to use. The Department will make a listing of approved electronic sureties providers on the Bidx.com site.

SECTION 107 – LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC:
Subsection 107.05 – Federal Aid Participation (04/08), Pages 57 and 58.

Delete the second paragraph.

SECTION 108 – PROSECUTION AND PROGRESS:
Subsection 108.04 – Prosecution of Work (03/05) Pages 74 and 75.

Add the following sentence to the third paragraph of Heading (b).

Should the surety or the Department take over prosecution of the work, the contractor shall remain disqualified for a period of one year from the completion of the project, unless debarment proceedings are instituted.

When the Department of Transportation and Development is not the contracting agency on the project, the second paragraph under Heading (c) is deleted.

PART II – EARTHWORK

SECTION 202 – REMOVING OR RELOCATING STRUCTURES AND OBSTRUCTIONS:
Subsection 202.06 – Plugging or Relocating Existing Water Wells (03/04), Page 105.

Delete the first sentence and substitute the following.

All abandoned wells shall be plugged and sealed at the locations shown on the plans, or as directed by the engineer, in accordance with the "Water Well Rules, Regulations, and Standards, State of Louisiana." This document is available at the Department of Transportation and Development, Water Resources Section, P. O. Box 94245, Baton Rouge, Louisiana 70804-9245. The Water Resource Section's telephone number is (225) 274-4172.

PART III – BASE COURSES

SECTION 302 – CLASS II BASE COURSE:
Subsection 302.05 – Mixing (08/06), Pages 152 and 153.

Delete the first sentence of Subheading (b)(1), In-Place Mixing, and substitute the following.

In-place mixing shall conform to Heading (a)(1) except that the percentage of Type I portland cement required will be 6 percent by volume.

SECTION 305 – SUBGRADE LAYER:
Subsection 305.06 – Payment (01/08), Page 184.

Delete the contents of this subsection and substitute the following.

305.06 Payment. Payment for subgrade layer will be made at the contract unit price which includes lime, lime treatment, cement, cement treatment, water, stone, recycled portland cement concrete, crushed slag, blended calcium sulfate, asphaltic concrete, and asphalt curing membrane or prime coat, subject to the payment adjustment provisions of Section 1002 for specification deviations of asphalt materials and Subsection 303.11(a) for density deficiencies of cement treated materials. Adjustments in pay for increase or decrease in the percent cement ordered by the engineer will be in accordance with Subsection 303.13. Adjustments in pay for

increase or decrease in the percent lime ordered by the engineer will be based on the price of lime shown on paid invoices (total of all charges). The Materials and Testing Section will provide the payment adjustment percentage for properties of asphalt materials.

Payment for geotextile fabric will be included in the contract unit price for subgrade layer.

Payment will be made under:

Item No.	Pay Item	Pay Unit
305-01	Subgrade Layer _____in (mm) Thick	Square Yard (Sq m)

SECTION 307 – PERMEABLE BASES:

Subsection 307.02 – Materials (09/07), Pages 187 and 188.

Delete the contents of Subheading (b), Asphalt, and substitute the following.

(b) Asphalt: The asphalt for asphalt treated permeable base shall be an approved polymer modified asphalt cement, PG 76-22m, or PG 82-22rm complying with Section 1002. The percentage of asphalt cement shall be 2.0 percent to 4.0 percent by weight (mass) of the total mixture. Asphalt cement content and mixing process shall be such that all aggregates are visibly coated. The mixture shall retain 90 percent coating when tested in accordance with DOTD TR 317.

A job mix formula shall be submitted and approved in accordance with Section 502.

SECTION 308 – IN-PLACE CEMENT TREATED BASE COURSE:

All Subsections within Section 308 – (07/07), Pages 191 – 198.

Whenever the reference to "DOTD TR-432, Method D" is used, it shall mean "DOTD TR-432".

PART V – ASPHALTIC PAVEMENTS

SECTION 502 – SUPERPAVE ASPHALTIC CONCRETE MIXTURES:

Subsection 502.02 – Materials (08/06) (11/07), Pages 210 – 213.

Delete Table 502-2, Superpave Asphalt Cement Usage under Subheading (a) and substitute the following.

Table 502-2
Superpave Asphalt Cement Usage

Current Traffic Load Level	Mixture Type	Grade of Asphalt Cement
Level 1	Wearing Course	PG 70-22m
	Binder Course	PG 70-22m
	Base Course	PG 64-22
Level 2	Wearing Course	PG 76-22m
	Binder Course	PG 76-22m
Level A	Incidental Paving	PG 70-22m

Note: A PG 82-22 rm, Waste Tire Rubber Modified Asphalt, may be substituted for any other grade of asphalt cement.

Delete Table 502-3, Aggregate Friction Rating under Subheading (c)(1) and substitute the following.

Table 502-3
Aggregate Friction Rating

Friction Rating	Allowable Usage
I	All mixtures
II	All mixtures
III	All mixtures, except travel lane wearing courses with plan ADT greater than 7000[1]
IV	All mixtures, except travel lane wearing courses[2]

[1] When plan current average daily traffic (ADT) is greater than 7000, blending of Friction Rating III aggregates and Friction Rating I and/or II aggregates will be allowed for travel lane wearing courses at the following percentages. At least 30 percent by weight (mass) of the total aggregates shall have a Friction Rating of I, or at least 50 percent by weight (mass) of the total aggregate shall have a Friction Rating of II. The frictional aggregates used to obtain the required percentages shall not have more than 10 percent passing the No. 8 (2.36 mm) sieve.

[2] When the average daily traffic (ADT) is less than 2500, blending of Friction Rating IV aggregates with Friction Rating I and/or II aggregates will be allowed for travel lane wearing courses at the following percentages. At least 50 percent by weight (mass) of the total aggregate in the mixture shall have a Friction Rating of I or II. The frictional aggregates used to obtain the required percentages shall not have more than 10 percent passing the No. 8 (2.36 mm) sieve.

Subsection 502.14 – Lot Sizes (11/07). Pages 232 and 233.

Delete the first sentence of the first paragraph and substitute the following.

A lot is a segment of continuous production of asphaltic concrete mixture from the same job mix formula produced for the Department at a specific plant, delivered to a specific DOTD project.

SECTION 508 – STONE MATRIX ASPHALT:

Subsection 508.01 – Description (09/07), Page 274.

Delete this subsection and substitute the following.

508.01 DESCRIPTION. This work consists of furnishing and constructing Stone Matrix Asphalt (SMA) which is a plant mixed asphalt concrete wearing course for high traffic applications. This mixture is a rut resistant hot mix design with stone on stone contact. The mixture shall be composed of a PG 76-22m, or PG 82-22rm asphalt cement and a gap graded coarse aggregate structure. Mineral filler and/or fibers shall be used to control draindown. This work shall be in accordance with these specifications, plan details, and as directed. All requirements of Section 502 apply to Stone Matrix Asphalt, except as modified herein. All plant and paving equipment and processes must meet the requirements of Section 503.

Mixture used for shoulder may be Stone Matrix Asphalt or any mixture type shown in Table 502-5.

Subsection 508.02 – Materials (09/07), Page 274.

Delete the contents of subheading (a), Asphalt Cement and substitute the following.

(a) Asphalt Cement: Asphalt cement shall be PG 76-22m, or PG 82-22rm as listed on QPL 41 and complying with Section 1002.

PART VI – RIGID PAVEMENT

SECTION 602 – PORTLAND CEMENT CONCRETE PAVEMENT REHABILITATION:

Subsection 602.17 – Payment (09/07), Pages 341 – 344.

Delete the last paragraph of Subheadings (d), Full Depth Corner Patching of Jointed Concrete Pavement, (e) Full Depth Patching of Jointed Concrete Pavement, and (g) Patching Continuously Reinforced Concrete Pavement, and substitute the following.

Payment for deteriorated base course removed as directed by the engineer and replaced with concrete will be made as follows: The value per inch (mm) thickness will be determined by dividing the contract unit price per square yard (sq m) by the plan thickness. Thickness of patches will be measured from the surface that exists at the time of patching. Payment for the additional thickness will be made at 50 percent of the value per inch (mm) thus determined.

PART VII – INCIDENTAL CONSTRUCTION

SECTION 701 – CULVERTS AND STORM DRAINS:

All Subsections within Section 701 (08/07), Pages 347 – 358.

Delete Section 701, Culverts and Storm Drains and substitute the following.

SECTION 701
CULVERTS AND STORM DRAINS

701.01 DESCRIPTION. This work consists of furnishing, installing, and cleaning pipe, pipe arch, storm drains and sewers, also referred to as culverts or conduit, in accordance with these specifications and in conformity with lines and grades shown on the plans or established.

701.02 MATERIALS. Materials shall comply with the following sections and subsections:

Usable Soil	203.06(a)
Selected Soil	203.06(b)
Plastic Soil Blanket	203.10
Mortar	702.02
Flowable Fill	710
Portland Cement Concrete	901
Reclaimed Asphaltic Pavement (RAP)	1003.01 & 1003.04(d)
Stone	1003.03(b)
Recycled Portland Cement Concrete	1003.03(c)
Granular Material	1003.07
Bedding Material	1003.08
Concrete Sewer Pipe	1006.02
Reinforced Concrete Pipe	1006.03
Reinforced Concrete Pipe Arch	1006.04
Gasket Materials	1006.06
Plastic Pipe	1006.07
Split Plastic Coupling Bands	1006.07(d)(4)
Plastic Yard Drain Pipe	1006.09
Bituminous Coated Corrugated Steel Pipe and Pipe Arch	1007.02
Structural Plate for Pipe, Pipe Arch and Arch	1007.04
Corrugated Aluminum Pipe and Pipe Arch	1007.05
Coupling Bands	1007.09
Reinforcing Steel	1009
Geotextile Fabric	1019

(a) Side Drain Pipe or Side Drain Pipe Arch: When the item for Side Drain Pipe or Side Drain Pipe Arch is included in the contract, the contractor has the option of furnishing reinforced concrete pipe or reinforced concrete pipe arch, corrugated metal pipe or corrugated metal pipe arch, or plastic pipe, as allowed by EDSM II.2.1.1 or unless otherwise specified.

(b) Cross Drain Pipe or Cross Drain Pipe Arch: When the item for Cross Drain Pipe or Cross Drain Pipe Arch is included in the contract, the contractor has the option of furnishing reinforced concrete pipe or reinforced concrete pipe arch, corrugated metal pipe or corrugated metal pipe arch, or plastic pipe, as allowed by EDSM II.2.1.1 or unless otherwise specified.

(c) Storm Drain Pipe or Storm Drain Pipe Arch: When the item for Storm Drain Pipe or Storm Drain Pipe Arch is included in the contract, the contractor has the option of furnishing reinforced concrete pipe or reinforced concrete pipe arch, or plastic pipe, as allowed by EDSM II.2.1.1 or unless otherwise specified.

(d) Yard Drain Pipe: When the item for Yard Drain Pipe is included in the contract, the contractor has the option of furnishing concrete sewer pipe, plastic yard drain pipe or plastic pipe in accordance with Section 1006 unless otherwise specified.

(e) Material Type Abbreviations:

(1) Reinforced Concrete Pipe:

RCP	Reinforced Concrete Pipe
RCPA	Reinforced Concrete Pipe Arch

(2) Corrugated Metal Pipe:

CAP	Corrugated Aluminum Pipe
CAPA	Corrugated Aluminum Pipe Arch
CMP	Corrugated Metal Pipe
CMPA	Corrugated Metal Pipe Arch
CSP	Corrugated Steel Pipe
CSPA	Corrugated Steel Pipe Arch
BCCSP	Bituminous Coated Corrugated Steel Pipe
BCCSPA	Bituminous Coated Corrugated Steel Pipe Arch

(3) Plastic Pipe:

PP	Plastic Pipe
PVCP	Polyvinyl Chloride Pipe
RPVCP	Ribbed Polyvinyl Chloride Pipe
CPEPDW	Corrugated Polyethylene Pipe Double Wall

(f) Joint Type Abbreviations:

T1	Type 1 Joint
T2	Type 2 Joint
T3	Type 3 Joint

(g) Quality Assurance for Pipe: Manufacturing plants will be periodically inspected for compliance with specified manufacturing methods, and material samples will be randomly obtained for laboratory testing for verification of manufacturing lots. Materials approved at the manufacturing plant will be subject to visual acceptance inspections at the jobsite or point of delivery.

701.03 EXCAVATION. For all pipe, when the sides of the trench are stable as evidenced by the sides of the trench being able to maintain a vertical cut face, the minimum trench width at the bottom of the excavation will be 18 inches (460mm) on either side of the outside diameter of the pipe. If the sides of the trench are unstable, the width of the trench at the bottom of the excavation, for plastic or metal pipe, shall be a minimum width of at least 18 inches (460mm) or one pipe diameter on each side of the outside diameter of the pipe, which ever is greater. Surplus material or excavated material that does not conform to the requirements of Subsection 203.06(a) shall be satisfactorily disposed of in accordance with Subsection 202.02. Moisture controls

including backfill materials selection and dewatering using sumps, wells, well points or other approved processes may be necessary to control excess moisture during excavation, installation of bedding, over-excavated trench backfilling, pipe placement and pipe backfill.

(a) Over-excavation: When unsuitable soils as defined in Subsection 203.04 or a stable, non-yielding foundation cannot be obtained at the established pipe grade, or at the grade established for placement of the bedding, unstable or unsuitable soils below this grade shall be removed and replaced with granular material meeting the requirements of Subsection 1003.07, bedding materials meeting the requirements of Subsection 1003.08 or Type A backfill. All granular, backfill materials placed below the established pipe or bedding grade shall be placed in lifts not exceeding 8 inches (200 mm) thick and sufficiently compacted by hand or a dynamic mechanical hand compaction device over the surface of each lift to form a stable, non-yielding foundation at the surface of the established bedding or pipe grade.

When rock is encountered, it shall be removed below grade and replaced with material complying with Subsection 1003.07, bedding materials meeting the requirements of Subsection 1003.08 or Type A backfill. The compacted earth cushion shall have a thickness under the pipe of at least 1/2 inch per foot (40 mm/m) of fill height over the top of the pipe with a minimum thickness of 8 inches (200 mm). All granular, backfill materials placed below the established pipe or bedding grade shall be placed in lifts not exceeding 8 inches (200 mm) thick and sufficiently compacted by hand or a dynamic mechanical hand operated compaction device over the surface of each lift to form a stable, non-yielding foundation at the surface of the established bedding or pipe grade.

Materials used to backfill in an over-excavated portion of a trench do not require encasement in a Geotextile Fabric.

Density of approved materials placed in over-excavated trenches will not be measured or determined.

701.04 FORMING PIPE BED. Bedding material, when specified, shall be constructed in accordance with Section 726. Materials allowed for bedding shall be as specified in Subsection 1003.08 or may be Type A backfill materials. When bedding materials are specified, additional excavation shall be performed below established pipe grade and the bedding material placed in lifts not exceeding 8 inches (200 mm) thick and lightly compacted by hand or a dynamic hand compaction device over the surface of each lift.

When the bottom of the pipe is not laid in a trench but is constructed above natural soils, a uniform bed shall be constructed as specified for the bottom of a trench.

Density of approved bedding materials will not be measured or determined.

701.05 LAYING PIPE. Pipe laying shall begin at the downstream end of the line. The pipe shall be in contact with the foundation throughout its length. Bell or groove ends of pipe and outside circumferential laps of riveted metal pipe shall be placed facing upstream. Riveted seam metal pipe shall be placed with longitudinal laps at sides. Pipes in each continuous line shall have the same wall thickness. Metal pipes provided with lifting lugs shall be handled only by these lugs.

After pipe has been laid and before backfill is placed, the engineer will inspect the pipe for alignment, grade, integrity of joints, and coating damage.

701.06 JOINING PIPE.

(a) Joint Usage:

(1) Type 1 (T1) joints shall be used for side drains under drives and similar installations.

(2) Type 2 (T2) joints shall be used for cross drains under roadways, including turnouts.

(3) Type 3 (T3) joints shall be used for closed storm drain systems, flumes and siphons.

(b) Concrete Pipe: Concrete pipe may be either bell and spigot, or tongue and groove. The method of joining pipe sections shall be such that ends are fully entered and inner surfaces are flush and even.

An approved mechanical pipe puller shall be used for joining pipes over 36 inches (900 mm) in diameter. For pipe 36 inches (900 mm) or less in diameter, any approved method for joining pipe may be used which does not damage the pipe.

Joints shall comply with Subsection 1006.05, and shall be sealed with gasket material installed in accordance with the manufacturer's recommendations.

(c) Metal Pipe: Metal pipe shall be firmly joined by coupling bands. Bands shall be centered over the joint.

For Type 1 joints, approved gasket material shall be placed in one corrugation recess on each side of the joint at the coupling band and on each band connection in such manner to prevent leakage.

When Type 2 or 3 joints are specified, joining of metal pipe sections shall conform to the following provisions:

(1) General: Band joints shall be sealed with gasket material. Gasket material shall be placed in accordance with the plan details.

(2) Circular Section: Connecting bands shall be of an approved design and shall be installed in accordance with plan details.

(3) Arch Section: Connecting bands shall be a minimum of 12 inches (300 mm) wide for pipe arch less than 36 inches (900 mm) round equivalent diameter, and a minimum of 21 inches (525 mm) wide for 36 inches (900 mm) round equivalent diameter pipe arch and greater. Bands shall be connected at the ends by approved angle or strap connections. Connecting bands used for 36 inches (900 mm) round equivalent diameter pipe arch and above shall be 2-piece bands.

(d) Plastic Pipe: Joints for plastic pipe shall be either bell and spigot or split coupling bands.

(1) Bell and Spigot Type Joint System: The method of joining pipe sections shall be such that ends are fully entered and inner surfaces are flush and even.

Any approved method for joining pipe may be used which does not damage the pipe.

Joints shall be approved and shall be sealed with a gasket system utilizing gasket material complying with Subsection 1006.06(a).

(2) Split Coupling Type Joint System: Split coupling bands shall comply with all dimensional and material requirements of Subsection 1006.07. The bands shall be centered over the joint. The split coupling band shall be secured to the pipe with a minimum of five stainless steel or other approved corrosion resistant bands.

Joints shall be approved and shall be sealed with gasket material. Gasket material shall be placed in the first two corrugation recesses on each side of the pipe connections. Gasket material shall also be placed on each band connection to prevent leakage. When flexible plastic gasket material is used it shall be a minimum of 1/2 inch (13 mm) in size. The bands shall be tightened to create overlap of the band and shall adequately compress the gasket material.

(e) Connections: Approved connections shall be used when joining new pipes to existing pipes. When concrete collars are required in order to extend the ends of existing pipes that have been damaged or to join different types or sizes of pipes, the concrete collars shall be constructed in accordance with plan details, the applicable requirements of Section 901, and as directed.

(f) Geotextile Fabric, Pipe Joints: For concrete, metal and plastic pipes, Types 2 and 3 joints shall be wrapped with geotextile fabric for a minimum of 12 inches (300 mm) on each side of joint for pipe 36 inches (900 mm) or less in diameter and a minimum of 18 inches (450 mm) on each side of the joint for pipe greater than 36 inches (900 mm) in diameter. Ends of the fabric shall be lapped at least 10 inches (250 mm). The edges and ends of fabric shall be suitably secured for the entire circumference of the pipe.

701.07 RELAYING PIPE. If specified or directed, existing pipes shall be removed and suitable sections relaid as specified for new pipes.

701.08 BACKFILLING.

(a) General: Prior to backfilling, pipes found to be damaged or out of alignment or grade shall be removed and reinstalled, or replaced.

Type A backfill material shall be stone, recycled portland cement concrete, flowable fill, or RAP.

Type B backfill materials are selected soils. Where Type B backfill materials are called for, Type A backfill materials may be substituted.

When corrugated metal pipe is used, the backfill material shall be tested and shall have a resistivity greater than 1500 ohm-cm and a pH greater than 5 when tested in accordance with DOTD TR 429 and DOTD TR 430 respectively.

When Type A backfill material is used, geotextile fabric surrounding this backfill shall be placed in accordance with Subsection 726.03 between the aggregate backfill material and all other natural or placed soils in the trench or embankment. Care shall be taken to prevent damage to geotextile fabric during placement of backfill material. For concrete pipe, the fabric shall enclose not only the initial backfill but shall be wrapped over the top of the pipe with at least 12 inches (300 mm) of overlap.

When a trench box or trench sheeting is used in unstable soils and/or for worker safety, and when moved during backfilling operations, filling and additional compaction of the disturbed zone of backfill must take place immediately and in a manner acceptable to the engineer.

Initial backfill is a structural backfill encasing the pipe from the bottom of the pipe to the springline for concrete pipe and to a point one foot (0.3 m) above the top of the pipe for both metal and plastic pipe. Final backfill is not a structural backfill and shall extend from the top of the initial backfill to the top of the natural ground or subgrade in cut areas or to the top of existing ground in fill areas. Any fill required above the final backfill is considered and treated as embankment.

(b) Backfill Applications: For projects using A+B+C bidding method where rigid and flexible pavement alternates are considered, backfill application (2) below, "Cross Drains Under Flexible Pavements", shall apply for either rigid or flexible pavements.

(1) Under Concrete Pavements: Type B backfill may be used as initial and final backfill for all pipes, culverts or drains under concrete pavements. Placement and compaction shall be as specified in Heading (d) below.

(2) Cross Drains Under Flexible Pavements: All reaches, exclusive of those portions of the pipe which are under shoulders, of cross drains and all other culverts, pipes or drains that cross the centerlines of the new roadway or centerlines of existing roadways, such as intersections and are under flexible pavements shall receive an initial backfill of Type A material. Type B backfill materials may be used as final backfill for all pipes. Placement and compaction shall be as specified in Heading (c) and (d) below. Where the subgrade is above existing ground, embankment material as specified for the remainder of the project shall be used from the top of the final backfill to the top of the established embankment grade.

(3) Other Drains Under Flexible Pavements: All reaches of all culverts, pipes or drains under flexible pavements that do not cross the centerlines of new roadway or centerlines of existing roadways, and exclusive of those portions of the pipe which are totally under shoulders, shall receive an initial and final backfill of Type B material. Placement and compaction shall be as specified in Heading (d) below. Where the subgrade is above existing ground, embankment material as specified for the remainder of the project shall be used from the top of the final backfill to the top of the established embankment grade.

(4) Other Areas: All culverts, pipes or drains in nonpaved areas or paved areas that serve as driveways or shoulders shall receive an initial and final backfill of Type B material. Placement and compaction shall be as specified in Heading (d) below.

(5) Pipes Subject to Construction Traffic; The embankment or pipe backfill shall be constructed to a minimum of 24 inches (600 mm) over the pipe before heavy construction equipment is allowed to cross the installation. Where practical, installations with less than 24 inches (600 mm) of cover over the top of the pipe shall be constructed after heavy hauling is completed over the pipe location. After completion of hauling operations, the contractor shall remove excess cover material. Pipe damaged by hauling and backfilling operations shall be removed and reinstalled, or replaced, at no direct pay.

(c) Placement and Compaction; Type A Backfill: For all pipes, culverts and conduits under paved and nonpaved areas, where Type A backfill material is used, the Type A backfill shall be thoroughly hand compacted under the pipe haunches and then dynamically compacted in layers not exceeding 8 inches (200 mm) compacted thickness. Compaction under the haunches of the pipe shall initially be by hand tamping or other acceptable means, until a level is reached that the dynamic tamping can commence. Each lift shall be compacted by applying at least eight

passes of a hand operated, dynamic mechanical compaction device over the surface of each lift. With approval of the engineer, layer thickness may be increased to 12 inches (300 mm) with verification of satisfactory installation and performance. If flowable fill is used it shall be furnished, placed and consolidated in accordance with Section 710. The contractor shall control placement operations during initial backfill operations so as not to damage protective coatings on metal pipes. The contractor shall repair damaged coatings at no additional pay.

(d) Placement and Compaction; Type B Backfill: For all pipes, culverts and conduits, where Type B backfill is allowed, the Type B material shall be placed in layers not exceeding 8 inches (200 mm) compacted thickness. Compaction shall be with suitable mechanical equipment. With approval of the engineer, layer thickness may be increased to 12 inches (300 mm) with verification of satisfactory installation and performance.

(e) Placement and Compaction; Trenchless or Partial Trench Condition: All pipes, culverts, drains and conduits placed with any portion of the pipe above existing ground must also comply with Subsections (a),(b) (c) and (d) above for the portion of the pipe within a trench and that portion of the pipe not constructed in a trench. The width of initial and final backfill of that portion above existing ground and not within a trench will be constructed to such a width that the requirements for placement, compaction and density are met.

(f) Density Requirements: The in place density of Type A backfill materials and bedding materials, will not be measured or determined. Type A backfill, exclusive of RAP and flowable fill, shall be placed at or near optimum moisture content determined in accordance with DOTD TR 415 or 418. RAP materials shall be placed and compacted in a slightly moist condition.

The maximum dry density of initial or final Type B backfill under all paved areas which are to be under traffic will be determined in accordance with DOTD TR 415 or TR 418 and in-place density determined in accordance with DOTD TR 401. Initial and final Type B backfill under all paved areas, under traffic, shall be placed at or near optimum moisture content determined in accordance with DOTD TR 415 or TR 418. Each layer shall be compacted by approved methods prior to the placement of a subsequent layer. The engineer will approve the compaction method based upon validation that such method, including moisture control, will achieve at least 95 percent of maximum dry density as determined in accordance with DOTD TR 401. With approval of the engineer, density testing may be waived on subsequent layers with backfill installation in accordance with approved compaction methods and continued satisfactory performance.

Initial and final backfill in unpaved areas or paved areas such as shoulders or driveways, shall be placed evenly and compacted along the length of the culvert, pipe or drain from the top of the initial backfill to the top of the subgrade. Layered backfill shall be compacted at least to the density of the adjoining existing soils or the compaction required of the laterally adjoining layers of soil immediately outside the trench for embankment elevations. Initial and final backfill shall be placed and compacted at or near optimum moisture content determined in accordance with DOTD TR 415 or TR 418.

701.09 INSPECTION OF PIPES. After completion of embankment and prior to roadway surfacing, the engineer shall inspect pipes for proper alignment and integrity of joints. Any misaligned pipe or defective joints shall be corrected by the contractor at no direct pay.

(a) Plastic Pipe: Installed plastic pipe shall be tested to ensure that vertical deflections do not exceed 5.0 percent. Maximum allowable deflections shall be governed by the mandrel requirements stated herein.

Deflection tests shall be performed no sooner than 30 calendar days after installation and compaction of backfill. The pipe shall be cleaned and inspected for offsets and obstructions prior to testing.

For pipe 36 inches (900 mm) and less in diameter, a mandrel shall be pulled through the pipe by hand to ensure that maximum allowable deflections have not been exceeded. The mandrel shall be approved by the engineer prior to use. Use of an unapproved mandrel or a mandrel altered or modified after approval will invalidate the test. If the mandrel fails to pass, the pipe is overdeflected.

Unless otherwise permitted, overdeflected pipe shall be uncovered and, if not damaged, reinstalled. Damaged pipe shall not be reinstalled, but shall be removed and replaced with new pipe. Any pipe subjected to any method or process other than removal, which attempts, even successfully, to reduce or cure any overdeflection, shall be removed and replaced with new pipe.

The mandrel shall be a rigid, nonadjustable, odd-numbered legged (minimum 9 legs) mandrel having a length not less than its nominal diameter or 24 inches (600 mm), whichever is less. The minimum diameter at any point shall be 5.0 percent less than the base inside diameter of the pipe being tested. The mandrel shall be fabricated of steel, aluminum or other approved material fitted with pulling rings at each end. The nominal pipe size and outside diameter of the mandrel shall be stamped or engraved on some segment other than a runner. A suitable carrying case shall be furnished.

For pipe larger than 36 inches (900 mm) in diameter, deflection shall be determined by a method approved by the engineer. If a mandrel is selected, the minimum diameter, length, and other requirements shall conform to the above requirements.

Mandrel testing shall be conducted by the contractor in the presence of the engineer. Mandrel testing shall be at no direct pay.

(b) Metal Pipe: If the inside diameter of metal pipe or rise dimension of metal pipe arch deflects more than 5.0 percent from original dimensions, they shall be removed and reinstalled, unless they do not rebound or are damaged. Pipe or pipe arch which are damaged or do not rebound shall be removed and replaced at no direct pay. Measurement of deflection will be made by the engineer away from rerolled ends.

701.10 CLEANING PIPES.

(a) Existing Pipes: Pipes designated to be cleaned shall be cleaned of soil, debris and other materials to the invert of the pipe. Designated pipes shall be cleaned by approved methods that will not damage the pipes. Any damage caused by the contractor's operations shall be satisfactorily repaired at no direct pay.

Removed soil, debris and other materials shall be disposed of in accordance with Subsection 202.02 or as otherwise approved in writing.

(b) Contractor Installed Pipes: Prior to final acceptance, pipes shall be cleaned of all debris and soil to the invert of the pipe at no direct pay.

Removed soil, debris and other materials shall be disposed of in accordance with Subsection 202.02 or as otherwise approved in writing.

701.11 STUBBING AND PLUGGING PIPES. When it is required that pipes be plugged, such plugs shall be constructed of Class R concrete complying with Section 901. Thickness of plug and method of construction shall be as directed.

When new pipes are to be stubbed into new or existing pipes or other structures, the connection shall be made with approved mortar complying with Subsection 702.02.

701.12 MEASUREMENT. Pipe, both new and relaid, will be measured in linear feet (lin m) as follows unless stated otherwise.

(a) Pipe not confined by fixed structures will be measured by the number of joints at the nominal length of each joint.

(b) Pipe confined by fixed structures will be measured along the pipe between the termini of pipe in structure walls.

(c) Pipe confined by a fixed structure on one end and unconfined at the other end will be measured along the pipe from the terminus of pipe in the structure wall to the unconfined end of pipe.

(d) Fabricating of pipe tees, elbows and other fittings will be measured per each fitting. The length of pipe in such fittings will be included in the pay length measurement of pipes of which they form a part.

(e) Excavation required for installation of pipes will not be measured for payment, except as otherwise specified in Subsection 203.14.

(f) Furnishing and placing backfill material below existing ground level for pipes will not be measured for payment. Backfill material needed to complete backfill above natural ground and around pipes that extend above natural ground will be measured and payment will be made under applicable earthwork items. When specified, flowable fill will be measured and paid for in accordance with Section 710.

(g) Plugging and stubbing of pipes will not be measured for payment.

(h) Cleaning existing pipes will be measured by the length of pipe cleaned and accepted.

(i) Concrete collars will be measured per each.

701.13 PAYMENT.

(a) Payment for pipe will be made at the contract unit price per linear foot (lin m) of the types and sizes specified.

When plastic pipe is specified on the plans or elected to be used by the contractor, payment will be made at the contract unit price per linear foot (lin m) of the types and sizes specified in accordance with the payment schedule of Table 701-1.

Table 701-1
Payment Schedule for Plastic Pipe

Percent Payment	Stage of Completeness
75	After placement and backfill has been completed
25	After the pipe has met vertical deflection requirements in accordance with Subsection 701.09(a)

(b) Payment for fabricating pipe tees, elbows and other fittings will be made at the contract unit price per each fitting.

(c) When unstable conditions are encountered, the additional excavation will not be measured for payment; however, the additional materials furnished and placed for the pipe foundation will be measured and paid for as follows:

(1) Granular Materials: Payment will be made under the embankment item. The net section volume of the materials will be multiplied by 3 to determine the pay volume. When the contract does not include a pay item for embankment, payment will be made in accordance with Subsection 104.02.

(2) Bedding Material: Measurement and payment will be made in accordance with Section 726. When the contract does not include a pay item for bedding material, payment will be made in accordance with Subsection 104.02.

(d) Payment for cleaning existing pipes will be made at the contract unit price per linear foot (lin m).

(e) Payment for concrete collars will be made at the contract unit price per each.

Payment will be made under:

Item No.	Pay Item	Pay Unit
701-01	Cross Drain Pipe (Size & Type)	Linear Foot (Lin m)
701-02	Cross Drain Pipe Arch (Size & Type)	Linear Foot (Lin m)
701-03	Storm Drain Pipe (Size & Type)	Linear Foot (Lin m)
701-04	Storm Drain Pipe Arch (Size & Type)	Linear Foot (Lin m)
701-05	Side Drain Pipe (Size)	Linear Foot (Lin m)
701-06	Side Drain Pipe Arch (Size)	Linear Foot (Lin m)
701-07	Yard Drain Pipe (Size)	Linear Foot (Lin m)
701-08	Relaying Pipe	Linear Foot (Lin m)
701-09	Fabricating Pipe Fittings	Each
701-10	Reinforced Concrete Pipe (Extension)	Linear Foot (Lin m)
701-11	Reinforced Concrete Pipe Arch (Extension)	Linear Foot (Lin m)
701-12	Corrugated Metal Pipe (Extension)	Linear Foot (Lin m)
701-13	Corrugated Metal Pipe Arch (Extension)	Linear Foot (Lin m)

701-14	Cleaning Existing Pipes	Linear Foot (Lin m)
701-15	Concrete Collar	Each
701-16	Plastic Pipe (Extension)	Linear Foot (Lin m)

SECTION 704 – GUARD RAIL:

Subsection 704.03 – General Construction Requirements (01/05), Pages 368 and 369.

Add the following to Heading (d), Guard Rail End Treatments.

All end treatments shall bear a label indicating the manufacturer and exact product name of the end treatment along with its assigned NCHRP 350 test level. This label shall resist weathering and shall be permanently affixed to the railing in such a way as to be readily visible.

SECTION 706 – CONCRETE WALKS, DRIVES AND INCIDENTAL PAVING:

All Subsections within Section 706 (04/08), Pages 375 – 377.

Delete Section 706, Concrete Walks, Drives and Incidental Paving and substitute the following.

SECTION 706
CONCRETE WALKS, DRIVES AND INCIDENTAL PAVING

706.01 DESCRIPTION. This work consists of furnishing and constructing portland cement concrete walks, handicapped curb ramps, drives and incidental paving slabs in accordance with these specifications and in conformity with lines, grades and dimensions shown on the plans or established.

706.02 MATERIALS. Materials shall comply with the following Section or Subsections.

Portland Cement Concrete (Class M)	901
Joint Filler	1005.01(c)
Reinforcing Steel	1009.01
Curing Materials	1011.01

706.03 CONSTRUCTION REQUIREMENTS.

(a) Excavation: Excavation shall be made to required depth and width. The top of the subgrade shall be shaped and compacted to a firm, even surface conforming to the section shown on the plans. Unsuitable material shall be removed and disposed of in accordance with Subsection 202.02 and replaced with approved material at no direct pay.

(b) Forms: Forms shall be of wood or metal and shall extend the full depth of concrete. Forms shall be straight, clean and of sufficient strength to resist the pressure of concrete. Bracing of forms shall be such that forms remain in horizontal and vertical alignment until their removal.

Concrete may be placed by slip-form methods. Slip-formed concrete shall be placed with an approved machine designed to spread, vibrate, consolidate and finish concrete in one pass of the machine in such manner that minimum hand finishing is necessary. Sliding forms shall be

rigidly held together to prevent spreading of forms. After the passing of the side forms there shall be no noticeable slumping of concrete.

(c) Subgrade: The subgrade shall be thoroughly moistened immediately prior to placing concrete.

(d) Placing and Finishing: Concrete shall be placed on the subgrade, struck off to required thickness and tamped sufficiently to bring the mortar to the surface. The surface shall be finished with a wood float or steel trowel followed by brushing to a slightly rough finish. Joints and edges shall be rounded with an edging tool having a 1/4-inch (6 mm) radius.

(e) Joints:

(1) Expansion Joints: Expansion joints shall be filled with 1/2 inch (13 mm) thick preformed expansion joint filler. Expansion joints shall be installed at maximum 100-foot (30 m) intervals, and between intersecting paving and any fixed structure such as a building, bridge or curbing, and between intersecting paving and the handicapped curb ramps. Expansion joint material shall extend for the full width and depth of paving.

(2) Weakened Plane: Weakened planes shall be formed by a jointing tool or other acceptable means. Weakened planes shall extend into concrete for at least 1/4 of the depth and shall be approximately 1/8 inch (3 mm) wide.

a. Walks: Spacing of weakened planes for walks shall be equal to the width of walk.

b. Drives: A longitudinal weakened plane shall be formed along the centerline of drives more than 16 feet (5 m) wide, and transverse weakened planes shall be formed at not more than 16-foot (5 m) intervals.

c. Incidental Paving: Weakened planes for incidental paving shall be formed at intervals not exceeding 30 times the thickness of the concrete in length or width. Incidental paving poured adjacent to jointed concrete shall be jointed to match existing joints, with intermediate joints formed as necessary not to exceed the maximum joint spacing.

(3) Construction Joints: Construction joints shall be formed around manholes, utility poles, etc., extending into paving and 1/4 inch (6 mm) thick preformed expansion joint filler shall be installed in these joints.

(4) Tie-ins: Tie-ins of existing concrete shall be made by full depth sawing at no direct pay.

(f) Curing: Concrete shall be cured in accordance with Subsection 601.10.

(g) Detectable Warning Surface for Handicap Ramps and At-Grade Sidewalk Intersections: Sidewalks, when intersecting with roadways, shall be equipped with a detectable warning surface system consisting of raised truncated domes as a transition between the sidewalk and the street as required by the Americans with Disabilities Act, 28 CFR Part 36, ADA Standards for Accessible Design.

Detectable warnings (truncated domes) shall be installed on the ramp surface over the full width of the ramp throat for a distance of 24 inches (600 mm) in the direction of travel from the back of the curb. Detectable warnings (truncated domes) shall also be installed on at-grade sidewalks intersecting with roadways for a distance of 36 inches (900 mm) in the direction of travel from the end of the sidewalk. Truncated domes shall be laid out on a square grid in order to allow enough space for wheelchairs to roll between the domes.

Light reflectance of the truncated domes and the underlying surface must meet the 70 percent contrast requirement of ADAAG.

706.04 MEASUREMENT. Quantities of concrete walks, drives and incidental paving slabs for payment will be the design quantities as specified on the plans and adjustments thereto. Design quantities will be adjusted if the engineer makes changes to adjust to field conditions, if design errors are proven or if design changes are made. Design areas are based on the horizontal dimensions shown on the plans. Excavation, backfill, reinforcing steel and joint materials will not be measured for payment.

Handicapped curb ramps, including the detectable surface warning system, will be measured per each.

Detectable surface warning systems for at-grade sidewalk intersection will not be measured for payment.

706.05 PAYMENT. Payment for concrete walks, drives and incidental paving will be made on a lot basis at the contract unit price per square yard (sq m), adjusted in accordance with the following provisions. Payment for each lot will be made in accordance with Table 901-6. Size, sampling, and testing of each concrete lot shall be in accordance with the Materials Sampling Manual.

Payment for handicapped curb ramps, including the detectable surface warning system, will be made by each and shall include, but not limited to, curb transitions, detectable warning system, gutter, landing and base.

Payment will be made under:

Item No.	Pay Item	Pay Unit
706-01	Concrete Walk (inch (mm) Thick)	Square Yard (Sq m)
706-02	Concrete Drive (inch (mm) Thick)	Square Yard (Sq m)
706-03	Incidental Concrete Paving (inch (mm) Thick	Square Yard (Sq m)
706-04	Handicapped Curb Ramps	Each

SECTION 713 – TEMPORARY TRAFFIC CONTROL:

Subsection 713.06 – Pavement Markings (08/06), Pages 400 – 403.

Delete Table 713-1, Temporary Pavement Markings and substitute the following.

Table 713-1
Temporary Pavement Markings[1,2]

		Two-lane Highways	Undivided Multilane Highways	Divided Multilane Highways
SHORT TERM	ADT<1500; or ADT>1500 and time<3 days	Lane lines 4-foot (1.2 m) tape on 40-foot (12 m) centers; with "Do Not Pass" and "Pass With Care" signs as required		
	ADT>1500; Time>3 days and<2 weeks	Lane lines 4-foot (1.2-m) tape on 40-foot (12-m) centers with no passing zone markings		
	All ADT's with time <2 weeks		Lane lines 4-foot (1.2m) tape on 40-foot (12 m) centers; double yellow centerline	Lane lines 4-foot (1.2 m) tape on 40-foot (12 m) centers
LONG TERM	All ADT's with time >2 weeks	Standard lane lines, no-passing zone markings, legends and symbols and when pavement width is 22 feet (6.7 m) or greater, edge lines	Standard lane lines, centerlines, edge lines, and legends and symbols	Standard lane lines, centerlines, edge lines, and legends and symbols.

[1]No-passing zones shall be delineated as indicated whenever a project is open to traffic.
[2]On all Asphaltic Surface Treatments that are open to traffic and used as a final wearing course or as an interlayer, temporary pavement markings (tabs) on 20-foot (6 m) centers shall be used, in lieu of the 4-foot (1.2 m) tape, on 40-foot (12 m) centers.

SECTION 729 – TRAFFIC SIGNS AND DEVICES:

Subsection 729.02 – Materials (04/08), Pages 456 and 457.

Delete the contents of Heading (a), Sign and Marker Sheeting, and substitute the following.

(a) Sign and Marker Sheeting: Sheeting material for sign panels, delineators, barricades and other markers shall comply with Section 1015. All permanent signs shall meet the requirements of ASTM D 4956, Type X.

Subsection 729.04, Fabrication of Sign Panels and Markers (04/08), Pages 458 – 460.

Delete the third paragraph of Heading (c), Sheeting Application and substitute the following.

ASTM D 4956 Type X reflective sheeting shall be applied with an orientation determined by the engineer to obtain the optimum entrance angle performance. Fabricated vertical splices in ASTM D 4956 Type X reflective sheeting will be allowed only when the horizontal dimension of the sign face or attached shield is in excess of the maximum manufactured width of the sheeting. Fabricated vertical splices in ASTM D 4956 Type X reflective sheeting will also be allowed when the specified orientation will create excessive sheeting waste.

SECTION 804 – DRIVEN PILES:

Subsection 804.08 – Construction Requirements (04/07), Pages548 – 554.

Delete the first sentence of Heading (a), Preboring and substitute the following.

Preboring by augering, wet-rotary drilling, or other methods used to facilitate pile driving will not be permitted unless specified in the plans or allowed by the engineer.

Delete the first sentence of Heading (b), Jetting and substitute the following.

Jetting will not be permitted unless allowed in the plans or allowed by the engineer.

SECTION 901 – PORTLAND CEMENT CONCRETE:

Subsection 901.06 – Quality Control of Concrete (08/06), Pages 726 – 731.

Add the following to the contents of Heading (b), Quality Control Tests.

The contractor shall be responsible for monitoring the components (cement, mineral and chemical admixtures, aggregates) in their mix to protect against any changes due to component variations. As component shipments arrive, the contractor shall verify slump, air content and set time by testing at ambient temperatures. The contractor shall make adjustments to the mix design to rectify any changes which would adversely affect constructability, concrete placement or the specifications. The contractor shall submit test results to the Department for review each day of paving. Testing to validate component consistency will be documented on the control logs. Conformance or variation in mix parameters (workability, set times, air content, etc.) shall be noted on the control logs. The contractor shall provide a copy of the proposed testing plan to the engineer for record. Acceptance of the plan does not relieve the contractor's responsibility for consistency.

Subsection 901.08 – Composition of Concrete (12/05), Pages 732 – 734.

Add the following to Heading (a).

The blended cement containing up to 50 percent of grade 100 or grade 120 ground granulated blast-furnace slag must be in compliance with Subsection 1001.04 for portland blast-furnace slag cement.

SECTION 1001 – HYDRAULIC CEMENT:

Subsection 1001.01 – Portland Cement (09/07). Page 749.

Delete the contents of this subsection and substitute the following.

1001.01 PORTLAND CEMENT. Portland cement shall be from an approved source listed in QPL 7 and shall comply with AASHTO M 85.

Alkali content calculated as sodium oxide equivalent shall not exceed 0.60 percent by weight for all types of cement.

SECTION 1003 – AGGREGATES:

Subsection 1003.02 – Aggregates for Portland Cement Concrete and Mortar (07/07).
Pages 763 – 766.

Delete the contents of Heading (c), Aggregates for Types B and D Pavements, and substitute the following.

(c) Aggregates for Types B and D Pavements: For the combined aggregates for the proposed portland cement concrete pavement mix, the percent retained based on the dry weight (mass) of the total aggregates shall meet the requirements of Table 1003-1A for the type of pavement specified in the plans. Additionally, the sum of the percents retained on any two adjacent sieves so designated in the table shall be at least 12 percent of the total combined aggregates. The maximum amounts by weight (mass) of deleterious materials for the total aggregate shall be the same as shown in Subsection 1003.02(b).

Table 1003-1A
Aggregates for Types B and D Pavements

U.S. Sieve	Metric Sieve	Percent Retained of Total Combined Aggregates	
		Pavement Type	
		Type B	Type D
2 1/2 inch	63 mm	0	0
2 inch	50 mm	0	0-20
1 1/2 inch	37.5 mm	0-20	0-20
1 inch	25.0 mm	0-20	5-20
3/4 inch	19.0 mm	5-20	5-20
1/2 inch	12.5 mm	5-20	5-20
3/8 inch	9.5 mm	5-20	5-20
No. 4	4.75 mm	5-20	5-20
No. 8	2.36 mm	5-20	5-20
No. 16	1.18 mm	5-20	5-20
No. 30	600 µm	5-20	5-20
No. 50	300 µm	0-20	0-20
No. 100	150 µm	0-20	0-20
No. 200	75 µm	0-5	0-5
Note: For the sieves in the shaded areas, the sum of any two adjacent sieves shall be a minimum of 12 percent of the total combined aggregates.			

Each type of aggregate to be used in the proposed mixture shall be sampled and tested individually. The percent of total combined aggregates retained shall be determined mathematically based on the proportions of the combined aggregate blend. All gradation calculations shall be based on percent of dry weight (mass).

SECTION 1005 – JOINT MATERIALS FOR PAVEMENTS AND STRUCTURES:

Subsection 1005.04 – Combination Joint Former/Sealer (11/05), Pages 782 and 783.

Delete Heading (a) and substitute the following.

(a) Description: This joint former/sealer is intended for use in simultaneously forming and sealing a weakened plane in portland cement concrete pavements.

The material shall consist of an elastomeric strip permanently bonded either mechanically or chemically at the top of each of two rigid plastic side frames and covered with a removable plastic top cap. Side frames shall be of such configuration that when the sealer is inserted into plastic concrete and vibrated, a permanent bond forms between side frames and concrete.

Delete Heading (b)(1) and substitute the following.

(1) Elastomer: The elastomer strip portion of the material shall be manufactured from vulcanized elastomeric compound using polymerized chloroprene or thermoplastic vulcanizate as the base polymer, and shall comply with the following requirements:

Property	ASTM Test Method	Requirements	
		Polymerized Chloroprene	Thermoplastic Vulcanizate
Tensile Strength, kPa, Min.	D 412	12,400	7,400
Elongation at Break, % Min.	D 412	200	400
Hardness, Shore A	D 2240	65 ± 10	65 ± 10
Properties after Aging, 70 h @ 100°C	D 573		
Tensile Strength, % Loss, Max.		20	20
Elongation, % loss, Max.		25	25
Hardness, pts. increase, Max.		10	10
Ozone Resistance, 20% strain or bentloop, 300 pphm in air, 70 h @ 40°C	D 1149	no cracks	no cracks
Oil Swell, IRM 903, 70 h @ 100°C, wt change, % Max.	D 471	45	75

Delete Headings (b)(2) and (b)(3) and substitute the following:

(2) Bond of Elastomer to Plastic: The force required to shear the elastomer from the plastic shall be a minimum of 5.0 pounds per linear inch (90 g/mm) of sealer when tested in accordance with DOTD TR 636.

(3) Bond of Plastic to Cement Mortar: This bond will be evaluated and shall meet the following requirements:

The force required to separate the cement mortar from the plastic shall be a minimum of 5.0 pounds per linear inch (90 g/mm) of sealer when tested in accordance with DOTD TR 636.

SECTION 1006 – CONCRETE AND PLASTIC PIPE:

Subsection 1006.09 – Plastic Yard Drain Pipe (06/07), Page 789.

Delete the contents of Subheading (a)(3), Ribbed Polyvinyl Chloride Pipe (RPVCP) and substitute the following.

Ribbed Polyvinyl Chloride Pipe (RPVCP): Ribbed Polyvinyl Chloride Pipe shall comply with ASTM F 794, Series 46 or ASTM F 949 (46 psi).

SECTION 1013 – METALS:

Subsection 1013.09 – Steel Piles (08/06) Page 822.

Delete the title and references to "Steel Piles" in this subsection and substitute "Steel H Piles".

SECTION 1015 – SIGNS AND PAVEMENT MARKINGS:

Subsection 1015.04 – Sign Panels (05/07), Pages 832 and 833.

Delete the contents of Heading (a), Permanent Sign Panels and substitute the following.

(a) Permanent Sign Panels: Flat panels shall be aluminum sheets or plates complying with ASTM B 209, Alloy 6061-T6 or Alloy 5052-H38. Extruded aluminum panels shall comply with ASTM B 221 (ASTM B 221M), Alloy 6063-T6 and after fabrication, have a flatness equal to or less than 0.031 inch per foot of length and 0.004 inch per inch of width.

Subsection 1015.05 - Reflective Sheeting (04/08). Pages 833 – 838.

Delete the contents of this subsection and substitute the following.

1015.05 REFLECTIVE SHEETING.

(a) Permanent and Temporary Standard Sheeting: Reflective sheeting shall be one of the following standard types as specified on the plans and complying with ASTM D 4956 except as modified herein. Permanent warning, regulatory, guide and supplemental guide sign sheeting shall meet the requirements of ASTM D 4956 Type X. Reflective sheeting for temporary signs and devices shall meet the requirements of ASTM D 4956 Type III except as noted in Subsection 1015.05(f). Reflective sheeting shall be an approved product listed in QPL 13.

Type III - A high-intensity retroreflective sheeting that is typically encapsulated glass-bead retroreflective material.

Type VI - An elastomeric high-intensity retroreflective sheeting without adhesive. This sheeting is typically a vinyl microprismatic retroreflective material.

Type X - A super high-intensity retroreflective sheeting having highest retroreflectivity characteristics at medium distances. This sheeting is typically an unmetalized microprismatic retroreflective element material.

(b) Fluorescent Pink Retroreflective Sheeting: Signs for temporary control of traffic through incident management areas shall be Type VI fluorescent pink retroreflective sheeting and shall comply with the MUTCD. Temporary traffic control signs for incident management shall be placed to notify motorists of upcoming incidents on the roadway, and shall be removed from public view once the incident has been managed. Physical properties shall comply with ASTM D 4956. Photometric properties shall be as follows.

(1) Retroreflectivity: Minimum Coefficients of Retroreflection shall be as specified in Table 1015-1.

Table 1015-1
Coefficients of Retroreflection for Fluorescent Pink Sheeting[1]

Observation Angle, degrees	Entrance Angle, degrees	Fluorescent Pink
0.2	-4	100
0.2	+30	40
0.5	-4	40
0.5	+30	15

[1]Minimum Coefficient of Retroreflection (R_A) (cd $lx^{-1}m^{-2}$)

(2) Color and Daytime Luminance: Color Chromaticity Coordinates and Daytime Luminance Factors shall be as specified in Table 1015-2.

Table 1015-2
Fluorescent Pink Color Specifications Limits (Daytime)

Chromaticity Coordinates (corner points) [1]								Luminance Factor, min.
1		2		3		4		Y%
x	y	x	y	x	y	x	y	25
0.450	0.270	0.590	0.350	0.644	0.290	0.536	0.230	

[1]The four pairs of chromaticity coordinates measured with CIE 2° Standard Observer and 45/0 (0/45) geometry and CIE D65 Standard Illuminant.

(c) Adhesive Classes: The adhesive required for retroreflective sheeting shall be Class 1 (pressure sensitive) as specified in ASTM D 4956.

(d) Accelerated Weathering: Reflective sheeting, when processed, applied and cleaned in accordance with the manufacturer's recommendations shall perform in accordance with the accelerated weathering standards in Table 1015-3.

Table 1015-3
Accelerated Weathering Standards[1]

Type	Retroreflectivity[2]				Colorfastness[3]	
	Orange/ Fluorescent Orange		All colors, except orange/Fluorescent Orange		Orange/ Fluorescent Orange	All colors, except orange/Fluorescent Orange
III	1 year	80[4]	3 years	80[4]	1 year	3 years
III (for drums)	1 year	80[4]	1 year	80[4]	1 year	1 year
VI	1/2 year	50[5]	1/2 year	50[5]	1/2 year	1/2 year
X	1 year	80[6]	3 years	80[6]	1 year	3 years

[1]At an angle of 45° from the horizontal and facing south in accordance with ASTM G 7 at an approved test facility in Louisiana or South Florida.
[2]Percent retained retroreflectivity of referenced table after the outdoor test exposure time specified.
[3]Colors shall conform to the color specification limits of ASTM D 4956 after the outdoor test exposure time specified.
[4]ASTM D 4956, Table 8.
[5]ASTM D 4956, Table 13.
[6]ASTM D 4956, Table 4.

(e) Expected Sign Life Data and Performance: The sheeting manufacturer shall supply expected retroreflectivity service life curves for each of the following sign sheeting colors: white, green, blue, brown, red, and yellow. The service life curves shall be plots of the 95 percent expected life plotted on an x-y graph with life years on the x-axis and retroreflectivity on the y-axis. The expected life shall account for worst case installations, equivalent to an installation in South Louisiana with the sign facing to the South. The sheeting manufacturer shall also supply a table of expected life values taken from the service life curves for Revision Number 2 to the 2003 Edition of the MUTCD minimum reflectivity requirements published in the Federal Register on December 21, 2007. Reflective sheeting for signs, when processed, applied and cleaned in accordance with the manufacturer's recommendations shall perform outdoors in accordance with the performance standards in Table 1015-4.

Table 1015-4
Reflective Sheeting Performance Standards

Type	Retroreflectivity[1] -- Durability[2]				Colorfastness[3]
	Orange/ Fluorescent Orange		All colors, except orange/Fluorescent Orange		
III	3 years	80[4]	10 years	80[4]	3 years
X	3 years	80[5]	7years	80[5]	3 years

[1]Percent retained retroreflectivity of referenced table after installation and the field exposure time specified.
[2]All sheeting shall maintain its structural integrity, adhesion and functionality after installation and the field exposure time specified.
[3]All colors shall conform to the color specification limits of ASTM D 4956 after installation and the field exposure time specified.
[4]ASTM D4956, Table 8.
[5]ASTM D 4956, Table 4.

(f) Temporary Signs, Barricades, Channelizing Devices, Drums and Cones: Reflective sheeting for temporary signs, barricades and channelizing devices, shall meet the requirements of ASTM D 4956, Type III except that temporary warning construction signs used on the mainline of freeways and expressways shall be fluorescent orange and meet the requirements of ASTM D 4956, Type X.

Reflective sheeting for vertical panels shall meet the requirements of ASTM D 4956, Type III.

Reflective sheeting for drums shall be a minimum of 6 inches (150 mm) wide and shall meet the requirements of ASTM D 4956, Type III, and the Supplementary Requirement S2 for Reboundable Sheeting as specified in ASTM D 4956. Reflective sheeting for traffic cone collars shall meet the requirements of ASTM D 4956, Type III or Type VI.

(g) Sheeting Guaranty. The contractor shall provide the Department with a guaranty from the sheeting manufacturer stating that if the retroreflective sheeting fails to comply with the performance requirements of this subsection, the sheeting manufacturer shall do the following:

Table 1015-5
Manufacturer's Guaranty-Reflective Sheeting

Type	Manufacturer shall restore the sign face in its field location to its original effectiveness at no cost to the Department if failure occurs during the time period[1] as specified below		Manufacturer shall replace the sheeting required to restore the sign face to its original effectiveness at no cost to the Department if failure occurs during the time period[1] as specified below
	Orange/Fluorescent Orange	All colors, except orange/Fluorescent Orange	All colors, except orange/Fluorescent Orange
III	<3 years	<7 years	7-10 years
X	<3 years	<5 years	5-7 years

[1] From the date of sign installation.

Replacement sheeting for sign faces, material, and labor shall carry the unexpired guaranty of the sheeting for which it replaces.

The sign fabricator shall be responsible for dating all signs with the month and year of fabrication at the time of sign fabrication. This date shall constitute the start of the guaranty obligation period.

Subsection 1015.11 - Preformed Plastic Pavement Marking Tape (06/07), Pages 842 – 844.

Delete the contents of this subsection and substitute the following.

1015.11 PREFORMED PLASTIC PAVEMENT MARKING TAPE.

(a) General: Preformed plastic pavement marking tape shall be approved products listed on QPL 64 and shall comply with ASTM D4505 Retroreflectivity Level I or Level II, or DOTD Intersection Grade (as specified below), except as modified herein. The marking tape shall be Class 2 or 3. The type and color shall be in accordance with the plans and the MUTCD.

(b) Thickness: All preformed plastic pavement marking tape shall have a minimum overall thickness of 0.060 inches (1.5 mm) when tested without the adhesive.

(c) Friction Resistance: The surface of the Retroreflectivity Level II preformed plastic pavement marking tape shall provide a minimum frictional resistance value of 35 British Polish Number (BPN) when tested according to ASTM E303. The surface of the Retroreflectivity Level I and DOTD Intersection Grade preformed plastic pavement marking tape shall provide a minimum frictional resistance value of 45 BPN when tested according to ASTM E303. Values for the Retroreflectivity Level I material with a raised surface pattern as defined in ASTM D4505 are calculated by averaging values taken at downweb and at a 45 degrees angle from downweb.

(d) Retroreflective Requirements: The preformed plastic pavement marking tape shall have the minimum initial specific luminance values shown in Table 1015-7 when measured in accordance with ASTM D 4061.

Table 1015-7
Specific Luminance of Preformed Plastic Tape

Type	Observation Angle, degrees	Entrance Angle, degrees	Specific Luminance (mcd/sq m/lx)	
			White	Yellow
Retroreflectivity Level I	1.05	88.76	500	300
DOTD Intersection Grade	1.05	88.76	375	250
Retroreflectivity Level II	1.05	88.76	250	175

(e) Durability Requirements: The DOTD Intersection Grade preformed plastic pavement marking tape shall show no appreciable fading, lifting or shrinkage for a least 12 months after placement when placed in accordance with the manufacturer's recommended procedures on pavement surfaces having a daily traffic count not to exceed 15,000 ADT per lane.

The Retroreflectivity Level I preformed plastic pavement marking tape shall show no appreciable fading, lifting or shrinkage for a least 4 years after placement for longitudinal lines and at least 2 years after placement for symbols and legends.

The Retroreflectivity Level I preformed plastic pavement marking tape shall also retain the following reflectance values for the time period detailed in Table 1015-8.

Table 1015-8
Retained Specific Luminance for Retroreflectivity Level I
Preformed Plastic Pavement Marking Tape

Time	Observation Angle, degrees	Entrance Angle, degrees	Specific Luminance (mcd/sq m/lx)	
			White	Yellow
1 year	1.05	88.76	400	240
4 years (2 years for symbols and legend)	1.05	88.76	100	100

(f) Plastic Pavement Marking Tape Guaranty (DOTD Intersection Grade and Retroreflectivity Level I): If the plastic pavement marking tape fails to comply with the performance and durability requirements of this subsection within 12 months for DOTD Intersection Grade and 4 years for Retroreflectivity Level I, the manufacturer shall replace the plastic pavement marking material at no cost to the Department.

SECTION 1020 – TRAFFIC SIGNALS:

Subsection 1020.01 – Traffic Signal Heads (06/07), Pages 873 – 884.

Delete the contents of Heading (a), General Requirements and substitute the following.

(a) General Requirements: Traffic signal sections, beacon sections and pedestrian signal sections shall be of the adjustable type. Materials and construction of each section shall be the same.

Signals shall be constructed for either 8 or 12-inch (200 mm or 300 mm) lens in accordance with the plans. Signal sections shall have three to five sections per face and beacon sections have only one section per face. Signal sections and associated brackets shall be finished inside and out with two coats of high grade dark olive green enamel, color number 14056 according to Federal Standard No. 595b with each coat independently baked. Visors shall be coated green on the outside and black on the inside. Edges shall be deburred and smooth with no sharp edges.

Subsection 1020.04 – Poles for Traffic Signal Systems (06/07), Pages 890 – 894.

Delete the sixth paragraph of Heading (a), Pedestal Support Signal Poles, and substitute the following.

Pedestals shall be finished with at least one coat of rustproofing primer, applied to a clean surface and one coat of dark olive green enamel, color number 14056 according to Federal Standard No. 595b.

LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
SUPPLEMENTAL SPECIFICATIONS

FEMALE AND MINORITY PARTICIPATION IN CONSTRUCTION

The following notice shall be included in, and shall be a part of, all solicitations for offers and bids on all federal and federally assisted construction contracts or subcontracts in excess of $10,000 to be performed in geographical areas designated by the director of OFCCP. Execution of the contract by the successful bidder and any subsequent subcontracts will be considered the contractor's and subcontractor's commitment to the EEO provisions contained in this notice.

NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246)

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.

2. The goals for minority and female participation, expressed in percentage terms for the contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

AREA	PARISH OR COUNTY	GOAL (%)
	FEMALE PARTICIPATION	
-	All Covered Areas	6.9
	MINORITY PARTICIPATION (UNDER NEW ORLEANS PLAN)	
-	* See Note Below	20 to 23
	MINORITY PARTICIPATION (NOT UNDER NEW ORLEANS PLAN)	
1	Jefferson LA, Orleans LA, St. Bernard LA, St. Tammany LA	31.0
2	Assumption LA, Lafourche LA, Plaquemines LA, St. Charles LA, St. James LA, St. John the Baptist LA, Tangipahoa LA, Terrebonne LA, Washington LA, Forrest MS, Lamar MS, Marion MS, Pearl River MS, Perry MS, Pike MS, Walthall MS	27.7
3	Ascension LA, East Baton Rouge LA, Livingston LA, West Baton Rouge, LA	26.1
4	Concordia LA, East Feliciana LA, Iberville, LA, Pointe Coupee LA, St. Helena LA, West Feliciana LA, Adams MS, Amite MS, Wilkinson, MS	30.4
5	Lafayette LA	20.6
6	Acadia LA, Evangeline LA, Iberia LA, St. Landry LA, St. Martin LA, St. Mary LA, Vermillion LA	24.1
7	Calcasieu LA	19.3
8	Allen LA, Beauregard LA, Cameron LA, Jefferson Davis LA, Vernon LA	17.8
9	Grant LA, Rapides LA	25.7
10	Avoyelles LA, Bienville LA, Bossier LA, Caddo LA, Claiborne LA, DeSoto LA, Natchitoches LA, Red River LA, Sabine LA, Webster LA, Winn LA	29.3
11	Ouachita LA	22.8
12	Caldwell LA, Catahoula LA, East Carroll LA, Franklin LA, Jackson LA, LaSalle LA, Lincoln LA, Madison LA, Morehouse LA, Richland LA, Tensas LA, Union LA, West Carroll LA,	27.9

*These goals apply only to those contractors signatory to the New Orleans Plan and only with respect to those trades which have unions participating in said Plan. The New Orleans Plan Covered Area is as follows: The parishes of Orleans, Jefferson, St. Bernard, St. Tammany, St. Charles, St. John the Baptist, Plaquemines, Washington, Terrebonne, Tangipahoa (that area east of the Illinois Central Railroad), Livingston (that area southeast of the line from a point off the Livingston and Tangipahoa Parish line adjacent from New Orleans and Baton Rouge), St. James (that area southeast of a line drawn from the Town of Gramercy to the point of intersection of St. James, Lafourche and Assumption Parishes), and Lafourche.

These goals are applicable to all the contractor's construction work (whether or not it is federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor is also subject to the goals for both its federally involved and non-federally involved construction.

The contractor's compliance with the Executive Order and the regulations in 41 CFR 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals established for the geographical area where the contract resulting from this solicitation is to be performed. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from contractor to contractor, or from project to project, for the purpose of meeting the contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The contractor shall provide written notification to the Regional Administrator of the Office of Federal Contract Compliance Programs (555 Griffin Square Building, Dallas, TX 75202) within 10 working days of award of any construction subcontract in excess of $10,000 at any tier for construction work under the contract. The notification shall list the name, address and telephone number of the subcontractor; employer identification number; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and geographical area in which the contract is to be performed.

4. As used in this Notice and in the contract, the "covered area" is that area shown in the foregoing table in which the project is located.

The following Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246) shall be included in, and shall be a part of, all solicitations for offers and bids on all federal and federally assisted construction contracts or subcontracts in excess of $10,000. Execution of the contract by the successful bidder and any

subsequent subcontracts will be considered the contractor's and subcontractor's commitment to the EEO provisions contained in these Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246).

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246)

1. As used in these specifications:
   a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;
   b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
   c. "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U. S. Treasury Department Form 941.
   d. "Minority" includes:
      (i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
      (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
      (iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
      (iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

2. If the contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, he shall include in each subcontract in excess of $10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation.

3. If the contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each contractor or subcontractor participating in an approved Plan is required to comply with his obligations under the EEO clause, and to make good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other contractor or subcontractors toward a goal in an

approved Plan does not excuse any covered contractor's or subcontractor's failure to take good faith efforts to achieve the Plan goals.

4. The contractor shall implement the specific affirmative action standards provided in paragraphs 7a through 7p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction contractors performing construction work in geographical areas where they do not have a federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any OFCCP office or from federal procurement contracting officers. The contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the contractor has a collective bargaining agreement, to refer either minorities or women, shall excuse the contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.

6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the contractor during the training period, and the contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U. S. Department of Labor.

7. The contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the contractor's compliance with these specifications will be based on his effort to achieve maximum results from its actions. The contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

a. Ensure and maintain a working environment free of harassment, intimidation and coercion at all sites, and in all facilities at which the contractor's employees are assigned to work. The contractor, where possible, will assign 2 or more women to each construction project. The contractor shall ensure that all foremen, superintendents and other on-site supervisory personnel are aware of and carry out the contractor's obligation to maintain such a working environment with specific attention to minority or female individuals working at such sites or in such facilities.
b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to

community organizations when the contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the contractor by the union or, if referred, not employed by the contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the contractor has taken.

d. Provide immediate written notification to the Director when the union or unions with which the contractor has a collective bargaining agreement has not referred to the contractor a minority person or woman set by the contractor, or when the contractor has other information that the union referral process has impeded the contractor's efforts to meet its obligations.

e. Develop on-the-job training opportunities and/or participate in training programs for the area which include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the contractor's employment needs, especially those programs funded or approved by the Department of Labor. The contractor shall provide notice of these programs to the sources compiled under 7b above.

f. Disseminate the contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the contractor in meeting his EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with on-site supervisory personnel such as superintendent, general foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

h. Disseminate the contractor's EEO policy externally by including it in ny advertising in the news media, including minority and female news media, and providing written notification to and discussing the contractor's EEO policy with other contractors and subcontractors with whom the contractor does or anticipates doing business.

i. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the contractor's recruitment area and employment needs. Not later than 1 month prior to the date for the acceptance of

applications for apprenticeship or other training by any recruitment source, the contractor shall send written notification to organizations such as the above describing the openings, screening procedures and tests to be used in the selection process.

j. Encourage present minority and female employees to recruit other minority persons and women, and where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a contractor's workforce.

k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR 60-3.

l. Conduct, at least annually, an inventory and evaluation of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the contractor's obligations under these specifications are being carried out.

n. Ensure that all facilities and company activities are non-segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

p. Conduct a review, at least annually, of all supervisors' adherence to and performance under the contractor's EEO policies and affirmative action obligations.

8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling their affirmative action obligations (7a through p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling its obligations under 7a through 7p of these specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the contractor's minority and female workforce participation, makes a good faith effort to meet his goals and timetables and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the contractor. The obligation to comply, however, is the contractor's and failure of such a group to fulfill an obligation shall not be a defense for the contractor's noncompliance.

9. A goal for minorities and a separate goal for women have been established. The contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the contractor may be in violation of the Executive Order if a group is employed

in a substantially disparate manner (for example, even though the contractor has achieved its goals for women generally, the contractor may be in violation of the Executive Order if a minority group of women in underutilized).

10. The contractor shall not use the goals or affirmative action standards to discriminate against any person because of race, color, religion, sex or national origin.

11. The contractor shall not enter into a subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

12. The contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

13. The contractor, in fulfilling his obligations under these specifications, shall implement specific affirmative actions steps, at least as extensive as the standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the contractor fails to comply with the requirements of the Executive Order, the implementing regulations or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

14. The contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors will not be required to maintain separate records.

15. Nothing herein shall be construed as a limitation on the application of other laws which establish different standards of compliance or on the application of requirements for hiring of local or other area residents (e.g., those under the Pubic Works Employment Act of 1977 and the Community Development Block Grant Program).

16. In addition to the reporting requirements set forth elsewhere in this contract, the contractor and subcontractors holding subcontracts (not including material suppliers) in excess of $10,000

shall submit for every month of July during which work is performed, employment data as contained under Form FHWA-1391 in accordance with instructions included thereon.

LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
SUPPLEMENTAL SPECIFICATIONS

NEW ORLEANS PLAN

Each bidder, contractor or subcontractor (hereinafter called the contractor) must fully comply with these bid conditions as to each construction trade intended to be used on this construction contract and all other construction work (both federal and nonfederal) in New Orleans Plan Area during the performance of this contract or subcontract. The contractor commits to the minority and female employment utilization goals set forth herein and all other requirements, terms and conditions expressed herein by submitting a properly signed bid.

The contractor shall appoint a company executive to assume the responsibility for implementation of the requirements, terms and conditions of these bid conditions.

These specifications implementing the New Orleans Plan for employment of minorities and females have been imposed by the U. S. Department of Labor by order on September 8, 1971, as amended, for all nonexempt federal and federally assisted construction contracts to be awarded in the area of jurisdiction of the Southeast Louisiana Building and Construction Trades Council in the City of New Orleans and Southeast Louisiana. This area consists of the parishes of Orleans, Jefferson, St. Bernard, St. Tammany, St. Charles, St. John the Baptist, Plaquemines, Washington, Terrebonne, Tangipahoa (that area east of the Illinois Central Railroad), Livingston (that area southeast of the line from a point off the Livingston and Tangipahoa Parish line adjacent from New Orleans and Baton Rouge), St. James (that area southeast of a line drawn from the Town of Gramercy to the point of intersection of St. James, Lafourche and Assumption Parishes), and Lafourche.

The provisions of these bid conditions apply to contractors which are party to collective bargaining agreements with labor organizations which together have agreed to the New Orleans Area Construction Program (hereinafter called the New Orleans Plan) for equal opportunity and have jointly made a commitment to goals of minority and female utilization. The New Orleans Plan is a voluntary agreement between (1) Southeast Louisiana Building and Construction Trades Council; (2) contractors and subcontractors who are signatory to the New Orleans Plan; (3) the Urban League of Greater New Orleans and representatives of the minority community; and (4) the City of New Orleans. The New Orleans Plan, together with all implementing agreements that have been and may hereafter be developed pursuant thereto, are incorporated herein by reference.

The requirements set forth herein shall constitute the specific affirmative action requirements for activities under this contract and supplement the equal employment opportunity requirements set forth in the Required Contract Provisions.

The contractor and all subcontractors holding contracts in excess of $10,000 shall comply with the following minimum requirement activities of equal employment opportunity. The contractor shall include these requirements in every subcontract in excess of $10,000 with such modification of language as necessary to make them binding on the subcontractor.

Each contractor and subcontractor shall submit a monthly employment utilization report, Standard Form 257, covering the contractor's entire work force employed on all contracts (both federal and nonfederal) held in the New Orleans Area. In addition, a list of the federal and nonfederal contracts which are covered by the report shall be furnished. The report shall be submitted to the engineer no later than the 10th day following the end of the month being reported. The report shall end on the next to the last Saturday in the month being reported and shall reflect all hours worked between this date and the close out date in the preceding month. Copies of all payrolls and personnel data shall be retained for 3 years after final acceptance of the project. These records and documents, or copies thereof, shall be made available at reasonable times and places for inspection by an authorized representative of the State or Federal Government and shall be submitted upon request with any other compliance information which such representative may require.

In addition to the reporting requirements set forth above, the contractor and the subcontractors holding subcontracts, not including material suppliers, in excess of $10,000 shall submit for every month of July during which work is performed, employment data as contained under Form FHWA-1391, and in accordance with the instructions included thereon.

A contractor may be in compliance with these bid conditions by its participation in the New Orleans Plan and applicable provisions contained in the "Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246)" and Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246).

LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

I. GENERAL

1. These contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

2. Except as otherwise provided for in each section, the contractor shall insert in each subcontract all of the stipulations contained in these Required Contract Provisions, and further require their inclusion in any lower tier subcontract or purchase order that may in turn be made. The Required Contract Provisions shall not be incorporated by reference in any case. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with these Required Contract Provisions.

3. A breach of any of the stipulations contained in these Required Contract Provisions shall be sufficient grounds for termination of the contract.

4. A breach of the following clauses of the Required Contract Provisions may also be grounds for debarment as provided in 29 CFR 5.12:

Section I, paragraph 2;
Section IV, paragraphs 1, 2, 3, 4, and 7;
Section V, paragraphs 1 and 2a through 2g.

5. Disputes arising out of the labor standards provisions of Section IV (except paragraph 5) and Section V of these Required Contract Provisions shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the U.S. Department of Labor (DOL) as set forth in 29 CFR 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the DOL, or the contractor's employees or their representatives.

6. **Selection of Labor:** During the performance of this contract, the contractor shall not:

a. discriminate against labor from any other State, possession, or territory of the United States (except for employment preference for Appalachian contracts, when applicable, as specified in Attachment A), or

b. employ convict labor for any purpose within the limits of the project unless it is labor performed by convicts who are on parole, supervised release, or probation.

II. NONDISCRIMINATION

(Applicable to all Federal-aid construction contracts and to all related subcontracts of $10,000 or more.)

1. **Equal Employment Opportunity:** Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630 and 41 CFR 60) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The Equal Opportunity Construction Contract Specifications set forth under 41 CFR 60-4.3 and the provisions of the American Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the State highway agency (SHA) and the Federal Government in carrying out EEO obligations and in their review of his/her activities under the contract.

b. The contractor will accept as his operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, preapprenticeship, and/or on-the-job training."

2. **EEO Officer:** The contractor will designate and make known to the SHA contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active contractor program of EEO and who must be assigned adequate authority and responsibility to do so.

3. **Dissemination of Policy:** All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will

implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minority group employees.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. **Recruitment:** When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minority groups in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minority group applicants. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority group applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, he is expected to observe the provisions of that agreement to the extent that the system permits the contractor's compliance with EEO contract provisions. (The DOL has held that where implementation of such agreements have the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Executive Order 11246, as amended.)

c. The contractor will encourage his present employees to refer minority group applicants for employment. Information and procedures with regard to referring minority group applicants will be discussed with employees.

5. **Personnel Actions:** Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with his obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of his avenues of appeal.

6. **Training and Promotion:**

a. The contractor will assist in locating, qualifying, and increasing the skills of minority group and women employees, and applicants for employment.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision.

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of minority group and women employees and will encourage eligible employees to apply for such training and promotion.

7. **Unions:** If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use his/her best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women within the unions, and to effect referrals by such unions of minority and female employees. Actions by the contractor either directly or through a contractor's association acting as agent will include the procedures set forth below:

a. The contractor will use best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.

b. The contractor will use best efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the SHA and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of minority and women referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minority group persons and women. (The DOL has held that it shall be no excuse that the union with which the contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees.) In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the SHA.

8. **Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:** The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment.

a. The contractor shall notify all potential subcontractors and suppliers of his/her EEO obligations under this contract.

b. Disadvantaged business enterprises (DBE), as defined in 49 CFR 23, shall have equal opportunity to compete for and perform subcontracts which the contractor enters into pursuant to this contract. The contractor will use his best efforts to solicit bids from and to utilize DBE subcontractors or subcontractors with meaningful minority group and female representation among their employees. Contractors shall obtain lists of DBE construction firms from SHA personnel.

c. The contractor will use his best efforts to ensure subcontractor compliance with their EEO obligations.

9. **Records and Reports:** The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the SHA and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women;

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees; and

(4) The progress and efforts being made in securing the services of DBE subcontractors or subcontractors with meaningful minority and female representation among their employees.

b. The contractors will submit an annual report to the SHA each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data.

III. NONSEGREGATED FACILITIES

(Applicable to all Federal-aid construction contracts and to all related subcontracts of $10,000 or more.)

a. By submission of this bid, the execution of this contract or subcontract, or the consummation of this material supply agreement or purchase order, as appropriate, the bidder, Federal-aid construction contractor, subcontractor, material supplier, or vendor, as appropriate, certifies that the firm does not maintain or provide for its employees any segregated facilities at any of its establishments, and that the firm does not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The firm agrees that a breach of this certification is a violation of the EEO provisions of this contract. The firm further certifies that no employee will be denied access to adequate facilities on the basis of sex or disability.

b. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, timeclocks, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive, or are, in fact, segregated on the basis of race, color, religion, national origin, age or disability, because of habit, local custom, or otherwise. The only exception will be for the disabled when the demands for accessibility override (e.g. disabled parking).

c. The contractor agrees that it has obtained or will obtain identical certification from proposed subcontractors or material suppliers prior to award of subcontracts or consummation of material supply agreements of $10,000 or more and that it will retain such certifications in its files.

IV. PAYMENT OF PREDETERMINED MINIMUM WAGE

(Applicable to all Federal-aid construction contracts exceeding $2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural minor collectors, which are exempt.)

1. **General:**

a. All mechanics and laborers employed or working upon the site of the work will be paid unconditionally and not less often than once a week and without subsequent deduction or rebate on any

account [except such payroll deductions as are permitted by regulations (29 CFR 3) issued by the Secretary of Labor under the Copeland Act (40 U.S.C. 276c)] the full amounts of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment. The payment shall be computed at wage rates not less than those contained in the wage determination of the Secretary of Labor (hereinafter "the wage determination") which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor or its subcontractors and such laborers and mechanics. The wage determination (including any additional classifications and wage rates conformed under paragraph 2 of this Section IV and the DOL poster (WH-1321) or Form FHWA-1495) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers. For the purpose of this Section, contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act (40 U.S.C. 276a) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of Section IV, paragraph 3b, hereof. Also, for the purpose of this Section, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in paragraphs 4 and 5 of this Section IV.

b. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein, provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed.

c. All rulings and interpretations of the Davis-Bacon Act and related acts contained in 29 CFR 1, 3, and 5 are herein incorporated by reference in this contract.

2. **Classification:**

a. The SHA contracting officer shall require that any class of laborers or mechanics employed under the contract, which is not listed in the wage determination, shall be classified in conformance with the wage determination.

b. The contracting officer shall approve an additional classification, wage rate and fringe benefits only when the following criteria have been met:

(1) the work to be performed by the additional classification requested is not performed by a classification in the wage determination;

(2) the additional classification is utilized in the area by the construction industry;

(3) the proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(4) with respect to helpers, when such a classification prevails in the area in which the work is performed.

c. If the contractor or subcontractors, as appropriate, the laborers and mechanics (if known) to be employed in the additional classification or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the DOL, Administrator of the Wage and Hour Division, Employment Standards Administration, Washington, D.C. 20210. The Wage and Hour Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

d. In the event the contractor or subcontractors, as appropriate, the laborers or mechanics to be employed in the additional classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. Said Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary

e. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 2c or 2d of this Section IV shall be paid to all workers performing work in the additional classification from the first day on which work is performed in the classification.

3. **Payment of Fringe Benefits:**

a. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor or subcontractors, as appropriate, shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

b. If the contractor or subcontractor, as appropriate, does not make payments to a trustee or other third person, he/she may consider as a part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, provided, that the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

4. **Apprentices and Trainees (Programs of the U.S. DOL) and Helpers:**

a. *Apprentices:*

(1) Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the DOL, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau, or if a person is employed in his/her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State

apprenticeship agency (where appropriate) to be eligible for probationary employment as an apprentice.

(2) The allowable ratio of apprentices to journeyman-level employees on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any employee listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate listed in the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor or subcontractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman-level hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

(3) Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator for the Wage and Hour Division determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

(4) In the event the Bureau of Apprenticeship and Training, or a State apprenticeship agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor or subcontractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the comparable work performed by regular employees until an acceptable program is approved.

b. *Trainees:*

(1) Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the DOL, Employment and Training Administration.

(2) The ratio of trainees to journeyman-level employees on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(3) Every trainee must be paid at not less than the rate specified in the approved program for his/her level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman-level wage rate on the wage determination which provides for less than full fringe benefits for apprentices, in which case such trainees shall receive the same fringe benefits as apprentices.

(4) In the event the Employment and Training Administration withdraws approval of a training program, the contractor or subcontractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. *Helpers*:

Helpers will be permitted to work on a project if the helper classification is specified and defined on the applicable wage determination or is approved pursuant to the conformance procedure set forth in Section IV.2. Any worker listed on a payroll at a helper wage rate, who is not a helper under a approved definition, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed.

5. **Apprentices and Trainees (Programs of the U.S. DOT):**

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

6. **Withholding:**

The SHA shall upon its own action or upon written request of an authorized representative of the DOL withhold, or cause to be withheld, from the contractor or subcontractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements which is held by the same prime contractor, as much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper employed or working on the site of the work, all or part of the wages required by the contract, the SHA contracting officer may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

7. **Overtime Requirements:**

No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers, mechanics, watchmen, or guards (including apprentices, trainees, and helpers described in paragraphs 4 and 5 above) shall require or permit any laborer, mechanic, watchman, or guard in any workweek in which he/she is employed on such work, to work in excess of 40 hours in such workweek unless such laborer, mechanic, watchman, or guard receives compensation at a rate not less than

one-and-one-half times his/her basic rate of pay for all hours worked in excess of 40 hours in such workweek.

8. **Violation:**

Liability for Unpaid Wages; Liquidated Damages: In the event of any violation of the clause set forth in paragraph 7 above, the contractor and any subcontractor responsible thereof shall be liable to the affected employee for his/her unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory) for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer, mechanic, watchman, or guard employed in violation of the clause set forth in paragraph 7, in the sum of $10 for each calendar day on which such employee was required or permitted to work in excess of the standard work week of 40 hours without payment of the overtime wages required by the clause set forth in paragraph 7.

9. **Withholding for Unpaid Wages and Liquidated Damages:**

The SHA shall upon its own action or upon written request of any authorized representative of the DOL withhold, or cause to be withheld, from any monies payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph 8 above.

V. STATEMENTS AND PAYROLLS

(Applicable to all Federal-aid construction contracts exceeding $2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural collectors, which are exempt.)

1. **Compliance with Copeland Regulations (29 CFR 3):**

The contractor shall comply with the Copeland Regulations of the Secretary of Labor which are herein incorporated by reference.

2. **Payrolls and Payroll Records:**

a. Payrolls and basic records relating thereto shall be maintained by the contractor and each subcontractor during the course of the work and preserved for a period of 3 years from the date of completion of the contract for all laborers, mechanics, apprentices, trainees, watchmen, helpers, and guards working at the site of the work.

b. The payroll records shall contain the name, social security number, and address of each such employee; his or her correct classification; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalent thereof the types described in Section 1(b)(2)(B) of the Davis Bacon Act); daily and weekly number of hours worked; deductions made; and actual wages paid. In addition, for Appalachian contracts, the payroll records shall contain a notation indicating whether the employee does, or does not, normally reside in the labor area as defined in Attachment A, paragraph 1. Whenever the Secretary of Labor, pursuant to Section IV, paragraph 3b, has found that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis Bacon Act, the contractor and each subcontractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, that the plan or program has been communicated in writing to the laborers or mechanics affected, and show the cost anticipated or the actual cost incurred in providing benefits. Contractors or subcontractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprentices and trainees, and ratios and wage rates prescribed in the applicable programs.

c. Each contractor and subcontractor shall furnish, each week in which any contract work is performed, to the SHA resident engineer a payroll of wages paid each of its employees (including apprentices, trainees, and helpers described in Section IV, paragraphs 4 and 5, and watchmen and guards engaged on work during the preceding weekly payroll period). The payroll submitted shall set out accurately and completely all of the information required to be maintained under paragraph 2b of this Section V. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal stock number 029-005-0014-1), U.S. Government Printing Office, Washington, D.C. 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors.

d. Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his/her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) that the payroll for the payroll period contains the information required to be maintained under paragraph 2b of this Section V and that such information is correct and complete;

(2) that such laborer or mechanic (including each apprentice, trainee, and helper) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in the Regulations, 29 CFR 3;

(3) that each laborer or mechanic has been paid not less that the applicable wage rate and fringe benefits or cash equivalent for the classification of worked performed, as specified in the applicable wage determination incorporated into the contract.

e. The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 2d of this Section V.

f. The falsification of any of the above certifications may subject the contractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 231.

g. The contractor or subcontractor shall make the records required under paragraph 2b of this Section V available for inspection, copying, or transcription by authorized representatives of the SHA, the FHWA, or the DOL, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the SHA, the FHWA, the DOL, or all

may, after written notice to the contractor, sponsor, applicant, or owner, take such actions as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

VI. RECORD OF MATERIALS, SUPPLIES, AND LABOR

1. On all Federal-aid contracts on the National Highway System, except those which provide solely for the installation of protective devices at railroad grade crossings, those which are constructed on a force account or direct labor basis, highway beautification contracts, and contracts for which the total final construction cost for roadway and bridge is less than $1,000,000 (23 CFR 635) the contractor shall:

a. Become familiar with the list of specific materials and supplies contained in Form FHWA-47, "Statement of Materials and Labor Used by Contractor of Highway Construction Involving Federal Funds," prior to the commencement of work under this contract.

b. Maintain a record of the total cost of all materials and supplies purchased for and incorporated in the work, and also of the quantities of those specific materials and supplies listed on Form FHWA-47, and in the units shown on Form FHWA-47.

c. Furnish, upon the completion of the contract, to the SHA resident engineer on Form FHWA-47 together with the data required in paragraph 1b relative to materials and supplies, a final labor summary of all contract work indicating the total hours worked and the total amount earned.

2. At the prime contractor's option, either a single report covering all contract work or separate reports for the contractor and for each subcontract shall be submitted.

VII. SUBLETTING OR ASSIGNING THE CONTRACT

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the State. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635).

a. "Its own organization" shall be construed to include only workers employed and paid directly by the prime contractor and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor, assignee, or agent of the prime contractor.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph 1 of Section VII is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the SHA contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the SHA contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the SHA has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

VIII. SAFETY: ACCIDENT PREVENTION

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the SHA contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).

IX. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and

similar acts, the following notice shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

Notice to all Personnel engaged on Federal-Aid Highway Projects

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined not more that $10,000 or imprisoned not more than 5 years or both."

X. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

(Applicable to all Federal-aid construction contracts and to all related subcontracts of $100,000 or more.)

By submission of this bid or the execution of this contract, or subcontract, as appropriate, the bidder, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any facility that is or will be utilized in the performance of this contract, unless such contract is exempt under the Clean Air Act, as amended (42 U.S.C. 1857 et seq., as amended by Pub.L. 92-604), and under the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq., as amended by Pub.L. 92-500), Executive Order 11738, and regulations in implementation thereof (40 CFR 15) is not listed, on the date of contract award, on the U.S. Environmental Protection Agency (EPA) List of Violating Facilities pursuant to 40 CFR 15.20.

2. That the firm agrees to comply and remain in compliance with all the requirements of Section 114 of the Clean Air Act and Section 308 of the Federal Water Pollution Control Act and all regulations and guidelines listed thereunder.

3. That the firm shall promptly notify the SHA of the receipt of any communication from the Director, Office of Federal Activities, EPA, indicating that a facility that is or will be utilized for the contract is under consideration to be listed on the EPA List of Violating Facilities.

4. That the firm agrees to include or cause to be included the requirements of paragraph 1 through 4 of this Section X in every nonexempt subcontract, and further agrees to take such action as the government may direct as a means of enforcing such requirements.

XI. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

1. **Instructions for Certification - Primary Covered Transactions:** (Applicable to all Federal-aid contracts - 49 CFR 29)

a. By signing and submitting this proposal, the prospective primary participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective primary participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the department or agency determined to enter into this transaction. If it is later determined that the prospective primary participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause of default.

d. The prospective primary participant shall provide immediate written notice to the department or agency to whom this proposal is submitted if any time the prospective primary participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the department or agency to which this proposal is submitted for assistance in obtaining a copy of those regulations.

f. The prospective primary participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective primary participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," provided by the department or agency entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered

transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the nonprocurement portion of the "Lists of Parties Excluded From Federal Procurement or Nonprocurement Programs" (Nonprocurement List) which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph f of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Primary Covered Transactions

1. The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:

a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

b. Have not within a 3-year period preceding this proposal been convicted of or had a civil judgement rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph 1b of this certification; and

d. Have not within a 3-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

2. Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

2. **Instructions for Certification - Lower Tier Covered Transactions:** (Applicable to all subcontracts, purchase orders and other lower tier transactions of $25,000 or more - 49 CFR 29)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "primary covered transaction," "participant," "person," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Covered Transactions:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XII. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

(Applicable to all Federal-aid construction contracts and to all related subcontracts which exceed $100,000 - 49 CFR 20)

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

3. The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such recipients shall certify and disclose accordingly.

LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

REQUIRED CONTRACT PROVISIONS FOR DBE PARTICIPATION IN FEDERAL AID CONSTRUCTION CONTRACTS (DBE GOAL PROJECT)

A. AUTHORITY AND DIRECTIVE: The Code of Federal Regulations, Title 49, Part 26 (49 CFR Part 26) as amended and the Louisiana Department of Transportation and Development's (DOTD) Disadvantaged Business Enterprise (DBE) Program are hereby made a part of and incorporated by this reference into this contract. Copies of these documents are available, upon request, from DOTD Compliance Programs Office, P. O. Box 94245, Baton Rouge, LA 70804-9245.

B. POLICY: It is the policy of the DOTD that it shall not discriminate on the basis of race, color, national origin, or sex in the award of any United States Department of Transportation (US DOT) financially assisted contracts or in the administration of its DBE program or the requirements of 49 CFR Part 26. The DOTD shall take all necessary and reasonable steps under 49 CFR Part 26 to ensure nondiscrimination in the award and administration of US DOT assisted contracts. The DBE program, as required by 49 CFR Part 26 and as approved by US DOT, is incorporated by reference in this agreement. Implementation of this program is a legal obligation and failure to carry out its terms shall be treated as a violation of this agreement. Upon notification of failure to carry out the approved DBE program, the US DOT may impose sanctions as provided for under 49 CFR Part 26 and may in appropriate cases, refer the matter for enforcement under 18 U.S.C. 1001 and/or the Program Fraud Civil Remedies Act of 1986 (31 U.S.C.3801 et seq.).

C. DBE OBLIGATION: The contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of US DOT assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the DOTD deems appropriate.

The preceding policy and DBE obligation shall apply to this contract and shall be included in the requirements of any subcontract. Failure to carry out the requirements set forth therein shall constitute a breach of contract and, after notification by DOTD, may result in termination of the contract, a deduction from the contract funds due or to become due the contractor or other such remedy as DOTD deems appropriate. The contractor is encouraged to use the services offered by banks in the community which are owned and controlled by minorities or women when feasible and beneficial. The term DBE is inclusive of women business enterprises (WBE) and all obligations applicable to DBE shall apply to firms certified and listed as WBE.

D. FAILURE TO COMPLY WITH DBE REQUIREMENTS: All contractors and subcontractors are hereby advised that failure to carry out the requirements set forth above shall constitute a breach of contract and, after notification by DOTD may result in rejection of the bid; termination of the contract; a deduction from the contract funds due or to become due the contractor; or other such remedy as DOTD deems appropriate. Failure to comply with the DBE requirements shall include but not be limited to failure to meet the established goal and/or failure to submit documentation of good faith efforts; failure to exert a reasonable good faith effort (as determined by DOTD) to meet established goals; and failure to realize the DBE participation set forth on approved Form CS-6AAA and attachments. Failure to submit Form CS-6AAA and attachments and/or reasonable good faith efforts' documentation within the specified time requirements will result in the Department taking the actions specified in Heading G(6) below. The utilization of DBE is in addition to all other equal opportunity requirements of the contract. The contractor shall include the provisions in Sections B, C and D of these provisions in subcontracts so that such provisions will be binding upon each subcontractor, regular dealer, manufacturer, consultant, or service agency.

E. ELIGIBILITY OF DBE: The DOTD has included as part of the solicitation of bids a current list containing the names of firms that have been certified as eligible to participate as DBE on US DOT assisted contracts. This list is not an endorsement of the quality of performance of the firm but is simply an acknowledgment of the firm's

eligibility as a DBE. This list indicates the project numbers and letting date for which this list is effective. Only DBE listed on this list may be utilized to meet the established DBE goal for these projects.

F. COUNTING DBE PARTICIPATION TOWARD DBE GOALS: DBE participation toward attainment of the goal will be credited on the basis of total subcontract prices agreed to between the contractor and subcontractors for the contract items or portions of items being sublet as reflected on Form CS-6AAA and attachments, in accordance with the DOTD DBE Program, and the following criteria.

(1) Credit will only be given for use of DBE that are certified by the Louisiana Unified Certification Program. Certification of DBE by other agencies is not recognized.

(2) The total value of subcontracts awarded for construction and services to an eligible DBE is counted toward the DBE goal provided the DBE performs a commercially useful function. The contractor is responsible for ensuring that the goal is met using DBE that perform a commercially useful function.

The contractor shall operate in a manner consistent with the guidelines set forth in the DOTD DBE Program. A commercially useful function is performed when a DBE is responsible for the execution of a distinct element of work by actually managing, supervising, and performing the work in accordance with standard industry practices except when such practices are inconsistent with 49 CFR Part 26 as amended, and the DOTD DBE Program, and when the DBE receives due compensation as agreed upon for the work performed. To determine whether a DBE is performing a commercially useful function, the DOTD shall evaluate the work subcontracted in accordance with the DOTD DBE Program, industry practices and other relevant factors. When an arrangement between the contractor and the DBE represents standard industry practice, if such arrangement erodes the ownership, control or independence of the DBE, or fails to meet the commercially useful function requirement, the contractor will not receive credit toward the goal.

(3) A DBE prime contractor may count only the contract amount toward DBE participation for work he/she actually performs and for which he/she is paid. Any subcontract amounts awarded to certified DBE by a DBE prime will also be credited toward DBE participation provided the DBE subcontractor performs a commercially useful function.

(4) A contractor may count toward the DBE goal 100 percent of verified delivery fees paid to a DBE trucker. The DBE trucker must manage and supervise the trucking operations with its own employees and use equipment owned by the DBE trucker. No credit will be counted for the purchase or sale of material hauled unless the DBE trucker is also a DOTD certified DBE supplier. No credit will be counted unless the DBE trucker is an approved subcontractor.

(5) A contractor may count toward the DBE goal that portion of the dollar value with a joint venture equal to the percentage of the ownership and control of the DBE partner in the joint venture. Such crediting is subject to a favorable DOTD review of the joint venture agreement to be furnished by the apparent low bidder before award of the contract. The joint venture agreement shall include a detailed breakdown of the following:

a. Contract responsibility of the DBE for specific items of work.

b. Capital participation by the DBE.

c. Specific equipment to be provided to the joint venture by the DBE.

d. Specific responsibilities of the DBE in the control of the joint venture.

e. Specific manpower and skills to be provided to the joint venture by the DBE.

f. Percentage distribution to the DBE of the projected profit or loss incurred by the joint venture.

(6) A contractor may count toward the DBE goal only expenditures for materials and supplies obtained from DBE suppliers and manufacturers in accordance with the following:

a. The DBE supplier assumes actual and contractual responsibility for the provision of materials and supplies.

b. The contractor may count 100 percent of expenditures made to a DBE manufacturer provided the DBE manufacturer operates or maintains a factory or establishment that produces on the premises the materials or supplies obtained by the contractor.

c. The contractor may count 60 percent of the expenditures to DBE suppliers who are regular dealers but not manufacturers, provided the DBE supplier performs a commercially useful function in the supply process including buying the materials or supplies, maintaining an inventory, and selling materials regularly to the public. Dealers in bulk items such as steel, cement, aggregates and petroleum products are not required to maintain items in stock, but they must own or operate distribution equipment. The DBE supplier shall be certified as such by DOTD.

d. A DBE may not assign or lease portions of its supply, manufactured product, or service agreement without the written approval of the DOTD.

(7) A contractor may count toward the DBE goal reasonable expenditures to DBE firms including fees and commissions charged for providing a bona fide service; fees charged for hauling materials unless the delivery service is provided by the manufacturer or regular dealer as defined above; and fees and commissions for providing any bonds or insurance specifically required for the performance of the contract.

(8) The contractor will not receive credit if the contractor makes direct payment to the material supplier. However, it may be permissible for a material supplier to invoice the contractor and DBE jointly and be paid by the contractor making remittance to the DBE firm and material supplier jointly. Prior approval by DOTD is required.

(9) The contractor will not receive credit toward the DBE goal for any subcontracting arrangement contrived to artificially inflate the DBE participation.

G. AWARD DOCUMENTATION AND PROCEDURE: This project has specific DBE goal requirements set forth in the Special Provision for DBE Participation in Federal Aid Construction Contracts. The bidder by signing this bid certifies that:

(1) The goal for DBE participation prescribed in the special provisions shall be met or exceeded and arrangements have been made with certified DBE or good faith efforts made to meet the goal will be demonstrated.

(2) Affirmative actions have been taken to seek out and consider DBE as potential subcontractors. Bidders shall contact DBE to solicit their interest, capability, and prices in sufficient time to allow them to respond effectively, and shall retain, on file, proper documentation to substantiate their good faith efforts.

(3) Form CS-6AAA and "Attachment to Form CS-6AAA" and, if necessary, documentation of good faith efforts shall be submitted within 10 business days following the opening of bids to the DOTD Compliance Programs Office. Submittals shall be personally delivered and date and time stamped into the DOTD Compliance Programs Office by the close of business, 10 business days after opening of bids; or mailed to the DOTD Compliance Programs Office by certified mail, return receipt requested and post marked by the 10th business day after the opening of bids. A business day is defined as a normal working day of DOTD.

Should a bidder protest or appeal any matter regarding the bidding or award of a contract in accordance with Subsection 102.13 of the 2006 Standard Specifications (Subsection 102.13 of the 2000 Louisiana Standard Specifications) after the scheduled time of bid opening, the Compliance Programs Section will immediately suspend the ten day requirement for submission of the CS-6AAA and Attachments until further notice and will notify all parties involved of the suspension. Once the protest has been resolved the

Compliance Programs Section will notify the low bidder and issue a date for submission of the CS-6AAA and Attachments.

All attachments to Form CS-6AAA shall include:

a. The names of DBE subcontractors that will actually participate in meeting the contract goal; and

b. A complete description of the work to be performed by the DBE including the specific items or portions of items of work, quantities, and unit price(s) of each item; and

c. The total dollar value of each item that can be credited toward the contract goal; and

d. Any assistance to be provided to the DBE; and

e. The original signature of each DBE and the contractor attesting that negotiations are in progress and that it is the intention of the parties to enter into a subcontract within 60 calendar days from the time the contract is finalized between the contractor and DOTD.

It shall be the bidder's responsibility to ascertain the certification status of designated DBEs. An extension of time for submittal of Form CS-6AAA and Attachments will not be granted beyond the stated time. Questionable technical points will be cleared with the DOTD Compliance Programs Office within the time period allowed. If the documentation required is not provided in the time and manner specified, DOTD will take the actions specified in Heading (6) below.

(4) If the apparent low bidder is not able to meet the DBE goal, the DBE firms that can meet a portion of the goal shall be listed on the form CS-6AAA. Form CS-6AAA and attachments shall be completed and submitted in accordance with Heading (3) above 10 business days after opening of bids. Form CS-6AAA shall indicate the DBE participation which has been secured along with documentation of good faith efforts. The apparent low bidder shall document and submit justification stating why the goal could not be met and demonstrate the good faith efforts as shown in Section J.

The DOTD's evaluation of good faith efforts in the pre-award stage will focus only on efforts made prior to submittal of the bid. For consideration, good faith efforts shall include the requirements listed in these provisions as well as other data the contractor feels is relevant.

(5) Form CS-6AAA and attachments, and documentation of good faith efforts, when appropriate, will be evaluated by DOTD in the selection of the lowest responsible bidder. The information provided shall be accurate and complete. The apparent low bidder's proposed attainment of the DBE goal and/or demonstration of good faith efforts will be considered in the award of the contract.

(6) An apparent low bidder's failure, neglect, or refusal to submit Form CS-6AAA and attachments committing to meet or exceed the DBE goal and/or documentation of good faith efforts, shall constitute just cause for forfeiture of the proposal guarantee and the DOTD rejecting the bid, pursuing award to the next lowest bidder, or re-advertising the project. The original apparent low bidder will not be allowed to bid on the project should readvertisement occur.

The apparent low bidder shall forfeit the proposal guarantee unless the bidder can show that the reason for not meeting the requirements given in these DBE Provisions was beyond the bidder's control. The DOTD DBE Oversight Committee will review the bidder's reasons for not meeting these DBE Provisions and will decide if the reasons are sufficient to allow return of the proposal guarantee.

(7) The bidder has the right to appeal the DOTD's findings and rulings to the DOTD Chief Engineer. The bidder may present information to clarify the previously submitted documentation. The decision rendered by the DOTD Chief Engineer will be administratively final. There shall be no appeal to the US DOT. If the DOTD Chief Engineer does not rule in favor of the original apparent low bidder, the new apparent low bidder shall submit, in detail, its subsequent proposed DBE participation within 14 calendar days after notification.

(8) Agreements between the bidder and the DBE, whereby the DBE agrees not to provide subcontracting quotations to other bidders, are prohibited.

H. POST AWARD COMPLIANCE

(1) If the contract is awarded on less than full DBE goal participation, such award will not relieve the contractor of the responsibility to continue exerting good faith efforts. The contractor shall submit documentation of good faith efforts with requests to sublet prior to approval of subcontracting work being performed on the project.

(2) The contractor shall establish a program which will effectively promote increased participation by DBE in the performance of contracts and subcontracts. The contractor shall also designate and make known to the DOTD a liaison officer who will be responsible for the administration of the contractor's DBE program.

(3) The contractor shall enter into subcontracts or written agreements with the DBE identified on Form CS-6AAA and attachments for the kind and amount of work specified. The subcontracting requirements of the contract will apply. The contractor shall submit copies of subcontracts or agreements with DBE to DOTD upon request.

(4) The contractor shall keep each DBE informed of the construction progress schedule and allow each DBE adequate time to schedule work, stockpile materials, and otherwise prepare for the subcontract work.

(5) At any point during the project when it appears that the scheduled amount of DBE participation may not be achieved, the contractor shall provide evidence demonstrating how the goal will be met.

(6) If the contractor is unable to demonstrate to the DOTD's satisfaction that it failed to achieve the scheduled DBE participation due to reasons other than quantitative underruns or elimination of items contracted to DBE and that good faith efforts have been used to obtain the scheduled contract participation, the DOTD may withhold an amount equal to the difference between the DBE goal and the actual DBE participation achieved as damages.

(7) When the DOTD has reason to believe the contractor, subcontractor, or DBE may not be operating in compliance with the terms of these DBE provisions, to include, but not be limited to the encouragement of fronting, brokering, or not providing a commercially useful function, the DOTD will conduct an investigation of such activities with the cooperation of the parties involved. If the DOTD finds that any person or entity is not in compliance, the DOTD will notify such person or entity in writing as to the specific instances or matters found to be in noncompliance.

At the option of the DOTD, the person or entity may be allowed a specified time to correct the deficiencies noted and to achieve compliance. In the event that the person or entity cannot achieve compliance, or fails or refuses to do so, the DOTD reserves the right to initiate administrative action against the contractor which may include but not be limited to terminating the contract; withholding a percentage of the contractor's next partial payment equal to the shortfall amount until corrective action is taken; or other action the DOTD deems appropriate. The contractor has the right to appeal the DOTD's finding and rulings to the DOTD Chief Engineer.

The contractor may present additional information to clarify that previously submitted. Any new information not included in the original submittal will not be used in the final determination. The decision rendered by the DOTD Chief Engineer will be administratively final.

(8) To ensure that the obligations under subcontracts awarded to subcontractors are met, the DOTD will review the contractor's efforts to promptly pay subcontractors for work performed in accordance with the executed subcontracts. The contractor shall promptly pay subcontractors and suppliers, including DBE, their respective subcontract amount within 14 calendar days after the contractor receives payment from DOTD for the items satisfactorily performed by the subcontractors in accordance with Louisiana Revised Statute 9:2784. The contractor shall provide the DBE with a full accounting to include quantities paid and

deductions made from the DBE's partial payment at the time the check is delivered. Retainage may not be held by the contractor. Delay or postponement of payment to the subcontractor may be imposed by the contractor only when there is evidence that the subcontractor has failed to pay its labor force and suppliers for materials received and used on the project. Delay or postponement of payment must have written approval by the Project Engineer. Failure to promptly pay subcontractors or to release subcontractors' retainage shall constitute a breach of contract and after notification by the DOTD may result in (1) a deduction from the contract funds due or to become due the contractor, (2) disqualification of a contractor as non-responsive, or (3) any other such remedy under the contract as DOTD deems appropriate. All subcontracting agreements made by the contractor shall include the current payment to subcontractors provisions as incorporate in the contract. All disputes between contractors and subcontractors relating to payment of completed work or retainage shall be referred to the DBE Oversight Committee. Members of the DBE Oversight Committee are: the Deputy Chief Engineer,; the DOTD Compliance Programs Director; and a FHWA Division Representative.

(9) The contractor shall meet the requirements of Subsection 108.01 Subletting of Contract, and shall submit DOTD Forms OMF-1A, Request to Sublet and OMF-2A, Subcontractor's EEO Certification. These forms shall be approved by DOTD before any subcontract work is performed.

(10) DOTD reserves the right to withhold any partial payment from the contractor when it is determined that a DBE is not performing a commercially useful function or that achievement of the goal is in jeopardy. Payment may be withheld in the amount of the DBE goal that is in jeopardy until either the contractor submits to DOTD a revised plan for achieving the contract goal and the plan is approved, or the DBE goal amount in question has been met.

(11) The DOTD will monitor the contractor's DBE involvement during the contract, the level of effort by the contractor in meeting or exceeding the goal requirements in the contract, the contractor's attempts to do so, and the efforts in soliciting such involvement. If, at the completion of the project, the contractor has failed to meet the DBE goal and has not demonstrated good faith efforts or obtained a waiver or reduction of the goal, DOTD will withhold an amount equal to the difference between the DBE goal and the actual DBE participation achieved as damages.

I. SUBSTITUTIONS OF DBE FIRMS AFTER AWARD

(1) The contractor shall conform to the scheduled amount of DBE participation.

(2) Contract items designated to be performed by the DBE on Form CS-6AAA and attachments shall be performed by the designated DBE or DOTD approved substitute. Substitutions of named DBE shall be approved in writing by the DOTD Compliance Programs Section. Substituted DBE shall not commence work until the contractor is able to demonstrate that the listed DBE is unable to perform because of default, overextension on other jobs, or other acceptable justification. It is not intended that a contractor's ability to negotiate a more advantageous contract with another subcontractor be considered a valid basis for change. Substitution of DBE will be allowed only when the DBE is unable to perform due to default, overextension on other jobs, or other similar justification. Evidence of good faith efforts exerted by the contractor shall be submitted to DOTD for approval. Pay items of work eliminated from the project will not diminish the contractor's DBE participation.

(3) Under no circumstances will a contractor perform work originally designated to be performed by a DBE without prior written approval from the DOTD Compliance Programs Section.

(4) When a listed DBE is unwilling or unable to perform the items of work specified in the Form CS-6AAA and attachments, the contractor shall immediately notify the DOTD Compliance Programs Section.

When a contractor's request to be relieved of the obligation to use the named DBE results in a DBE Goal shortfall, the contractor shall immediately take steps to obtain another certified DBE to perform an equal amount of allowable credit work or make documented good faith efforts to do so. The new DBE's name and designated work shall be submitted to the DOTD for approval using Form OMF-1A, Request to Sublet, prior to proceeding with the work.

If the contractor is unable to replace a defaulting DBE with another DBE for the applicable item, a good faith effort shall be made to subcontract other items to DBE for the purpose of meeting the goal. The DOTD Compliance Programs Section will determine if the contractor made an acceptable good faith effort in awarding work to DBE firms. Any disputes concerning good faith efforts will be referred to the DBE Oversight Committee. The DOTD Compliance Programs Section may allow a waiver or adjustment of the goal as may be appropriate, depending on individual project circumstances.

J. GOOD FAITH EFFORTS: Good faith efforts are required by the contractor when the DBE goals established for a contract are not met, or at anytime during the contract when achievement of the DBE goal is in jeopardy. It is the contractor's responsibility to provide sufficient evidence for DOTD to ascertain the efforts made. The contractor shall demonstrate good faith efforts to maximize participation by DBE prior to award and during the life of the contract. Good faith efforts include personal contacts, follow-ups and earnest negotiations with DBE. DOTD will consider, at a minimum, the following efforts as relevant, although this listing is not exclusive or exhaustive and other factors and types of efforts may be relevant:

(1) Efforts made to select portions of the work to be performed by DBE in order to increase the likelihood of achieving the stated goal. It is the contractor's responsibility to make a sufficient portion of the work available to subcontractors and suppliers and to select those portions of work or materials consistent with the availability of DBE subcontractors and suppliers to assure meeting the goal for DBE participation. Selection of portions of work are required to at least equal the DBE goal in the contract.

(2) Written notification at least 14 calendar days prior to bid opening which solicits a reasonable number of DBE interested in participation in the contract as a subcontractor, regular dealer, manufacturer, or consultant for specific items of work. The contractor shall provide notice to a reasonable number of DBE that their interest in the contract is being solicited, with sufficient time to allow the DBE to participate effectively. The contractor shall seek DBE in the same geographic area from which it generally seeks subcontractors for a given project. If the contractor cannot meet the goal using DBE from the normal area, the contractor shall expand its search to a wider geographic area.

(3) Demonstrated efforts made to negotiate in good faith with interested DBE for specific items of work include:

a. The names, addresses and telephone numbers of DBE contacted. The dates of initial contact and whether initial solicitations of interest were followed-up personally, by mail, or by phone to determine the DBE interest.

b. A description of the information provided to DBE regarding the nature of the work, the plans and specifications and estimated quantities for portions of the work to be performed.

c. A statement of why additional agreements with DBE were not reached.

d. Documentation of each DBE contacted but rejected and the reasons for rejection. All bids and quotations received from DBE subcontractors whether verbal or written, and the contractor's efforts to negotiate a reasonable price shall be submitted. Rejecting a DBE's bid because it was not the lowest quotation received will not be satisfactory reason without an acceptable explanation of how it was determined to be unreasonable. A statement that the DBE's quotation was more than the contractor's bid price for an item or items will not be acceptable.

e. Copies of all bids and quotations received from DBE subcontractors and an explanation of why they were not used.

f. Scheduling meetings to discuss proposed work or to walk the job-site with DBE.

g. Informing DBE of any pre-bid conferences scheduled by the DOTD.

h. Assisting DBE in obtaining bonding, insurance, or lines of credit required by the contractor.

i. Evidence of DBE contacted but rejected as unqualified, accompanied by reason for rejection based on a thorough investigation of the DBEs capabilities.

j. Any additional information not included above which would aid the DOTD in evaluation of the contractor's good faith efforts.

(4) The following are examples of actions that will not be accepted as justification by the contractor for failure to meet DBE contract goals:

a. Failure to contract with a DBE solely because the DBE was unable to provide performance and/or payment bonds.

b. Rejection of a DBE bid or quotation based on price alone.

c. Failure to contract with a DBE because the DBE will not agree to perform items of work at the unit price bid.

d. Failure to contract with a DBE because the contractor normally would perform all or most of the work in the contract.

e. Rejection of a DBE as unqualified without sound reasons based on a thorough investigation of their capabilities.

f. Failure to make more than mail solicitations.

K. RECORD KEEPING REQUIREMENTS: The contractor shall keep such records as are necessary for the DOTD to determine compliance with the DBE contract obligations. These records shall include the names of subcontractors, including DBE; copies of subcontracts; the type of work being performed; documentation such as canceled checks and paid invoices verifying payment for work, services, and procurement; and documentation of correspondence, verbal contacts, telephone calls, and other efforts to obtain services of DBE. When requested, the contractor shall submit all subcontracts and other financial transactions executed with DBE in such form, manner and content as prescribed by DOTD. The DOTD reserves the right to investigate, monitor and/or review actions, statements, and documents submitted by any contractor, subcontractor, or DBE.

L. REPORTING REQUIREMENTS: The contractor shall submit monthly reports on DBE involvement. At the conclusion of each estimate period the contractor shall submit the Form CP-1A, CONTRACTORS MONTHLY DBE PARTICIPATION, to the project engineer to verify actual payments to DBE for the previous month's reporting period. These reports will be required until all DBE subcontracting activity is complete or the DBE Goal has been achieved. Reports are required regardless of whether or not DBE activity has occurred in the monthly reporting period.

Upon completion of all DBE participation, the contractor shall submit the Form CP-2A, DBE FINAL REPORT, to the DOTD Compliance Programs Section with a copy to the project engineer detailing all DBE subcontract payments. When the actual amount paid to DBE is less than the award amount, a complete explanation of the difference is required. If the DBE goal is not met, documentation supporting good faith efforts shall be submitted. Failure to submit the required reports will result in the withholding of partial payments to the contractor until the reports are submitted. All payments due subcontractors which affect DBE goal attainment, including retainage, shall be paid by the contractor before the DOTD releases the payment/performance/retainage bond.

The DOTD reserves the right to conduct an audit of DBE participation prior to processing the final estimate and at any time during the work.

M. APPLICABILITY OF PROVISIONS TO DBE BIDDERS: These provisions are applicable to all bidders including DBE bidders. The DBE bidder is required to perform at least 50 percent of the work of the contract with its own work force in accordance with the terms of the contract, normal industry practices, and the DOTD DBE Program. If the DBE bidder sublets any portion of the contract, the DBE bidder shall comply with provisions regarding contractor and subcontractor relationships. A DBE prime contractor may count only the contract amount toward DBE participation for work that he/she actually performs and any amounts awarded to other certified DBE subcontractors that perform a commercially useful function.

FORM CS-6AAA
BIDDERS ASSURANCE OF DBE PARTICIPATION

S.P.#	**Contract Amount: $**
F.A.P.#	**DBE Goal Percentage**
Letting Date:	**DBE Goal Dollar Value: $**

By its signature affixed hereto, the contractor assures the DOTD that one of the following situations exists (check only one box):

☐ The project goal will be met or exceeded.
☐ A portion of the project goal can be met, as indicated below. Good faith effort documentation is attached. DBE Goal Participation Amount_____ % $_____.

The contractor certifies that each firm listed is currently on the DBE list as maintained by DOTD and is certified for the items of work shown on the attachment(s). The contractor having assured that the goal for DBE participation prescribed in the special provisions will be met or exceeded, or that the portion of the DBE goal will be met or exceeded, attests that negotiations are in progress or complete and that a subcontract(s) will be executed with the firm(s) listed below within 60 calendar days after award of contract.

NAME OF DBE FIRM(S)	INTENDED SUBCONTRACT PRICE[1]

[1]For supplier list only the value of the subcontract that can be credited toward the DBE goal. This amount shall be equal to the amount shown for the supplier on the Attachment to Form CS-6AAA. Details are listed on the attachment(s) to Form CS-6AAA.

The contractor assessed the capability and availability of named firm(s) and sees no impediment to prevent award of subcontract(s) as described on the attachments.

The contractor shall evaluate the subcontract work or services actually performed by the DBE to ensure that a commercially useful function is being served in accordance with the Required Contract Provisions for DBE Participation in Federal Aid Construction Contracts. The contractor understands that no credit toward the DBE goal will be allowed for DBE that do not perform a commercially useful function. The contractor has a current copy of the DOTD DBE Program Implementation Guide which details the methods of operation that are acceptable on projects containing DBE goals. Copies of this guide may be obtained by calling the DOTD Compliance Programs Section at (225) 379-1382.

NAME OF CONTRACTOR	
AUTHORIZED SIGNATURE	
TYPED OR PRINTED NAME	
TITLE	
CONTRACTOR'S DBE LIAISON OFFICER (typed or printed name)	
PHONE NUMBER	
DATE	TAX ID#

06/08

ATTACHMENT TO FORM CS-6AAA

Contractor shall submit a separate attachment for each DBE listed on Form CS-6AAA.

S.P.#	F.A.P.#
NAME OF DBE	
PHONE #	CONTACT PERSON:

Fully describe the work to be performed (furnish materials and install, labor only, supply only, manufacture, hauling, etc.), quantity, unit price, and dollar value for each item to be subcontracted to the DBE listed below.

ITEM NO.	QUANTITY/UNIT PRICE/DESCRIPTION OF WORK TO BE PERFORMED	$ VALUE

Describe the types of assistance, if any, the contractor will provide to any DBE on this project.

The contractor and DBE subcontractor attest that a subcontract will be executed for the items of work listed above. The contractor acknowledges that it will only receive credit toward the DB goal if the subcontractor performs a commercially useful function. The DBE understands that it is responsible for performing a commercially useful function.

DBE CONTRACTOR'S SIGNATURE	
TYPED OR PRINTED NAME	
TITLE	
DATE	TAX ID#
PRIME CONTRACTOR'S SIGNATURE	
TYPED OR PRINTED NAME	
TITLE	
DATE	

06/08

FORM CP-1A
LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
CONTRACTOR'S MONTHLY DBE PARTICIPATION

STATE PROJECT NO.	CONTRACTOR:
FEDERAL AID PROJECT NO.	
ESTIMATE NO.	REPORT PERIOD: _____ TO _____

DOTD CERTIFIED DBE SUBCONTRACTOR OR SUPPLIER	ITEMS PERFORMED AND PAID THIS ESTIMATE PERIOD	AMOUNT PAID THIS MONTH[1]	TOTAL PAID TO DATE[1]

[1]For suppliers, list total amount paid and the 60 percent value counted toward the goal.

This report covers the previous estimate period and shall be submitted to the Project Engineer with the current month's pay estimate. Estimates will be withheld until required form is submitted. Questions should be directed to the DOTD Compliance Programs Section at (225) 379-1382.

The Contractor certifies that the above amounts <u>were paid</u> to the listed DBEs and that documentation of these payments is available for inspection.

Project Engineer has reviewed this form. _____ (Signature of Project Engineer).

Authorized Signature
Typed or Printed Name
Title
Phone No.
Date

06/08

FORM CP-2A
LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
DBE FINAL REPORT

STATE PROJECT NO.	DBE GOAL AMOUNT: $	CONTRACTOR:
FEDERAL PROJECT NO.	CONTRACT AMOUNT: $	
PARISH(ES)	LETTING DATE:	

DOTD CERTIFIED DBE SUBCONTRACTOR OR SUPPLIER	ITEMS PERFORMED AND PAID	TOTAL DOLLAR AMOUNT PAID TO SUB OR SUPPLIER (60%)

This is to certify that $_____ has been paid to Disadvantaged Business Enterprise Subcontractors/Suppliers listed above.

Authorized Signature
Typed or Printed Name
Title
Date

Parish or County _____ State of _____

Subscribed and sworn to, before me, this _____ day of _____, A.D. 20_____

Notary Public _____

My commission expires: _____

General Decision Number: LA080014 09/05/2008 LA14

Superseded General Decision Number: LA20070040

State: Louisiana

Construction Type: Highway

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

HIGHWAY CONSTRUCTION PROJECTS (Does not include building structures in rest area projects)

Modification Number	Publication Date
0	02/08/2008
1	05/09/2008
2	06/20/2008
3	07/18/2008
4	09/05/2008

CARP1098-005 02/01/2006

ST. JAMES PARISH (North of the Mississippi River) PARISH:

	Rates	Fringes
PILEDRIVERMAN	$ 19.92	5.65

CARP1846-002 02/01/2006

JEFFERSON, ORLEANS, PLAQUEMINES, ST. BERNARD, ST. CHARLES, ST. JAMES (South of the Mississippi River), ST. JOHN THE BAPTIST, AND ST. TAMMANY PARISHES:

	Rates	Fringes
PILEDRIVERMAN	$ 19.92	5.00

ELEC0130-010 12/01/2006

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

	Rates	Fringes
ELECTRICIAN (including traffic signal wiring and installation)	$ 22.09	7.90

---

* ELEC1077-007 09/01/2008

ST. TAMMANY PARISH

	Rates	Fringes
ELECTRICIAN (including traffic signal wiring and installation)	$ 21.25	6.00

ENGI0406-015 07/01/2008

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
Asphalt/Aggregate Spreader	$ 20.76	5.70

IRON0058-004 06/01/2008

	Rates	Fringes
IRONWORKER, STRUCTURAL	$ 19.40	6.82

SULA2004-014 07/30/2004

	Rates	Fringes
CARPENTER (including formbuilding/formsetting)	$ 13.42	3.04
Cement Mason/Concrete Finisher	$ 13.24	1.68
IRONWORKER, REINFORCING	$ 15.84	3.47
Laborers		
Asphalt Raker	$ 10.13	0.18
General	$ 9.26	1.14
Guardrail	$ 8.81	1.80
Mason Tender	$ 8.51	1.20
Pipelayer	$ 9.99	1.20
Striping/Pavement Marker includes paint striping and attachment of reflector buttons	$ 8.24	1.20
Traffic Control including flagger, sign placement, barricades, and cones	$ 8.39	1.80
Painter, Brush, Spray and Roller	$ 14.16	2.03
Power Equipment Operators		
Asphalt Paving Machine	$ 14.38	0.18
Asphalt Screed	$ 13.76	2.20
Backhoe/Excavator	$ 13.93	3.00
Broom/Sweeper	$ 12.78	2.92
Bulldozer	$ 13.58	0.00
Crane	$ 17.20	3.30
Front End Loader	$ 13.31	0.00

Mechanic	$ 13.53	2.92
Milling/Cold Planing Machine includes Rotomill and CMI Cutter	$ 15.50	0.00
Motor Grader/Blade	$ 14.42	3.02
Oiler	$ 13.91	2.37
Post Driver	$ 13.73	0.00
Roller	$ 13.11	3.30
Trackhoe	$ 11.00	0.00
Trenching/Boring Machine	$ 12.51	0.00
Truck drivers		
Dump (all types)	$ 10.64	0.18
Flatbed	$ 10.87	0.00
Lowboy	$ 13.24	0.00
Pickup	$ 10.60	0.00
Water	$ 12.00	0.00

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

==========

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

In the listing above, the "SU" designation means that rates listed under the identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

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

==========

END OF GENERAL DECISION

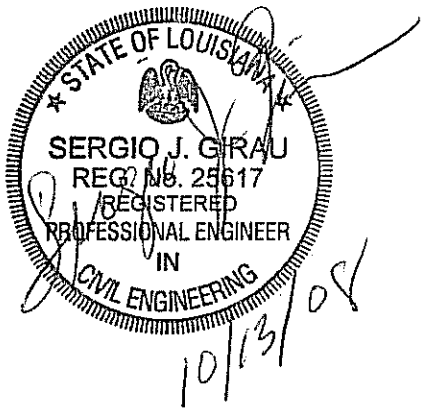
TECHNICAL SPECIFICATIONS

FOR

F.A.P. NO. 3603(500)
STATE PROJECT NO. 742-36-0123

WOODLAND DRIVE REHABILITATION
(TULLIS DR. TO GENERAL DEGAULLE DR.)

ORLEANS PARISH



STATE PROJECT NO. 742-36-0123
TECHNICAL SPECIFICATIONS

SECTION 1

SAW CUTTING OF EXISTING PAVEMENT

1.01 DESCRIPTION. The work consists of the saw cutting of existing pavement (roadway, curb, sidewalk, driveway, etc.) to provide clean connections between old and new pavement. Existing pavement shall be saw cut at the locations indicated on the drawings or as directed by the Engineer.

1.02 CONSTRUCTION REQUIREMENTS. Cuts in pavement shall be made with an appropriate saw to ensure a straight, vertical edge for the upper portion of the pavement. Cuts shall be made to a minimum 2" depth for concrete pavement and full depth for asphaltic concrete pavement. After the edges have been cut, the areas to be removed shall be broken into small pieces with a pneumatic chisel or drill and the material removed. The resulting broken edge of the pavement below the saw-cut shall be left fairly rough and irregular but in the approximate plane so that it will provide an aggregate interlock between patch and existing pavement.

1.03 MEASUREMENT. Saw cutting of existing pavement will be measured by the linear foot.

1.04 PAYMENT. Payment for saw cutting of existing pavement will be made at the applicable contract linear foot price and shall include all materials, tools, equipment, labor and incidentals necessary to complete the work.

Payment will be made under:

Item No.	Pay Item	Pay Unit
S-001	Saw Cut Concrete Curb, Pavement, Sidewalk, Driveway, etc. According to Plans (Full Depth)	Linear Foot

STATE PROJECT NO. 742-36-0123
TECHNICAL SPECIFICATIONS

SECTION 2

UTILITY EXCAVATION

2.01 DESCRIPTION. This work consists of conducting exploratory excavations in areas of potential utility conflicts as directed by the Engineer.

2.02 GENERAL REQUIREMENTS. Utility excavations shall be performed preceding the start of work in an area so as to allow ample time for the Engineer to resolve conflicts. Utility excavations shall include the removal of existing material up to an area ten-foot by ten-foot and backfilling of the resulting void with granular material conforming to and compacted in accordance with the requirements of Section 723. The Contractor shall coordinate his excavation with utility companies and abide by their procedures and requirements for exposing their utilities. The Contractor shall excavate to expose the utility to determine type, size, location and depth and shall furnish the Engineer with a detail of this information for all utilities exposed by the excavation. The location and quantity of excavations shall be determined in the field by the Engineer.

2.03 MEASUREMENT. Utility excavations will be measured per each.

2.04 PAYMENT. Payment for utility excavations will be made at the contract unit price per each of the excavation depths specified. Payment shall include excavation, temporary sheeting and bracing, protection of existing utilities and granular backfill and shall be full compensation for furnishing all materials, tools, equipment, labor and incidentals necessary to complete the work.

Payment will be made under:

Item No.	Pay Item	Pay Unit
S-002	Utility Excavation (Up to 6' Deep)	Each
S-003	Utility Excavation (Over 6' Deep)	Each

STATE PROJECT NO. 742-36-0123
TECHNICAL SPECIFICATIONS

SECTION 3

PREPARATION OF ROADWAY PAVEMENT SUBGRADE

3.01 DESCRIPTION. The roadway pavement subgrade shall be fully compacted, shaped and made to conform to the lines and elevations shown on plans, and to the proper crown as prescribed in these specifications. Soft spots identified in the subgrade shall be removed and replaced with granular material. In stripping old roadway surface, the use of mechanical equipment will be permitted. Machine tools will be permitted if approved by the Engineer.

3.02 GENERAL REQUIREMENTS. The surface of the finished subgrade shall be parallel to and conform to the cross section of the roadway pavement.

There shall not be left on the subgrade, berms or ridges of earth or other material that will interfere with the immediate discharge of water from the subgrade to the side of the crown and the subgrade shall be maintained free from ruts so that it will, at all times, drain properly, no water standing. Excavation shall not exceed the prescribed lines and elevations so as to obviate the necessity for refilling.

The subgrade shall be uniformly compacted by lightweight roller (five tons). When the subgrade is in a wet condition, it shall be allowed to dry until the material is within reasonable limits of optimum moisture before compaction is attempted. No compaction test is required. All equipment (excavation, compaction, hauling trucks, etc.) shall be subject to approval prior to usage. In case that subgrade strength is sufficiently strong to support construction traffic without rutting, heavy equipment may be used.

All soft spots (unsuitable subgrade) found while preparing the subgrade shall be removed to such an extent as directed by the Engineer, replaced with granular material, and compacted.

Stumps and roots exposed in the preparation of the subgrade shall be excavated to a depth of not less than one (1') foot below the subgrade and the resultant excavation filled with granular material and compacted.

When the contractor encounters subgrade conditions that are impossible to proof roll and equipment is unable to move freely, the contractor shall notify the Engineer.

When subgrade is approved as the base for the pavement, it shall be constructed to have, as nearly as practicable, a uniform density throughout its entire width. Wherever the subgrade extends beyond the lateral limits of an old roadway, or wherever an old gravel, macadam, or other hard compacted crust comes within six (6") inches of the elevation of the finished subgrade, such old roadway or crust shall be plowed, loosened or scarified to a depth of at least six (6") inches and loosened material redistributed across the full width of the subgrade, adding suitable material when necessary, so that when compacted to the required elevation, alignment and cross section, the subgrade will approach as nearly as possible a condition of uniform density. Compaction of the subgrade material shall be accomplished with a self-propelled roller weighing not less than five (5) tons.

Hand tamping portions of the subgrade, when necessary, may be directed by the Engineer. In such cases where hand tamping is permitted, the tamper shall be of an approved pneumatic

type. There shall not be left on the subgrade, berms or ridges of earth or other material that will interfere with the immediate discharge of water from the subgrade to the side of the crown and the subgrade shall be maintained free from ruts so that it will, at all times, drain properly. All depressions developing under traffic on the subgrade, or in connection with rolling, shall be filled with suitable material. Rolling shall be continued until the subgrade is uniformly compacted, properly shaped, and true to grade and alignment. It is not intended that the rolling shall be continued beyond this point, as the purpose of rolling is not to produce a subgrade that cannot be further compacted, but to produce a uniformly compacted subgrade. All hauling shall be distributed over the width of the subgrade so far as practicable, so as to leave it in a uniformly compacted condition. After being prepared in the above manner, the subgrade shall be so maintained until the concrete pavement or pavement foundation has been placed thereon. Excavation shall not exceed the prescribed lines and elevations so as to obviate the necessity for refilling. When considered necessary or of assistance in producing a compact, solid surfacing, the subgrade shall be well-sprinkled with water before being rolled.

Granular material used for filling of voids left by the removal of unsuitable subgrade shall conform to and be compacted in accordance with the requirements of Section 723.

No geotextile or other base or subbase course shall be placed until the subgrade has been approved by the Engineer.

3.03 MEASUREMENT. Excavation of unsuitable subgrade and filling with granular material will be measured by the cubic yard (vehicular measurement). Compaction of the subgrade will not be measured for payment.

3.04 PAYMENT. Payment for the excavation of unsuitable subgrade and filling with granular material will be made at the cubic yard price and shall include excavation; disposal of unsuitable subgrade material; replacement of this material with granular material; and grading and compaction of granular material. Payment for compaction of the subgrade will be made at the contract lump sum price and shall be full compensation for furnishing all materials, tools, equipment, labor and incidentals necessary to complete the work.

Payment will be made under:

Item No.	Pay Item	Pay Unit
S-004	Unsuitable Subgrade Excavation and Sand Filling (Vehicular Measurement)	Cubic Yard
S-005	Compact Existing Subgrade	Lump Sum

STATE PROJECT NO. 742-36-0123
TECHNICAL SPECIFICATIONS

SECTION 4

DRAIN PLUGS

4.01 DESCRIPTION. This work consists of the furnishing and installation of plugs at the upstream ends of drain lines that do not terminate at a manhole.

4.02 CONSTRUCTION REQUIREMENTS. The upstream ends of drain lines that do not terminate shall be plugged with bricks and mortar. The plug shall provide a complete seal so that water and soil cannot infiltrate into the end of the drain line. Once the end of the drain line has been plugged, the end of the drain line shall be entirely wrapped with geotextile fabric and 2 x 12 lumber shall be driven adjacent to the plugged end of the pipe as shown on the drawings.

4.03 MEASUREMENT. Drain plugs will be measured per each.

4.04 PAYMENT. Payment for drain plugs will be made at the contract unit price per each and shall be full compensation for furnishing all materials, tools, equipment, labor and incidentals necessary to complete the work.

Payment will be made under:

Item No.	Pay Item	Pay Unit
S-006	Plug Existing 42" Diameter Drain Line	Each

STATE PROJECT NO. 742-36-0123
TECHNICAL SPECIFICATIONS

SECTION 5

TAP AND CONNECT STORM DRAIN

5.01 DESCRIPTION. This work consists of the coring of the proposed 73"x45" reinforced concrete arch drain pipe to tie in drain laterals as shown on the drawings and specified herein.

5.02 CONSTRUCTION REQUIREMENTS. The proposed 73"x45" reinforced concrete arch drain pipe shall be mechanically cored at the locations shown on the drawings to produce a clean, round opening without damaging the pipe. Breaking open the pipe by hand will not be permitted. Cored material shall be legally disposed of in accordance with Section 202 of these specifications.

Arch pipe damaged by the Contractor's coring operations shall be replaced by the Contractor at no additional expense to the Department.

Once the drain lateral has been installed in the arch pipe opening, the opening around the drain lateral shall be completely sealed with non-shrink grout and wrapped with geotextile fabric.

5.03 MATERIALS.

Non-Shrink Grout: Non-shrink grout shall consist of an inorganic, non-metallic premixed grout with a minimum 28-day compressive strength of 4,000 psi. It shall be non-gasliberating, cement-based and conforming to the Corps of Engineers' "Specifications for Non-Shrink Grout," CRD-C621-89.

Geotextile Fabric: The geotextile fabric for wrapping the joints shall be Mirafi 180N or approved equal.

5.04 MEASUREMENT. Tie-ins to the 73"x45" reinforced concrete pipe will be made per each.

5.05 PAYMENT. Payment for tie-ins to the 73"x45"reinforced concrete arch pipe will be made at the contract unit price per each. Payment shall include the removal and disposal of cored material, non-shrink grout, geotextile fabric and shall be full compensation for furnishing all materials, tools, equipment, labor and incidentals necessary to complete the work.

Payment will be made under:

Item No.	Pay Item	Pay Unit
S-007	Tap and Connect Storm Drain (Up to 18") to 60" Equivalent RCPA	Each

STATE PROJECT NO. 742-36-0123
TECHNICAL SPECIFICATIONS

SECTION 6

HAND-FORMED CONCRETE CURB

6.01 DESCRIPTION. This work consists of the construction of concrete curb within the limits of tree driplines by hand-forming the curb.

6.02 CONSTRUCTION REQUIREMENTS. Where tree roots interfere with the placement of new curbs, curbs shall be hand-formed within the tree dripline. Materials and other construction procedures shall conform to the requirements of Section 707.

6.03 MEASUREMENT. Hand-formed concrete curb within the limits of tree driplines will be measured by linear foot.

6.04 PAYMENT. Payment for hand-formed concrete curb within the limits of tree driplines will be made at the contract unit price per linear foot which shall be full compensation for furnishing all materials, tools, equipment, labor and incidentals necessary to complete the work.

Payment will be made under:

Item No.	Pay Item	Pay Unit
S-008	Hand-Formed and Poured In Place Concrete Curb	Linear Foot

STATE PROJECT NO. 742-36-0123
TECHNICAL SPECIFICATIONS

SECTION 7

LANDSCAPING

7.01 DESCRIPTION. This work consists of the removal, trimming and root pruning of trees in accordance with the requirements of the City of New Orleans Department of Parks and Parkways as may be necessary to prosecute the work. Details pertaining to the work herein are shown on the City of New Orleans Standard Plan STD12 included with the plans.

7.02 TREE PROTECTION. Prior to construction, the Contractor shall coordinate with the Department of Parks and Parkways to develop a list which will state the location of each tree by station and distance off the survey base line and what work is required at each tree location.

(a) The Contractor shall be responsible for damage to any City tree within the construction area and shall be liable to the City of New Orleans for compensation of damage.

(b) The Contractor shall notify the Department of Parks and Parkways, Tree Department at least three (3) working days prior to the beginning of construction.

(c) The Contractor shall use a Louisiana Licensed Arborist to perform the necessary tree trimming, root pruning or removal of any tree or stump on City property. A current list of licensed arborists may be obtained from:

City of New Orleans
Department of Parks and Parkways
2829 Gentilly Blvd.
New Orleans, LA 70122
Phone: (504) 286-2123 or (504) 286-2100
Fax: (504) 286-2158

(d) The Contractor's licensed arborist must obtain a permit from the Department of Parks and Parkways prior to working on any City trees.

(e) Prior to beginning construction, the Contractor must complete trimming trees requiring clearance for all new construction.

(f) The attachment of signs, barricades, equipment or materials in any manner to any tree is prohibited.

(g) Excavation within the dripline of any City tree is permitted only under existing roadbeds. All other excavation (i.e. street widening, neutral grounds or sidewalks) within the dripline of any City trees will be inspected by the Department of Parks and Parkways prior to beginning construction.

(h) Trenching within the dripline of any City tree is prohibited.

(i) Where tree roots interfere with the placement of new curbs, delete the typical one (1') foot excavation for placement of new curbs within the driplines of any City-owned tree.

(j) Where tree roots interfere with placement of new sidewalk, wherever possible ramp over roots using a minimum four (4") inch gravel bed and filter cloth between the gravel bed and the new

concrete. If ramping is not an option, an on-site inspection by the Department of Parks and Parkways, the Contractor and the Contractor's licensed arborist will be required prior to excavating for the new sidewalk to determine the extent of root pruning necessary for construction clearance. Do not place expansion joints over roots, only use control joints.

(k) No more than two (2") inches of cut or fill is permitted within the dripline of any City-owned tree except under existing roadbeds.

(l) Storage is never permitted within the driplines of any tree. The use of neutral grounds and other City property for the storage of materials, supplies, equipment or vehicles is permitted only with specific written authorization from the Department of Parks and Parkways.

(m) The erection of barricades around the perimeter of tree driplines may be required. The contractor is responsible for maintaining the temporary barricades until completion of the project. The tree protection fencing and posts shall be removed upon Substantial Completion and become the property of the contractor. The minimum barricade requirements shall be the following:

Green painted steel posts, with at least four (4') feet above ground, three (3') feet in ground, set no more than six (6') feet on center with orange plastic safety fencing attached from top to bottom, running post to post completely encircling the tree.

(n) Tree trimming is defined as the cutting of tree branches. The Department of Parks and Parkways will consult the Contractor and the licensed arborist to determine the extent of trimming allowable. Tree trimming shall only be performed on tree branches conflicting with construction. No trimming will be allowed that will alter the natural form of a tree.

(o) Root pruning is defined as the cutting or grinding of roots. The Department of Parks and Parkways will consult the Contractor and the licensed arborist to determine the extent of root pruning allowable.

(p) The costs of root pruning of trees with less than four (4") inch caliper measured six (6") inches off the existing ground shall be included in the work for which the work is incidental.

(q) Tree trimming and root pruning shall not be done without prior approval of the Department of Parks and Parkways.

7.03 MAINTENANCE OF NEUTRAL GROUNDS.

(a) The contractor is responsible for restoring the neutral ground to a like or better condition than existed prior to construction. All areas disturbed during construction shall be regarded to a smooth even surface, eliminating ruts and holes. All obstructions such as bricks, concrete, wire, cable, wood, metal, shell, gravel, and other debris must be removed. Granular material may be used to backfill low areas to complete grading.

(b) The Contractor is responsible for the maintenance of turf grass and other plant material on neutral grounds within the construction area.

(c) Maintenance shall commence when construction begins or when any supplies, equipment, signs, barricades, or other materials related to the construction are placed on the neutral ground, whichever occurs first; and continue until Final Acceptance.

(d) Maintenance shall primarily include mowing with grass to be maintained no higher than eight (8") inches at any time.

(e) Under certain rare circumstances, if newly planted trees or shrubs or other existing plantings requiring maintenance during construction, are inaccessible to the Department of Parks and Parkways maintenance personnel and equipment for watering, weeding, trimming or other maintenance, the Contractor may be required to perform such maintenance during construction at his own expense.

(f) The Contractor shall be responsible for damage to any City-owned shrub on the neutral ground or other greenspace within the construction area and liable to the City for compensation of damage.

(g) No shrub may be removed from public greenspace without the approval of the Director.

7.04 INSTALLATION OF NEW TREES.

(a) The Contractor must contact the Department of Parks and Parkways Landscape Architect at least three (3) working days prior to the installation of new trees. The Department of Parks and Parkways Landscape Architect will determine and identify the planting sites for new trees.

(b) The Contractor is responsible for ensuring that all trees are planted according to locally accepted horticultural practices, including planning hole preparation, soil backfill, fertilizer, mulch, watering, staking and guying (See City of New Orleans Department of Public Works Standard Plan STD12).

(c) The Contractor is responsible for maintenance of any new trees from the time of planting until Final Acceptance of the project.

(d) Maintenance shall include all necessary watering, fertilizing, weeding, pruning, disease and insect control, straightening and adjustment, replacement of dead or unhealthy plants and all other procedures consistent with good horticultural practices which are necessary to insure normal, vigorous and healthy growth of the plant material.

7.05 MEASUREMENT.

(a) Gravel bed and filter cloth over tree roots will be measured by square yard.

(b) Tree removal will be measured per each.

(c) Tree trimming will not be measured for payment.

(d) Root pruning will be measured per each

(e) New trees will be paid per each.

7.06 PAYMENT.

(a) Payment for gravel bed and filter cloth over tree roots will be made at the contract unit price per square yard.

(b) Payment for tree removal will be made at the contract unit price per each.

(c) Payment for tree trimming will be made at the contract lump sum price.

(d) Payment for root pruning will be made at the contract unit price per each.

(e) Payment for new trees will be made at the contract unit price per each of the types and sizes specified.

Payment will be made under:

Item No.	**Pay Item**	**Pay Unit**
S-009	Gravel Bed and Filter Cloth over Tree Roots	Square Yard
S-010	Tree Removal	Each
S-011	Tree Trimming	Lump
S-012	Root Pruning	Each
S-013	New Tree (Savannah Holly – 2" Min. Caliper, 12' Min. Height)	Each

STATE PROJECT NO. 742-36-0123
TECHNICAL SPECIFICATIONS

SECTION 8

ASPHALTIC CONCRETE FOR POT HOLE REPAIR AND TEMPORARY SURFACING

8.01 DESCRIPTION. This work consists of the furnishing and placing of asphaltic concrete for pot hole repair on access routes and for temporary surfacing as indicated on the plans.

8.02 MATERIALS. Asphaltic concrete shall comply with Section 510.02.

8.03 POT HOLE REPAIR ON ACCESS ROUTES. This work consists of cutting the pavement around the pot hole in a rectangular shape, lining it with the tack coat, filling with hot mix asphalt wearing course and compacting it with a vibratory plate or roller. Location of repair sites shall be as specified by the Director of the City of New Orleans Department of Public Works and shall encompass sufficient work to require a minimum of one (1) ton of asphalt per repair operation.

8.04 TEMPORARY SURFACING. This work consists of the placement of asphaltic concrete for temporary surfacing required for phasing operations at the locations shown on the plans. Construction of temporary surfaces shall comply with Section 510.04.

8.05 MEASUREMENT. Pot hole repair on access routes will be measured by the ton of asphalt placed. Temporary surfacing will be measured by the ton of asphalt placed.

8.06 PAYMENT. Payment for asphaltic concrete for pot hole repair on access routes and for temporary surfacing will be made at the contract unit price per ton.

Payment will be made under:

Item No.	Pay Item	Pay Unit
S-014	Asphaltic Concrete for Pot Hole Repair on Access Route and for Temporary Surfacing	Ton

STATE PROJECT NO. 742-36-0123
TECHNICAL SPECIFICATIONS

SECTION 9

SIGNS

9.01 DESCRIPTION. The work in this section consists of the furnishing and installing of street name signs on new posts and the erection of project signs in accordance with the applicable provisions of Section 729.

9.02 MATERIALS. Materials shall conform to Section 729.02 except as provided for herein.

9.03 GENERAL REQUIREMENTS. General requirements shall conform to Section 729.03 except as provided for herein.

9.04 FABRICATION OF SIGN PANELS AND MARKERS. Fabrication of signs shall conform to Section 729.04.

9.05 STREET NAME SIGNS. The Contractor shall supply erect street name signs complete, in place according to the provisions below:

(1) Dimensions:

8" high
24", 30" or 36" long
No faces longer than 36"

(2) Material:

Aluminum plate, 0.80 inch thick with all corners rounded on approximately ¾" radius. All holes 7/32".

(3) Legend and Border: See City of New Orleans Standard Plan STD11 included with the plans.

(4) Color:

Lettering of street name is reflectorized silver on blue background
Screened blue background mixed with 50%, 710 blue and 50% 707 toner scotchlite transparent color. Legend and border is scotchlite flat top silver #2270 Engineering grade, or approved equal.

(5) Post:

Galvanized steel 2"x2" square post, 16 gauge 0.065" wall with galvanized cap or approved equal. The sign post shall be installed with 7' vertical clearance and 2' of post underground.

(6) Bracket and Hardware:

Bracket (if needed) and hardware in galvanized steel, approved by the City of New Orleans Department of Public Works.

(7) Footing:

Footing shall be 9"x9" by 24" deep and shall be constructed of 3,000 psi concrete.

(8) Locations:

The number and location of street name signs shall be approved by the Traffic Engineer of the City of New Orleans Department of Public Works. In general, all existing vertical street name signs shall be replaced with new horizontal street name signs. All old signs, damaged or illegible, shall be replaced.

9.06 PROJECT SIGNS. The Contractor shall supply erect project signs, complete and in-place according to the standard plan included in Appendix A of the Technical Specifications. Upon completion of the project, the Contractor shall remove the project signs.

9.07 CONSTRUCTION REQUIREMENTS. See Section 729.05. See also the Street Name Sign detail included in Appendix B.

9.08 ACCEPTANCE OF SIGNS. See Section 729.07. In addition to inspection by the Department, the Traffic Engineer of the City of New Orleans Department of Public Works shall be allowed to inspect all signs for conformance to City of New Orleans requirements.

9.09 MEASUREMENT. Signs will be measured per each.

9.10 PAYMENT. Payment for signs will be made at the contract unit price per each of the types specified.

Payment will be made under:

Item No.	Pay Item	Pay Unit
S-015	Street Name Sign on New Post	Each
S-016	Project Sign	Each

STATE PROJECT NO. 742-36-0123
TECHNICAL SPECIFICATIONS

SECTION 10

CULVERTS AND STORM DRAINS

10.01 DESCRIPTION. This work consists of furnishing of all material and labor required for the installation of culverts and storm drains, including yard drain pipe, in accordance with these specifications and in conformity with the lines and grades shown on the plans or established. Work shall conform to all of the requirements of the General Specifications and Standard Drawings of the Sewerage & Water Board (S&WB) of New Orleans (the latest revision), which shall govern except as noted herein.

Sections of the General Specifications of the S&WB that are applicable to culvert and storm drain work specified herein are included in Appendix C of the Technical Specifications. Standard Drawings of the S&WB that are applicable to culvert and storm drain work specified herein are included with the plans.

10.02 GENERAL CONSTRUCTION REQUIREMENTS.

(a) The Contractor shall furnish all materials, equipment, labor and supervision to remove the existing deteriorated main, install new mains and fittings, including appurtenances such as tie-ins to existing system, lumber foundation, bedding, backfilling, necessary dewatering and bypass pumping during the execution of this contract. All existing drainage pipes which are not designated to be abandoned in-place shall be tied into new manholes or catch basins.

(b) All workmanship, material and tests shall conform with Section E of the General Specifications of the S&WB and S&WB Drawing No. 7260-D except as noted herein.

(c) The Contractor shall notify the Chief of Engineering of the S&WB in writing not less than three or more than ten working days in advance of starting the job so as to schedule the inspection of the work. Failure to do so prior to starting work will result in the Contractor being required to expose the bedding on all pipe previously installed.

(d) The Contractor may use more than one crew in performing work in various sections of a system at a given time, provided he has the approval of the Director of the City of New Orleans Department of Public Works (DPW).

(e) The Contractor performing work under this contract shall be required to coordinate his operations with the S&WB and other utilities prior to making any excavation. The Contractor shall exercise caution in making excavations to avoid damage to these services and other utilities.

(f) The Contractor will be furnished a list of the locations of water and sewer house connections. It will be the Contractor's responsibility to verify the location of these so as to avoid damage. Furnishing this information should not be construed as a waiver of the Contractor's liability, but rather as an attempt on the part of the Board to minimize the Contractor's hazard. The existing house connections submitted in the list are from S&WB records and could vary from the actual location. Any damage to the existing water, sewer and drain connections resulting from negligence shall be repaired by the S&WB at the expense of the Contractor. The Contractor is also responsible for damage to other utilities and the property of others.

(g) Existing drain house connections shall be tied into the new mains. No new drain house services shall be installed.

10.03 INSTALLATION.

(a) Where the entire drain line is replaced between manholes, the drain pipe shall be reinforced concrete pipe conforming to Section C of the General Specifications of the S&WB and to S&WB Drawing No. 7260-D, unless otherwise noted. Bedding and foundation lumber for drain lines shall be in accordance with latest S&WB Drawing Nos. D-3809, D-3810, D-3933 and D-3934.

(b) The new drain lines and house connections, where required, shall be installed at the elevations and locations indicated, unless changed by the Director of the DPW. The Contractor shall schedule his work so that the drain lines and catch basin connections between two manholes are completed before moving to another location.

(c) Backfill material shall be pumped sand and shall be placed at or near optimum moisture content and compacted according to one of the following procedures:

1. Backfill material shall be placed in layers not to exceed 12 inches. Each layer shall be compacted to a minimum of 95 percent of maximum density using approved mechanical compaction equipment, or:
2. Backfill material may be placed in layers not exceeding 3 feet by thoroughly flooding and compacting each layer to a minimum of 95 percent maximum density, prior to placing a subsequent layer. During placement, backfill materials shall be thoroughly saturated with water and satisfactory drainage of materials shall be provided.

The above backfill material compaction procedures shall be applied also for any service connections, and trench filling where pipe or catch basins/manholes have been removed.

(d) Filter cloth around the joints of drain lines shall be non-woven conforming to ASTM D 1910. The fabric shall be wrapped around the entire joint with a twelve-inch minimum overlap and a twelve-inch minimum on each side of the joint and shall be secured to the pipe in a manner acceptable to the S&WB.

10.04 DRAIN HOUSE CONNECTIONS.

(a) All existing drain house connections shall be removed and replaced with new PVC pipe from the new drain line to one (1') foot behind the curb where it will be tied to the existing drain house connection pipe.

(b) The new house connection pipe will be connected to the new reinforced concrete pipe by drilling the concrete pipe and by using a rubber boot (Kor-n-Seal boot or approved equal) or sand impregnated PVC bell grouted in the concrete pipe, to connect the new PVC pipe.

(c) The need for replacing existing drain house connections from the back of the curb to the property line (or any point between) shall be determined by the DPW after field inspection or as indicated on the drawings. The new pipe will be tied to the existing pipe at that point.

(d) If the existing drain line is being removed and not replaced, or if DPW determines it is necessary, an alternate method may be utilized by connecting the existing drain house

connections into a PVC collector line located behind the curb and tied into the catch basins or manholes, as directed by DPW.

(e) No bends greater than 45 degrees will be allowed in drain house connection pipe.

(f) No drain house connection shall be installed in the corners of catch basins. All connections shall be in the side or back of the catch basin.

(g) All pipes and fittings shall be approved by DPW. The connection of any two dissimilar house connection materials shall be accomplished by the installation of a "No-Hub" coupling consisting of a neoprene sleeve and bushing adapter and two stainless steel bands. The coupling shall be manufactured in strict accordance with Cast Iron Soil Pipe Institute Specifications C-301, latest revision, as manufactured by Tyler Pipe Company, Mission Clay Products Corp., Fernco, or approved equal.

(h) Where it is necessary to connect the drains to existing manholes, catch basins, or canals, the existing short bell pieces remaining in the wall of the structure shall be inspected. If in bad condition, the short bell pieces shall be broken out and new short bell pieces inserted to the full thickness of the walls and permanently grouted (see latest S&WB Dwg. 6178-B-6). The annular space between the concrete pipe and the wall of the structure shall be grouted with a type three, high early strength cement, or quick setting EMBECO or similar material.

(i) If a PVC pipe is to be connected to a manhole or other concrete or brick drainage structure, the Contractor shall use a sand-impregnated PVC stub, grouted with cement grout as specified above, for the manhole connection.

(j) Drain house connections shall be backfilled as described herein for drain lines.

10.05 INSPECTION. At the completion of the point repair or replacement of mains between manholes, and prior to final acceptance, DPW or the S&WB may inspect the mains with a remote controlled television unit or by visual inspection of large lines. The Contractor will be required to repair, at his expense and in an approved manner, all defects in his workmanship disclosed by these tests and inspections before final acceptance.

10.06 AS BUILT DRAWINGS. The Contractor shall furnish a set of "as built" drawings upon completion of the work and prior to final inspection. These drawings shall be a legibly marked set of prints of the Contract Drawings, revised to show clearly all field changes.

10.07 MEASUREMENT. Drain pipes will be measured in place and the length determined by measuring from center to center of manholes, or other subsurface structures of which they form a part. If the drain line is connected to a square or rectangular manhole, the measurement will be to the center of the manhole. If the drain line is connected to a box canal wall, the measurement will be to the face of the wall.

10.08 PAYMENT.

(a) Payment for drain pipe will be made at the contract unit price per linear foot of the types and sizes specified, including excavation, removal of existing pipe (if any), foundation lumber, bedding, engineering fabric, backfill, complete shoring, pumping as necessary and tie-ins to manholes and catch basins.

(b) Payment for reinforced concrete wye in a new drain line will be made at the contract unit price per each of the sizes specified and shall be in addition to the payment per linear foot for reinforced concrete drain pipe.

Payment will be made under:

Item No.	Pay Item	Pay Unit
S-017	Reinforced Concrete Pipe (15")	Linear Foot
S-018	Reinforced Concrete Pipe (18")	Linear Foot
S-019	Reinforced Concrete Pipe (21")	Linear Foot
S-020	Reinforced Concrete Pipe (36")	Linear Foot
S-021	Reinforced Concrete Arch Pipe (48" Equiv.)	Linear Foot
S-022	Reinforced Concrete Arch Pipe (60" Equiv.)	Linear Foot
S-023	Yard Drain Service Line (6" PVC)	Linear Foot
S-024	Yard Drain Service Line (10" PVC)	Linear Foot
S-025	Reinforced Concrete Wye – New (15"x15")	Each
S-026	Reinforced Concrete Wye – New (18"x15")	Each
S-027	Reinforced Concrete Wye – New (21"x15")	Each

TECHNICAL SPECIFICATIONS
STATE PROJECT NO. 742-36-0123

SECTION 11

MANHOLES, JUNCTION BOXES, AND CATCH BASINS

11.01 DESCRIPTION. This work consists of the construction, installation and adjustment of manholes, junction boxes and catch basins in accordance with these specifications and in conformity with the lines and grades shown on the plans or established. Work shall conform to all of the requirements of the General Specifications and Standard Drawings of the Sewerage and Water Board (S&WB) of New Orleans (the latest revision), which shall govern except as noted herein.

Sections of the General Specifications of the S&WB that are applicable to manhole, junction box and catch basin work specified herein are included in Appendix C of the Technical Specifications. Standard Drawings of the S&WB that are applicable to manhole, junction box and catch basin work specified herein are included with the plans.

11.02 GENERAL CONSTRUCTION REQUIREMENTS.

(a) All workmanship and materials shall conform to Section E of the General Specifications of the S&WB and S&WB Drawing No. 7260-D except as noted herein:

(b) Sheeting and bracing shall be sound, rough No. 2 Common Yellow Pine, or equal. Sheeting shall be used as required or where directed by the Engineer.

(c) Junction boxes shall conform to the requirements of S&WB Drawing No. D-3937.

(d) Manholes (No. 1 Standard) shall conform to the requirements of S&WB Drawing No. D-870.

(e) Manholes (No. 3 Standard) shall conform to the requirements of S&WB Drawing No. D-870.

(f) Catch Basins (No. 1 Standard - Single Vertical) shall conform to the requirements of S&WB Drawing No. D-873.

(g) Catch Basins (Double No. 1 - Double Vertical) shall conform to the requirements of S&WB Drawing No. D-873A.

(h) Catch Basins (Single Mountable) shall conform to the requirements of S&WB Drawing No. D-3431-A.

(i) Catch Basins (Double Mountable) shall conform to the requirements of S&WB Drawing No. D-3431-B.

(j) Drop Inlets (30"x24") shall conform to the requirements of S&WB Drawing No. D-3264.

11.03 MEASUREMENT.

(a) Junction boxes and catch basins will be measured per each.

(b) Manholes will be measured per each. The height will of manholes will be determined by measuring from the invert of the manholes to the top of the cover.

(c) Drop inlets will be measured by each.

(d) No separate measurement will be made for excavation and backfill or for temporary sheeting and bracing.

11.04 PAYMENT.

(a) Payment for junction boxes will be made at the contract unit price per each and shall include excavation, backfill, bricks, mortar, frames and all incidentals required to provide a complete unit.

(b) Payment for manholes will be made at the contract unit price per each of the types specified and shall include excavation, backfill, bricks, mortar, frames and all incidentals required to provide a complete unit.

(c) Payment for catch basins will be made at the contract unit price per each of the types specified and shall include excavation, backfill, bricks, mortar, frames and all incidentals required to provide a complete unit.

(d) Payment for drop inlets will be made at the contract unit price per each of the types specified and shall include excavation, backfill, bricks, mortar, frames and all incidentals required to provide a complete unit.

(e) The costs of temporary sheeting and bracing shall be included in the applicable contract unit price of the bid item for which the work is incidental.

Payment will be made under:

Item No.	Pay Item	Pay Unit
S-028	Junction Box (S&WB of N.O. – Dwg.#D-3937)	Each
S-029	No. 1 Standard Manhole (S&WB of N.O. – Dwg.#D-870)	Each
S-030	No. 3 Standard Manhole (S&WB of N.O. – Dwg.#D-870)	Each
S-031	No. 1 Standard Catch Basin (S&WB of N.O. – Dwg.#D-873)	Each
S-032	Double No. 1 Standard Catch Basin (S&WB of N.O. – Dwg.#D-873-A)	Each
S-033	Single Mountable Catch Basin (S&WB of N.O. – Dwg.#D-3431-A)	Each
S-034	Double Mountable Catch Basin (S&WB of N.O. – Dwg.#D-3431-B)	Each
S-035	Drop Inlet (30"x24") (S&WB of N.O. - Dwg. #D-3264)	Each

STATE PROJECT NO. 742-36-0123
TECHNICAL SPECIFICATIONS

SECTION 12

WATER MAINS UP TO 12" IN DIAMETER

12.01 DESCRIPTION. This work consists of furnishing of all material and labor required for the replacement of existing water mains with new water mains, including house connections, valves, manholes, fire hydrants and making water main offsets as required. Work shall conform to all of the requirements of the General Specifications and Standard Drawings of the Sewerage & Water Board (S&WB) of New Orleans (the latest revision), which shall govern except as noted herein.

Sections of the General Specifications of the S&WB that are applicable to water main work specified herein are included in Appendix C of the Technical Specifications. Standard Drawings of the S&WB that are applicable to water main work specified herein are included with the plans.

12.02 GENERAL CONSTRUCTION REQUIREMENTS.

(a) The Contractor shall furnish all labor, supervision, materials and equipment required for the replacement of existing water mains with new mains, including house connections, valves, manholes, hydrants, and making necessary offsets, as required. The contractor shall have an individual with a Water Distribution Class IV certification, obtained through the Louisiana Department of Health and Hospitals, on site at all times during the installation of all water related work.

(b) All workmanship and materials shall conform with section F of the General Specifications of the S&WB and S&WB Drawing No. 7260-W except as noted herein.

(c) The Contractor shall notify the Chief of Engineering of the Sewerage and Water Board in writing a minimum of three working days and not more than ten working days in advance of starting the job.

(d) All tie-ins to the existing water mains shall be made by the Contractor. The S&WB Forces shall assist in closing valves and witnessing the tests and chlorination of the mains. Contractors shall not operate S&WB valves. Prior to making tie-ins, the Contractor shall notify residents 24 hours in advance of interruption of service.

(e) The existing utilities shown are approximate. The Contractor shall verify the location of utilities in the field and shall protect them from damage.

(f) Water and sewer services which are damaged by the Contractor shall be repaired by the S&WB at the Contractor's expense. The Contractor will be furnished a list of the locations of water and sewer house connections. This listing is from S&WB records and the listed locations could vary from the actual locations. It is the Contractor's responsibility to verify the locations of these services and to protect them from damage. Furnishing this information should not be construed as a waiver of the Contractor's liability, but rather an attempt on the part of the Board to minimize the Contractor's hazards.

12.03 MATERIALS AND METHODS.

(a) All water mains, unless otherwise noted, shall be Class 150 Polyvinyl Chloride (PVC) pipe manufactured in accordance with AWWA C900, latest edition, and shall be U.L. listed. Pipe shall be furnished in standard lengths (min. 16 feet) with integral cast bells or couplings using elastomeric gaskets conforming with the C900 specification. Fittings shall be of ductile iron conforming to ANSI A 21.10 with rubber gasketed joints conforming to A 21.11. Where fittings and valves with mechanical joints are used the bolts and nuts shall be stainless steel.

(b) No direct tapping of the new pipe will be permitted for making house service connections. Service saddles suitable to use with PVC pipe shall be used; i.e., Clow No. 3407 (all bronze) or JCM 407 Series (stainless steel) with 2 bolts, or J. Jones J-966 (all bronze). The Contractor shall use only shell type hole cutter that will retain the coupon or chips and is designed to accommodate walls equal to pressure class 200.

(c) The installation of the PVC pipe shall conform with the manufacturer's recommendations and the applicable requirements of Section F of the S&WB General Specifications. The trench bottom shall be relatively smooth and free from roots, rocks, etc. The pipe shall be laid on a smooth bed of pumped sand six inches in depth for the full width of the trench and extending to the top of the pipe. The sand should be placed and consolidated under the pipe haunches to provide adequate side support to the pipe while avoiding displacement and misalignment. The remainder of the trench should be filled with pumped sand well compacted to the grade as required by subsection 12.03(j).

(d) At points of tie-ins, offsets and other locations where the use of other types of pipe materials are justified, the Contractor shall furnish AWWA C150, Special Thickness Class 52 ductile iron pipe with rubber gasket joints, (as recommended by the pipe manufacturer). All pipe used in fittings shall be ductile iron pipe. All ductile iron pipe shall have cement mortar lining and shall be wrapped with 8 mils polyethylene wrap in accordance with AWWA C105. This tubular wrap shall cover all ductile iron pipe and fittings, including joints, and shall be overlapped a minimum of six inches between sections and sealed with black polyethylene tape.

(e) Offsets in water mains shall be made by the Contractor with ductile iron fittings or ductile offset fittings. All ductile iron fittings shall be mechanical-joint with retainer glands. All ductile iron pipe and fittings shall be wrapped with 8 mils polyethylene wrap conforming with AWWA C105. Where offsets are made over a utility, there shall not be less than 2.5 feet of cover over the offset piping unless authorized by the S&WB. Before the backfilling of trench, the offsets shall be subjected to an in service visual inspection in the presence of the S&WB.

Water line offsets in the new main that are indicated on the drawings or are required to avoid conflicting utilities that are indicated on the drawings are considered main line fittings and payment is included in the price of the new water main.

Waterline offsets that are required in existing water mains or that are required in the new main to avoid conflicts not indicated on the drawings are to be paid at the bid price for water line offsets.

(f) All fittings, bends, tees, offsets, etc., must have restrained joints in accordance with and for the length recommended by the manufacturer.

(g) Valves and hydrants shall be procured by the Contractor. Existing valves and hydrants shall not be reused.

(h) Valves 4 in. to 12 in. installed in the public right of way shall be S&WB R.D. Wood Gate valves as shown in S&WB Dwg. 11897-W-62. Valves 16 in. and larger shall be American R/D gate valves. Valves shall have raised pattern letters "SEWERAGE AND WATER BOARD" on the body of the valve. Valves must turn clockwise to open. For details of valve box manholes, castings, etc., see S&WB Drawing 6179-F-2. Existing valves that are replaced or no longer needed shall be removed and delivered to S&WB Central Yard, 2900 Peoples Avenue.

(i) Hydrants shall be in 5 in. Breakaway Fire Hydrant Bronze Trim, as detailed in S&WB Dwg. No. 11825-W-62 or 5.5½ in. American-Darling Coo's B-62-B. For details of setting hydrants, see latest S&WB Dwg. No. 6179-F-2. Hydrants shall have lugs and other requirements conforming with the General Specifications. Hydrant leads shall be solid wall PVC pipe Class 150 (AWWA C900). All hydrant lead joints shall be restrained. Hydrants shall be installed with wood blocking and be spaced not more than 350 ft. apart, 6 ft. off the projected property line or corner lots, and within 5 ft. of the center of lot for interior lots.

Existing hydrants that are removed shall be delivered to the S&WB Central Yard, 2900 Peoples Avenue.

(j) Backfill material shall be pumped sand and shall be placed at or near optimum moisture content and compacted according to one of the following procedures:

1. Back fill material shall be placed in layers not to exceed 12 inches. Each layer shall be compacted to a minimum of 95% of maximum density using approved mechanical compaction equipment, or:
2. Back fill material may be placed in layers not exceeding 3 feet by thoroughly flooding to compact each layer to a minimum of 95 percent maximum density prior to placing a subsequent layer. During placement, backfill materials shall be thoroughly saturated with water and satisfactory drainage of materials shall be provided.

The above backfill material and compaction procedures shall be applied also for any service connections, offsets, etc.

12.04 SERVICE CONNECTIONS.

(a) All existing lead water house service connections shall be replaced with new polyethylene pipe and fittings from the new or existing main (if not being replaced) to the meter (see S&WB Drawing No. 7134-W).

(b) Existing services that are not being replaced (i.e., services that are not lead and that are in good condition) shall be tied into new mains using a service saddle and corporation cock. The new tap and cock shall be the same size as the existing connection, unless otherwise noted. Existing services that require lengthening shall be replaced. There shall be no splicing allowed of new or existing water house service connections.

12.05 INSPECTION.

(a) Preliminary acceptance of the water system is contingent upon the system passing inspection. Final acceptance of the water system is contingent upon one-year maintenance period following satisfactory testing of the system.

(b) The Contractor shall make a hydrostatic test of the main when the entire main has been laid, and all apparent defects in the main, coating, joints, etc., have been repaired as described in Paragraph F-15 of the General Specifications. Testing of only a portion of the main will be done only with the approval of the S&WB. The Contractor shall provide all the equipment and all the labor required for filling and emptying the main, measuring the pressure and leakage. The Contractor shall apply for a construction meter at the Board's House Connection Department to be installed by the Board on a hydrant, and he shall pay the required deposit; the Board will furnish the water free.

(c) All valves in the system shall be wide open so that pressure will come on the flanges and the test plugs which close the ends of the main and its branches, and not on the valve discs. The main shall be filled from the nearest hydrant to the flange outlet in the test plug (see latest S&WB Drawing No. 7004-W). The Contractor shall provide the necessary hook up piping. When the main is completely filled with water to the satisfaction of the Engineer, the Contractor shall close the air cocks. He shall apply a hydrostatic pressure of 100 psi on the water main system and shall maintain this pressure for a period of twenty-four continuous hours. During this period the total leakage shall not exceed fifty gallons per inch of internal diameter for each mile of pipe.

(d) If greater leakage than said quantity develops, the Contractor shall locate the leaks and repair them, working only from outside the main and using only such methods as approved in advance by the Board's Engineer.

(e) It is the intent of these specifications and of the contract based thereon, that all pipe joints be water tight under all service conditions even though the total leakage of any test is within permissible limits as stated herein. Any and all leaks from improperly laid or defective joints which are discovered during the leakage test or tests, or at any time prior to the elapse of one year following the final acceptance by the S&WB of the entire work, will be repaired by and at the expense of the Contractor.

(f) All concrete reaction blocking and anchorages shall be installed before any test section is initially filled with water.

(g) All pipe to be tested should be filled with water a minimum of twenty four hours prior to testing in order to minimize absorption of water by the inner surface.

(h) Test plugs shall be furnished and installed by the Contractor for testing purpose in accordance with latest S&WB Drawing No. 7004-W. The test plugs are to be caps or plugs as required and shall be secured to the pipe ends. The test plugs become the Contractor's property after their use.

12.06 CHLORINATION.

(a) Chlorination of water mains shall be performed by the S&WB in accordance with Paragraph F-16 of the General Specification after the Hydrostatic test has been successfully completed. Prior to chlorination, the Contractor shall provide and install the materials required

by latest S&WB Dwg. 7004-W and flush the mains with maximum flow through a 2" or 4"hose as required. The contractor will be responsible for the cleanliness of the main at all times until completion of the work and final acceptance of the Contract. During construction, the Contractor shall keep the main free from dirt, trench water, debris, rodents, etc. At the end of each day's work or stoppage of work the Contractor must provide an approved temporary water tight wing nut test plug (Model A-902 Climax or equal) at each open end. When the work is resumed, the trench must be free of water and dirt before the plug is removed.

(b) The Contractor shall notify the S&WB one week in advance of the desired chlorination date. The Board Forces will require approximately four working days, weather permitting, to conduct tests and give approval and acceptance of the system. A single disinfection will provide satisfactory results if the pipe is kept clean and properly flushed prior to chlorination. If the initial disinfection does not produce satisfactory samples the process shall be repeated and the Contractor shall be assessed as indicated below.

(c) The Board will perform the normal chlorination of the mains at no charge to the Contractor provided the system is in good, clean condition. If, during the chlorination, it is observed that Contractor has not taken proper precautionary measures to prevent contamination, the Board will cease operation until the system is flushed and made clean by the Contractor. The Contractor will be assessed the total cost to the Board for each revisit required to obtain satisfactory results.

12.07 AS-BUILT DRAWINGS. Prior to final inspection and testing of the system, the Contractor shall submit to the Board "as-built" drawings, showing any change in line or grade from the original drawings and location of house service connections as per S&WB requirements.

12.08 MEASUREMENT.

(a) New water main will be measured by the linear foot, taken from center to center of fittings with no reduction for any fittings, valves, adaptors, etc. between.

(b) No separate measurement will be made for fittings or adaptors.

(c) Valves will be measured per each.

(d) Valve manholes will be measured per each.

(e) Fire hydrants will be measured per each. No separate measurement will be made for incidentals to be provided with fire hydrants (lead, tee, lugs and blocking, etc.).

(f) Water house connections will be measured per each.

(g) Water main offsets specified for payment on the plans will be measured per each.

(h) Water meter box work (cleaning, adjusting to grade or replacing) will be measured per each.

(i) No separate measurement will be made for temporary sheeting and bracing.

12.09 PAYMENT.

(a) Payment for the installation of new water main will be made at the contract unit price per linear foot of the sizes and types specified and shall include main line fittings and tie-ins,

excavation, removal of existing pipe (if any), pumping as necessary, bedding, temporary sheeting and shoring, and backfilling.

(b) Payment for water valves will be made at the contract unit price per each of the sizes specified.

(c) Payment for valve manholes will be made at the contract unit price per each.

(d) Payment for fire hydrants will be made at the contract unit price per each and shall include excavation, backfill, fire hydrant, hydrant lead, tee, lugs and blocking, tie-ins to main lines and all incidentals required to provide a complete unit.

(e) Payment for the replacement of water house connections will be made at the contract unit price per each of the sizes specified and shall include excavation, backfill, pipe, fittings, service saddles, removal of existing pipe (if any), connection to existing water meter and all incidentals.

(f) Payment for water line offsets will be made at the contract unit price per each of the sizes and depths specified and shall include excavation, backfilling, temporary sheeting and bracing, pipe, fittings and all incidentals.

(g) Payment for the removal of mud and debris from the inside of water meter boxes will be made at the contract unit price per each.

(h) Payment for the adjusting of water meter boxes to grade will be made at the contract unit price per each.

(i) Payment for the replacement of broken water meter boxes will be made at the contract unit price per each.

(j) The costs of temporary sheeting and bracing shall be included in the applicable contract unit price of the bid item for which the work is incidental.

Payment will be made under:

Item No.	Pay Item	Pay Unit
S-036	Water Main (8") with Main Line Fittings (PVC-C900)	Linear Foot
S-037	Water Main (12") with Main Line Fittings (PVC-C900)	Linear Foot
S-038	Water Main (12") with Main Line Fittings (Ductile Iron)	Linear Foot
S-039	Water Valve (8")	Each
S-040	Water Valve (12")	Each
S-041	Valve Manhole (S&WB of N.O. Dwg # 6179-F-2)	Each
S-042	Fire Hydrant (S&WB of N.O. Dwg # 6179-F-2)	Each
S-043	Replace 1" Water House Connection (from Main to Meter) with Reducer as Needed	Each
S-044	Replace 4" Water House Connection (from Main to Meter)	Each
S-045	Replace 8" Water House Connection (from Main to Meter)	Each
S-046	Eight (8") Inch Water Main Offset (Up to 48")	Each
S-047	Twelve (12") Inch Water Main Offset (Up to 48")	Each
S-048	Remove Mud and Debris from Inside of Water Meter Box	Each
S-049	Adjust Complete Water Meter Box to Grade	Each
S-050	Replace Broken Water Meter Box	Each

STATE PROJECT NO. 742-36-0123
TECHNICAL SPECIFICATIONS

SECTION 13

PLUG WATER OR SEWER MAIN

13.01 DESCRIPTION. This work consists of the furnishing and installation of plugs at the ends of existing water mains and sewer mains (up to 12" in diameter) that are abandoned in-place as indicated on the plans.

13.02 CONSTRUCTION REQUIREMENTS. The ends of water and sewer pipe shall be plugged with bricks and mortar. The plug shall provide a complete seal so that water and soil cannot infiltrate into the end of the drain line. Once the end of the abandoned pipe has been plugged, the end of the drain line shall be entirely wrapped with geotextile fabric.

13.03 MEASUREMENT. Plugs will be measured per each.

13.04 PAYMENT. Payment for plugs will be made at the contract unit price per each and shall be full compensation for furnishing all materials, tools, equipment, labor and incidentals necessary to complete the work.

Payment will be made under:

Item No.	Pay Item	Pay Unit
S-051	Plug Existing Water or Sewer Main (Up to 12" Diameter)	Each

STATE PROJECT NO. 742-36-0123
TECHNICAL SPECIFICATIONS

SECTION 14

SEWER LINES

14.01 DESCRIPTION. This work consists of the furnishing of all material and labor required for the replacement of existing sewer mains with new sewer mains including house connections and manholes. Work also includes the construction of new sewage force main. Work shall conform to the General Specifications and Standard Drawings of the Sewerage and Water Board (S&WB) of New Orleans (the latest revision), which shall govern except as noted herein.

Sections of the General Specifications of the S&WB that are applicable to sewer line work specified herein are included in Appendix C of the Technical Specifications. Standard Drawings of the S&WB that are applicable to sewer line work specified herein are included with the plans.

14.02 GENERAL CONSTRUCTION REQUIREMENTS.

(a) The Contractor shall furnish all labor, materials, equipment and supervision required; including having an individual with a Wastewater Collection Class IV certification, obtained through the Louisiana Department of Health and Hospitals, on site at all times during the installation of all sewer related work:

Restoration of existing sewer mains by point repair.
Replacement of existing sewer mains between manholes including tie-in into existing system.
Relocation of existing sewer mains because of conflicts.
Installation of new sewer mains, sewer house connections and manholes.
Replacement of damaged sewer house connections and manholes.
Installation/rehabilitation of manholes and cleaning of new, replaced or restored mains and manholes.

(b) All workmanship, materials and tests shall conform with Section D of the General Specifications of the Sewerage and Water Board, S&WB Standard Drawings and S&WB Drawing No. 7260-S, except as noted hereinafter

(c) The Contractor shall notify the Chief of Engineering of the Sewerage and Water Board in writing not less than three or more than ten working days in advance of starting the job, in order to allow for scheduling the inspection of the work. Failure to do so prior to starting work will result in the Contractor being required to expose the bedding on all pipe previously installed without Sewerage and Water Board inspection.

(d) The Contractor performing work covered in this section shall be required to coordinate his operations with the Sewerage and Water Board and other utilities prior to making any excavation. The Contractor shall exercise caution in making excavations to *avoid* damage to these services and other utilities.

(e) The Contractor will be furnished with a list of the locations of water and sewer house connections from the Sewerage and Water Board. It will be the Contractor's responsibility to verify the location of these so as to avoid damage. Furnishing this information should not be

construed as a waiver of the Contractor's liability, but rather an attempt on the part of the Board to minimize the Contractor's hazard. The existing house connections submitted in the lists are from S&WB records and could vary from the actual location. Any damage to the existing water, sewer and drain connections resulting from negligence will be repaired by the S&WB at the expense of the Contractor. The Contractor is also responsible for damage to other utilities and the property of others.

(f) Existing sewer house connections shall be tied into the new mains and replaced with new connections where required.

14.03 INSTALLATION AND REHABILITATION OF SEWER MAINS.

(a) General: Work under this section shall consist of furnishing all labor and materials for the replacement, relocation and/or installation of sewer mains, installing new or replacing house connections, point repairs and performing all operations required for improving the sewer system. The Contractor shall provide the necessary dewatering and bypassing required during execution of this work at no direct pay.

(b) Materials and Methods: Pipe material for sewer mains shall be solid wall polyvinyl chloride (PVC) pipe. The solid wall PVC pipe 6" through 15"shall be manufactured in accordance with ASTM D-3034 specifications for a special gravity sewer pipe dimensions ratio (SDR) of 26. The fittings (tees, wyes, etc.) and bell stock for solid wall PVC pipe shall have a thickness not less than that of the SDR-35 solid wall PVC pipe of the same inside diameter. PVC Sewer Mains sizes 18" through 27" shall be solid wall, PVC pipe conforming to ASTM F-679, Class T-1. PVC pipe shall be type PSM Vinyl Chloride (PVC) standard lengths with integral cast bells and elastomeric gaskets as recommended by the manufacturer and ASTM D-3212. The Sewerage & Water Board reserves the right to approve the type of material.

The maximum allowed deflection for installed PVC sewer pipe is 7.5% reduction in its actual vertical inside diameter not the minimum allowed by the ASTM Specification. Pipe exceeding this allowed deflection at any time prior to acceptance, shall be removed and replaced with new pipe and reinstalled as per the above specifications at the contractor's expense. The S&WB reserves the right to mandrel any and/or all of the PVC pipe installed. The contractor will install the pull lines and pass the mandrel through the mains selected by the S&WB. The S&WB will provide the mandrel for all tests. The mandreling tests will occur after compacted backfill of the trenches. The Contractor shall bear the cost of mandreling retesting if required and will be assessed $100.00 for each occurrence in each section between manholes. In addition, cleaning and TV/video of the new PVC sewer lines (either in service or not) will occur during final inspection after all paving is completed to verify the absence of construction debris. The Contractor shall bear all costs of cleaning and TV/video test or retesting. It is required that a S&WB representative and the Contractor witness the actual mandreling test(s) and witness the real-time cleaning and TV/video test(s). The S&WB does not desire a copy of the videotape (No Direct Payment).

(c) Bedding and foundation for mains shall conform with latest S&WB Drawing No. 4697-E5-A except as noted below. Backfill and drainage fabric for mains shall be as noted below. Standard sheeting and bracing shall comply with latest S&WB Drawings No. 4697-E5-A

and with the S&WB General Specifications. The same type and size pipe material must be installed between manholes.

Installation of the solid wall PVC pipe shall conform with Section D of the Sewerage and Water Board General Specifications, "The Construction of Sewer" and the Plastic Pipe Association Specification UNI-B 78, "Recommended Practice for the Installation of Polyvinyl Chloride (PVC) Sewer Pipe." The trench bottom shall be relatively smooth and free from rocks, roots, etc. After the sheeting and/or foundation lumber is placed, the pipe shall be laid on a smooth bed of approved bedding material mentioned below, compacted to a density of not less than 95% relative density, six inches deep for the full width of the trench.

The bedding material shall be extended to six inches above the top of the pipe, well compacted (hand or mechanical) in six inch layers to not less than 95% relative density, as shown on S&WB Standard Drawings. The bedding material shall be placed and consolidated under the pipe haunches to provide maximum side support to the pipe while avoiding displacement and misalignment of the pipe.

Bedding material shall Class 1A Angular Material (1/4" to 1-1/2") conforming to ASTM D2321, i.e., crushed concrete or crushed stone. The Sewerage and Water Board reserves the right to approve or disapprove the type of bedding material.

Backfill material shall be pumped sand and shall be placed at or near optimum moisture content and compacted according to one of the following procedures:

1. Back fill material shall be placed in layers not to exceed 12 inches. Each layer shall be compacted to a minimum of 95% of maximum density using approved mechanical compaction equipment, or:
2. Back fill material may be placed in layers not exceeding 3 feet by thoroughly flooding to compact each layer to a minimum of 95 percent maximum density prior to placing a subsequent layer. During placement, backfill materials shall be thoroughly saturated with water and satisfactory drainage of materials shall be provided.

The above backfill material and compaction procedures shall be applied also for any service connections, offsets, etc.

Drainage fabric shall be installed according to the following specifications and according to the plan details. Drainage fabric shall be nonwoven pervious sheets of plastic yarn, constructed so that yarns will retain their relative position with respect to each other. Edges of fabric shall be finished to prevent the outer yarn from pulling away from the fabric. The fabric shall be installed as follows:

1. After the trench is excavated, the foundation lumber shall be placed in the bottom of the trench as required. The filter fabric shall be cut to the needed width including allowances for "loose" placement in the trench and a double-top overlap on top of the bedding material after placement. The fabric shall be laid over the foundation lumber in the trench along its alignment with an 18" minimum overlap at the ends of subsequent lengths. Care should be taken to place the fabric tightly against the soil so that no voids occur behind the fabric. Also, wrinkles or folds should be avoided. The sides of the fabric which will be used as a double-top overlap should temporarily be pinned to the sides of the trench.

2. After installing the fabric, an initial 6" layer of bedding material shall be placed and compacted to the proper grade before placing the sewer pipe. The remainder of the bedding material shall then be placed around and above the pipe and compacted. Compaction is required to seat the fabric and bedding material against the trench wall and to reduce settlement.
3. Afte r compaction, the two edges of the filter fabric shall be unfastened and overlapped on top of the bedding material. The backfill material shall then be placed and compacted as required.

Drainage fabric shall conform to ASTM D1910.

The Contractor shall provide the Engineer with a sample of the fabric to be used on the project along with a copy of the manufacturer's minimum requirement specifications prior to the start of construction.

Drainage fabric shall be installed around the bedding and under the sand backfill according to the Standard plans.

(c) Replacement of Existing Sewer Mains and Installation of New Sewer Mains between Manholes: The Contractor shall furnish all materials, equipment and labor to remove the existing deteriorated main (if any), install mains and fittings (wyes, tees, etc.), including appurtenances such as tie-ins, to existing system, lumber foundation, bedding, backfilling, necessary dewatering and bypassing, during the execution of this work.

Where the sewer main is relocated, the existing abandoned main must be filled and plugged where shown on the plans. The abandoned sewer line shall be filled with sand, by flooding the pipe to avoid caving in of the sewer line.

All workmanship, materials and tests shall conform to Section D of the General Specifications of the S&WB, except as noted otherwise. The Contractor may use more than one crew in performing work in various sections of a system at a given time, provided he has the approval of the Director of the City of New Orleans Department of Public Works (DPW).

The new sewer mains and house connections shall be installed at the elevations and locations indicated on the plans, unless changed by the Director of the DPW. The Contractor shall schedule his work so that the sewer mains and house service connections between two manholes are completed before moving to another location (this will minimize the spillage of raw sewage into an open trench). The Contractor shall isolate the block where the work is in progress by plugging the upstream and downstream manholes. Should the sewage build up to within three feet of the upstream manhole, or if directed by the S&WB, the Contractor shall pump the liquid to the downstream manhole through bypass piping. No mains or lines shall be left open overnight; a temporary tie-in shall be made between the end of the new main and the existing, and plugs at manholes shall be removed so as to allow flow to continue until work is resumed.

Where it is necessary to connect the sewers to existing manholes, the existing short bell pieces remaining in the wall of the manhole shall be broken out. A new short bell piece shall be inserted to the full thickness of the walls and permanently grouted in place (see latest S&WB Dwg. 6178-B-6). The new short bell piece shall be a sand impregnated PVC stub, grouted with a type three, high early strength cement, or quick setting EMBECO or similar material.

If a PVC pipe is to be connected to a manhole or other concrete or brick structure, the Contractor shall use a sand impregnated PVC stub, grouted with cement grout as specified above, for the manhole connection.

(e) Sewer House Connections: New or replacement sewer house connections, where required, shall be six (6") inch pipe extended from the main to the curb or to a point directed by the Director of the DPW. Bedding and foundations required under sewer mains are not required under six (6") inch sewer house connections, but 6" of compacted pumped sand is required as bedding under 6" sewer house connections. Backfill is required the same as described herein for sewer mains.

The use of saddles to connect the house service to the main will not be permitted; all such connections shall be made using wye or tee fittings.

All existing sewer house connections connected to sewer lines that are being replaced shall be removed and replaced from the new sewer line to property line and tied to the existing service at that point.

The need for replacing existing sewer house connections that are connected to existing sewer lines that are not being replaced shall be as directed by the Sewerage & Water Board after field inspection or as indicated on the Drawings. These services will be removed and replaced from the existing sewer line to property line and tied to the existing service at that point.

The need for replacing existing sewer house connections from the back of curb to the property line (or any point between) shall be determined by the Sewerage &Water Board after field inspection or as indicated on the Drawings and the new pipe will be tied into the existing pipe at that point.

New sewer house connections shall be installed from an existing, new, or "removed and replaced" sewer main to property line at locations where no service presently exists as directed by the Sewerage & Water Board or as indicated on the Drawings.

All pipe and fittings shall be of the same material as the main, unless approved by the S&WB. The connection of any two dissimilar materials shall be accomplished by the installation of a "No-Hub" coupling, consisting of a neoprene sleeve and bushing adaptor and two stainless steel bands with stainless steel screws. The coupling shall be manufactured in strict accordance with Cast Iron Soil Pipe Institute Specifications C-301, latest revision, as manufactured by Tyler Pipe Company, Mission Clay Products Corps., Fernco, or approved equal.

Where existing or proposed subsurface facilities conflict with existing sewer house connections, these same connections shall be adjusted to provide for adequate clearance in accordance with the S&WB General Specifications. No siphons will be permitted. Adjustment of sewer house connections shall comply with the above specifications for replacement of sewer house connections.

(f) Sanitary Sewer Manholes: New sanitary sewer manholes required when installing new sewer mains or relocating existing sewer mains shall be constructed in accordance with the applicable sections of the S&WB General Specifications and latest S&WB Drawings No. 6178-B-6 and No. 6178-B-6A.

To abandon existing sewer manholes, the Contractor shall remove the casting and cover, remove the manhole wall three (3) foot depth, plug all pipes, and fill the remainder of the

manhole with pumped sand, compacted to 95% maximum density. There will be no direct pay for abandoning sewer manholes. Removed casting and cover shall be returned to S&WB.

(g) Inspection: At the completion of the point repair or installation of mains between manholes, and prior to final acceptance, the Board may inspect the mains with a remote control television unit. The Contractor shall assist by notifying the residents to refrain from use of these services during the inspection. The Contractor will be required to repair at his expense and in an approved manner, all defects in his workmanship disclosed by these tests and inspections before final acceptance.

(h) Sewage Force Main: Pipe for sewage force mains, unless otherwise noted, shall be Class 150 Polyvinyl Chloride (PVC) pipe manufactured in accordance with AWWA C900, latest edition, and shall be U.L. listed. Pipe shall be furnished in standard lengths (min. 16 feet) with integral cast bells or couplings using elastomeric gaskets conforming to the C900 specification. Fittings shall be of ductile iron conforming to ANSI A 21.10 with rubber gasketed joints conforming to A 21.11. Where fittings and valves with mechanical joints are used the bolts and nuts shall be stainless steel.

The installation of the PVC pipe shall conform to the manufacturer's recommendations and the applicable requirements of Section F of the S&WB General Specifications. The trench bottom shall be relatively smooth and free from roots, rocks, etc. The pipe shall be laid on a smooth bed of pumped sand six inches in depth for the full width of the trench and extending to the top of the pipe. The sand should be placed and consolidated under the pipe haunches to provide adequate side support to the pipe while avoiding displacement and misalignment. The remainder of the trench should be filled with pumped sand well compacted to the grade as required by paragraph (a) above.

At points of tie-ins, offsets and other locations where the use of other types of pipe materials are justified, the Contractor shall furnish AWWA C150, Special Thickness Class 52 ductile iron pipe with rubber gasketed joints, (as recommended by the pipe manufacturer). All pipe used in fittings shall be ductile iron pipe. All ductile iron pipe shall have cement mortar lining and shall be wrapped with 8 mils polyethylene wrap in accordance with AWWA C105. This tubular wrap shall cover all ductile iron pipe and fittings, including joints, and shall be overlapped a minimum of six inches between sections and sealed with black polyethylene tape.

Offsets in sewage force mains over or under drain lines shall be made by the Contractor with ductile iron fittings or ductile offset fittings. All ductile iron fittings shall be mechanical joint with retainer glands. All ductile iron pipe and fittings shall be wrapped with 8 mils polyethylene wrap conforming to AWWA C105. Where offsets are made over the drain, there shall not be less than 2.5 feet of cover over the offset piping unless authorized by the S&WB. Before the backfilling of trench, the offsets shall be subjected to an in service visual inspection in the presence of the S&WB.

Offsets in the new sewage force main required to avoid conflicting utilities that are indicated on the drawings are considered main line fittings and payment shall be included in the price of the new sewage force main unless otherwise specified on the drawings.

All fittings, bends, tees, offsets, etc., must have restrained joints in accordance with and for the length recommended by the manufacturer.

New sewage force main shall be hydrostatically tested in accordance with the requirements of Section 10.05 of the Technical Specifications before it will be allowed to be placed in service.

(i) Sheeting and bracing shall be sound, rough No. 2 Common Yellow Pine, or equal. Sheeting shall be used as required to provide a stable excavation or where directed by the Engineer.

14.04 MEASUREMENT.

(a) Sewer main will be measured by the linear foot, taken from center to center of manholes or other subsurface structures of which they form a part, with no reduction for fittings or adaptors between. Depth of sewer mains for payment purposes shall be determined by measurement from the invert to the top of casting at original existing grades of connecting manholes.

(b) Sewage force main will be measured by the linear foot, taken from center to center of fittings with no reduction for any fittings, adaptors, etc. between.

(c) Sewer manholes will be measured per each. The height of the manholes will be determined by measuring from the invert of the manholes to the top of the covers.

(d) Replacement of sewer house connections from the new main to the property line will be measured per each.

(e) No separate measurement will be made for temporary sheeting and bracing.

14.05 PAYMENT.

(a) Payment for sewer mains will be made at the contract unit price per linear foot of the size and depths specified and shall include excavation, backfilling, temporary sheeting and bracing, bypass pumping as necessary, foundation lumber, bedding, installation of new main including fittings, geotextile fabric and tie-ins.

(b) Payment for sewage force main will be made at the contract unit price per linear foot of the sizes and types specified and shall include excavation, backfilling, bypass pumping as necessary, bedding, fittings, tie-ins and all incidentals.

(c) Payment for sewer manholes will be made at the contract unit price per each and shall include excavation, backfilling, temporary sheeting and bracing, bedding, foundation slab, brick and mortar, castings and all incidentals.

(d) Payment for replacement of existing sewer house connections from the new main to the property line will be made at the contract unit price per each and shall include excavation, backfilling, removal of existing pipe, installation of new PVC pipe, fittings, tie-ins and all incidentals.

(e) The costs of temporary sheeting and bracing shall be included in the applicable contract unit price of the bid item for which the work is incidental.

Payment will be made under:

STATE PROJECT NO. 742-36-0123
TECHNICAL SPECIFICATIONS

Item No.	Pay Item	Pay Unit
S-052	Install Eight (8") Inch Sewer Main (8.1' to 10.0' Deep)	Linear Foot
S-053	Install Eight (8") Inch Sewer Main (10.1' to 12.0' Deep)	Linear Foot
S-054	Install Ten (10") Inch Sewer Main (8.1' to 10.0' Deep)	Linear Foot
S-055	Install Ten (10") Inch Sewer Main (10.1' to 12.0' Deep)	Linear Foot
S-056	Install Twelve (12") Inch Sewer Main (10.1' to 12.0' Deep)	Linear Foot
S-057	Sewage Force Main (12") with Main Line Fittings (PVC-C900)	Linear Foot
S-058	Sewage Force Main (12") with Main Line Fittings (Ductile Iron)	Linear Foot
S-059	Twelve (12") Inch Sewage Force Main Offset (Up to 48")	Each
S-060	Sewer Manhole (S&WB of N.O. Dwg # 6178-B6)	Each
S-061	Replace Existing Sewer House Connection from New Main to Property Line (S&WB of N.O. Dwg Nos. 6312-E5-A & B)	Each

STATE PROJECT NO. 742-36-0123
TECHNICAL SPECIFICATIONS

SECTION 15

MANHOLE ADJUSTMENTS

15.01 DESCRIPTION. This work consists of the adjustment to grade of existing manholes within the limits of construction that are to remain.

15.02 GENERAL REQUIREMENTS. Where grade adjustments of existing manholes are required, frames, covers and gratings shall be removed and walls reconstructed with bricks and mortar. Metal parts shall be thoroughly cleaned and placed in good repair. Cleaned frames shall be reset at required elevation.

15.03 MEASUREMENT. The adjustment of manholes will be measured per each.

15.04 PAYMENT. Payment for the adjustment of manholes will be made at the contract unit price per each of the adjustment heights specified and shall be full compensation for furnishing all materials, tools, equipment, labor and incidentals necessary to complete the work.

Payment will be made under:

Item No.	Pay Item	Pay Unit
S-062	Adjust Manhole (Up to 6") with Brick and Mortar	Each
S-063	Adjust Manhole (Over 6" and Up to 36") with Brick and Mortar	Each

SECTION 16

RELOCATION OF EXISTING LIGHT STANDARDS

16.01 DESCRIPTION. This work consists of the relocation of existing light standards at the locations shown on the Drawings.

16.02 GENERAL REQUIREMENTS. The Contractor shall remove the existing light standards, store the light standards safely during construction and set the light standards at their new locations as shown on the Drawings.

16.03 MEASUREMENT. Relocation of existing light standards will be measured per each.

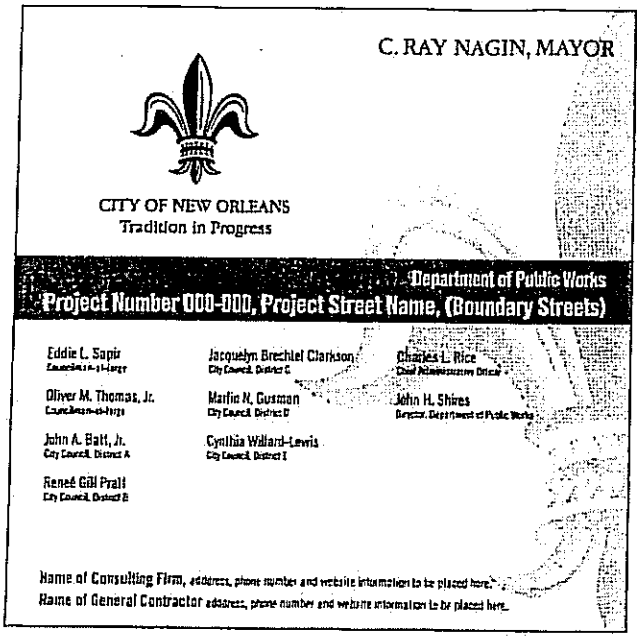
16.04 PAYMENT. Payment for the relocation of existing light standards will be made at the contract unit price per each and shall be full compensation for furnishing all materials, tools, equipment, labor and incidentals necessary to complete the work.

Payment will be made under:

Item No.	Pay Item	Pay Unit
S-064	Relocation of Existing Light Standards	Each

APPENDIX A

PROJECT SIGN



SIZE: 8 feet X 8 feet

GRAPHICS: (electronic editable eps versions of layout are available upon request)

BACKGROUND: Color: white with fleur de lis*

*FLEUR DE LIS

Color: PMS cool gray 8 used at 30%

8 feet tall and bleed 1/2 off of right side of sign

LOGO:

City logo should appear in top left quarter

Color: PMS 655

Copy : City of New Orleans, Tradition in Progress, C. Ray Nagin, Mayor

Font: Garamond book

GOLD BAR:

3/4 feet tall starting at 3.25 feet from top and ending at 4 feet from top.

Color: PMS 1245

Copy: Department of Public Works, Project Number, Project Street Name, (Boundary Streets)

Font: Trade Gothic Bold Condensed Twenty

COUNCIL NAMES

Color: PMS 655

Font: Trade Gothic Condensed Eighteent

CONSULTING AND CONTRACTOR:

Copy: Consulting firm and Contractor should be listed at bottom

Color: PMS Cool Gray 8

Font: Name:Trade Gothic Bold Condensed Twenty

Contact Info: Trade Gothic Condensed Eighteen

1/2" Omega SignBoard Vinyl Plywood Graphics to be digitally printed on Avery MPI 1005 EZ Fleet Marking Film with Avery DOL 1000 Overlaminate and mounted to SignBoard. The SignBoard should have 1/2" u-channel around the four edges. (This combination gives up to a 5 year outdoor durable print)

PROJECT SIGN DETAIL

1. PROJECT SIGN

The Contractor shall provide and maintain one professional quality painted sign for the project measuring eight feet by eight feet (8' x 8') wide and in height on which the information provided on the attached schematic shall be placed.

2. SIGN SUBMITTAL

Prior to construction the Contractor shall submit three (3) copies of the proposed sign layout to the Consultants for review and subsequently to the Office of Communications for review and approval. The Contractor shall not produce the sign until the proposed layout has been approved.

3. SIGN CONSTRUCTION

The sign shall have at least one (1) coat of paint prior to application of the lettering, background and trim. This sign background shall be white, with other coloring as described in the attached schematic specification. Except for the job sign specified, the Contractor, Sub-contractor or equipment suppliers shall not post or display any sign or advertising device on any part of the site, fencing or temporary structures. The Contractor shall maintain the sign for the duration of the project.

The following specifications shall govern the construction of the project sign:

A. Sign board: 3/4" thick DFPA-EXT A face plywood.
B. Paint: Exterior grade oil based enamel. (Devoe alkyd enamel (industrial/exterior grade or approved equal.)
C. Supports: 4"x4" treated wood posts with 2"x4" treated braces, set firmly in the ground. The height of the top of ground shall be 11' - 0".
D. Colors: As indicated on attached schematic and specification.

4. SIGN REMOVAL

The project sign shall be removed at the end of the project when directed by the Department of Public Works or the project Consultant. The Contractor shall remove and deliver all sign materials to the City's Public Buildings warehouse, 5034 Tchoupitoulas Street. The cost of removal shall be included in item C729(72) - Project Sign. 20% of this bid item will be retained until the sign is removed at the end of the project.

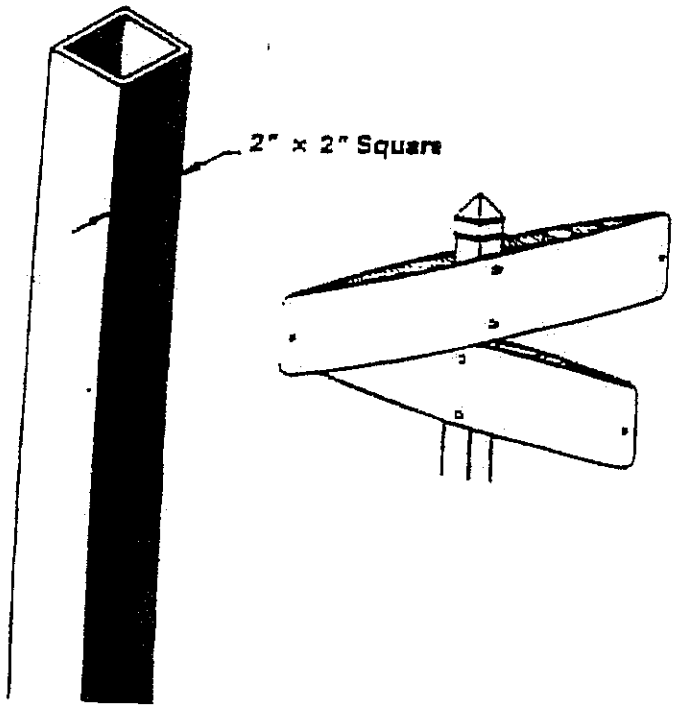
A:\ProjectSignSpecs03.wpd

APPENDIX B

STREET NAME SIGNS

FOR MOUNTING STREET NAME AND TRAFFIC CONTROL SIGNS

POSTS ARE 16 GAUGE, .065 WALL, GALVANIZED FOR LONG LIFE!



APPENDIX C

SEWERAGE AND WATER BOARD OF NEW ORLEANS
GENERAL SPECIFICATIONS
SECTIONS C, D, E AND F

GENERAL SPECIFICATIONS

SECTION C

MATERIALS

TABLE OF CONTENTS

ROUND PILING

(1) **Untreated piles** shall be rough peeled, Class B, pine Douglas Fir, or cypress and shall conform to the "Standard Specifications for Round Timber Piles, A.S.T.M. Designation D 25", with the following exception:

(2) Piles 40 feet and shorter shall be allowed a variation of plus or minus 3 inches in lieu of the 1 foot specified. Piles longer than 40 feet shall be allowed a variation of plus or minus 6 inches in lieu of the 2 feet specified.

(3) The A.S.T.M. Specification permits 10% of the piles to have circumferences 2 inches less than the tabulated minimum values. However, the Board requires all piles to conform to the tabulated minimum values of the specifications and the actual length of the pile clearly marked with paint on the butt end.

CREOSOTED PILES, TIMBER AND LUMBER

(4) **Treated piles** shall be pine, clean-peeled conforming to the specifications and exceptions thereto stated above.

(5) Creosoted piles and timber shall conform to A.S.T.M. Resignation D-25, Class "B", as amended for treated piles. Southern Yellow Pine piles and treated timber shall be conditioned and treated in accordance with American Wood Preserver's Association "Standard Specifications for Preservative Treatments by Pressure Process T1-49" as supplemented by "Standard Specification for Treatment of Piles T3-49", published in the A.W.P.A. "Manual of Recommended Practice." The treatment and preservative shall be full-cell, 12 pound creosote A.W.P.A. Specifications P1-49, Grade 1. The maximum pressure shall be 175 pounds, and the minimum penetration shall be 7/8" or 100% sap wood.

STORAGE AND HANDLING OF PILES

(6) The A.W.P.A. Standard M4-54 "Instructions for the Care of Pressure-Treated Wood After Treatment" shall be adhered to.

CEMENT

(7) All cement must be true Portland cement, made, stored and tested in accordance with the latest current A.S.T.M. Specifications for Portland Cement, Designation C150, Type I through Type V as specified, unless otherwise specified Type I cement shall be used for general concrete and for mortar, Type III shall be used when high early strength is required.

(8) Cement must be of brands which have been in general use for a sufficient length of time to be generally known; the Contractor shall advise the Engineer what brand he intends to use well in advance of purchase and the Engineer shall have the right to refuse to allow the use of any brands that he may deem unfit or undesirable.

(9) Cement shall be in perfect condition when brought to the site of the work and thereafter it shall be stored in weather-proof shelters, so that the cement shall be protected from dampness. Satisfactory certification of the manufacturer's brand shall be furnished with each quantity delivered.

SAND

(10) Sand used for mortar shall be of the type known locally as Lake Shore Sand. It shall be of the best quality, of the coarser grains found near the source of the sand and shall be clean free from dirt or other foreign matter.

(11) Sand used for concrete shall be clean Concrete Sand of approximately the following sieve specification, namely:

Sieve	% Passing (cumulative)
3/8"	100
No. 4	95-100
No. 16	55-90
No. 50	5-30
No. 100	0-7

The fineness modulus of the sand shall be between 2.50 and 3.10.

GRAVEL, ETC.

(12) Coarse aggregate may be gravel or crushed stone; it shall be composed of clean, sound, durable particles reasonably free from soft, friable, thin, elongated or laminated pieces and shall contain no alkali or organic matter. The amount of deleterious substances shall not exceed the following percentages by weight:

Removed by washing	1.0%
Soft fragments	6.0%
Clay	0.5%

(13) Coarse aggregate shall be uniformly graded from coarse to fine and when tested by laboratory sieves with square openings shall meet the following gradation requirements, percentages by weights:

Sieve	% Passing
1"	90-100
3/4"	40-85
1/2"	25-60
No. 4	0-10

Coarse aggregate from any one source varying more than .20 either way in fineness modulus will not be considered as uniformly graded; it shall be either rejected or stored separately to permit such an adjustment in mix of concrete as may be necessary.

WATER

(14) The water used for making mortar or concrete shall be from the City mains. The Contractor shall comply with all the requirements of the Sewerage and Water Board concerning arrangements for supply and payment for the water.

MORTAR

(15) The mortar of standard Sewerage and Water Board practice consists of Portland Cement and mortar-sand in proportions specified for each class of service. The cement and the aggregate, in the proportions designated for specific purposes, shall be thoroughly mixed dry and the proper amount of water then added.

(16) If the Contractor wishes to use either cement-mortar tempered with lime or a commercial mortar-mix he must submit samples to the Engineer, if tests prove them satisfactory their use will be allowed.

(17) The proper consistency of the mortar for various uses will be determined by the Engineer. Retempering of mortar which has partially hardened, that is remixing it with or without additional materials or water, will not be permitted.

CONCRETE

GENERAL REQUIREMENTS

(18) In general the A.C.I. Building Code Requirements for Reinforced Concrete (A.C.I. 318) shall apply in all matters pertaining to the applicable A.S.T.M. Specifications for the materials and testing of the concrete. The A.C.I. Specification shall also apply regarding the quality, allowable stresses, mixing, placing and other details of concrete construction that are not covered or contradicted by these General Specifications or specifically mentioned in the Special Specifications.

(19) In addition to the above the following A.C.I. Specifications shall apply if applicable to this contract:

A.C.I. 319 — Recommended Practice for the use of Metal Supports for Reinforcement
A.C.I. 613 — Recommended Practice for Selecting Proportions for Concrete
A.C.I. 614 — Recommended Practice for Measuring, Mixing and Placing Concrete
A.C.I. 616 — Recommended Practice for the Application of Portland Cement Paint to Concrete Surfaces
A.C.I. 805 — Recommended Practice for the Application of Mortar by Pneumatic Pressure

GRADES

(20) Concrete of various strengths are to be known as Grades A-A-1, A-A, A, B, C, and D; the components and slumps shall be as follows:

Grade	Comp. Strength at 28 days Lbs. per sq. in.	Min. Sacks per cu. yd. conc.	Max. Water per Sack	Max. Slump
A-A-1	3750	6.0	6	4.5"
A-A	3500	6.0	6	5"
A	3000	5.5	6	6"
B	2500	5.0	7	6"
C	2000	4.5	8	6"
D	1500	3.75	9	3"

(21) The quantities of cement per cu. yd. of concrete specified just above are for concrete without admixtures; if admixtures approved by the Engineer are per nitted the compression strengths required in this tabulation shall govern the quantities of cement to be used.

(22) The Board, at its option, will test the concrete for compliance with the strength requirements by means of specimens secured and tested in accordance with the latest A. S. T. M. specification on these subjects.

PROPORTIONS

(23) The proportions of the aggregates to the cement shall be such as will work readily into the corners and angles of the forms and around and between the reinforcement without excessive spading.

(24) For determining the proportions of concrete one sack of cement weighing ninety-four (94) pounds, net, shall be considered as one cubic foot. The aggregate shal be measured accurately by means of bottomless boxes of known volume or by some other device approved by the Engineer; proportioning by shovelfuls will not be permitted.

(25) The quatity of water shall be measured by a tank with a graduated scale with a quick-closing outlet valve or by some other device satisfactory to the Engineer. The water measuring device shall be controlled from a cabinet which can be kept locked and shall be so constructed that water can be discharged only while the mixer is in operation.

MIXING

(26) In handling and measuring the materials for the concrete, including the water, methods must be used which will ensure complete separation of the various ingredients until they are brought together in the mixer. Cement shall be emptied directly from the bags or from accurate scales into the charging skip.

(27) The mixing of the concrete shall be done in a batch machine mixer of an approved type which will ensure a uniform distribution of the materials through the mass so that the mixture is homogeneous and is uniform in color. The batch shall be so charged into the mixer that some water shall enter in advance of the cement and the aggregates but while the mixer is rotating. The dry materials and the rest of the water shall then enter and the required period of mixing shall then begin. Provision shall be made to ensure that the concrete shall not be discharged until the full time required for the mixing has elapsed. Mixing shall continue for at least one full minute after all the materials are in the mixer for a mixer of one cubic yard capacity; for mixers of great capacity the mixing time shall be extended one-quarter minute for each additional cubic yard of fraction thereof. The mixer shall be rotated at the rate recommended by the manufacturer. The Engineer has the right to require that the mixer be equipped with an automatic attachment for keeping the discharging lever locked until the required mixing period has elapsed.

(28) The volume of the mixed material in one batch shall not exceed the rated capacity of the machine. The entire contents of the mixer shall be discharged before fresh materials for a new batch are put in. The mixer must be cleaned at frequnet intervals while in use. Retempering of concrete which has partially hardened, that is, remixing it with or without additional materials or water, will not be permitted.

READY MIXED CONCRETE

(29) Ready mixed concrete delivered at the job, ready for use, may be used by the Contractor. Ready mixed concrete shall conform in all respects to the provisions of paragraph Nos. 18-28, just above, both included, except as may be otherwise specified below.

(30) When the central mixing plant is depended upon for complete mixing the method of mixing and the minimum mixing time shall be as described in paragraph No. 27, just above.

(31) When the concrete is transported in an agitator provided with mixing blades, the mixing time at the central plant may be reduced to the minimum time required to incorporate the ingredients of the mixture into a mass and the mixing may be completed in the agitator; under these circumstances all ingredients for a batch shall be in

the mixer and properly incorporated before any concrete is discharged into the agitator and each batch shall be mixed in the agitator for fifty (50) revolutions or more. The size of the batch shall not exceed the rated capacity of the agitator.

(32) In the case of truck mixing, the size of the batch shall not exceed the rated capacity of the mixer; the mixer shall be water tight when closed. Each batch of concrete shall be mixed not less than 50 or more than 150 revolutions of the mixer at the rate of rotation specified by the manufacturer as the mixing speed; any additional mixing shall be done at a slower speed specified by the manufacturer for agitation. The truck mixer shall be equipped with a tank for carrying the mixing water, the water shall be measured and placed in the tank at the proportioning plant unless the tank is equipped with an automatic measuring device of the required accuracy and capable of being locked. The mixing water may be added directly to the batch except as limited by the provisions of the following paragraph.

(33) Concrete shall be delivered to the site of the work and discharge from the hauling container shall begin within one-half (½) hour after the introduction of the mixing water to the dry materials or after the introduction of the cement to the aggregate if the sand contains surface moisture in excess of six (6) per cent by weight or if the gravel contains surface moisture in excess of three (3) per cent by weight.

(34) All ready mixed concrete shall be hauled in water tight containers in which segregation shall not take place and from which the concrete can be discharged freely; it shall be delivered to the work at the specified consistency. Proportioning, mixing and delivery of ready mixed concrete shall be inspected by a testing laboratory of recognized standing to be appointed by the Board, if required by the Engineer.

CEMENT BLOCKS

(35) Cement blocks for support of steel reinforcing are to be made of 1 part cement to 2½ parts of sand, or may be cast with concrete having the "same properties" and strength as that of the concrete that the blocks are to be used with. The blocks shall be accurately cast in size.

METAL REINFORCEMENT FOR CONCRETE

(36) The steel reinforcing here for the concrete shall be Billet Steel, intermediate Grade or Structural Grade, in accordance with the current A.S.T.M., A-15, or Rail Steel in accordance with the current A.S.T.M., A-16; column ties shall conform to A.S.T.M., A-15, A-16, or to A-82.

(37) Reinforcing bars above¼" shall be deformed bars and shall conform to the requirements of the current A.S.T.M. A-305 "Tentative Specifications for Minimum Requirements for the Deformation of Deformed Steel Bars for Concrete Reinforcement".

(38) The reinforcement shall be accurately bent cold in the shop to shapes indicated on the plans and with tolerances not to exceed those specified in the manual of Standard Practice of the American Concrete Institute (ACI 315).

WELDED WIRE FABRIC

(39) Welded wire fabric shall meet the requirement of the prevailing standards for Welded Steel Wire Fabric for concrete reinforcement required by the latest current A.S.T.M. Specifications Designation A-185. It shall weigh 77 lbs. per 100 sq. ft. Longitudinal wire spacing shall be 6 inches and wire size No. O, W & M standard guage. The transverse wire spacing shall be 12 inches and wire size No. 1 W & M standard gauge.

STRUCTURAL STEEL

(40) Structural Steel shall conform to the Standard Specifications for Structural Steel for Bridges and Buildings" required by the latest current A.S.T.M. Specifications Designation A-7.

BOLTS AND NUTS

(41) All machine bolts, studs, nuts and anchor bolts shall be in conformity with the requirements of the current Tentative Specifications for "Steel Machine Bolts and Nuts and Tap Bolts", A.S.T.M., Designation A-307, Grade "A"; specification requires American National form right hand machine cut threads, Class 2 fit.

(42) Bolt heads and nuts shall be semi-finished hexagonal and in conformity with the dimensions of the current American Standard Specification for "Wrench Head Bolts and Nuts and Wrench Openings", Heavy Series, A.S.A, B18.2.

BRICKS

(43) Bricks used in the construction of manholes, etc., shall be burned clay bricks of standard sewer brick size, namely, approximately eight (8) inches by three and three-quarters (3¾) inches by two and one-quarter (2¼) inches, except as allowed below in paragraph No. 45. They shall have an average compressive strength, flatwise, of not less than 2500 lbs. per sq. in., they shall withstand an average transverse load, applied at the center, of not less than 815 lbs. when laid flatwise on supports seven (7) inches apart. The absorption of a dry brick boiled in water for five (5) hours shall not be more than seventeen (17) per cent nor less than twelve (12) per cent of the weight of the dry brick.

(44) Bricks of other material than burned clay will not be allowed except by special permission of the Engineer; if allowed at all their use will be permitted only if, in addition to their ability to withstand the tests already specified, satisfactory evidence is produced that they can resist the effects of weather, wear and chemicals, they must also be readily cut with a trowel to such shapes as may be needed. The absorption of a brick of cement or concrete as determined by the test described above in Paragraph No. 43, shall not be more than eight (8) per cent of the weight of the dry brick; the finish and the texture of all bricks must be such as will provide a good bond between the brick and the mortar.

(45) If the Contractor desires to make use of radial bricks, either solid or hollow, he will be permitted to use them provided they meet the required strength in compressive tests in all three directions and also stand the absorption test. Radial bricks must have a radial length of at least eight (8) inches for use in a "one brick" wall and a length of at least twelve (12) inches for use in a "brick-and-a-half" wall. Perforated bricks may be used in walls of manholes, catch-basins, etc., subject to restrictions in the specifications for sewerage, drainage and water construction in Sections D, E and F. The contractor may use double bricks, common, perforated. The brick shall have a size

of approximately eight (8) inches by three and three quarters (3¾) inches by four and one-half (4½) inches. The bricks shall have an allowable compressive strength of five thousand (5000) p.s.i. with the height in compression. The absorption of a dry brick boiled in water for five (5) hours shall not be more than seventeen (17) per cent nor less than twelve (12) per cent of the weight of the dry brick. The brick shall be laid in position so that the perforations will be vertical, the perforations being parallel with the height of the brick.

MANHOLE STEPS

(46) Manhole steps shall be of genuine wrought iron or aluminum, shaped according to the drawing No. 6071-B-6. The wrought iron shall conform to A.S.T.M. specifications A-207.

MISCELLANEOUS IRON CASTINGS

(47) Castings for manhole frames or covers, catch-basins, handholes, cleanouts, culvert plates, valve boxes and all other iron castings required for the work embraced in this contract shall be of tough gray iron, free from all injurious defects and of such quality that a blow from a hammer on a square edge will produce an indentation of the casting without flaking the metal; when broken the faces shall show a fine grain, gray fracture.

(48) Plugging of defects will not be permitted. Castings must be wire brushed until clean. No coating, dipping or painting of castings will be allowed. They shall be of the designs, dimensions and weights shown in the drawings; a variation of more than five (5) per cent from the weights shown in the drawings will not be permitted. All castings shall be made accurately to the dimensions specified and shall be planed where marked or where otherwise necessary to secure perfectly flat and true surfaces; allowance shall be made in the patterns so that the thickness shall not be reduced by the planing. Covers must fit the frames in any position. Patterns for iron castings will not be furnished by the Board, their cost must be included in the prices bid for manholes, etc.

SHEET METAL

(49) Sheet metal shall be galvanized sheet iron in accordance with A.S.M.T. A-93.

GALVANIZING

(50) All items to be galvanized are to be hot dipped in accordance with the requirements of the current applicable A.S.T.M Specification.

CLAM SHELLS

(51) Clam shells to be used as foundation or bedding of sewer, drain or water pipe or as temporary surfacing for roadways and sidewalks, shall be the small dead shells known locally as "clam shells". They may be bank run, ranging in size, approximately, from one-half inch to one and one-half inches with much finely broken shells included but they must be free from sand, clay or other foreign matter.

REEF SHELLS

(52) Reef shells, the dead oyster shells from shell banks, ordinarily used for bedding for pipes or for temporary surfacing of roadways and sidewalks, shall be free from excess of sand, clay or other foreign matter. Finely broken shells are acceptable.

(53) DELETED

DRAIN PIPE JOINTING MATERIAL

(54) All Storm Drain Pipe of diameters forty-eight (48) inches and under shall be of the Bell and Spigot Type. Rubber coupling joints conforming to the latest A.S.T.M. Specifications C-443 or Ram-Nek cold applied preformed Plastic Gaskets or equal may be used with the provision that the Contractor shall furnish the Engineer the Manufacturer's Certificate of Analysis.

All Storm Drain Pipes of fifty-four (54) inches and over including all sizes of Arch Type Pipe shall be joined with either Rubber Gaskets, as above, or Ram-Nek cold applied preformed Plastic Gaskets or equal. This cold applied preformed Plastic jointing material shall conform to the latest **Federal Specifications SS-S-00210 (GSA-FSS).**

LEAD

(55) The material used for making joints in cast iron water mains, and ordinarily in cast iron sewers or drains, shall be soft, pure pig lead.

VITRIFIED CLAY PIPE FOR SEWERS AND DRAINS

(56) Except as hereinafter specified clay pipe shall conform to the latest current specifications of the A.S.T.M. Designated C-13 (Standard Strength Clay Pipe), for 6" pipes and Designation C-200 (Extra Strength Clay Pipe) for pipes of 8" diameter and larger.

(57) Whenever Vitrified Clay Pipe is specified with joints using materials having resilient properties, it shall be extra strength clay pipe conforming to the latest current specifications of the A.S.T.M. Designation C-425.

(58) Sub-paragraph (b) of Paragraph No. 14 (A.S.T.M. Designation C-200-59T) headed "Rejection", which reads as follows, is deleted:

"Fractures or cracks passing through the barrel or socket, except that a single crack at the spigot end of the pipe not exceeding 75 per cent of the depth of the socket, or a single fracture in the socket not exceeding three (3) inches around the circumference nor two (2) inches lengthwise may be permitted".

(59) Pipe will be rejected for fire cracks or hair cracks sufficient to impair the strength, durability, or serviceability of the pipe. Any pipe delivered with a crack of any length and of such depth that a thin knife blade can be inserted more than ⅛ inch into the pipe will be rejected. The Contractor must furnish a certificate from the manufacturer that the pipe furnished by him does conform thereto and to the requirements of these specifications and that it has been tested according to the said A.S.T.M. specifications by a testing laboratory of recognized standing. Wherever the word "pipe" is used in these specifications for vitrified clay pipe it shall be interpreted as also referring to T's, Y's, and other fittings, unless the shape of the fitting shall make the matter plainly inapplicable. Each pipe approved by the said testing laboratory shall be plainly marked by the inspector with the mark of the laboratory. The cost of all inspection and testing must be included in the price bid for clay pipe sewer laid.

ASTM C-76 TABLE II

The strength test requirements in pounds per linear foot of pipe under the three-edge bearing method shall be the D-load (test load expressed in pounds per linear foot per foot of diameter) to produce a 0.01 in. crack, and the ultimate load as specified below, multiplied by the internal diameter of the pipe in feet.

D-load to produce a 0.01 in. crack 1000

D-load to produce the ultimate load 1500

Internal Diameter (Inches)	Laying Length (Feet)	Minimum Dimensions of Socket, Inches		Minimum Reinforcement, sq. in. per linear foot of pipe barrel							
				Wall A				Wall B			
				Concrete Strength, 4000 psi				Concrete Strength, 4000 psi			
					Circular Reinforcement		Elliptical Reinforcement		Circular Reinforcement		Elliptical Reinforcement
		Annular Space at Mouth of Socket	Depth	Minimum Wall Thickness (In.)	Inner Cage	Outer Cage		Minimum Wall Thickness (In.)	Inner Cage	Outer Cage	
12"	4'6'	5/8	2-1/4	1-3/4	0.07	—	—	2	0.07	—	—
15"	4'6'	5/8	2-1/2	1-7/8	0.07	—	—	2-1/4	0.07	—	—
18"	4'6'8'	5/8	2-3/4	2	0.10	—	0.07	2-1/2	0.07	—	0.07
21"	4'6'8'	3/4	2-3/4	2-1/4	0.12	—	0.10	2-3/4	0.10	—	0.09
24"	4'6'8'	3/4	3	2-1/2	0.13	—	0.11	3	0.11	—	0.10
24"	4'6'8'	3/4	3	2-5/8	0.15	—	0.13	3-1/4	0.13	—	0.11
27"	4'8'	3/4	3	2-5/8	0.15	—	0.14	3-1/2	0.14	—	0.12
36"	4'8'10'	1	3-1/2	3	0.14	0.10	0.15	4	0.12	0.19	0.13
42"	4'8'10'	1	4	3-1/2	0.16	0.12	0.18	4-1/2	0.15	0.12	0.17
48"	4'8'10'	1	4	4	0.21	0.16	0.23	5	0.18	0.14	0.20
		Groove									
		Min. Depth	Max. Slope								
54"	4'6'8'	4	10°	4-1/2	0.25	0.19	0.28	5-1/2	0.22	0.16	0.24
60"	4'6'8'	4	10°	5	0.30	0.22	0.33	6	0.26	0.19	0.28
66"	4'6'8'	4-1/2	10°	5-1/2	0.35	0.26	0.39	6-1/2	0.31	0.23	0.34
72"	4'6'8'	4-1/2	10°	6	0.41	0.30	0.45	7	0.35	0.26	0.39

ELLIPTICAL PIPE

Internal Diameter (Inches)	Laying Length (Feet)	Minimum Wall Thickness	Minimum Cross-Sectional Area of Circular Steel Sq. In. per L.F.		Minimum Strength 3-edge BearingTest Lbs. per L.F.		Minimum Dimensions of Sockeet, Inches	
			One Line Only	Two Lines Each	First .01" Crack	Ultimate	Annular Space at Mouth of Socket	Depth
40 x 36	8 - 10	4	.12	—	3000	4500	1	6
46 x 42	8 - 10	4	.14	—	3200	4800	1	6
48 x 52-1/4	8 - 10	4-1/4	.16	—	3400	5100	1	6

REINFORCED CONCRETE PIPE FOR SEWERS

(68) Except as hereinafter specified reinforced concrete pipe for use as sewers shall conform to the latest current specifications of the A.S.T.M. for Reinforced Concrete Culvert, Storm Drain and Sewer Pipe, Designation C-76 Table III and the Contractor must furnish a certificate from the manufacturer that the pipe furnished by him does conform thereto and to the requirements of these specifications and that it has been tested according to said A.S.T.M. Specifications by a testing laboratory of recognized standing. Wherever the word "pipe" is used in these specifications for reinforced-concrete pipe it shall be interpreted as referring also to Y branches and T branches. Each pipe approved by the said testing laboratory shall be clearly stamped with the mark of the laboratory. The cost of all inspection and testing shall be included in the prices bid for reinforced concrete pipe sewers laid.

(69) Paragraph (64) above shall apply.

(70) Reinforced Concrete Pipes for Sewers shall be the Bell and Spigot Type through 48" diameter and of the Tongue and Groove Type in diameters above 48" with dimensions and strengths as follows:

ASTM C-76 TABLE III

The strength test requirements in pounds per linear foot of pipe under the three-edge bearing method shall be the D-load (test load expressed in pounds per linear foot per foot of diameter) to produce a 0.01 in. crack, and the ultimate load as specified below, multiplied by the internal diameter of the pipe in feet.

D-load to produce a 0.01 in. crack 1350

D-load to produce the ultimate load 2000

Internal Diameter (Inches)	Laying Length (Feet)	Minimum Dimensions of Socket, Inches		Minimum Reinforcement, sq. in. per linear foot of pipe barrel							
				Wall A				Wall B			
				Concrete Strength, 4000 psi				Concrete Strength, 4000 psi			
					Circular Reinforcement		Elliptical Reinforcement		Circular Reinforcement		Elliptical Reinforcement
		Annular Space at Mouth of Socket	Depth	Minimum Wall Thickness	Inner Cage	Outer Cage		Minimum Wall Thickness	Inner Cage	Outer Cage	
12"	4'6'	5/8	2-1/4	1-3/4	0.08	—	—	2	0.07	—	—
15"	4'6'	5/8	2-1/2	1-7/8	0.09	—	—	2-1/4	0.08	—	—
18"	4'6'	5/8	2-3/4	2	0.11	—	0.09	2-1/2	0.09	—	0.07
21"	4'6'8'	3/4	2-3/4	2-1/4	0.14	—	0.11	2-3/4	0.12	—	0.09
24"	4'6'8'	3/4	3	2-1/2	0.17	—	0.14	3	0.14	—	0.12
27"	4'8'	3/4	3	2-5/8	0.18	—	0.16	3-1/4	0.16	—	0.14
30"	4'8'10'	3/4	3-1/2	2-3/4	0.19	—	0.18	3-1/2	0.18	—	0.15
36"	4'8'10'	1	3-1/2	3	0.21	0.16	0.23	4	0.17	0.13	0.19
42"	4'8'10'	1	4	3-1/2	0.25	0.19	0.28	4-1/2	0.21	0.16	0.23
48"	4'8'10'	1	4	4	0.32	0.24	0.35	5	0.24	0.18	0.27
		Groove									
		Min. Depth	Max. Slope								
54"	4'6'8'	4	10°	4-1/2	0.38	0.28	0.42	5-1/2	0.29	0.22	0.32
60"	4'6'8'	4	10°	5	0.44	0.33	0.49	6	0.34	0.26	0.38
66"	4'6'8'	4-1/2	10°	5-1/2	0.50	0.37	0.55	6-1/2	0.41	0.31	0.46
72"	4'6'8'	4-1/2	10°	6	0.57	0.43	0.63	7	0.49	0.37	0.54

(71) It shall not be necessary in specifications for sewerage construction to specify that reinforced concrete pipe must conform to these specifications for "reinforced concrete pipe for sewers"; the fact that the contract is for sewerage construction is sufficient notice to the bidder that pipe of this class is to be furnished.

(72) In addition to the laboratory tests all reinforced concrete pipe and fittings will be subjected to a rigid inspection after delivery on the site of the work and just before being laid in the trench and those found to be defective in any way will be rejected and must be removed from the work.

REINFORCED CONCRETE PIPE FOR DRAINS

(73) Reinforced Concrete Pipe for Drains shall be of the Bell and Spigot Type through 48" diameter and of the Tongue and Groove Type in diameters above 48" and shall conform to the latest current A.S.T.M. Specifications for Reinforced Concrete Culvert, Storm Drain and Sewer Pipe Designation C-76 Table II.

(74) All the other requirements of paragraphs (68) and (69) above shall apply to reinforced concrete pipe for use as drains. The dimensions and strengths of reinforced concrete pipes for drains shall be as follows:

(60) Glazing shall not cover the inner surface of the socket nor the outer surface of the spigot end for a distance from the end of the pipe equal to the specified depth of the socket. The interior of the socket and the exterior of the spigot near its end shall both be scored with three parallel scratches about ⅛" deep running completely around the pipe.

(61) Clay pipes shall be of dimensions and physical qualifications as follows:

Internal Diameter, Inches	Approx. Laying Length, Feet	Thickness of Barrel, Inches		Dimensions of Socket Inches				Min. Strength Three Edge Bearing Test, Lbs. per L.F.		Max. Absorption Per Cent
				Annular Space Near Base of Socket		Depth				
		C-13	C-200	C-13	C-200	C-13	C-200	C-13	C-200	
6	2-1/2—4	5/8	—	9/16	—	2-1/4	—	1000	—	8
8	3—5		7/8		3/4		2-1/2		2000	8
10	3—5		1		3/4		2-5/8		2000	8
12	3—5		1-3/16		13/16		2-3/4		2500	8
15	4—5		1-1/2		13/16		2-7/8		2750	8
18	4—5		1-7/8		13/16		3		3300	8
21	4—5		2-1/4		7/8		3-1/4		3850	8
24	4—5		2-1/2		7/8		3-3/8		4400	8
*27	4—5		2-3/4		7/8		3-1/2		4700	8
30	4—5		3		7/8		3-5/8		5000	8
*33	4—5		3-1/4		1		3-3/4		5500	8
36	4—5		3-1/2		1		4		6000	8

T's and Y's shall be the same dimensions as straight pipe for each size, however, no Y's or T's will be required in diameter greater than 21".

*These are not standard diameters but they are useful sizes and every effort to secure them must be made if they are called for in the Form of Proposal.

(62) In addition to the laboratory tests all clay pipes and fittings will be subjected to a rigid inspection after delivery on the site of the work and just before being laid in the trench and those found to be defective in any way will be rejected and must be removed from the work.

NON-REINFORCED CONCRETE PIPE FOR SEWERS AND DRAINS

(63) Except as hereinafter specified concrete pipe shall conform to the latest current specifications of the A.S.T.M. for Concrete Sewer Pipe, Designation C-14 and the Contractor must furnish a certificate from the manufacturer that the pipe furnished by him does conform thereto and to the requirements of these specifications and that it has been tested according to the said A.S.T.M. specifications by a testing laboratory of recognized standing. Wherever the word "pipe" is used in these specifications for concrete pipe it shall be interpreted as also referring to T's, Y's and other fittings unless the shape of the fitting shall make the matter plainly inapplicable. Each pipe approved by the said testing laboratory shall be clearly stamped with the mark of the laboratory. The cost of all inspection and testing must be included in the prices bid for concrete pipe sewers and drains laid.

(64) Curing processes shall be adapted to the climate of the locality where the pipe is manufactured and shall be subject to the approval of the Engineer. When those processes that give the best results have been determined they shall be followed strictly.

(65) Non-reinforced concrete pipes for use as Sewers and Drains shall be of the Bell and Spigot Type with dimensions and physical qualification as follows:

A.S.T.M. C-14

Internal Diameter Inches	Minimum Laying Length Feet	Minimum Thickness of Barrel, Inches	Minimum Strength Three Edge Bearing Test Lbs./L.S.	Minimum Dimensions of Socket, Inches		Maximum Absorption, Per Cent
				Annular Space at Mouth of Socket	Depth	
6	2-1/2	5/8	1100	1/2	2	8
8	3	3/4	1300	5/8	2-1/4	8
10	3	7/8	1400	5/8	2-1/2	8
12	4	1	1500	5/8	2-1/2	8
15	4	1-1/4	1750	5/8	2-1/2	8
18	4	1-1/2	2000	5/8	2-3/4	8
21	4	1-3/4	2200	3/4	2-3/4	8

(66) It shall not be necessary in specifications for sewerage or drainage construction to specify that concrete pipe must conform to the specifications for "concrete pipe for sewers or drains"; the fact that the contract is sewerage or drainage construction is sufficient notice to the bidder that pipe of this class is to be furnished.

(67) In addition to the laboratory tests all concrete pipe and fittings will be subjected to a rigid inspection after delivery on the site of the work and just before being laid in the trench and those found to be defective in any way will be rejected and must be removed from the work.

ARCH CONCRETE PIPE

D-load to produce a 0.01 in. crack 1350
D-load to produce the ultimate load 2000

Test Load in Lbs. Per Lineal Foot Equals D-Load x Equiv. Round Diameter in Feet

Round Equivalent	Nominal Size Span & Rise	Laying Length	Minimum Depth of Groove	Minimum Rein., sq. in. per Linear Ft. Pipe Barrel Concrete Strength — 4000 psi	
				Minimum Wall Thickness, Inches	One Elliptical Line
24"	30" x 18"	6-8	3"	3"	0.15
30"	36" x 23"	6-8	3"	3-1/2"	0.19
36"	44" x 27"	6-8	4"	4"	0.23
42"	51" x 31"	6-8	4"	4-1/2"	0.27
48"	58" x 36"	6-8	5"	5"	0.32
54"	65" x 40"	6-8	5"	5-1/2"	0.38
60"	73" x 45"	6	6"	6"	0.46
72"	88" x 54"	6	6"	7"	0.63

(75) The pipes of 8 to 10 feet lengths must have a lifting hole about 2" in diameter in the top side at the center of gravity of the pipe and a precast concrete plug to close the said hole after the pipe is laid.

(76) It shall not be necessary in specifications for drainage construction to specify that reinforced concrete pipe must conform to these specifications for "reinforced concrete pipe for drains"; the fact that the contract is for drainage construction is sufficient notice to the bidder that pipe of this class is to be furnished.

EXTRA STRENGTH REINFORCED CONCRETE PIPE FOR DRAINS

(77) Where loading or depth conditions require, extra strength reinforced concrete pipe shall be specified and this pipe shall conform to the latest current specifications of the A.S.T.M. for Reinforced Concrete Culvert, Storm Drain and Sewer Pipe, Designation C 76 Table III. All other requirements of paragraphs (68), (69) and (73) above shall apply.

(78) The dimensions and strengths of extra strength reinforced concrete pipe for drains shall be as listed in paragraph (70) above.

(79) It shall not be necessary in specifications for drainage construction to specify that extra strength reinforced concrete pipe must conform to these specifications for "extra strength reinforced concrete pipe for drains"; the fact that the contract is for drainage is sufficient notice that pipe of this class is to be furnished.

REINFORCED CONCRETE PIPE FOR JACKING

(80) Pipe for jacking shall be of the Tongue and Groove Type and shall be round. The design, materials, methods of manufacture, curing, inspection and tests of this pipe shall conform to the latest current A.S.T.M Specification for Reinforced Concrete Culvert, Storm Drain and Sewer Pipe Designation C 76 Table IV.

ASTM C-76 TABLE IV

The strength test requirements in pounds per linear foot of pipe under the three-edge bearing method shall be the D-load (test load expressed in pounds per linear foot per foot of diameter) to produce a 0.01 in. crack and the ultimate load as specified below, multiplied by the internal diameter of the pipe in feet.

D-load to produce a 0.01 in. crack 2000
D-load to produce the ultimate load 3000

Internal Diameter	Laying Length	Dimensions of Groove		Minimum Reinforcement, sq. in. per linear foot of pipe barrel							
				Wall B				Wall C			
				Concrete Strength, 4000 psi				Concrete Strength, 4000 psi			
					Circular Reinforcement		Elliptical Reinforcement		Circular Reinforcement		Elliptical Reinforcement
		Minimum Depth (In.)	Maximum Slope (Degrees)	Minimum Wall Thickness (In.)	Inner Cage	Outer Cage		Minimum Wall Thickness	Inner Cage	Outer Cage	
24"	4'8'	3	10	3	0.27	—	0.23	4	0.07	0.07	0.08
27"	4'8'	3	10	3-1/4	0.31	—	0.25	4-1/8	0.08	0.07	0.09
30"	4'8'10'	3	10	3-1/2	0.35	—	0.28	4-1/4	0.09	0.07	0.10
36"	4'8'10'	3	10	4	0.30	0.22	0.33	4-7/8	0.14	0.10	0.15
42"	4'8'10'	4	10	4-1/2	0.35	0.26	0.39	5-1/4	0.20	0.15	0.22
48"	4'8'10'	4	10	5	0.42	0.32	0.47	5-3/4	0.26	0.20	0.29
54"	4'6'8'	4	10	5-1/2	0.50	0.37	0.55	6-1/8	0.34	0.26	0.38
				Concrete — 5000 psi							
60"	4'6'8'	4	10	6	0.59	0.45	0.66	6-3/4	0.41	0.31	0.46
66"	4'6'8'	4-1/2	10	6-1/2	0.69	0.52	0.77	7-1/4	0.51	0.39	0.57
									Concrete — 5000 psi		
72"	4'6'8'	4-1/2	10	7	0.79	0.60	0.88	7-3/4	0.61	0.46	0.68

RUBBER GASKET CONCRETE PIPE

(81) When specified rubber gasket concrete pipe shall be of the Bell and Spigot Type through 48" in diameter and of the Tongue and Groove Type or Bell and Spigot Type in diameters fifty-four (54) inches and above, and the joints shall conform to the latest specifications of the A.S.T.M. C 443 for Joints for Circular Concrete Sewer and Culvert Pipe Using Flexible, Watertight, Rubber-Type Gaskets. The pipe shall conform in all other respects to the Specifications for Non-Reinforced Concrete Pipe for Sewers and Drains (ASTM C-14) or the Specifications for Reinforced Concrete Culvert, Storm Drain and Sewer Pipe Designations C-76 Table II, III or IV whichever is specified.

(82) The Contractor shall submit to the Engineer drawings of the pipe and joint prior to delivery and installation for approval.

CAST IRON PIPE AND SPECIALS

(83) Pipe of less nominal diameter than three (3) inches shall be of six (6) foot or nine (9) foot lengths, delivered assembled in eighteen (18) foot lengths. The ends of these eighteen (18) foot lengths shall be standard bells and spigots, the intermediate joints shall be oversized threaded joints. The barrel of the pipe shall be at least four-tenths (.4) inch thick. This small diameter pipe must be cast horizontal in sand molds; the specifications for its material and manufacture must be equal to those of the McWane Cast Iron Pipe Co. of Birmingham, Ala.

CAST IRON PIPE AND FITTINGS

(84) Cast Iron Pipe of 3" nominal internal diameter or larger shall be of the bell and spigot pattern for use with lead joints; the pipe shall be centrifugally cast and shall have thickness corresponding to class 25 of A.S.A. Specifications A21-6 or A21.8.

(85) All centrifugally cast pipe shall be of the manufacturer's standard length not to exceed twenty (20) feet, however. Centrifugally cast pipe shall be cast with beads on the spigot ends unless the method of manufacture makes the casting of beads impracticable.

All centrifugally cast pipe shall be made of metal having the following physical characteristics or better:

Tensile strength as established by full length bursting test, p.s.i., minimum	18,000
Modulus of rupture as established by ring test, p.s.i. minimum	40,000
Secant modulus of elasticity as established by Talbot Strip Test, p.s.i., maximum, A21.6	12,000,000
A21.8	10,000,000

(86) All centrifugally cast pipe shall have a lining equal to Enameline, composed of a thin lining of cement, centrifugally applied and covered with a seal coat; and shall have an exterior coating of enamel equal to the best grade used for this purpose.

(87) Cast Iron Pipe larger than 48" nominal internal diameter shall be of the bell and spigot pattern for use with lead joints; the pipe shall be pit cast and shall have a thickness corresponding to class 3 of A.S.A. Specifications A21-2. The lining and coating shall be the same as applied to smaller pipe.

(88) The cast iron pipe fittings shall be made in accordance with the latest "American Water Works Standard Specifications for Cast Iron Water Pipe, and Fittings" and shall be suitable for use with the Class of pipe in the sizes and diameters called for. The fittings shall be made from Class "D" patterns up to 12" & of class B pattern for sizes above 12". All fittings shall be lined and coated with the standard coal tar dip.

MECHANICAL JOINT PIPE

(89) Locked Type Mechanical Joint Pipe shall be provided with joint sockets, socket flanges, packing glands, gaskets and bolts in conformity with requirement of A.S.A.—A21.11 Standard Specifications with an amendment to the first paragraph of Section 11-9 of these Specifications as follows:

"American Stainless Bolts AISI Type 416 or CA-20-F with the following typical physical properties shall be used:

Tensile strength—93,600 p.s.i. Average.

Yield Strength—60,000 p.s.i. Minimum.

The Typical Chemical Analysis shall be:

Si — 1.20%
Mn— 1.00%
Cr —12. 5%
Ni — .50
C — .14%
S — .15%
P — .05%

(90) This Lock type joint requires cutting a groove in the spigot end of the pipe and assembling the Lock Type Glands at the foundry. The thickness of the pipe from the bottom of the machined groove to the inside wall of the pipe shall be a minimum of thickness Class 25 according to A.S.A. 21.6 and A.S.A. 21.8.

(91) All cast iron pipe must have the Manufacturer's Certificate of Inspection and Test. This is not to be interpreted, however, as a waiving of any rights on the part of the Sewerage and Water Board or its representatives to further inspect and reject the cast iron pipe.

(92) Pipe and Specials ordered with lugs so that they may be bolted to adjacent units shall have lugs of shapes, dimensions, and locations according to A.W.W.A. standards on all bells and all spigots of each lugged piece. Lugged pipe shall be twelve (12) feet in laying length.

(93) Bolts for use on lugged joints shall be mild steel coated with a hot coal-tar enamel; they shall be of 1" diameter for pipes, etc., of 30" size and smaller, they shall be of 1¼" diameter for pipes, ets., of 36" size and larger. They shall be furnished with square head nuts and with steel washers.

(94) Specials of all sizes shall be A.W.W.A. standards and shall be accompanied by the manufacturer's certificate of inspection and test.

CAST IRON FLANGED PIPE AND CAST IRON FLANGED FITTINGS

(95) Cast Iron Flanged Pipe and Cast Iron Flanged Fittings shall conform to Class B of the A.W.W.A. 1908 Specifications for sizes larger than 12" and class D for sizes 12" and less.

POLYETHYLENE WRAP

(96) The Sewerage and Water Board Engineer may, at his discretion, indicate that the cast iron pipe shall be wrapped with sheets or tubular of polyethylene of 6 mil thickness, having a minimum tensile strength of 1200 p.s.i., and a moisture absorption of not more than 0.01% in 24 hours. The polyethylene sheets shall be wrapped around the pipe with a minimum overlaps of six inches (6") and sealed with black polyethylene tape.

All fittings and valves in sections of pipe indicated as wrapped pipe shall be encased in polyethylene film of the same specifications as above and shall be taped twice around.

ASBESTOS-CEMENT PIPE & COUPLINGS

(97) All asbestos-cement pipe for water mains shall be manufactured in accordance with current AWWA Specifications C-400, and the maximum uncombined calcium hydroxide content shall not exceed one (1) per cent. Pipes in sizes of six (6) inches diameter and smaller shall be Class 200, and pipes of sizes eight (8) inches and larger shall be Class 150, unless otherwise specified on Contract drawing and/or Special Specifications. Couplings for use with these pipes shall be of the same material as the pipes. Unless otherwise specified herein the pipes and couplings shall be governed by the requirements of the A.S.T.M. Standard Specifications for asbestos-cement Pressure Pipe No. C-296. The material shall be formed under pressure and cured by autoclave process to meet its physical and chemical requirements of its specifications.

(98) This asbestos-cement pipe is to be used with iron fittings, valves and hydrants, the iron fittings less than ten (10) inches in nominal internal diameter will be of Class D. The actual inside diameters of pipes must be at least ninety-five per cent (95%) of the nominal inside diameters.

(99) Not less than three per cent (3%) of the total length of pipe of each size shall be composed of pipes of approximately one-third (1/3) the standard length, machined on the outside for the full length of each piece; a coupling shall accompany each piece of this all-machined pipe. This requirement is to permit the use of couplings in setting valves, hydrants or cast iron fittings in their designated locations.

(100) Asbestos cement pipe to be used as a sewer main shall be non-pressure sewer pipe of the class strength specified in the Drawing or in the special specifications, manufactured in the same manner as above. The couplings for use with the pipe shall be composed of the same material as the pipe. The pipe and couplings shall be governed by the requirements of the A.S.T.M. Standard Specifications for asbestos-cement non-pressure pipe No. C-428-59T or the latest current revisions.

(101) The asbestos-cement sewer pipe shall be lined with an epoxy resin base lining of one hundred per cent (100%) solids content (solvent free) meeting the detailed requirements of material and application of "Lined Transite Asbestos-Cement Pipe", Johns-Manville Co.

(102) All pipes and couplings tendered for use must be accompanied by the manufacturer's certificates of test and conformity to the said A.S.T.M. Standard Specifications for AC pipe No. C-296- or the latest revision.

CONCRETE PRESSURE PIPE

(103) Concrete Pressure Pipe furnished shall be prestressed concrete pipe having steel joint rings with rubber gaskets. All pipe shall be furnished complete with all necessary jointing facilities and materials including bolts and nuts for tied joints, together with other required accessories necessary for proper installation.

(104) Except when specifically stated, otherwise the A.W.W.A.C.-301-58 Standard Specifications of the current revision thereof for "Reinforced Concrete Water Pipe — Steel Cylinder Type, Prestressed" shall govern and control the manufacture of all prestressed concrete pressure pipe together with the required appurturances.

(105) The length of the pipes shall be of the manufacturers' standard laying lengths.

STEEL PIPE

(106) Steel Pipe for use as a water main shall be fabricated in accordance with A.W.W.A. C-201-60T "Standard Specifications for Fabricated Electrically Welded Steel Water Pipe."

STEEL PIPE FITTINGS

(107) All fittings and specials shall be in accordance with A.W.W.A. C-208-57 "Tentative Standard Specifications for dimensions for Steel Water Pipe Fittings", unless a detail for fittings other than C-208 is specifically shown.

STEEL FLANGES

(108) Flanges shall be of steel plate conforming to A.S.T.M. A 283 Specifications, Grades B, C or D, or A.S.T.M. A 7.

Flanges shall be faced smooth or may have a serrated finish of approximately 32 serrations per inch and approximately 1/32" deep.

Flanges shall be drilled to conform to the 125 pound American Standard for Cast Iron Pipe.

INTERIOR COAL-TAR ENAMEL LINING

(109) The steel pipe shall have an interior coal-tar enamel lining in accordance with A.W.W.A. C-203-57, "A.W.W.A. Standard for Coal-Tar Enamel Protective Coatings for Steel Water Pipe". The priming shall extend to the ends of all pipe and specials. The enamel shall extend to within 8" of the ends. The interior of the pipe shall be whitewashed at the ends for a distance equal to the diameter.

EXTERIOR COAL-TAR ENAMEL COATING

(110) All exterior coal-tar enamel coatings shall be in accordance with A.W.W.A. C-203-57, Section A1.4, "Coal-Tar Enamel Fibrous Glass Material and Bonded Asbestos Felt Wrap". The priming shall extend to the ends of all pipes and specials. The enamel shall extend to within 8" of the ends. The bonded asbestos felt shall be coated with white-wash in lieu of being wrapped with Kraft paper.

EXTERIOR CEMENT MORTAR COATING

(111) The Sewerage & Water Board may at its discretion order that an exterior Cement Mortar Coating be applied either over the coal-tar coating or to the bare pipe. This cement mortar coating shall be 2" thick placed by the Gunite Method in accordance with A.W.W.A. Specification C-205-41 or the latest revision thereof.

(112) The Engineer reserves the right to accept as an alternate or as a replacement for the "gunite" applied coating, a cement-mortar coating applied by the brush-coat method. The cement-mortar shall be applied to the pipe by a high speed belt, or brush applicator, at an impact velocity between 4,000 and 5,000 feet per minute. The pipe shall be rotated and traveled past the applicator in such a manner that the concrete forms an even continuous covering over the entire length of the pipe, with the exception of 9 inches to 12 inches at each end.

VALVES

(113) All valves shall conform to the requirements of the following paragraphs below. The Contractor must submit with his proposal drawings, catalogues, specifications, or other descriptive matter of the valves he proposes to furnish. The right is reserved by the Board to accept the valves which it considers best suited to the conditions under which they will be used.

GATE VALVES

(114) For water line service of all gate valves, size 12" and smaller shall be double disc valves as manufactured by the M. & H. Valve & Fittings Company of Anniston, Alabama, in accordance with their drawing #9274, or Mueller Co., of Chattanooga, Tennessee, their drawing #6143, both in accordance with Sewerage and Water Board Specifications and modifications.

Valves of sizes larger than 12" shall be to the same specifications as stated above of a manufacturer approved by the Sewerage and Water Board.

(115) For all contracts let by the Sewerage and Water Board for the expansion of water lines, valves and/or fire hydrants of all sizes will be furnished free to the contractor.

(116) Valves for use in sewer lines shall be single solid wedge disc valves. They shall be iron body brass trimmed with non-rising Bronze stems. They shall open by turning clockwise. They shall be designed for not less than 80 P.S.I. The types of operators shall be described in the special specifications.

(117) All Gate Valves shall be proportioned for strength and durability with mechanical parts simple, complete and certain of operation. They shall be constructed of the best quality materials, and with first-class workmanship. Discs shall not stick in the seats, passages shall not be easily clogged, and parts shall not be easily deranged or broken. The screw threads on the valve stems shall be cut so as to work truly and smoothly. All operating nuts shall be two (2) inches square. All gate valves shall open by turning clockwise or to be right.

(118) Each gate valve shall be cold hydrostatically tested at the factory in the following manner, without developing any leak, hissing or sign of weakness.

1st. Heads shall be secured at each end of the casting, the valves opened, and a pressure of 200 pounds per square inch applied.

2nd. The face joints of all valves shall be tested by closing the valves leaving one end of the casting open, and applying a pressure of 150 pounds per square inch to the other end; this operation is to be reversed to test the other face.

(119) The plug used to close the hole in the body of the valve through which pressure for the factory tests is applied shall be made so as to be removable in case the Board may wish to use the hole for tests at some future time.

(120) The Contractor must present a certificate from the makers that the above tests have been properly applied to and withstood by all gate valves.

(121) Valves of 16" and larger shall be vertical valves with spur gears operated by a non-rising vertical stem. Each gate valve of size 30" or larger shall have a by-pass at least four (4) inches in size provided with the same size flanged ends valve. The material and workmanship of this by-pass valve shall be equal in quality to that specified for the main valves. The operating gears of valves of 30" size or larger shall be enclosed in a separate grease tight housing provided with a stuffing box independent to the main valve stem.

CHECK VALVES

(122) For water line service all check valves shall be of the tilting disc partially balanced type, as manufactured by the Chapman Valve Mfg. Co., or equal. If a valve of other make is offered as a substitute it shall be presented for consideration and approval by the Engineer within two weeks after the award of the contract, and the decision of the Engineer as to its acceptability shall be final. Check valves will, in general, be governed by the following specifications in paragraph No. 123 below.

(123) The bodies shall be of cast iron with bell or flanged ends as specified and either be split on the line of the seats or have an opening with a bolted-on cover at the top so as to allow removal of the disc. The design shall be such that the net cross-sectional area throughout the valve shall be equivalent to the area of the pipe line, and the loss of head through the valve, at a velocity of 8 feet per second, shall not exceed one foot. No by-pass openings shall be provided on the valve bodies.

The disc shall be of cast steel. Both the disc and the body shall have bronze seat rings, securely held in place. All wearing parts of the hinge arrangement shall be brushed with non-corrosive metal. The disc shall hang in the closed position when there is no flow, making complete contact.

(124) For sewage line service all check valves shall be of the single swinging disc type with cast iron body. The valves shall have a bronze seat, securely held in place, and a bronze faced disc. The disc hinge pin shall be of rolled bronze or equally acceptable non-corrosive metal, with an integral head on each end. A full nut screwed against a shoulder with a lock nut as a keeper will be acceptable in place of the integral heads on the hinge pin. The bearings for the hinge pin shall have removable caps secured in place by bronze studs with bronze nuts and bronze locknuts. An opening through which the disc can be removed shall be provided and the cover plate for same shall be securely bolted on with hexagon head bolts with cold punched hexagon nuts. The joint shall have faced surfaces and be provided with a suitable gasket.

(125) All check valves whether for water or sewage line service shall receive a thorough test for strength of parts and for tightness of disc at various pressure; the disc shall be tight at pressures ranging from 20 p.s.i. to 150 p.s.i., the whole valve shall withstand the pressure of 250 p.s.i. without developing any leak, hissing or sign of weakness.

The Contractor must present a certificate from the makers that these tests have been properly applied to and withstood by all check valves.

(126) Where bell ends valves are specified the bell ends shall be of the proper sizes to receive A.S.A. Class 25 thickness, Specifications A 21.6 or A 21.6 cast iron pipe.

DRILLING OF FLANGES

(127) The drilling of flanges for flanged pipes, specials, gate valves, check valves or any other flanged item to be installed in the water distribution or in the system of sanitary sewers shall be, unless otherwise specified according to the 125 pound American Standard for Cast Iron Pipe Flanges, etc., of the American Standards Committee.

FIRE HYDRANTS

(128) Fire hydrants now in use by the Sewerage and Water Board are of the design known as the "Mathews' Modernized" Hydrant, Type M62. All new hydrants must be so similar to those now in the system that parts shall be interchangeable and before making a contract for the purchase of hydrants the Contractor must satisfy the Engineer that the hydrants he proposes to furnish conform in these respects as well as to the other requirements of these specifications. They shall be of nominal 5" size; they shall have base elbows for 6" hydrant leads and shall have one steamer nozzle and two hose nozzles of size, shape and threads as shown in Drawing No. 4674½-F-2. See paragraph 115 relative to furnishing fire hydrants.

(129) The hydrant parts shall be of such vertical dimensions that when the protection case extends reasonable distances both above and below the ground line the center line of nozzles will be not less than eighteen (18) inches and not more than twenty (20) inches above the same ground line. With the said nozzle height the barrel length shall be such as to provide three feet and six inches (3'-6") of cover over the top of the hydrant lead where it enters the base elbow of the hydrant. These conditions are satisfied, in the current design of the Mathews Modernized Hydrant when the over-all length of the barrel, from top of swivel flange to bottom of threads, is four feet and six inches (4'-6"); modifications of design must take this into account. When hydrants are to be set with more or less than the standard cover over the lead the nozzle height must be maintained as required above, the difference in depth to the lead must be provided for in the lower part of the barrel. Hydrants of different lengths will be designated by the "Depth of Cover", meaning the depth from ground surface to top of hydrant lead where it enters the hydrant.

BELL-JOINT CLAMPS

(130) Clamps to be placed over the bells of cast iron water pipe shall be Dresser Bell-joint Clamps, Style 60, or Joslyn Style 440 or the equal thereof in design, workmanship and materials.

(131) Asphaltic surfacing and asphaltic binder, whether used individually or used jointly, shall conform in all respects to the "General Specifications and Standard Plans for Street Paving and Temporary Surfacing," of the City of New Orleans, as presently adopted by the Commission Council.

Revised
7-67

GENERAL SPECIFICATIONS

SECTION D

THE CONSTRUCTION OF SEWERS

TABLE OF CONTENTS

D-01 MEASUREMENTS, UNITS, PAYMENTS

(a) Measurements for the length of sewers will be made horizontally along the pipe from the center line of connecting manholes. The depth will be calculated from average elevations taken at approximately twenty-five (25) foot intervals along the surface to the authorized subgrade. If the ground surface is very irregular, the elevations will be taken at such spacing to give a true average depth.

(b) The average depth of a sewer crossing under a waterway or open canal will be calculated below a straight line joining the natural (not the super-elevated) surface on both banks; the average depth under a closed canal, track or other embankment will be calculated below the actual ground surface.

(c) Pipe sewers will be paid for at price bid per linear foot for each material size and depth. Payment of the price bid for all incorporated items will be full compensation for all labor, material, and equipment and for furnishing, hauling and installing the pipe and fittings complete, including all excavation, backfill, compaction, removal of surplus material and for all surface maintenance.

(d) If any block of sewer shall be laid in a depth bracket on which bids have not been asked, the contractor shall submit in writing a price in conformity with other price bids. The price submitted shall be agreed upon and approved by the Engineer.

(e) The depth of manholes will be measured from the top of the manhole casting to the invert of the lowest outgoing sewer line or stub.

See drawing No. 6178-B-6 for manhole detail and foundation.

(f) Sewer manholes will be paid for at the prices bid for manholes, complete in place, of the various depth brackets. The price and payment will be full compensation for all labor and equipment, excavation, all sheeting and bracing, backfill and compaction and furnishing all the materials, including everything from the shell foundation to the casting; the removal of surplus material and doing all necessary incidentals to make a complete structure. Drop pipes for high incoming sewers will be paid for per vertical foot measured from the lowest invert in manhole to the invert of the incoming sewer; this price shall include the whole cost of the drop, increased size of excavation, additional foundation material, brickwork, pipe and fittings and other incidentals for a complete unit according to detail Drawing No. 6178-B-6.

(g) If any standard manhole shall be built in a depth bracket on which bids have not been asked, the Contractor shall submit in writing, a price in conformity with other prices bid. The price submitted shall be agreed on and approved by the Engineer.

(h) The restoration of street and/or sidewalk surfaces shall be paid for at the prices bid in the proposal for all items incorporated in these restorations. No further payment shall be made to the Contractor for the maintenance of these surfaces.

(i) The payment for Extra Work not covered in the proposal shall comply with the requirements of Section A, Paragraph 34, of the General Specifications. In the event the Contractor and the Engineer elect to pay by Force Account the fee shall be fixed at not more than 20%. In order for the Board to pay for the extra work in this manner, the Contractor's representative, at the end of each work day, must fill out a labor form stating the name, rate and the time that each man worked that day along with a description of the equipment in use and the numbers of hours that each piece of equipment was in service that day. The rental rates shall be not more than 80% of the rates listed in the current edition of Average Rental Rates as compiled by the Associated Equipment Distributors. The Board shall elect to use the hourly, daily, weekly or monthly rate, whichever is to their best interest. The form shall be signed daily by a representative of the Contractor and the Board; each shall retain a copy for their files.

D-02 EXCAVATION

(a) Excavations shall be open cuts with vertical sides, unless in special cases the Engineer shall permit tunnels or sloping sides. If tunnels are so authorized they shall be of no greater width than the authorized cuts and shall be properly braced against caving. Sloping trench sides may be used only with the permission of the Engineer and in no case shall the slope extend below one-half of the trench width above the crown of the pipe.

(b) All material excavated shall be placed so as to minimize interference with public travel and to permit proper access for prosecution and inspection of the work.

(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 his judgment, is not adapted to the purpose for which it is being used. Drag line operation will not be permitted. He may require the last four (4) inches removed in such a manner as not to disturb the sub-grade.

(d) The foundation material placed under the pipe shall be in accordance with Drawing Nos. 4697-E-5-A, 6187-E-5, 6312-E-5, and the detail drawings and/or as directed by the Engineer.

(e) Should any excavation made by the Contractor in accordance with the plans or by the direction of the Engineer prove to be unnecessary, it shall be properly backfilled and it will be paid for at the price bid for Extra Excavation. The price bid for Extra Excavation shall include backfilling and removal of surplus earth.

(f) In case the excavation for any structure is carried below the grade established by the Engineer, the Contractor shall fill the bottom of the excavation up to grade with clam shell and in a manner acceptable to the Engineer, without compensation for either the excavation or the backfilling.

(g) No greater length of trench shall be opened in advance of the completed structure nor left unfilled to the rear than shall seem proper to the Engineer who will be guided by the circumstances. The permissable length of unfilled trench shall not exceed one hundred (100) feet. An open trench in advance of pipe laying operations at the close of the days work will not be permitted.

(h) The price bid for "Extra Excavation to 12 ft. depth" is interpreted to cover all excavation from the surface down to the twelve foot depth whether or not the total depth of the excavation exceeds twelve feet. The price bid for "Extra Excavation below 12 ft. depth" is interpreted to cover only such excavation as is made at a greater depth than twelve feet. For example, an extra hole one yard square and fifteen feet deep would call for four cubic yards of "Extra Excavation to 12 ft. depth" and one cubic yard of "Extra Excavation below 12 ft. depth."

D-03 EXCAVATION TO REMOVE STUMPS, ETC.

(a) If any stumps, roots, logs, or other hard solid masses of matter are encountered at or near the authorized sub-grade within the trench area, such stumps, etc., shall be cut to a further depth of one (1) foot, or less if so authorized by the Engineer. The Contractor shall fill this excavated space with clam shell. Payment for same will be at the price bid for Extra Excavation to Remove Stumps and for Shell Backfill.

(b) When so required by the Engineer, the Contractor shall probe one (1) foot below the established bottom of the trench and if any stump, roots, logs, etc., are discovered by this probing, the Contractor shall cut them out just as if they had been visible in the trench and he will be paid for this work as described just above.

(c) The price bid for Extra Excavation to Remove Stumps, etc., is interpreted to cover all excavation for this purpose regardless of depth.

(d) If the Contractor shall, with the consent of the Engineer and the permission of the municipal authorities, blast stumps, etc., out of his excavation with explosives, no payment will be made. The Contractor will be required to fill the void made by the blasting without any payment for either extra excavation or for the backfilling.

D-04 SHEETING AND BRACING

(a) Protection of the excavation against caving or settling of the banks shall be the sole responsibility of the Contractor.
He shall protect the sides of his excavation by sheeting and bracing as may be necessary. No actions or instructions by the Engineer shall be regarded as the responsibility for the security of the trench or the surrounding areas. The full responsibility remains with the Contractor.

(b) The use of standard sheeting, bracing and foundation lumber is mandatory when the cover on the clay, plastic truss, or concrete pipe exceeds nine (9) feet and when the cover on epoxy lined asbestos-cement pipe is in excess of the allowable indicated in the schedule on drawing 4697-E-5-A. The Engineer has the authority to order the use of standard sheeting, bracing, and foundation lumber in lesser depths, when, in his opinion, the soil conditions warrant its use. Payment for the sheeting, bracing, foundation lumber and shells will be at the prices bid in the proposal for these items, but only for the quantities shown in the table on drawing 4697-E-5-A.

(c) Sheeting or other bracing not according to Drawing 4697-E-5-A that does not extend down as far as the top of the sewer pipe may be removed at the discretion of the Contactor, provided that the trench has been backfilled and tamped to a level of eighteen (18) inches above the top of the pipe. Said removal shall not cancel or diminish the Contractor's obligation to secure his excavation as outlined in above sub-paragraph (a). If this sheeting is left in place, it shall be braced in the manner shown on drawing 4697-E-5-A, except that the longitudinal braces can be 2 x 12 material. The entire cost of this sheeting, and bracing shall be borne by the Contractor.

(d) Any sheeting and/or bracing which extends below the top of the pipe, and is not placed as shown on drawing 4697-E-5-A, shall be adequately braced to the satisfaction of the Engineer and both the sheeting and bracing shall be left in place. No payment will be made for this sheeting and/or bracing.

(e) All sheeting left in sewer trenches shall be cut off a minimum of three (3) feet below the normal ground surface and it shall be adequately braced, to the approval of the engineer, at or near this point of cut-off. The cost of the braces shall be borne by the Contractor.

(f) Steel sheeting shall be used only with the approval of and under the prescribed terms, provisions, conditions and methods directed by the engineer.

D-05 BEDDING, TRENCH WIDTHS, ETC., ESSENTIAL FACTORS

(a) The trench width is a factor that affects the loads imposed on the pipe, and the bedding condition affects the pipe strength.

(b) The tables and notes shown on Dwg. 4697-E-5-A were compiled from the values derived from these factors.

(c) It is essential, therefore, that the spacing of the sheeting and bracing, the bedding, planking and foundation material conform to the above drawing or other contract drawings.

(d) The trenching conditions shown on Dwg. 4697-E-5-A are the minimum requirements of the Board. However, prior to purchasing any pipe, the Contractor must have written certification from the pipe manufacurer that his product will sustain the earth loads imposed when the pipe is installed in accordance with this and the other contract plans.

(e) Any deviation by the Contractor, from the contract plans and laying conditions shall have the written approval of the Engineer. However, the Engineer's approval does not relieve the Contractor of his responsibility to the Board for an installation that is on line and grade, free of cracked pipe and within the infiltration limitation.

(f) All pipe found defective after installation shall be reinstalled by the Contractor at no cost to the Board.

D-06 FOUNDATION

(a) Lumber used as foundation under pipe sewers, whether it is laid longitudinally as shown on Drawing No. 6187-E-5, or laid transversely on rangers as shown in drawing No. 4697-E-5-A, will be paid for as Foundation Lumber Under Sewers.

(b) The bedding material, which is usually clam shells, shall be laid on the planking or on the subgrade without any planking in accordance with the Contract Drawings or as directed by the Engineer. Payment will be at the prices bid and in the quantities authorized by the bottom table shown on Drawings Nos. 4697-E-5-A and 6187-E-5.

(c) Lumber for use as foundation for sewers shall be No. 2 Common Southern Pine unless substitutes are requested that meet with the approval of the Engineer.

(d) The cost of cutting, placing and fastening any lumber for sheeting, bracing, foundation and the like, including the nails, spikes, or other fasteners, shall be absorbed in the cost of the lumber itself whether this lumber is paid for at a bid price or is included in the price of some other item.

D-07 CLAY PIPE FOR SEWERS

(a) All clay pipe shall be extra strength conforming to the current ASTM-C-200 Specifications for "Extra Strength Glazed Clay Pipe".

(b) The current ASTM-C-301 Specification for the "Standard Method of Testing Clay Pipe" shall govern the testing of the pipe when testing is called for in the "Special Specifications".

(c) Pipe joints shall conform to the current ASTM-C-425 Specification for "Compression Joints for Vitrified Clay Bell and Spigot Pipe". The joints may be any one of the three types mentioned in the specifications. Poured joints are not acceptable.

(d) The installation of the clay pipe shall conform to the current ASTM Specification C-12 "Recommended Practice for Installing Vitrified Clay Pipe" except where specific procedures required therein are contradicted by the General and/or Special Specifications for the contract.

D-08 EPOXY LINED CONCRETE SEWER PIPE

(a) The concrete sewer pipe shall be non-reinforced, conforming to the current ASTM Specification C-14 for the Extra Strength Class or the current ASTM Specification C-76 for Reinforced Concrete Sewer Pipe Classes IV and V only.

(b) The flexible water tight rubber gasket joint shall comply with all requirements of the current ASTM C-443 Specifications.

(c) The epoxy lining shall conform to the current National Sanitation Foundation Criteria C-7 and to the current A.S.T.M. C-541 Specifications.

(d) The use of "Mainstay", or approved equal, composite concrete pipe is permitted. This is a monolithic concrete pipe having an integrate inner wall surface, consisting of a coal tar-epoxy vehicle filled with selected siliceous aggregates, with an average thickness of 100 mils and with a minimum thickness of 90 mils. The lining shall extend the full length of the barrel of the pipe and shall be free from pinholes, voids and other defects.

(e) A protective coating consisting of a coal tar-epoxy resin manufactured by USS Chemicals, or approved equal shall be applied to the joint area of sufficient thickness to provide a continuity of corrosion protection to such surface areas.

(f) "Mainstay" joint compound, a coal tar based mastic manufactured by USS Chemicals, or approved equal, shall be applied to the joints to provide a continuity of corrosion protection to such surface areas.

D-09 EPOXY LINED ASBESTOS-CEMENT PIPE FOR GRAVITY SEWERS

(a) All epoxy lined asbestos-cement pipe used for gravity sewers shall conform to the current Federal Specifications SSP-331-B Type II or the current ASTM C-428 Specifications Type II.

(b) The epoxy lining shall conform to the current National Sanitation Foundation Criteria C-7 "Plastic Lined Asbestos-Cement Pipe and Couplings for Sewers" and to the current A.S.T.M. C-541 Specifications.

(c) The installation of epoxy lined asbestos-cement pipe shall conform to the "Installation Guide" prepared by the pipe manufacturer and to the current AWWA C-603 Standard for "Installation of Asbestos-Cement Water Pipe", except where specific procedures outlined therein are contrary to the General and/or Special Specifications for this Contract.

D-10 CAST IRON PIPE FOR SEWERS

(a) All cast iron pipe for sewers shall be thickness Class 23 conforming to the current A.S.A. Specifications A21-6 or A21-8. Cast iron fittings shall be Class "D" for diameters of 4" to 12" inclusive.

(b) The joints for the cast iron pipe sewers shall be of a type as described in the Materials Section (C) of these specifications or a flexible water tight rubber gasket joint which complies with all the requirements of the current A.S.T.M. C-443 Specifications.

(c) Careful inspection of the plans will show whether cast iron pipe sewers consist mostly of straight pipe or whether they are inverted siphons, comprising a considerable number of specials; the Contractor must take this into consideration when making his bid, payment will be made for the horizontal length over the center of the sewer at the price bid per linear foot. In the event the proposal bid did not include siphons, the Contractor shall submit in writing, a price in conformity with other unit prices. This price shall be agreed upon and approved by the Engineer.

(d) The installation of this pipe shall conform to the manufacturer's installation guide or recommendations except where the recommended procedures are contrary to those outlined in the General and Detail Specifications for this Contract.

D-11 PLASTIC SEWER PIPE

(a) Eight (8") inch and larger plastic sewer pipe shall be of a plastic truss pipe design as approved by the Sewerage and Water Board. All voids in the truss pipe shall be completely filled with a mixture of light weight concrete and shall meet the design requirements as shown on Sewerage and Water Board drawing No. 6312-E-5.

(b) Six (6") inch plastic sewer pipe shall be solid wall plastic pipe having a minimum wall thickness of 0.28 inches and shall meet all design requirements as shown on Sewerage and Water Board drawing No. 6312-E-5.

(c) The trenching and construction requirements including connections to manholes, for the installation of the plastic pipe shall be as shown on Sewerage and Water Board drawing Nos. 4697-E-5-A and 6312-E-5.

D-12 GENERAL LAYING CONDITIONS

(a) Pipes and fittings shall be carefully inspected after delivery on the site of the work and will be rejected if in the opinion of the Engineer they are defective in such a way as to endanger the strength of the sewer or the tightness of the joint.

(b) No pipe shall be set in place and no joint shall be made with water standing in the trench or the bell hole.

(c) Whenever pipe laying is stopped, either for the night or for any other cause, the end of the pipe shall be securely closed to prevent the entrance of water, mud, or other matter, and shall be secured in such a manner as to prevent the end pipe from being dislodged by sliding or other movement of the backfilling.

(d) The pipes and fittings shall be so laid in the trench that after the sewer is completed, the invert thereof, shall conform accurately to the grades and alignment established by the Engineer. At any stage of construction of a straight stretch between two consecutive manholes, the zero, or starting end of the pipe shall be clearly visible on looking through the pipe from the other end, with the full cross-section of the interior of the pipe in clear view.

D-13 YS AND TS

(a) Ys or Ts for the reception of six (6") inch house connections shall be built into pipe sewers at points to be designated by the Engineer. The approximate number and the locations will be given in the drawings or in the Special Specifications for each contract.

(b) The cost of furnishing and placing the Ys, Ts, and caps shall be included in the price bid per linear foot for sewers of each size and depth.

(c) The number of Ys and Ts to be provided by the Contractor can vary 5% of the number shown in the drawing without any deductions or additional payment.

(d) All unused openings in branches of Ys and Ts shall be closed with caps of the same material as the sewer, held in place by secure joints of such type that the cap can be removed when so desired without damage to the bell of the sewer; these caps shall be set in place before the fitting is laid in the trench.

(e) In pipe sewers, the tops of which are not more than eight (8') feet below the street surface, taking the average depth of the whole block, the standard house connections opening will be a Y, laid with the six (6") inch branch pointing upward at an angle to suit the conditions.

(f) In pipe sewers, the tops of which are more than eight (8') feet below the street surface, taking the average depth of the whole block, the standard house connection opening will be a T laid with the six (6") inch branch placed vertical. This paragraph shall not be construed as forbidding the Engineer to order Ys placed in deeper sewers or Ts in shallower sewers if he deems such procedure desirable.

(g) Pipe sewers of twenty-four (24") inches or more in diameter will have no fittings for house connections unless they are called for in the Special Specifications.

D-14 SEWER HOUSE CONNECTIONS

(a) The Contractor shall lay 6" pipe sewer house connections from designated openings in the sewers to such points near the property lines as are designated by the Engineer. The standard connection shall have a nominal depth of three and one half (3½') feet at property line, a maximum of eight (8') feet at the sewer. Details are shown on Drawing No. 6187-E-5 and 6312-E-5.

(b) These depths are measured from the existing ground surface at or near the property line to the top of the barrel of the house connection pipe. Excavation to depths not greater than those just stated shall be included in the price bid per linear foot for six (6") Inch Sewer House Connections. Only the excavation to greater depths, when ordered by the Engineer, will be paid for at the price bid for Extra Excavation. House Connections of diameter larger than 6" shall begin from a manhole, and not from a wye or tee in the main sewer. Payment for these house connections will be as described in Special Specifications.

(c) The price bid per linear foot for Six (6") Inch Sewer House Connections shall include excavation to the standard depths stated above, bracing the trench, furnishing and placing the pipes of same material as main line sewer, for all the fittings indicated in the drawings, making the joints, backfilling, compacting the trench, cleaning up and removing surplus earth and waste materials, in general, furnishing all materials and doing all the work required for the complete installation of the house connections, including all items for which payment is not otherwise specifically provided.

(d) Payment for house connections will be made by horizontal measurement over the center of the connection, from the center of the sewer to the shoulder in the bell of the last pipe or fitting; payment for side branches out of the connection will be made the same way, by horizontal measurement from the center of the main connection to the end of the laying length of the last pipe or fitting of the branch. The unused branches of fittings out of which future connections may be laid will not be measured and paid for, only the used branch is covered by this paragraph. The Contractor shall set a vertical 6" double or single T or Y in each T-branch as indicated by the drawings; the cost of this vertical T or Y shall be included in the price bid for sewer house connections. If vertical 6" pipe is needed to raise this vertical T or Y to the proper height for a sewer house connection, the length of vertical pipe used will be considered and paid for as a 6" sewer house connection.

(e) Six inch house connections shall be constructed of the same type of material as the main line sewers, unless otherwise authorized by the Engineer.

D-15 BRICK MANHOLES

(a) All essential details of construction of brick manholes are shown in drawings accompanying these specifications; these drawings must be followed entirely. Bricks must be laid in full, close shove joints of mortar, according to best work standards, the mortar being of one part of Portland Cement to three parts of sand (see also correlated paragraphs in Section C). A reasonable number of bats, not smaller than half-bricks, will be allowed; chips of brick will be allowed for filling the angular spaces between the bricks in the circular walls.

Perforated bricks may be used in laying walls of the manhole above the bench, but only solid bricks may be used for building the walls and the base up to the top of the bench.

(b) Brick manholes shall be plastered on the outside with a coat of mortar one-quarter (¼") inch thick. They shall be plastered on the inside with a thin coating of mortar of equal parts of cement and sand, worked to a smooth surface, or with a brush-on wash of neat cement at the option of the Engineer. Inverts and benches in manholes shall be surfaced with a one-half (½") inch thick layer of cement mortar composed of one (1) part of Portland Cement and two (2) parts of sand.

(c) Short bell pieces of pipe of such sizes as may be required shall be built into the brickwork of the manholes for the incoming and outgoing sewers indicated in the general plan for either immediate or future construction; the brick work shall be built arched over these pipes. Such of these bell pieces where sewers are not built immediately, must be securely closed with a stopper of such type as can be removed without damage to the pipe. These bell pieces shall be of the same materials as the sewers of which they form a part. Sewer manholes must be built in full conformity with the drawings; special attention must be paid to the method of forming the inverts, the arching of bricks over the bell pieces set in the walls and the height of the vertical part of the walls.

(d) The standard brick sewer manhole is circular in plan, four (4') feet in internal diameter at the bottom and two feet, eight and five-eighth inches (2' - 8-5/8") in internal diameter, for the last twelve (12") inches, at the top of the brickwork, just below the manhole cover frame. See drawing No. 6178-B-6.

(e) The cast iron frame and cover shall be the flaring manhole casting shown on Drawing No. 6178-B-6.

(f) The walls shall be built vertical up to the top of the arch over the highest connecting sewer which comes in without a drop pipe, from this point the walls shall taper uniformly as per plan. The walls shall be "one brick" in thickness down to a point twelve (12') feet below the street surface and "one and one-half bricks" thick below that point. The prices bid for manholes of various depths must take these wall thicknesses into consideration; no extra payment will be allowed for the added thickness that is here specified. If the Engineer shall require construction of greater diameter than any on which bids are asked, the Contractor shall proceed as in item D-01 (g).

(g) Where in any sewer manhole, the vertical distance from the flow line of the outgoing sewer to the invert of the incoming sewer exceeds eighteen (18") inches, the Engineer may require a drop pipe to be built for the incoming sewer; typical drop pipes are shown on the manhole drawings. Drop pipes for 8" sewers will be six inches in diameter, drop pipes for sewers of other sizes will be as directed.

(h) Each sewer manhole shall preferably be completely built as the sewer is laid up to it. No sewer shall be laid out of a manhole until the brickwork has been constructed to an elevation above the top of the bell piece for that outgoing sewer.

(i) One bell and spigot joint (in clay or epoxy lined concrete pipe) on the incoming side of each sewer manhole may be permitted by the Engineer in order to properly locate the manhole and to provide the required hinge joint in the manhole wall. For this one joint, the use of an asphaltic base, cold plastic sewer joint compound as approved by the Engineer may be used. This joint to be made according to the manufacturers specifications.

(j) Manhole steps shall be of metal as specified in Paragraph 46, Section C, of the General Specifications and installed in accordance with the details as indicated on Drawing No. 6178-B-6.

D-16 PRE-CAST CONCRETE MANHOLES

(a) The pre-cast concrete manholes shall conform to the current ASTM Specification C 478 and to Drawing No. 6178-B-6.

(b) The pre-cast risers shall be the eccentric cone type.

(c) The manholes shall be designed for the actual conditions in the field and for the elevations of incoming and outgoing sewers.

(d) Sewer openings shall be completely encased on one section of the manhole viz. no single opening shall be contained in two adjacent sections.

(e) Manhole steps shall be provided as indicated in D-15(j) above.

(f) All brickwork as indicated for pre-cast concrete manholes on Drawing No. 6178-B-6 shall conform to Section D-15 Paragraph (a) of these specifications.

D-17 MANHOLE FOUNDATION SLAB

(a) All manholes shall rest on a concrete slab conforming to Drawing No. 6178-B-6.

(b) The tensile strength of the concrete shall be 3000 lbs./sq. inch and the reinforcing steel shall conform to the requirements of Section C of these General Specifications.

(c) The slab, if pre-cast shall have a minimum of 3 lifting eyes embedded in the concrete.

(d) Manhole slabs shall rest on a minimum of 6" of compacted sand and/or shells from the undisturbed subgrade and shall be set to provide the invert elevations as shown on the contract drawings.

(e) In case the excavation for any structure is carried below the grade established by the Engineer, the Contractor shall fill the bottom of the excavation up to grade with clam shell and in a manner acceptable to the Engineer, without compensation for either the excavation or the backfilling.

D-18 BACKFILLING

(a) Backfilling of sewer trenches shall begin as soon as the Engineer is satisfied that the joints have been made properly and the locations of the Wyes and Tees properly recorded. Clam shells shall be placed in the trench in such a manner as not to disturb the pipe and thoroughly, but carefully, compacted under and around the pipe as shown on the Contract Drawing. The backfill material placed above the shells shall be free from roots or other foreign matter greater than two (2") inches in diameter. After the trench is completely backfilled, the backhoe or mechanical equipment of equivalent weight shall roll over the trench repeatedly until the trench is compacted to a depth of nine (9") inches below the street surface. This void shall be filled with eighteen (18") inches of loose shells which shall be compacted to the depth of nine (9") inches. The Contractor will be paid for the original eighteen (18") inches of shell only. However, he shall be required to add shells from time to time during the ninety (90) days for which he will not be compensated as this is in compliance with his maintenance obligation. (See paragraph D-19.)

(b) Backfilling around manholes shall be done when the Engineer considers the brickwork to be sufficiently hard and the outer plaster coat thoroughly set. Selected excavated material shall then be placed and compacted in six (6") inch layers to eighteen (18") inches above the top of the highest pipe. The backfilling above this point to be completed according to paragraph (a) above. The protection of the excavation against caving or settling of the banks shall be as stated in paragraph D-04.

D-19 CONDITIONS FOR ACCEPTANCE:

"When the contract has been completed and tendered for acceptance, the Engineer will have it carefully inspected for defects and remeasured to verify the quantities. In order to be acceptable, the contract must be in a condition as herein described, namely:

(a) The sewers shall be true and to line and grade and shall not have infiltration of ground water in excess of 250 gallons per inch of diameter, per mile of pipe, per 24 hours including manhole infiltration. The infiltration measurement will be made by the Board.

(b) There shall be no cracked or broken pipes of fittings in either the sewers or the house connection lines.

(c) There shall be no defective joints.

(d) The pipes, manholes, or other appurtenances shall be free from mud, trash, debris, or other deleterious matter.

(e) The manholes shall be properly built in accordance with the drawings and specifications and shall show no cracks, displacement, or other defects in any part of the structure.

(f) Paved, partially improved or unimproved surfaces disturbed by the work of the contract, shall be in thoroughly good and stable condition to the extent required of the Contractor by the Specifications, and be inspected and accepted jointly by representatives of the Contractor, the Sewerage and Water Board and the Department of Streets."

D-20 MAINTENANCE OBLIGATIONS:

1. Sub-Surface Structures

(a) The maintenance period under this Section shall be for a period of forty-five (45) consecutive calendar days after the contract has been accepted by the Board and such acceptance has been recorded in the office of the Recorder of Mortgages for the Parish of Orleans.

(b) If at any time during the performance of the contract or during the maintenance period, any defect in the work shall develop or be discovered, the Contractor shall properly repair or replace the defective workmanship or material, even though prior to the development or discovery of such defects the workmanship or material has already passed inspection. At the end of the forty-five (45) day maintenance period the contract shall be in acceptable condition as described in Paragraph D-19 before final payment is made.

(c) In the event the Contractor fails to correct all defects occurring during this forty-five (45) day period within ten (10) days after receiving written notice by the Board; these defects will be corrected by others and all the costs will be billed to the Contractor or retained from any monies due him.

2. Surfaces

(a) The period of maintenance for surfacing shall be ninety (90) days and shall commence on the day of acceptance by the Board and such acceptance recorded in the office of the Recorder of Mortgages for the Parish of Orleans.

(b) During this maintenance period the Contractor shall maintain all surfaces, disturbed by his work, in first-class condition. When necessary he shall add additional surfacing material.

(c) All added surfacing material and all necessary cleaning and repairing of surfaces during this maintenance period is the obligation of the Contractor. However, the cost of doing this work shall be included in the price bid for other work under this contract; there is no item in the proposal whereby the Contractor is reimbursed for surface maintenance. He is reimbursed only for surface restoration.

(d) If the Contractor fails to repair the surfaces within ten (10) working days after receiving a written request by the Board, these surfaces will be restored by others and billed to the Contractor or his surety.

D-21 GUARANTEE PERIOD

(a) The Contractor shall guarantee all work for a period of one (1) year from the date of final acceptance by the Board. During this period the Contractor shall remedy all defects attributal to defective materials and/or workmanship within ten (10) working days after receiving written notification by the Board.

(b) In the event the Contractor fails to comply with this request within the allotted time, the necessary repair will be made by others and billed to the Contractor or his Surety.

D-22 INFILTRATION TEST

The Board shall pay all expenses connected with the initial infiltration test; in the event that the system, or any section thereof, does not meet the infiltration requirement making it necessary to re-test, the Contractor will be charged for this and all succeeding tests at the prevailing testing laboratory rates and the wage scales which the Board pays. At the time of this writing (4/13/67) these rates are as listed below but they are subject to fluctuation without notice:

Laboratory Technician — $6.25/hr.
(minimum 4 hours)

Board's Forces to assist Technician — $20.00/hr.
(minimum 4 hours)

All charges for re-inspection shall be paid prior to acceptance of the sewer line by the Board.

Revised
7-67

D-23 PUTTING SEWERS INTO SERVICE

(a) The Board may require the Contractor to prepare for inspection any section of sewer that is operable independent of other sewers under his contract. If their conditions are entirely satisfactory, the Engineer will recommend their acceptance by the Board and the Board shall then have the right to make house connections to these sewers with its own forces or those of the Contractor. These house connections may be put into service, and this section of sewers treated, in general, as a completed part of the sewer system, all without prejudice to the contract.

(b) When any such section of sewers has been put into use, the Contractor shall protect such sewers from the entrance of any mud or trash from his construction work and shall also assume all the cost and responsibility of protecting his uncompleted work from water arising in the completed and used section.

(c) The acceptance of the sewers and manholes in the said accepted section of the contract will be final, no further obligation for maintenance of the sewers and manholes in this section of the contract nor of the house connections installed thereto will be the responsibility of the Contractor; maintenance of the paved, partially improved and unimproved surfaces will be required however, except where such surfaces have been disturbed by the installation of house connections by the Board or by other work not a part of this contract. The retainer on this accepted section of the contract, will be withheld by the Board until the end of the maintenance period and the release of the retainer on the whole contract as set forth in Section A of the General Specifications.

D-24 GOVERNING SPECIFICATIONS

This section of the General Specifications supersedes all other conflicting sections of the General Specifications on matters pertaining to the installation of gravity sewers. It is superseded only by applicable provisions of the Special Specifications.

GENERAL SPECIFICATIONS

SECTION E

THE CONSTRUCTION OF CANALS AND PIPE DRAINS

TABLE OF CONTENTS

MEASUREMENTS, UNITS, PAYMENTS

(1) Measurement for Drainage Canals will be per unit in place of the items entering into their construction.

(2) Payment will be at the unit prices bid in the Proposal.

(3) Measurements for the length of pipe drains will be made from center to center of manholes or from the inner face of walls to the end of the pipe, or from the inner face of walls to the point of tie-in with existing line plus two (2) feet.

(4) "Y" or "T" branches of all sizes set in pipe drain shall be equivalent to a straight length of pipe of the same size and length plus two (2) additional feet of such pipe.

(5) Drain pipe for house connections will be measured from the center of the main drain line to the end of the pipe.

(6) Catch basin leads will be measured at right angles to the basin from the center of the main drain to the center of the catch basin.

(7) Pipe drains will be paid for at the price bid per linear foot for laying pipe of each size. The price bid per linear foot of pipe shall include the furnishing of all labor and materials including the short bell pieces set in canal walls and the capping or sealing of all stubs, "Y" branches and the ends of the lines.

(8) Drain manholes will be paid for at the price bid per vertical foot, for each size, measured from the invert to the top of the cast iron cover, which price shall include excavation, sheeting and bracing, furnishing all the materials, including everything from foundation planking to casting, both included, building the manhole, furnishing and placing the short bell pieces for incoming or outgoing drains, (these bell pieces shall be of the same materials as the drains of which they form a part) backfilling, removing the surplus excavated material, and doing or furnishing whatever else is necessary to make a complete structure.

(9) Manholes over concrete canals will be paid for at the price bid per vertical foot, measured from the top of the finished concrete canal roof to the top of the cast iron cover, which price shall include the necessary forms, steps in the canal wall and brickmasonry and the cast iron frame and cover.

(10) Catch basins will be paid for by the Catch Basin, according to size, at the prices bid in the "Proposal" for these items, which prices shall include excavation, furnishing all the materials including everything from foundation planking to casting, both included, building the catch basin, furnishing and placing a capped six (6) inch bell end in the rear wall of the basin, backfilling, removing the surplus excavated material and connecting each basin to open ditches.

(11) Cleanouts will be paid for at the price bid for each in place. This price shall include excavation, furnishing all labor and materials, backfilling, removing of surplus earth and whatever else is needed to make a complete structure.

PILING

(12) Piling shall be driven in locations called for on the plans and to resistances as required by the Engineer. If the Engineer shall require test piles to be driven they will be paid for at the price bid for Test Piles. The lengths of the construction piles will be based on the resistances developed by the Test Piles.

(13) Piling shall be driven with a gravity hammer, steam hammer, water jets, or a combination of water jets and hammer. If water jets and hammer are used for driving, the jet shall be withdrawn, and the piles shall be driven by the hammer to secure final penetration and resistance. Piles shall, when necessary, be driven with a follower below the ground sur-

face. Piles shall not be driven closer than two (2) feet to cut-off and piles split or broomed below the cut-off line will be rejected. After the piles have been driven they shall be neatly sawed off at the exact cut-off.

(14) Piles will be paid for according to the length delivered at the site of the work provided the length delivered does not exceed the length ordered by the Engineer. The price bid shall include furnishing, delivering, driving, following and cutting off at the elevation required, and all drift bolts, nails, spikes and other fastenings.

EXCAVATION AND FOUNDATION

(15) Excavation shall consist of all material coming within the lines of the trench, the removal of which is not otherwise herein provided for. Excavation shall be open with vertical sides, unless in special cases the Engineer shall permit tunnels or sloping sides.

(16) Excavation limits for widths for drainage canals shall be as indicated on the plans. The limit of width of excavation for various sizes of pipe shall be as follows:

Internal Diameter of Pipe in Inches	Width of Trench In Feet
6	1.5
10	2.1
12	2.4
15	2.8
18	3.2
21	3.6
24	4.1
27	4.5
30	4.8
36	5.6
36x40	6.0
42x46	6.5
48x52¼	7.0

When sheeting is used the width shall be measured horizontally between the inside faces of the sheeting. Regardless of the method or type of excavating the payment will be according to the above stated widths.

(17) The pay depth of excavation for reinforced concrete canals shall be to the bottom of the seal coat if seal coat is used. In the event the Engineer approves shells or any other similar substitute for the seal coat to stabilize the subgrade, the pay depth for excavation shall be 4" below the concrete bottom of the Canal. If decking is used, the pay depth will be to the bottom of the decking. If no seal coat is used, the pay depth will be to the bottom of the concrete canal.

(18) The Contractor shall leave a berme at least two (2) feet wide on each side of the trench, between the trench and the spoil bank, to allow the free passage of the Engineer or Inspector and to permit the Inspector to perform his work in an expeditious and satisfactory manner.

(19) 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 his judgment, is not adapted to the situation for which it is being used. He may require the last four (4) inches in depth of excavation to be done by hand or by such machine as is acceptable to him, and may forbid the use of such methods of excavation as seem likely to disturb the sub-grade.

(20) Should any excavation made by the Contractor in accordance with the plans or by the direction of the Engineer prove to be unnecessary it shall be properly backfilled and it will be paid for at the price bid for excavation.

(21) In case the excavation for any structure is carried below the grade established by the Engineer, the Contractor shall fill the bottom of the excavation up to the grade with suitable material and in a manner acceptable to the Engineer without compensation for either excavation or backfilling.

(22) No greater length of trench shall be opened in advance of the completed structure nor left unfilled to the rear thereof than shall seem proper to the Engineer who will be guided by the circumstances in each case.

(23) If the Contractor shall with the consent of the Engineer and the permission of the Municipal Authorities blast stumps, etc., out of his excavation, the Contractor will be required to fill the hole made by the blasting without compensation for either excavation or backfilling.

(24) Where the soil at the bottom of the excavation for a pipe drain is considered by the Engineer to be a satisfactory foundation for the pipe the bottom shall be grooved to form a hollow in which the barrel of the pipe shall be bedded; the depth of this groove shall be not less than one-tenth (1/10) the exterior diameter of the pipe.

(25) Bell holes shall be dug of sufficient size to let the whole length of the pipe barrel be bedded as required and to allow of the joints being properly made. The groove and the bell holes are a part of the required excavation for the pipe and their cost shall be included in the prices bid for the items of laying pipe drains.

(26) Where the bottom of the excavation is not, in the opinion of the Engineer, a suitable foundation for the drain, the trench shall be deepened and such foundation placed under the pipe as the Engineer may direct.

(27) The yardage excavated will ordinarily be calculated by cross-sections of fifty (50) foot intervals when the drainage canal, pipe drains or other structures are constructed in the beds of existing canals or ditches, otherwise a surface profile will be taken at twenty-five (25) feet intervals. If, in either case, the canal, or ditch, section or the ground surface is very irregular the cross-sections or the profile will be taken at such intervals as necessary to compute readily the proper volume of excavation.

(28) Excavation will be paid for at the price bid per cubic yard, which price shall include all labor, material and equipment, sheeting or sheet piling, bracing, backfilling, grading and the hauling away of surplus material.

SHEETING AND BRACING

(29) The Contractor is entirely responsible for the protection of his excavation against caving or settling of the banks and for all damage to pavement, buildings or other property caused by his excavation and he must protect the sides of the exca-

vation by sheeting and bracing or other shoring as may be necessary. If the Engineer disapproves of the precautions taken by the Contractor, he shall have the right to require that the excavation be braced and rendered secure to his satisfaction, even to the extent of requiring the use of close sheeting, or sheet piling, and suitable bracing (including all necessary nails, spikes or other fastenings), which must be of such form and dimensions and manner of application as will not be disapproved by the Engineer. The exercising of this right shall not be regarded as any assumption of responsibility by the Board for the security of the trench or the surrounding areas, full responsibility remains vested in the Contractor, the Engineer is merely expressing his distrust of the adequacy of the precautions proposed by the Contractor. The cost of all such shoring, whether placed on the Contractor's initiative or by the order of the Engineer, shall be included in the prices bid for the structure being built, it will not be paid for as such.

(30) When in the judgment of the Engineer removal of shoring is likely to cause damage to pavement or property, the Engineer may order such shoring as he considers necessary left in place and the Contractor shall not be entitled to any compensation therefor. Neither the giving of such orders by the Engineer nor his failure or refusal to issue such orders shall in any way relieve the Contractor for responsibility for damages to pavement or buildings. All sheeting left in place must be cut off at least two (2) feet below the ground surface.

(31) Under no circumstances will any sheeting, bracing or shoring of any type be paid for as such, its cost must be absorbed in the prices of items on which bids are asked in the "Proposal."

SHEET PILE DAMS

(32) The Contractor, at both ends of concrete canals and at intervals of approximately five hundred (500) feet, shall drive or otherwise sink across the total width of the trench before the bottom is laid, tongue and groove sheet piling, five (5) feet long made of three (3) 1" x 12" pine boards clinch nailed together. This sheet piling shall be neatly sawed off so as to extend not over one and one-half (1½) inches into the bottom slab. The cost of this work, including all nails, fastenings, etc., shall be included in the price bid for sheet pile dams in place. Sheet Pile Dams will be paid for per one thousand (1,000) feet board measure.

SEAL COAT

(33) A Seal Coat of the thickness indicated on the plans will be used as required where foundation conditions warrant its use. This will be determined by the Engineer and the amount in the "Proposal" is approximate for the comparison of bids. Grade "D" concrete shall be used in the Seal Coat. Seal Coat shall have a twelve (12) hour set before any work is performed on it. The Contractor will be paid at the price bid per cubic yard in place.

(34) Clam shells may be used in place of Seal Coat only with the approval of the Engineer. In such a case, a fill of clam shells the pay width of the trench and in sufficient quantity to stabilize the subgrade shall be used. A maximum thickness of one (1) foot may be used in lieu of 4" of Seal Coat concrete.

The shells will be paid for by truck measurement at the price bid in the "Proposal" for Clam Shell Bedding for Pipe Drains in Place.

REINFORCED CONCRETE CONSTRUCTION

(35) Water shall be removed from excavations before any concrete is deposited. Any flow of water into the excavation shall be diverted through proper side drains to a sump, or be removed by other approved methods which will avoid washing the freshly deposited concrete. The concrete shall not be laid in water, nor shall water be allowed to rise on or flow over any concrete until the concrete has set at least twenty-four hours. If the weather is threatening, no concrete shall be poured in those portions of the work that are liable to be flooded from a rain storm. In case fresh concrete is flooded, the opinion of the Engineer shall be final as to rejection and removal of this concrete.

(36) No concrete shall be placed when the atmospheric temperature is less than 35 degrees F. unless permission is granted in writing by the Engineer; when such permission is given the Contractor shall furnish sufficient protection to maintain the temperature of the air surrounding this concrete, at not less than 45 degrees F. for a period of five (5) days. It is understood that the Contractor is responsible for the quality and strength of the concrete placed under any weather conditions. No frozen materials or materials containing ice shall be used.

(37) The aggregates and water for concrete shall be accurately measured and the mixing, handling and placing of the concrete shall be in accordance with the requirements of paragraphs Nos. 36-48 in Section C of these General Specifications.

(38) Concrete shall be handled from the mixer to the place of final deposit as rapidly as possible by methods which will prevent segregation of the materials..

(39) Concrete shall be thoroughly compacted by puddling with suitable tools during the operation of placing and thoroughly worked around the reinforcement, around embedded fixtures and into the corners of the forms. Where conditions make puddling difficult, or where the reinforcement is congested, sufficient batches of cement grout shall first be deposited in the forms and the operation of filling with the regularly specified mix then be carried on at such a rate that the mix is at all times plastic and flows readily into the spaces between the bars. When pipes or castings are to be inserted in the concrete, great care shall be taken to keep them at the proper lines and grades and to tamp thoroughly under and around them. The concrete shall be placed only on one side of the pipe until the concrete flushes under the pipe and comes out on the other side.

(40) Construction joints shall be so made and located as to least impair the strength of the structure. At the points where it is necessary to stop the pouring of concrete, construction joints or bulkheads shall be set and keyways provided. Bulkheads shall be placed in their final position before concrete is poured against them.

(41) When joining concrete to previous pourings the old surface shall be thoroughly washed and cleaned and all loose or porous concrete removed.

(42) Should any voids or other defects be discovered in any part of the work the defective work shall be removed at once and the space refilled with suitable material, in a proper manner.

(43) All exposed surfaces of the concrete shall be covered with wet burlap immediately after the concrete has taken its initial set; the burlap shall be kept saturated with water for a period of twenty-four (24) hours or until the concrete has sufficiently hardened to permit final curing operations. Final curing shall consist of flooding or ponding or other approved methods to maintain curing for a minimum period of seven (7) days after the concrete has taken its initial set. The Con-

tractor shall not permit walking upon the concrete until it has set for a sufficient length of time which is to be determined by the Engineer.

(44) Concrete will be paid for at the price bid per cubic yard in place.

SLIP JOINTS

(45) Slip joints shall be constructed at such points and in such manner as shown on the plans, to the entire satisfaction of the Engineer; the material used for insulating shall be two (2) layers of smooth finish prepared roofing paper of medium weight of approximately forty-five (45) pounds per hundred square feet. The cost of all material and labor required in the slip joints as above specified shall be included in the price bid per cubic yard of concrete in place.

FORMS

(46) The Contractor shall provide suitable smooth, rigid and tight forms and centers, carefully set and maintained to line and grade. All forms and centers shall be thoroughly oiled and wetted, if required, before any concrete is placed in them. Sufficient time shall be allowed between the erection of the forms and centers and the placing of the concrete to allow thorough inspection.

(47) The forms may be removed from reinforced concrete structures at the times set forth in the following tabulation:

	USING TYPE I CEMENT	USING TYPE III CEMENT
Key-ways can be removed in	12 Hours	6 Hours
Bulkheads can be removed in	12 "	6 "
Bottom forms can be removed in	18 "	12 "
Retaining Wall forms (10 ft. and under in height) can be removed in	48 "	24 "
Sidewall forms can be removed in	72 "	36 "
Roof forms (span of 10 ft. or less) can be removed in	96 "	48 "
Roof forms (span greater than 10 ft.) can be removed in	120 "	60 "

STEEL BARS

(48) Before any bars are set in place they shall be carefully cleaned and shall be free from all dirt, grease, scale, rust flakes or foreign matter, and care shall be taken to keep them in this condition until the concrete is placed.

(49) In setting the bars in the forms the Contractor shall follow the drawings closely as to sizes, fabrication, spacing and placing relative to the surfaces, and where no measurements are given on the drawings, he shall follow instructions given by the Engineer. The bars shall be held securely in place so that they will not be displaced by the tamping of the concrete.

(50) All bars in beams, all cross bars in roofs and inverts shall be of full length. Splicing of bars in walls shall be as indicated on plans. Longitudinal bars shall be lapped not less than forty (40) times the diameter of the Bar. When horizontal bars run farther than the lengths of the forms for any particular section of the work the bulkheads against which the work ends shall be perforated at the proper places and the bars shall project through the same for distances at least equal to the lap specified above; the projecting ends, however, shall be of different lengths, so that in no place will laps in adjoining bars in the same plane occur opposite each other.

(51) Bars will be paid for at the price bid per pound for steel bars, which price shall include the labor of cutting, bending and placing the bars and furnishing and placing the fasteners and supports.

LAYING PIPE DRAINS

(52) Water shall be removed from the excavation before any pipe drains are laid. The pipes and fittings shall be so laid in the trench that after the pipe drain is completed the interior surface of the bottom thereof shall conform accurately to the grades and alignment established by the Engineer. At any stage of construction of a straight stretch between two consecutive manholes the zero, or starting, end of the pipe shall be clearly visible on looking through the pipe from the other end, with the full cross-section of the interior of the pipe in clear view.

(53) Before being set in place each pipe must be thoroughly cleaned and freed of all dirt and examined by the Inspector. It will be rejected if it is found to be defective.

(54) When laying pipe drains the pipe shall be laid and the joints made in the following manner: A suitable primer of the type recommended by the Manufacturer of the Gasket, Joint Sealer shall be brush applied to the bell and spigot or tongue and groove joint surfaces and the end surfaces be allowed to dry and harden. No primer shall be applied over mud, sand or dirt or sharp cement protrusions. The surface to be primed must be clean and dry when primer is applied.

Before laying the pipe in the trench, attach the Plastic Gasket sealer around the tapered tongue or spigot and tapered groove or bell near the shoulder or nub of each pipe joint. Remove the paper wrapper from one side only of the two-piece wrapper on the gasket and press it firmly to the clean, dry pipe joint surface. The outside wrapper is not removed until immediately before pushing the pipe into its final position.

When the tongue or spigot is correctly aligned with the flare of the groove or bell, remove the outside wrappers on the gaskets and pull the pipe home with sufficient force and power (chain hoist, ratchet hoist or winch) etc., to cause the evidence of squeeze out of the gasket material on the inside and outside around the complete pipe joint circumference. Remove any joint material that pushed out into the interior of the pipe that would tend to obstruct the flow. (Pipe shall be pulled home in a straight line with all parts of the pipe on line and grade at all times.) Backfilling of pipe laid with plastic gasket joints may proceed as soon as the joint has been inspected and approved by the Engineer or his representative. Special precautions shall be taken in placing and compacting backfill to avoid damage to the joints.

When the atmospheric temperature is below 60°F., plastic joint seal gaskets shall either be stored in an area warmed to above 70°F. or artificially warmed to this temperature by placing a metal container, which in turn, is placed in hot water. Gaskets shall then be applied to pipe joints immediately prior to placing pipe in trench, followed by connection to previously laid pipe.

Regarding rubber gasket joints, the following procedure must be followed: (1) All pipe ready for laying must be thoroughly cleaned at all joint surfaces. (2) Lubricate recess in the gasket section thoroughly with an approved lubricant. (3) Snap gasket to recess and equalize the tension under the gasket. (4) Thoroughly lubricate sliding surface of both gasket and the inside surface of the bell.

Backfilling of pipe laid with rubber gasket joint may proceed immediately after inspection and approval by the Engineer or his representative. Special precautions shall be taken in placing and compacting backfill to keep pipe in alignment both horizontally and vertically.

Both rubber gasket and the cold applied preformed plastic joint, Ram-Nek or equal must pass an infiltration test which will not exceed five hundred (500) gallons per inch per mile per twenty-four (24) hours.

(55) The Contractor shall furnish and set in the line "Y" or "T" branches as required by the Engineer; see also paragraph No. 4, above.

(56) Whenever pipe laying is stopped, either for the night or for any other cause, the end of the pipe shall be securely closed to prevent the entrance of water, mud or other matter, and shall be secured in such manner as to prevent the end pipe from being dislodged.

JACKING REINFORCED CONCRETE TONGUE AND GROOVE PIPE

(57) If possible pipes shall be jacked up-grade with the groove end of the pipe up-stream. The work shall be performed from a jacking pit and a proper back stop must be provided. A guide for lining the pipe must be accurately set in the jacking pit to establish line and grade. Jacking pressure must be applied by a bearing block or pushing frame to the tongue end of the pipe. Excavation ahead of the lead pipe will be permitted for a distance of approximately one (1) foot.

The jacking must be done in one (1) complete operation without pause or cessation. If the Contractor shall be unable to jack the pipe to completion, he shall complete the pipe installation by excavation from the surface. The Contractor must bear all expenses contingent on such change of method; he will be paid for the pipe finally in place at the price bid in the "Proposal" for each method.

(58) The joints in this pipe line shall be a ¼" layer of bituminous base plastic cement of the type used for sealing leaks in roofs, applied to both the tongue and groove of adjoining pipes just prior to the start of the jacking operations. In addition all inside joints shall be made in accordance with paragraph No. 60 below.

(59) Pipe jacked in place will be paid for at the price bid per linear foot, in the "Proposal", the measurement shall be made horizontally along the center of the pipe from the groove of the first pipe to the tongue of the last jacked pipe. The price bid shall include furnishing the pipe, jacking it into place, removal of excavated material and connecting it by specials (if necessary) to the bell and spigot pipe and in general all the above-mentioned work and furnishing and doing everything necessary to make a complete and satisfactory installation.

INSIDE JOINTS

(60) All inside joints in pipe lines of 27" diameter and larger shall be filled with mortar and finished to a smooth surface. The mortar shall be composed of one (1) part Portland Cement to two (2) parts sand. The cost of this work including all labor and material shall be absorbed in the price per linear foot of the various sizes of pipe on which bids are asked in the "Proposal".

BRICKWORK

(61) All brick, thoroughly wetted, must be laid in full, close, shoved joints of mortar. Grouting of joints will not be permitted nor shall horizontal mortar beds be grooved. A reasonable number of bats, not smaller than half bricks will be allowed. In all walls every sixth course shall be a header. If called for on the plans the faces of the walls shall be plastered one-quarter (¼) inch thick, otherwise the faces of walls shall be rubbed with a dry mixture to a neat finish.

(62) Payment for brickwork, unless otherwise specified, will be per cubic yard in place in the work.

MANHOLES AND CATCH BASINS

(63) Manholes over pipe drains shall be constructed at such points and of such dimensions, and in the order and at such times as the Engineer may direct; details of manholes of the various sizes are shown on the plans, the drawings must be followed carefully. Bricks must be laid in full, close, shove joints of mortar, according to best work standards, the mortar being of one part of Portland Cement to three parts of sand (see also paragraphs Nos. 34 and 35, Section "C"). A reasonable number of bats, not smaller than half-bricks, will be allowed; chips of brick will be allowed for filling the angular spaces between the bricks in circular walls. The inside and outside, benches and inverts of manholes shall be plastered with a coat of mortar one quarter (1/4) inch thick using an accepted waterproofing compound in the mortar. This waterproofing compound shall be Stearox 100, Anti-Hydro or equal.

(64) Each drain manhole shall ordinarily be completely built as the drain is laid up to it and no drain shall be laid until the manhole at the Zero (or down grade) end has been built to a point above the top of the said drain and the bell piece for the outgoing drain has been built in place; the Engineer may allow this rule to be disregarded when he considers it desirable.

(65) Manholes over Concrete Canals are tentatively located on the plans and shall be constructed at such points and of such dimensions as designated by the Engineer. Details of these manholes are shown on the plans. Bricks must be laid in full, close, shove joints of mortar, according to best work standards. The inside and outside of manholes shall be plastered with a coat of mortar one-quarter (1/4) inch thick using an accepted waterproofing compound in the mortar. This waterproofing compound shall be Stearox 100, Anti-Hydro or equal.

(66) In order to drain low spots over canals after partial backfilling, open joint pipe lines may be constructed from the canal manholes. These pipe lines shall be just below the surface of the low spots and shall be surrounded by a thickness of eight (8) inches of clam shells.

The pipe shall be bell and spigot concrete pipe with a maximum diameter of ten (10) inches. The joints shall be open except for a single strand of jute inside the bell. Payment will be by items at the price bid in the "Proposal".

(67) Catch basins shall be constructed at such points and of such dimensions as the Engineer may direct; details of the various sizes of catch basins are shown on plans, these drawings must be followed carefully. Bricks must be laid in full, close, shove joints of mortar, according to best work standards. The mortar used shall be as is specified for manholes, in paragraph No. 63 above; the use of bats is authorized as specified in that same paragraph. The inside and outside walls and inverts of catch basins shall be plastered with a coat of mortar one-quarter (1/4) inch thick using an accepted waterproofing compound in the mortar. This waterproofing compound shall be Stearox 100, Anti-Hydro or equal. The concrete used in the inverts shall be Grade "D".

COMBINATION CATCH BASINS

(68) Combination catch basins over pipe drains are tentatively located on the plans and shall be constructed at such points and of such dimensions as designated by the Engineer: details of the various sizes of combination catch basins are shown on the plans, these drawings must be followed carefully. Bricks must be laid in full, close, shove joints of mortar, according to best work standards. The mortar used shall be as is specified for manholes in paragraph No. 63 above; the use of bats is authorized as specified in the same said paragraph. The inside and outside walls and inverts of combination catch basins shall be plastered with a coat of mortar one-quarter (1/4) inch thick using an accepted waterproofing compound in the mortar. This waterproofing compound shall be Stearox 100, Anti-Hydro or equal. Grade "D" concrete shall be used in the inverts and float finished. Combination catch basins shall be paid for at the price bid per vertical foot, for each type, measured from the invert to the top of the cast iron cover, which price shall include excavation, sheeting and bracing, furnishing all materials, including everything from foundation planking to casting, both included, building the combination catch basin, furnishing and placing a capped six (6) inch bell end in the rear wall of the basin, furnishing and placing the short bell pieces for incoming or outgoing drains, backfilling, removing the surplus excavated material and connecting each combination catch basin to open ditches.

DRAIN HOUSE CONNECTIONS

(69) The contractor shall lay six (6) inch pipe drain house connections from designated openings in the drains to such points at or near the property lines as are designated by the Engineer. The standard connection shall have a depth to invert at the property line of not less than two (2) feet.

CLEANOUTS

(70) Cleanouts shall be placed on drain house connections at such points as the Engineer may direct. Details of cleanouts are shown on the plans. Inverts shall be formed of mortar of class "D" concrete and must be finished to a smooth surface.

REARRANGEMENT OF WATER MAINS

(71) Existing water mains crossing Drainage Canals will be arranged as shown on Drawing No. D-2881 and as stated below.

(72) The Engineer will decide whether Case I or Case II crossings are to be used in each case. All pipes and specials will be furnished complete by the Sewerage and Water Board and delivered as near these locations as possible.

(73) For the tie-in by the Sewerage and Water Board's forces of the existing main to the pipe set in its new location, the Contractor will perform all excavation necessary for the new connection and shall uncover as directed the existing water main to a point fifteen (15) feet from the outside wall of the finished canal of widths equal to the nominal diameter of the pipe plus two (2) feet and to a depth six (6) inches below the bottom of the main. This trench in its entirety to be tight sheeted and braced when so ordered by the Engineer.

(74) In cases where the existing water mains are poured into the concrete section, the Contractor shall be required to break out and remove after the tie-in is made, the abandoned section of these water mains and plug all holes or voids to the satisfaction of the Engineer.

(75) Payment for the work listed in the two paragraphs just above will be for excavation only, at the price bid in the "Proposal", which price shall include the above mentioned work as well as backfilling and the hauling away of all surplus material.

UTILITY CROSSINGS

(76) At selected intersections the Contractor will be required to set pipe or casings of the proper diameter as shown on Drawing No. D-2881. The Engineer will decide whether Case I or Case II crossings are to be used in each case. This applies to future structures of the Sewerage and Water Board and to both existing and proposed structures of any other Utility. All casings or pipe and specials will be furnished completely assembled and delivered to each intersection by the Utility in question, e. g., the Sewerage and Water Board of New Orleans,, the New Orleans Public Service Inc., the Southern Bell Telephone Co., etc.

(77) Measurement of the length of pipe installed will be outside to outside of the concrete canal walls. Payment will be per linear foot in place, which price will include all handling and setting.

BACKFILL

(78) Backfilling of all excavation shall be done with the most suitable earth developed either at the point of excavation or along the lines of the work. All trash, rubbish, roots or other perishable or objectionable matter shall be removed.

(79) Backfilling of concrete structures shall begin after the seven (7) day curing period. Backfilling of pipe trenches shall begin as soon as the Engineer is satisfied that the joints have been properly made and the location of the specials properly recorded. The best of the excavated material shall be carefully placed in the trench so as not to move the pipe and thoroughly but carefully compacted under and around the pipe up to the center line. The utmost care must be taken not to disturb the pipe by stepping on or near them or by throwing earth upon them from the bank above and not to shift the pipe from its proper position by careless or unskilled ramming around it or by unequal filling on the sides.

(80) Backfilling around manholes shall be done when the Engineer considers the brickwork to be sufficiently hard.

(81) All backfilling shall be thoroughly compacted by tamping, flooding or rolling as the Engineer may direct.

(82) No payment will be made for backfill as such, its cost shall be included in the prices of items on which bids are asked in the "Proposal".

SAND BACKFILL

(83) The Engineer shall have the right to require the excavation to be backfilled, in whole or part, with river sand, or if this is not available with some substitute material satisfactory in his opinion.

(84) Payment for this backfilling with sand will be for the quantities actually placed, well tamped, flooded, rolled or otherwise settled, at the price bid per cubic yard for sand backfilling. This price shall include disposal of the surplus material displaced by the sand.

WOOD CURB

(85) Wood curb shall be installed where ordered by the Engineer to replace similar curb disturbed or removed during construction of new drainage structures, or to protect newly installed catch basins when necessary. Dimensions of the curb shall be 3" x the depth of the ditch; the posts, located not more than 4' centers, shall be 4" x 4" and of a length three (3) times the depth of the curb. All lumber used in this construction is to be rough pine and shall conform to the Specifications of

the Southern Pine Association for short-leaf square edge and sound lumber. The cost of this work, including all nails, fastenings, etc., shall be included in the price bid for wood curb in place. Wood curb will be paid for per one thousand (1000) feet board measure in place. The amount in the "Proposal" is approximate for comparison of proposals.

PAINT FOR METAL AND CONCRETE SURFACES

(86) Bar screens and other metal surfaces shall be given a shop coat of "Rustoleum" No. 769 primer, or equal, and a finishing coat of "Rustoleum" No. 745, or equal. This paint may be applied by brush or by spraying. The metal surfaces must be thoroughly clean and free of rust, old paint and dirt of any kind before any paint is applied.

(87) Paint used for preventing bond between two concrete surfaces shall be a thin coat of Asphalt Emulsion, or equal. One (1) gallon of Asphalt Emulsion shall cover at least 100 square feet of concrete surface.

(88) Asphalt Emulsion, or equal, shall be paid for at the price bid in the "Proposal" for Asphalt Emulsion in place.

MAINTENANCE OBLIGATIONS

(89) When the contract has been completed and tendered for acceptance the Engineer will have it carefully inspected for defects and remeasured to verify the quantities. In order to be acceptable the contract must be in good condition as described here, namely:

All concrete structures shall be true to line and grade, smooth of surface, shall show no cracks or displacement and shall be clean from mud, trash, debris, etc. The pipe drains shall be true to line and grade, there shall be no cracked or broken pipe or fittings in either the main line or the branch lines and there shall be no defective joints. The pipe, manholes, catch basins, cleanouts and other appurtenances shall be free from mud, trash, debris, etc. The manholes, catch basins, cleanouts, etc., shall be properly built in accordance with the drawings and the specifications and shall show no cracks, displacement or other defects in any part of the structure.

(90) Paved or unpaved surfaces disturbed by the work of the Contract shall be in thoroughly good condition as far as the specifications require of the Contractor.

(91) Defects developing during the forty-five (45) days maintenance period shall be repaired by the Contractor at his own expense so that at the end of the said forty-five (45) days the Contract shall be in acceptable condition as described just above.

(92) All such cleaning and repairing is an obligation of the Contractor's and the cost thereof must be included in the prices bid for the various items of the work.

GENERAL SPECIFICATIONS

SECTION F

THE CONSTRUCTION OF WATER MAINS

TABLE OF CONTENTS

F-01 MEASUREMENTS, UNITS, PAYMENTS

(a) Water mains will be measured horizontally over the center of the pipe for each material size. All fittings and valves will be included in this measurement.

Measurements will be from or to:

(1) Center of special and/or fitting.

(2) Center of intersecting main.

(3) Fartherest shoulder of bell in a dead end pipe or valve.

(4) Any combination of the above.

Hydrant leads will be considered as mains and will be measured from the center of the main to the center of the vertical barrel of the hydrant.

(b) The depths of water mains will be measured to the top of the barrel of the pipe from the finished curb or sidewalk surface at its permanent or established grade and is to have the depths of cover as specified below, unless indicated otherwise on the Contract drawings and/or Special Specifications.

In the event the permanent curb grade has not been established by the Department of Streets, it will be set by the Engineer six (6) inches below the average property line profile.

Water mains with internal diameters of less than twelve (12) inches shall be laid so as to have permanent depths of cover of three (3) feet and six (6) inches; mains with internal diameters of twelve (12) inches, through twenty-four (24) inches shall be laid so as to have permanent depths of cover of four (4) feet. Mains larger than twenty-four (24) inches internal diameter shall have permanent depths of cover of five (5) feet. The Board reserves the right to require that these depths shall be exceeded by six (6) inches for not more than ten (10) per cent of the length of the mains laid under this contract without extra charge; any greater depth than is specified herein will be paid for as Extra Excavation.

(c) The Contractor shall not receive extra compensation for overburden or excess filling which must be removed in order to install the pipe at the proper elevation.

(d) Water mains will be paid for at the price bid per linear foot for each material size. This payment will be full compensation for all labor, material, and equipment and for furnishing, hauling and installing the pipes, fittings, valves, etc. as shown in the drawings; for all excavation, sheeting and bracing, all jointing and incidental materials, bedding, wrapping, backfill, compaction and the removal of surplus material. The surface maintenance if not included in other bid items, is to be included in the above.

F-02 EXCAVATION

(a) Excavations shall be open cuts with vertical sides. However, in special cases the Engineer shall permit tunnels or sloping sides. All material excavated shall be placed so as to minimize interference with public travel and to permit access for prosecution and inspection of the work.

(b) 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 his judgment, is not adapted to the purpose for which it is being used. Dragline operation will not be permitted.

(c) The Contractor shall confine his excavation to the least width that will allow the easy installation of the water main and its appurtenances; this width shall be nine (9) inches from the outside of the barrel of the pipe unless the Engineer shall specifically allow a greater width.

(d) Should any excavation made by the Contractor, in accordance with the plans or by the direction of the Engineer, prove to be unnecessary, it shall be properly backfilled and it will be paid for at the price bid for Extra Excavation.

(e) In case the excavation is carried below grade or beyond the authorized trench width established by the Engineer, the Contractor shall fill the surplus excavation up to grade with clam shells or river sand, and in a manner acceptable to the Engineer. He shall receive no compensation for either the excavation or the backfilling.

(f) The price bid for extra excavation covers all excavations and over-depths which have been authorized by the Engineer and found to be unnecessary for the installation of the water main or its appurtenances. This price includes also the backfilling and disposal of surplus excavated material. If sand and/or shell is specifically ordered by the Engineer to replace all or part of the excavation, then payment will be made for these items at the prices bid in the Proposal. The permissible length of unfilled trench shall not exceed one hundred (100) feet. An open trench in advance of pipe laying operations at the close of the work day will not be permitted.

(g) Where steel or concrete pipe is installed, the Contractor shall dig holes of sufficient size, at joint locations, to provide proper access for the welding, coating, cement grouting and whatever else is necessary for completion of the circumferential joints. This cost shall be included in the price bid for furnishing and installing water mains.

F-03 EXCAVATION TO REMOVE STUMPS, ETC.

(a) If any stumps, roots, logs or other hard or solid masses of matter are encountered at or near the authorized sub-grade within the trench area, such stumps, etc., shall be cut to a further depth of one (1) foot and this void shall be filled with river sand or clam shells. Payment will be at the price bid for Extra Excavation to Remove Stumps and for, either River Sand or Shell Backfill, whichever is applicable.

(b) In the event the Contractor elects to blast stumps, etc., out of his excavation with explosives he must first have the consent of the Engineer and the permission of the municipal authorities. However, he shall receive no compensation for stumps, etc., removed in this manner nor for the river sand or shells required to fill the void made by the blasting.

F-04 SHEETING AND BRACING

(a) Protection of the excavation against caving or settling of the banks shall be the sole responsibility of the Contractor and he shall be responsible for all damage to pavement, buildings or other property caused by his excavation. He shall protect the sides of his excavation by sheeting and bracing as may be necessary. No actions or instructions by the Engineer shall be regarded as his responsibility for the security of the trench or protection for the surrounding area. The full responsibility remains with the Contractor.

(b) The Contractor shall receive no compensation for the use of sheeting and bracing as required to protect his trench. However, should the Engineer require the sheeting and bracing to remain in place, payment will be made at the price bid in the Proposal for this item or at one hundred (100.00) dollars per thousand feet board measure (MFBM) whichever is the lesser of the two prices.

(c) All sheeting left in place shall be cut off a minimum of three (3) feet below the normal ground surface and shall be adequately braced to the approval of the Engineer at or near the point of cut-off.

(d) If the Contractor elects to use steel sheeting, he must first submit a request to the Engineer in writing and enclose sketches showing his proposed bracing and describing his installation procedures.

F-05 FOUNDATION, BEDDING, AND WRAPPING

(a) Cast iron pipe shall be installed on the undisturbed and levelled bottom of the excavation unless sand or shell bedding is specifically ordered by the Engineer. Bell holes shall be dug of sufficient size to permit embedment for the entire length of the pipe barrel and to allow sufficient room for making the joints. The bell holes will not be measured as excavation, their cost shall be included in the price bid for laying water mains.

(b) Polyethylene wrapping is required for all cast iron pipe, fittings, valves, etc. They shall be wrapped with sheets or encased in tubular polyethylene of 6 mil thickness, having a minimum tensile strength of 1200 p. s. i., and a moisture absorption of not more than 0.01% in 24 hours. The polyethylene sheets or casings shall be placed around the pipe with minimum overlaps of six (6) inches and sealed with black polyethylene tape. Payment shall be included in the price bid for furnishing and installing cast iron pipe and fittings.

(c) Asbestos-cement and prestressed concrete pipe shall be laid on a bed of shells, or sand, as specified, for six inches in depth for the full width of the trench and extending to the top of the pipe for sizes twelve (12) inches or smaller and to its center line in sizes larger than twelve (12) inches. The cost of excavation, bedding and wrapping material and the disposal of surplus excavated material shall be included in the price bid for furnishing and installing water mains.

(d) Steel pipe water mains that are coal-tar coated and wrapped shall be laid on a bed of river sand for a depth of six (6) inches below the bottom of the pipe for the full width of the trench and extending up for a distance of one-third of the outside diameter of the pipe. Clam shells may be subtsituted for the sand bedding wherever cement mortar coated steel pipe is installed. The cost of excavation, bedding and wrapping material and the disposal of surplus excavated material shall be included in the price bid for furnishing and installing steel water mains.

(e) Foundation lumber, if indicated on the contract drawings or ordered by the Engineer, shall be No. 2 Common Southern Pine or equal. Payment will be at the price bid in the proposal for Foundation Lumber in Place.

F-06 CAST IRON WATER MAINS

(a) All cast iron pipe for water mains except flanged joint pipe shall be manufactured in accordance with current ASA Specifications A21-6 or A21-8, and shall have a metal strength of 18,000 p.s.i. Bursting Tensile, and 40,000 p.s.i. Modulus of Rupture. All cast iron pipe shall be thickness Class 22 unless otherwise specified.

(b) Cast iron pipe joints shall be one of the following types:

(1) Caulked lead and Packing joint.

(2) Rubber gasketed joints, as recommended by the pipe manufacturer.

(3) Mechanical joint in accordance with ASA Specifications 21.11 with stainless steel bolts.

(4) Flanged joint according to Current ASA Specifications B-16-1 (Screwed on flanges) or Current ASA Specifications 21.2 (flanges cast integral with the pipe). All flanges shall be ASA Standard Class 125 Ring gaskets shall be 1/16" cloth inserted rubber. Bolts shall meet the requirements of ASA Specification B-16-1.

(c) All cast iron pipes and fittings shall have standard pipe coating outside and be lined with cement lining and seal coat in accordance with Current ASA Specifications A21-4.

(d) Suitable equipment, tools and appliances for the safe and proper handling and laying of the pipes shall be used and care shall be taken to prevent damage to either the pipe coating and/or lining. Any damage to this coating or lining, either before or after installation, shall be repaired by the Contractor to the satisfaction of the Engineer. Any excess of coating or lining in the bells or on the spigots shall be removed before the joint is made.

(e) The pipes shall be thoroughly cleaned before installation and the inside of the pipe shall be kept clean until acceptance of the completed work.

(f) All pipe and fittings found defective after installation shall be removed and replaced by the Contractor at no cost to the Board.

(g) The pipe installation shall conform accurately to the line and grade given by the Engineer.

(h) Lead joints in cast iron pipe shall be made as follows:

The spigot end shall be adjusted in the bell to give a uniform spacing for the joint, which shall be made with an approved packing and soft pig lead. The packing shall be thoroughly and evenly packed into the bell to fill it within one-fourth (¼) inch back of the lead groove. Each joint shall be clean and dry as the lead is poured in one continuous motion. The lead shall be caulked by competent workmen using authorized tools to secure a tight joint without over straining the bells. When caulking is complete, the lead shall be flush with the face of the bell.

(i) Cast iron water mains laid with rubber gasket joints shall be installed as follows:

The pipe shall be placed on a prepared sub-grade and both the interior bell and exterior spigot surfaces shall be thoroughly cleaned and lubricated with an approved lubricant. The pipe shall then be pushed or pulled into its final position in a manner recommended by the pipe manufacturer. After assembly, the Contractor shall check the alignment of the gasket to assure a tight joint.

All defective joints shall be repaired by and at the expense of the Contractor and in a manner approved by the Engineer.

(j) Every dead end of pipe and every unused opening in any fitting shall be closed with a cast iron plug which shall be held in place by a standard lead joint. These plugs shall be lugged or securely braced by planking, to eliminate any possible movement. The cost of furnishing all material and placing these plugs and making the joints shall be included in the price bid for laying the pipe. The bracing of the fittings will be paid for as Foundation Lumber.

(k) The Contractor shall make no charge for cutting pipes in order to bring fittings, valves or hydrants to their designated locations; the cost of cutting the pipes and of hauling away the cut or waste pieces shall be included in the price bid for laying water mains of each size.

(l) Whenever pipe laying is stopped for the night, or for any other cause, the end of the pipe shall be securely closed to prevent the entrance of water, mud or other matter, and shall be secured in such a manner as to prevent the terminal pipe from being dislodged or moved.

(m) No pipe shall be set in place and no joint shall be made with water standing in the trench or bell holes.

(n) Where a tie-in is to be made to an existing pipe or fitting, the Contractor shall excavate and expose the existing fitting or main in order to ascertain its correct location and elevation. This excavation can then be backfilled and its cost shall be included in other items of work. The restoration of pavement shall be by others.

(o) Pipe installation shall commence eight (8) feet from, and at the same elevation as the existing main, or as directed by the Engineer.

F-07 ASBESTOS-CEMENT WATER MAINS

(a) All asbestos-cement pipe for water mains shall be manufactured in accordance with current AWWA Specifications C-400, and the maximum uncombined calcium hydroxide content shall not exceed one (1) per cent. Pipes in sizes of six (6) inches diameter and smaller shall be Class 200, and pipes of sizes eight (8) inches and larger shall be Class 150, unless otherwise specified on Contract Drawings and/or Special Specifications.

(b) All of the requirements of paragraphs F-06 (a) through (o), preceeding, except such as are clearly inapplicable because of the difference in the natures of the pipes, shall apply also to the handling, laying and general treatment of water mains of asbestos-cement.

(c) Asbestos-cement pipes will be laid in conjunction with iron specials, fittings, valves or hydrants. No additional payment will be made for furnishing and/or installing these items as shown on the contract drawings.

(d) Joints between two asbestos-cement pipes shall be made with the couplings and gaskets furnished by the manufacturer and according to his directions. Joints between an asbestos-cement pipe and a cast iron bell shall be made with the standard packing and lead joint as described in paragraph F-06 (h), or with a rubber gasket as described in the installation manual furnished by the pipe manufacturer.

(e) Dead ends of asbestos-cement pipe shall terminate with cast iron sleeves and plugs with standard lead joints. These dead ends and other joints of unbalanced pressure shall be braced to compensate for the unbalanced pressure. Payment will be made as described in paragraph F-06 (j).

F-08 IRON FITTINGS

(a) Cast Iron Fittings for Cast Iron and Asbestos-Cement Pipe

(1) Bell and spigot cast iron fittings shall be class 250, manufactured in accordance with Current ASA Specification A21.10 for Short Body Fittings, with joints compatable with the pipe.

(b) Ductile Iron Fittings for Asbestos-Cement Pipe

(1) The ductile iron fittings for asbestos-cement pipe shall be Class 250 conforming to the Current ASTM Specification 339 grade 80-60-03. The fittings shall conform to the Current Specifications ASA A21.10. Both the interior and exterior surfaces of these fittings shall be lined and coated at the factory with a shell of aminecured epoxy resin of an 8 mil minimum thickness.

(c) Coating and Lining

The cast iron fittings shall have a coal tar pitch coating and shall be cement mortar lined in accordance with ASA Specification A.21.4.

(d) Payment

(1) Furnishing and installing all iron fittings and the necessary nuts, bolts, gaskets, caulking material, etc., shall be included in the cost of furnishing and installing pipe when the fittings are shown on the Contract Drawings. Any fittings which are indicated on the drawings and are not used, are the property of the Board and shall be returned to the Board's Central Yard by the Contractor.

(2) Iron fittings which are not indicated on the Contract Drawings and are ordered in place by the Engineer shall be paid per weight as Additional Fittings in Place and will also be included in pipe line measurements. No payment will be made for the additional joint accessories.

F-09 PRESTRESSED CONCRETE WATER MAIN

(a) DESCRIPTION OF PIPE

All prestressed concrete pipe shall conform to the current AWWA C-301 Standard Specifications for "Reinforced Concrete Pipe, Steel Cylinder Type, Prestressed" and as amended by the Special Specifications.

All pipe, fittings and specials shall be designed for a working line pressure of 110 P.S.I. The pipe will be used under conditions that do not exceed the external loads stated in Section 3.2 of the AWWA C-301-64 Standard Specifications, unless so stated in the Special Specifications or shown on the contract drawings.

Where harnessed joints are Specified, they shall be of the Clamped Type Tied joints as manufactured by Price Bros. Company, or similar and equal joint as approved by the Engineer. Joints that are to be harnessed will be shown on the contract drawings and/or will be specified in the Special Specifications.

The Contractor shall submit drawings and schedules showing full details of reinforcement, concrete and joint dimensions for the pipe. No pipe shall be manufactured until the Sewerage and Water Board has checked these drawings.

The Contractor shall also submit for approval, a tabulated layout schedule with reference to the stationing and grade line shown on the Contract Drawings and as further described in Section 1.6.2 of AWWA C-301-64 Standard Specifications.

(b) JOINT DEFLECTIONS

The Contractor's installation schedule for curves formed with square end pipe shall be based on a joint opening of three-eights (3/8) inch on the outer radius.

Changes in grade and/or line amounting to not more than five (5) degrees shall be made with the use of beveled pipe. Deviations of more than five (5) degrees shall be made with harnessed bends.

Beveled adapters, if required, shall be harnessed or fully welded to the adjacent straight lengths of pipe.

(c) INSTALLATION OF PIPE

Payment for the furnishing and installing of concrete pressure pipe shall be at the price bid in the proposal and as described in Paragraph F-01 (d), and shall include, but is not limited to, the following items:

(1) Furnishing and installing the pipe, fittings and specials.

(2) Interior and exterior grouting of all field installation joints and coating of exposed bolts and nuts. Interior grouting of twenty (20) inch diameter pipe and smaller will not be required.

(3) Excavation and backfill as shown on the Contract Drawings and/or Section F-02 and F-14 of these specifications.

(4) Clam shell bedding.

(d) HANDLING PIPE, FITTINGS AND SPECIALS

The Contractor shall be responsible for all damage incurred to the pipe, fittings, specials and accessories until the final acceptance of the contract. Any that are damaged shall be repaired or replaced to their original condition. No additional payment will be made for these repairs and/or replacements; the entire cost is included in the price bid per linear foot for furnishing and installing prestressed concrete pipe of various sizes.

(e) GRADE AND ALIGNMENT

The pipe installation shall conform to the line and grade as indicated on the Contract Drawings and/or location and grade as established by the Board's Engineer. The nominal depth of cover is described in Paragraph F-01 (b).

The tops of all fittings, specials and beveled end pipe shall be suitably marked by the pipe manufacturer in order that the angular deflection will be in the proper direction. The Contractor shall exercise caution in matching these marks to the markings on adjacent pipes.

(f) CLEANING PIPE

The interior of each piece of pipe, fitting and special shall be swabbed out immediately prior to installation in the trench and shall be clean and free from dirt, debris and other foreign matter when laid; such material shall be prevented from entering the pipe after installation. Whenever pipe laying is stopped at the end of the day's work or for any reason, the open end of the line shall be sealed with a water-tight plug or bulkhead. This plug or bulkhead shall not be removed while water is standing in the trench.

(g) LAYING CONCRETE PIPE

After a length of pipe has been lowered to the prepared sub-grade, all exterior spigot and interior bell surface of the joint to be made shall be thoroughly cleaned, and all joint surfaces well lubricated with a heavy coating of vegetable soap. The pipe shall then be pulled or pushed into final position by means of suitable tackle, chain blocks, or power driven equipment. All instructions and recommendations of the pipe manufacturer relative to gasket installation and other jointing operations shall be observed and followed by the Contractor.

Before the pipe is pulled or pushed "home", steel inserts shall be used to prevent the pipe from entering to the full depth of the bell until the position of the gasket has been gauged and found to be in proper position at all points using a metal "feeler" designed for this purpose. Great care shall be taken in making this inspection, especially on the bottom-half of the joint which cannot be visibly inspected from the outside of the pipe.

In order to prevent the opening or pulling out of a joint, the Contractor shall furnish the necessary equipment and install a pair of "come-alongs" with chains, ropes, or cables and an anchor block set in previously laid pipe at a distance directed by the Engineer. These tension rigs shall be used in conjunction with each other so that constant pull will be applied to recently laid pipe lengths by one "come-along" as the other is released.

(h) OBSTRUCTIONS

The concrete pipe cannot be field cut for re-alignment of line and/or grade due to unforeseen obstructions. The Contractor shall provide all short lengths and/or bends necessary for the complete installation of the water main beyond these obstructions. No additional payment will be made for the short lengths. Payment for the additional bends will

be made at the price bid in the proposal for furnishing and installing additional bends of the size and degree specified. No claim for damages or extra compensation other than as specified above shall accrue to the Contractor from the presence of any obstruction or from any delay due to manufacture or delivery of the additional pipe or specials.

(i) JOINT GROUTING

When the pipe is in its final position, shells shall be placed and compacted to a depth of not less than one (1) foot above the bottom of the pipe except at the joints. The bands provided for jointing purposes shall then be placed around each joint and filled with grout as recommended by the pipe manufacturer. This grout shall consist of one (1) part of Portland cement to two (2) parts of clean mason sand mixed to the proper pouring consistency with potable water. After the joint is complete, additional shells shall be placed up to the center line of the pipe and then select backfill placed for a distance of one (1) foot above the top of the pipe. Excavated material shall then be placed by machine up to the ground elevation. Extreme care shall be taken in backfilling operations at each joint in order to avoid any possible damage to the cement joint. Not less than two (2) lengths of pipe shall be in final position in advance of joint grouting at all times while pipe laying is in progress.

Each inside joint recess for pipe twenty-four (24) inches and larger, shall be completely filled with a stiff mortar mixed in the proportions of one (1) part Portland cement and one (1) part clean mason sand. All joint surfaces shall be damp, but free from surface water, when the mortar is applied thereto. Joints shall be troweled smooth and all excess mortar removed from the pipe.

(j) ADAPTER FITTINGS AND BOLTS

The metal surfaces of all adapters, fittings, bolts and nuts that are exposed after installation shall be covered with a minimum of ¾" cement-mortar grout. The cost of this grouting shall be included in the unit price bid per foot for furnishing and installing the concrete pipe.

(k) THRUST BLOCKS

The Contractor shall construct concrete thrust blocks conforming to the shape and requirements as shown on the Contract Drawings for all horizontal bends, except where specifically ordered omitted by the Engineer. These thrust blocks shall bear against undisturbed soil or proper wood sheeting. The excavation and forming shall be approved by the Engineer before the concrete is poured to insure thrust blocks of adequate size.

The cost of constructing thrust blocks will be paid for at the price bid per cubic yard for "Furnishing and Installing Class 'C' Concrete for the Construction of Thrust Blocks."

(l) BEDDING

The Contractor shall furnish and install the shell bedding six (6) inches below the outer barrel of the pipe and up to the center line unless otherwise shown on the contract drawings. This cost shall be included in the unit price bid for furnishing and installing concrete pipe of various sizes.

No additional payment will be made to the Contractor for additional bedding material brought about by an increased width and/or depth of trench over and above that authorized. If additional excavation is ordered by the Engineer over and above the authorized trench measurements, payment will be made to the Contractor at the prices bid in the Proposal for Extra Excavation and for Additional bedding materials.

(m) FOUNDATION LUMBER

Where adverse soil conditions are encountered or where directed by the Engineer, the Contractor shall also furnish and install foundation lumber as shown on the drawings or as directed by the Engineer. The cost of furnishing and installing the foundation lumber will be paid for at the unit price bid in the Proposal for Foundation Lumber in place.

F-10 STEEL PIPE WATER MAINS

(a) DESCRIPTION OF PIPE

All steel pipe shall conform to the current A.W.W.A. C-201 Standard Specifications for "Fabricated Electrically Welded Steel Water Pipe" and as amended by the Special Specifications.

The steel pipe shall be fully butt-welded in the field as specified herein. The only exception to the butt-welded joint will be flanged joints for valve installation, etc., or special coupling joints as shown on the contract drawings.

(b) INSTALLATION

Payment for furnishing and installing of steel pipe shall be at the price bid in the proposal and as described in paragraph F-01 (d), and shall include, but is not limited to, the following items:

(1) The cost of furnishing and installing steel pipe and fittings of the specified wall thickness as required by the drawings; coated and lined as specified.

(2) The welding, lining and coating of field installation joints.

(3) Excavation and backfill according to F-02 and F-14 of these specifications.

(4) Furnishing and installing patches for air vent cocks, and the drilling and tapping for two (2) inch corporation cocks which shall be furnished by the Board.

(5) Furnishing and installing access openings as indicated on contract drawings.

(6) Furnishing and installing bedding material as indicated on the contract drawings.

(7) Furnishing, installing and coating all bolts, nuts, gaskets, etc., required for all joints necessary to complete installing, testing, sterilizing and tying-in to the system.

(8) Sandblasting and coating valves installed in the steel pipe line as specified in Paragraph F-12 (f) of these specifications.

(c) HANDLING

All steel pipe shall be handled and transported with equipment provided with stout wide canvas or rubber-nylon

fiber slings and wide padded skids or cradles, designed, constructed and arranged to prevent damage to the pipe coating. Bare cables, chains, hooks, metal bars or narrow skids or cradles will not be permitted to come in contact with the coating or lining.

(d) GRADE AND ALIGNMENT

Pipe installation shall conform to the line and grade as indicated on the Contract Drawings, and confirmed by the Engineer. The nominal depth of cover is described in paragraph F-01 (b). The Contractor will not be permitted to trim pipes in order to correct faulty alignment or grade except with special permission of the Engineer. If this permission is granted, all such trimming shall be cut to the correct angle and beveled for butt-welding. All cost for such cutting and trimming shall be borne by the Contractor.

(e) OBSTRUCTIONS

The Engineer has the authority to require the cutting of abutting pipe ends to produce the angular deflection required to avoid conflict with obstructions. When so directed, the Contractor shall cut the ends to the proper angle, shall bevel the edges so that proper welds can be made and shall weld the joint. For these trims, he will be paid the price bid in the proposal for Additional Trims for steel pipe. No payment will be made for cuts required for the installation of the pipe. No payment will be made for cuts required for the installation of the pipe according to line and grade as shown on the Contract Drawings.

Where a short length of pipe is to be field measured and cut as indicated on the Contract Drawings, or is required to correct any measurements shown on the drawings that prove to be in error, the Contractor will be paid at the price bid for Additional Cuts for steel pipe. If the cut adds a joint to the original plan, the Contractor will be paid the price bid for Additional Coating of joints.

(f) BEDDING

The Contracior shall furnish and install river sand bedding material six (6) inches below the outer barrel and up to one-third (1/3) of the outside diameter of the pipe unless otherwise shown on the contract drawings. The entire cost of this bedding shall be included in the unit price bid for installing steel pipe of various size.

No additional payment will be made to the Contractor for additional bedding material brought about by an increased width and/or depth of trench over and above that authorized. If additional excavation is ordered by the Engineer over and above the authorized trench measurements, payment will be made to the Contractor at the prices bid in the Proposal for Extra Excavation and for Additional Bedding Materials.

(g) FOUNDATION LUMBER

Where adverse soil conditions are encountered, and/or when so directed by the Engineer, the Contractor shall furnish and install foundation lumber as shown on the Contract Drawings, or as directed by the Engineer. Payment will be made at the unit price bid for Foundation Lumber in place.

(h) LINING AND COATING

All steel pipe shall be lined and coated as shown on the contract drawings and/or specified in the Special Specifications. The lining and coating, as required, shall be in accordance with the following specifications and as amended by the Special Specifications:

Coal tar lining shall be in accordance with the current A.W.W.A. C-203 Specifications for "Coal-Tar Enamel Protective Coatings for Steel Water Pipe".

Coal tar coatings shall be in accordance with the current A.W.W.A. C-203 Specifications for "Coal-Tar Enamel Protective Coatings for Steel Water Pipe", Section A 1.4 therein, "Coal-Tar Enamel, Fibrous Glass Material and Bonded Asbestos Felt Wrap".

Cement mortar coating shall be in accordance with the current A.W.W.A. C-205 Specifications, "Cement Mortar Protective Lining and Coating for Steel Water Pipe".

(i) FIELD WELDING

Steel pipe shall be placed on prepared subgrade with the longitudinal seams in the upper quadrant (but not top center) of the pipe, or as directed by the Engineer. Field welding at circumferential joints in thirty-six (36) inch and smaller diameter pipes shall be made from the outside of the main. For pipes with internal diameters of more than thirty-six (36) inches, the circumferential weld shall be made from the inside and/or outside of the pipe as per Special Specifications. All field welds shall be in conformity with the current A.W.W.A. C-206 Standard Specifications, for "Field Welding of Steel Water Pipe Joints".

(j) FIELD LINING AND COATING

After welding is completed, all interior joints shall be thoroughly cleaned, primed and coated with hot applied coal tar enamel in accordance with Section 4 of A.W.W.A. C-203-62 Standard Specifications and/or as amended by Special Specifications. Any request for the use of alternates must be approved in writing by the Engineer. The joints on the exterior of the pipe shall be thoroughly cleaned, primed and coated with hot applied coal-tar enamel, fibrous glass mat and bonded asbestos-felt wrap in accordance with Section 4 of A.W.W.A. C-203-62 Standard Specifications. If the steel pipe has a cement mortar coating, the Contractor shall coat the joint with cement mortar in accordance with Section A-3 of A.W.W.A. C-205 Standard Specifications or as amended by the Special Specifications. The cost of lining and coating of all field welded joints shall be included in the price bid for furnishing and installing steel pipe of various sizes. For the purpose of heating coal tar enamel for field application, a portable tar heating kettle equipped with a mechanical agitator, and a legible dial thermometer indicating the correct temperature must be used. The kettles are to be heated with kerosene or butane-propane type fuel, and are to be kept clean of coke or other deposits. When a build-up of enamel occurs in the carrying buckets, or when so directed by the Engineer, the Contractor shall clean buckets by sand blasting or replace them with new buckets. Burning or scraping out of the enamel will not be permitted.

F-11 WATER MAINS OF OTHER MATERIALS

(a) When the Board shall call for water mains of unusual design or material, such water mains shall be built according to the Special Specifications provided in each case. All items of these General Specifications shall govern such installations except when necessarily superseded by the Special Specifications.

F-12 VALVES, VALVE BOXES AND MANHOLES

(a) Whether valves are furnished by the Contractor at the prices bid, or whether they are furnished free to the Contractor by the Board, no charge shall be made for setting them in place. Valves of twelve (12) inch size or less shall be set vertical, and be covered by cast iron, valve boxes or brick manholes as indicated on Contract Drawings, and as shown on drawing No. 6179-F-2. Valve boxes, set in place, will be paid for at the price bid per pound for Miscellaneous Iron Castings. Valve manholes will be paid for at the price bid for each manhole complete with castings. Valves and valve manholes of sixteen (16) inch size or over will be as called for in the Special Specifications and Drawings.

Gate valves ranging in size from 4" through 12" shall conform to the current Sewerage and Water Board specifications. Gate valves 16" and larger shall be double-disc and shall conform to the current A.W.W.A. C-500 Specifications. They shall be non-rising stem and shall open by turning clockwise.

(b) The cost of installing the valve, including transporting the valve to the job site (if furnished by the Board), the furnishing and installing of all materials, including bolts, nuts, gaskets, lead, etc., for a complete installation shall be included in the unit price bid for furnishing and installing the pipe. Valves shall be included in pipe line measurements.

(c) All essential details of construction of brick manholes are shown in drawings accompanying these specifications. Bricks must be laid in full, close, shove joints of mortar, according to best work standards. The mortar being of one (1) part of Portland Cement to three (3) parts of sand. (See correlated paragraphs of Section C) A reasonable number of bats, not smaller than half-bricks, will be allowed; chips of brick will be allowed for filling the angular spaces between the bricks in the circular walls.

(d) The standard valve manhole is circular in plan, four (4) feet in internal diameter at the bottom and two (2) feet, eight and five-eighths (8-5/8) inches in internal diameter, for the last nine (9) inches, at the top of the brickwork, just below the manhole cover frame (as shown on drawing No. 6179-F-2). Manholes shall be plastered on the inside with a thin coating of mortar of equal parts of cement and sand, worked to a smooth surface, or with a brushed-on wash of neat cement, at the option of the Engineer.

(e) All manholes shall rest on a concrete slab conforming to drawing No. 6179-F-2. The tensile strength of the concrete shall be 3000 psi and the reinforcing steel shall conform to the requirements of Section C of these General Specifications. Manhole slabs shall rest on a six (6) inch layer of compacted shells and shall be placed as shown on the drawing.

(f) Whenever a valve is installed along a steel main that is coal-tar coated, the valve shall be sand-blasted to remove all previously applied shop coatings and shall be coal-tar primed and coated as specified in paragraph F-10 (j). Valve portals shall be sealed with plywood during the sand-blast operation.

F-13—HYDRANTS

(a) Hydrants shall be set as shown in Drawing No. 6179-F-2. If the contract requires the Contractor to furnish and install the hydrants the price bid for furnishing and installing hydrants shall include the excavation, setting it in place, making the joint connecting it to the hydrant lead, furnishing and placing all the shells, foundation and bracing materials, everything required for the firm and stable installation of the hydrant in the location designated. If, on the other hand, the contract provides that the hydrants are to be furnished free to the Contractor by the Board, the price bid for setting hydrants shall also include hauling them from the Board's Central Yard to the site of the work.

(b) The hydrants furnished by the Contractor shall comply with the description given in Section C of these General Specifications or as amended by the Special Specifications.

F-14 BACKFILLING

(a) Backfilling of water mains shall begin as soon as the Engineer is satisfied that the pipe is laid to line and grade, the necessary fittings properly placed and braced, the joints completed and the authorized backfill material compacted under and around the pipe, all in the manner shown on the contract drawings. Select backfilling material shall then be placed by hand and compacted in six (6) inch layers to a depth of one (1) foot above the top of the pipe. The refilling of the trench above the aforesaid level shall be done by mechanical or other methods, which will not be injurious to the water main or to other sub-surface structures. Competent workmanship and the utmost care are to be exercised by the Contractor to obtain the maximum consolidation and compaction.

(b) Backfilling around manholes shall be done when the Engineer considers the brickwork to be sufficiently hard. Selected excavated material shall then be placed and compacted in six (6) inch layers to a depth of one (1) foot above the top of the pipe. The backfilling above this point shall be completed according to paragraph F-14 (a) above.

(c) The Engineer shall have the authority to direct that excavations shall be wholly or partially backfilled with sand, stabilized shells or other materials acceptable to the Engineer. The Contractor shall furnish, deliver and place this material where and as directed by the Engineer. He will be paid the price bid for the backfill material selected. No payment will be made for the removal of the surplus excavated material.

F-15 TESTING

(a) Before any water mains are accepted by the Board, they shall be tested under the supervision of the Engineer at a hydrostatic pressure of one hundred (100) pounds per square inch for not more than twenty-four (24) consecutive hours, and any defective work revealed by the test must be repaired by the Contractor in a manner acceptable to the Engineer. The entire cost of the test, including pumps, gauges, connecting pipes, etc., and the repairing of the faults disclosed by the test are to be included in the price bid for laying water mains. The Board will furnish water for the test without cost to the Contractor.

(b) The amount of leakage under the stated pressure shall not exceed one hundred (100) gallons for twelve (12) inch and smaller diameter pipe, and fifty (50) gallons for pipe larger than twelve (12) inches in diameter per twenty-four (24) hours, for each mile of pipe, for each inch of inside diameter.

(c) All trench areas prior to testing shall be completely backfilled and compacted: all valve boxes and valve manhole castings shall be set to proper grade, and all hydrants shall be plumb and shall have proper exposure and with the steamer nozzle facing the street.

No testing will be permitted until the Contractor has complied with all the above requirements.

F-16 STERILIZING AND CONNECTING TO THE SYSTEM

(a) After the test described in paragraph F-15 has been satisfactorily completed, the forces of the Sewerage and Water Board will furnish all material, labor, tools and equipment to sterilize the newly installed mains and for making the tie-ins to the existing system. The Board will be responsible for everything within limits of the tie-in, including surface restoration. In the event that these procedures are revised, the changes will be covered in the Special Specifications.

(b) The Contractor shall not open or close any valve in the previously existing water distribution system nor shall he open or close any valve set in this contract after water pressure has been turned on. Only the properly authorized employees of the Sewerage and Water Board will be allowed to open or close such valves.

F-17 MAINTENANCE OBLIGATIONS

(a) Leaks or other defects that may develop in any portion of the newly installed main and/or appurtenances before the tie-in is made, will be the Contractor's responsibility. He shall promptly repair such leaks or other defects without any additional compensation from the Board even though the materials or construction found defective have already passed inspection. If the contract provides that the valves and hydrants are to be furnished free by the Board then the valves and the hydrants needed for such replacement will also be furnished by the Board just as for the original installation. However, a careful examination of the damaged items will be made by the Engineer and the Contractor will be charged with the value of those items which the Engineer decides have been damaged through the fault of the Contractor.

(b) When the contract has been completed and tendered for acceptance and the pipe has been tested as specified in paragraph F-15, and found acceptably free from leaks, the Engineer will have it carefully inspected for defects and remeasured to verify item quantities. In order to be acceptable, the contract must be in a condition as herein described:

1. There shall be no detectable leaks.
2. There shall be no defects in valves, hydrants or other appurtenant parts of the water distribution system.
3. Manholes shall be built in accordance with Contract Drawings and Specifications and shall be clean and show no defects in any part of the structure.
4. Paved, partially improved or unimproved surfaces disturbed by the work of the contract shall be restored to a thoroughly good and stable condition as required by the Specifications. These surfaces shall be jointly inspected and accepted by representatives of the Contractor, the Sewerage and Water Board, and the Department of Streets.

(c) All cleaning and restoration of surface areas is an obligation of the Contractor and the cost thereof shall be included in the prices bid for the various items of the work.

(d) The percentage of the value of the work done, as stated in the Special Specifications, will be withheld by the Board for not less than the forty-five (45) days mentioned in Section A, Paragraph 63, of the General Specifications.

During the forty-five (45) day period the Contractor is responsible for the maintenance of all surfaces disturbed by the work of this contract, whether unimproved, partially improved or paved, and shall retain them in good condition to the satisfaction of the Engineer. Maintenance of the surface after this forty-five (45) day period will be the responsibility of others.

The Contractor is also responsible for all work attributed to defective material and workmanship for a period of one (1) year from the day the acceptance of the Contract is recorded in the office of the Recorder of Mortgages. The Board shall be protected by the Contractor's performance bond which shall remain in effect for this period.

Any leaks or other defects, attributable to defective material of workmanship, developing in the water main within this three hundred and sixty-five (365) day period after the contract is accepted by the Board and recorded in the office of the Recorder of Mortgages shall be repaired by the Board's forces and charged to the Contractor.

If the Contractor fails to reimburse the Board within forty (40) days after billing, the Board will demand payment from the bonding company.

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

CONSTRUCTION PROPOSAL INFORMATION FOR

FEDERAL AID PROJECT

STATE PROJECT NO. 742-36-0123
WOODLAND DRIVE REHABILITATION
(TULLIS DR. TO GENERAL DEGAULLE DR.)
ORLEANS PARISH

BID BOND

A Bid Bond is required when the bidder's total bid amount as calculated by the Department in accordance with Subsection 103.01 is greater than $50,000. *(See Section 102 of the Project Specifications)*

_____, as Principal (Bidder) and _____, as Surety, are bound unto, **City of New Orleans**, (hereinafter called the Contracting Agency) in the sum of five percent (5 %) of the bidder's total bid amount as calculated by the Department for payment, of which the Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, as solidary obligors.

Signed and sealed this _____ day of _____, 20_____.

The condition of this obligation is such that, whereas the Principal has submitted a bid to the Contracting Agency on a contract for the construction of **STATE PROJECT NO. 742-36-0123, FEDERAL AID PROJECT NO. 3603(500), WOODLAND DRIVE REHABILITATION (TULLIS DR. TO GENERAL DEGAULLE DR.), located in ORLEANS PARISH,** if the bid is accepted and the Principal, within the specified time, enters into the contract in writing and gives bond with Surety acceptable to the Contracting Agency for payment and performance of said contract, this obligation shall be void; otherwise to remain in effect.

_____	_____
Principal (Bidder or First Partner to Joint Venture)	If a Joint Venture, Second Partner
By _____	By _____
Authorized Officer-Owner-Partner	Authorized Officer-Owner-Partner
_____	_____
Typed or Printed Name	Typed or Printed Name

_____
Surety

By _____ (Seal)
Agent or Attorney-in-Fact

_____
Typed or Printed Name

To receive a copy of the contract and subsequent correspondence / communication from LA DOTD or the contracting agency, with respect to the bid bonds, the following information must be provided:

_____	_____
Bonding Agency or Company Name	Address
_____	_____
Agent or Representative	Phone Number / Fax Number

LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
SCHEDULE OF ITEMS

LEAD PROJECT: 742-36-0123
OTHER PROJECTS:

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
201-01	LUMP	LUMP SUM	CLEARING & GRUBBING _____ DOLLARS _____ CENTS
202-01	LUMP	LUMP SUM	REMOVAL OF STRUCTURES & OBSTRUCTIONS _____ DOLLARS _____ CENTS
202-02-C	8,709	SQUARE YARD	REMOVAL OF PORTLAND CEMENT CONCRETE PAVEMENT _____ DOLLARS _____ CENTS
202-02-D	1,578	SQUARE YARD	REMOVAL OF CONCRETE WALKS & DRIVES _____ DOLLARS _____ CENTS
203-04	1,500	CUBIC YARD	NONPLASTIC EMBANKMENT _____ DOLLARS _____ CENTS
203-05	LUMP	LUMP SUM	EXCAVATION AND EMBANKMENT _____ DOLLARS _____ CENTS

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
203-08	20,580	SQUARE YARD	GEOTEXTILE FABRIC _____ DOLLARS _____ CENTS
204-06	3,258	LINEAR FOOT	TEMPORARY SILT FENCING _____ DOLLARS _____ CENTS
302-02-C-01	9,876.6	SQUARE YARD	CLASS II BASE COURSE (8" THICK) (CRUSHED STONE) (NET SECTION) _____ DOLLARS _____ CENTS
402-01	500.0	CUBIC YARD	TRAFFIC MAINTENANCE AGGREGATE (VEHICULAR MEASUREMENT) _____ DOLLARS _____ CENTS
601-01-G	7,397.1	SQUARE YARD	PORTLAND CEMENT CONCRETE PAVEMENT (8" THICK) _____ DOLLARS _____ CENTS
601-02-G	1,864.6	SQUARE YARD	PORTLAND CEMENT CONCRETE PAVEMENT (8" THICK) (CROSSOVERS & TURNOUTS) _____ DOLLARS _____ CENTS

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
706-01-A	1,234.2	SQUARE YARD	CONCRETE WALK (4" THICK) _____ DOLLARS _____ CENTS
706-02-C	64.2	SQUARE YARD	CONCRETE DRIVE (6" THICK) _____ DOLLARS _____ CENTS
706-02-D	207.3	SQUARE YARD	CONCRETE DRIVE (8" THICK) _____ DOLLARS _____ CENTS
706-03-C-01	46.8	SQUARE YARD	INCIDENTAL CONCRETE PAVING (H.C. RAMPS)(6" THICK) _____ DOLLARS _____ CENTS
707-01	6,041.0	LINEAR FOOT	CONCRETE CURB _____ DOLLARS _____ CENTS
710-01	94	CUBIC YARD	FLOWABLE FILL _____ DOLLARS _____ CENTS

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
713-01	LUMP	LUMP SUM	TEMPORARY SIGNS & BARRICADES _____ DOLLARS _____ CENTS
714-01	1,956	SQUARE YARD	SLAB SODDING _____ DOLLARS _____ CENTS
715-01	326	CUBIC YARD	TOPSOIL _____ DOLLARS _____ CENTS
717-01	38	POUND	SEEDING _____ DOLLARS _____ CENTS
718-01	1,273	POUND	FERTILIZER _____ DOLLARS _____ CENTS
722-01	1	EACH	PROJECT SITE LABORATORY _____ DOLLARS _____ CENTS

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
723-01-A	3,292	CUBIC YARD	GRANULAR MATERIAL FOR SUBBASE (12" THICK) (NET SECTION) _____ DOLLARS _____ CENTS
723-01-B	172	CUBIC YARD	GRANULAR MATERIAL BENEATH SIDEWALKS (4" THICK) (NET SECTION) _____ DOLLARS _____ CENTS
723-01-C	53	CUBIC YARD	GRANULAR MATERIAL BENEATH CONCRETE DRIVES AND HANDICAP RAMPS (6" THICK) (NET SECTION) _____ DOLLARS _____ CENTS
726-01	1,051.2	CUBIC YARD	BEDDING MATERIAL _____ DOLLARS _____ CENTS
727-01	LUMP	LUMP SUM	MOBILIZATION _____ DOLLARS _____ CENTS
729-01	87.5	SQUARE FOOT	SIGN (TYPE A) _____ DOLLARS _____ CENTS

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
729-08-A	14	EACH	MOUNTING (2 1/2" POST) _____ DOLLARS _____ CENTS
731-02	5	EACH	REFLECTORIZED RAISED PAVEMENT MARKERS _____ DOLLARS _____ CENTS
732-01-A	5,990	LINEAR FOOT	PLASTIC PAVEMENT STRIPING (4" WIDTH) _____ DOLLARS _____ CENTS
732-01-B	364	LINEAR FOOT	PLASTIC PAVEMENT STRIPING (6" WIDTH) _____ DOLLARS _____ CENTS
732-01-C	194	LINEAR FOOT	PLASTIC PAVEMENT STRIPING (8" WIDTH) _____ DOLLARS _____ CENTS
732-01-D	20	LINEAR FOOT	PLASTIC PAVEMENT STRIPING (12" WIDTH) _____ DOLLARS _____ CENTS

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
732-01-E	105	LINEAR FOOT	PLASTIC PAVEMENT STRIPING (24" WIDTH) _____ DOLLARS _____ CENTS
740-01	LUMP	LUMP SUM	CONSTRUCTION LAYOUT _____ DOLLARS _____ CENTS
S-001	568.1	LINEAR FOOT	SAW CUT CONCRETE CURB, PAVEMENT, SIDEWALK, DRIVEWAY, ETC. ACCORDING TO PLANS (FULL DEPTH) _____ DOLLARS _____ CENTS
S-002	10	EACH	UTILITY EXCAVATION (UP TO 6' DEEP) _____ DOLLARS _____ CENTS
S-003	10	EACH	UTILITY EXCAVATION (OVER 6' DEEP) _____ DOLLARS _____ CENTS
S-004	500	CUBIC YARD	UNSUITABLE SUBGRADE EXCAVATION AND SAND FILLING (VEHICULAR MEASUREMENT) _____ DOLLARS _____ CENTS

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
S-005	LUMP	LUMP SUM	COMPACT EXISTING SUBGRADE _____ DOLLARS _____ CENTS
S-006	1	EACH	PLUG EXISTING 42" DIAMETER DRAIN LINE _____ DOLLARS _____ CENTS
S-007	4	EACH	TAP AND CONNECT STORM DRAIN (UP TO 18") TO 60" EQUIVALENT RCPA _____ DOLLARS _____ CENTS
S-008	60	LINEAR FOOT	HAND-FORMED AND POURED IN PLACE CONCRETE CURB _____ DOLLARS _____ CENTS
S-009	100	SQUARE YARD	GRAVEL BED AND FILTER CLOTH OVER TREE ROOTS _____ DOLLARS _____ CENTS
S-010	16	EACH	TREE REMOVAL _____ DOLLARS _____ CENTS

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
S-011	LUMP	LUMP SUM	TREE TRIMMING _____ DOLLARS _____ CENTS
S-012	25	EACH	ROOT PRUNING _____ DOLLARS _____ CENTS
S-013	13	EACH	NEW TREE (SAVANNAH HOLLY - 2" MIN. CALIPER, 12' MIN. HEIGHT) _____ DOLLARS _____ CENTS
S-014	100.00	TON	ASPHALTIC CONCRETE FOR POT HOLE REPAIR ON ACCESS ROUTE AND FOR TEMPORARY SURFACING _____ DOLLARS _____ CENTS
S-015	4	EACH	STREET NAME SIGN ON NEW POST _____ DOLLARS _____ CENTS
S-016	1	EACH	PROJECT SIGN _____ DOLLARS _____ CENTS

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
S-017	812	LINEAR FOOT	REINFORCED CONCRETE PIPE (15") _____ DOLLARS _____ CENTS
S-018	924	LINEAR FOOT	REINFORCED CONCRETE PIPE (18") _____ DOLLARS _____ CENTS
S-019	295	LINEAR FOOT	REINFORCED CONCRETE PIPE (21") _____ DOLLARS _____ CENTS
S-020	13	LINEAR FOOT	REINFORCED CONCRETE PIPE (36") _____ DOLLARS _____ CENTS
S-021	37	LINEAR FOOT	REINFORCED CONCRETE ARCH PIPE (48" EQUIV.) _____ DOLLARS _____ CENTS
S-022	921	LINEAR FOOT	REINFORCED CONCRETE ARCH PIPE (60" EQUIV.) _____ DOLLARS _____ CENTS

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
S-023	500	LINEAR FOOT	YARD DRAIN SERVICE LINE (6" PVC) _____ DOLLARS _____ CENTS
S-024	500	LINEAR FOOT	YARD DRAIN SERVICE LINE (10" PVC) _____ DOLLARS _____ CENTS
S-025	2	EACH	REINFORCED CONCRETE WYE - NEW (15"X15") _____ DOLLARS _____ CENTS
S-026	2	EACH	REINFORCED CONCRETE WYE - NEW (18"X15") _____ DOLLARS _____ CENTS
S-027	1	EACH	REINFORCED CONCRETE WYE - NEW (21"X15") _____ DOLLARS _____ CENTS
S-028	7	EACH	JUNCTION BOX (S&WB OF N.O. - DWG. # D-3937) _____ DOLLARS _____ CENTS

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
S-029	10	EACH	NO. 1 STANDARD MANHOLE (S&WB OF N.O. - DWG. # D-870) _____ DOLLARS _____ CENTS
S-030	1	EACH	NO. 3 STANDARD MANHOLE (S&WB OF N.O. - DWG. # D-870) _____ DOLLARS _____ CENTS
S-031	3	EACH	NO. 1 STANDARD CATCH BASIN (S&WB OF N.O. - DWG. # D-873) _____ DOLLARS _____ CENTS
S-032	10	EACH	DOUBLE NO. 1 STANDARD CATCH BASIN (S&WB OF N.O. - DWG. # D-873-A) _____ DOLLARS _____ CENTS
S-033	3	EACH	SINGLE MOUNTABLE CATCH BASIN (S&WB OF N.O. - DWG. # D-3431-A) _____ DOLLARS _____ CENTS
S-034	2	EACH	DOUBLE MOUNTABLE CATCH BASIN (S&WB OF N.O. - DWG. # D-3431-B) _____ DOLLARS _____ CENTS

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
S-035	1	EACH	DROP INLET (30"X24") (S&WB OF N.O. - DWG. # D-3264) _____ DOLLARS _____ CENTS
S-036	229.0	LINEAR FOOT	WATER MAIN (8") WITH MAIN LINE FITTINGS(PVC-C900) _____ DOLLARS _____ CENTS
S-037	1,642.0	LINEAR FOOT	WATER MAIN (12") WITH MAIN LINE FITTINGS (PVC-C900) _____ DOLLARS _____ CENTS
S-038	27.0	LINEAR FOOT	WATER MAIN (12") WITH MAIN LINE FITTINGS (DUCTILE IRON) _____ DOLLARS _____ CENTS
S-039	1	EACH	WATER VALVE (8") _____ DOLLARS _____ CENTS
S-040	4	EACH	WATER VALVE (12") _____ DOLLARS _____ CENTS

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
S-041	5	EACH	VALVE MANHOLE (S&WB OF N.O. DWG. # 6179-F-2) _____ DOLLARS _____ CENTS
S-042	5	EACH	FIRE HYDRANT (S&WB OF N.O. DWG. # 6179-F2) _____ DOLLARS _____ CENTS
S-043	70	EACH	REPLACE 1" WATER HOUSE CONNECTION (FROM MAIN TO METER) WITH REDUCER AS NEEDED _____ DOLLARS _____ CENTS
S-044	2	EACH	REPLACE 4" WATER HOUSE CONNECTION (FROM MAIN TO METER) _____ DOLLARS _____ CENTS
S-045	1	EACH	REPLACE 8" WATER HOUSE CONNECTION (FROM MAIN TO METER) _____ DOLLARS _____ CENTS
S-046	5	EACH	EIGHT (8") INCH WATER MAIN OFFSET (UP TO 48") _____ DOLLARS _____ CENTS

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
S-047	1	EACH	TWELVE (12") INCH WATER LINE OFFSET (UP TO 48") _____ DOLLARS _____ CENTS
S-048	35	EACH	REMOVE MUD AND DEBRIS FROM INSIDE OF WATER METER BOX _____ DOLLARS _____ CENTS
S-049	17	EACH	ADJUST COMPLETE WATER METER BOX TO GRADE _____ DOLLARS _____ CENTS
S-050	17	EACH	REPLACE BROKEN WATER METER BOX _____ DOLLARS _____ CENTS
S-051	14	EACH	PLUG EXISTING WATER OR SEWER MAIN (UP TO 12" DIAMETER) _____ DOLLARS _____ CENTS
S-052	488	LINEAR FOOT	INSTALL EIGHT (8") INCH SEWER MAIN (8.1' TO 10.0' DEEP) _____ DOLLARS _____ CENTS

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
S-053	239	LINEAR FOOT	INSTALL EIGHT (8") INCH SEWER MAIN (10.1' TO 12.0' DEEP) _____ DOLLARS _____ CENTS
S-054	617	LINEAR FOOT	INSTALL TEN (10") INCH SEWER MAIN (8.1' TO 10.0' DEEP) _____ DOLLARS _____ CENTS
S-055	129	LINEAR FOOT	INSTALL TEN (10") INCH SEWER MAIN (10.1' TO 12.0' DEEP) _____ DOLLARS _____ CENTS
S-056	58	LINEAR FOOT	INSTALL TWELVE (12") INCH SEWER MAIN (10.1' TO 12.0' DEEP) _____ DOLLARS _____ CENTS
S-057	809.0	LINEAR FOOT	SEWAGE FORCE MAIN (12") WITH MAIN LINE FITTINGS (PVC-C900) _____ DOLLARS _____ CENTS
S-058	28.0	LINEAR FOOT	SEWAGE FORCE MAIN (12") WITH MAIN LINE FITTINGS (DUCTILE IRON) _____ DOLLARS _____ CENTS

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
S-059	1	EACH	TWELVE (12") INCH SEWAGE FORCE MAIN OFFSET (UP TO 48") _____ DOLLARS _____ CENTS
S-060	7	EACH	SEWER MANHOLE (S&WB OF N.O. DWG. # 6178-B6) _____ DOLLARS _____ CENTS
S-061	40	EACH	REPLACE EXISTING SEWER HOUSE CONNECTION FROM NEW MAIN TO PROPERTY LINE (S&WB OF N.O. DWG. # 6312-E5-A&B) _____ DOLLARS _____ CENTS
S-062	2	EACH	ADJUST MANHOLE (UP TO 6") WITH BRICK AND MORTAR _____ DOLLARS _____ CENTS
S-063	3	EACH	ADJUST MANHOLE (OVER 6" AND UP TO 36") WITH BRICK AND MORTAR _____ DOLLARS _____ CENTS
S-064	5	EACH	RELOCATION OF EXISTING LIGHT STANDARDS _____ DOLLARS _____ CENTS

CONSTRUCTION PROPOSAL SIGNATURE AND EXECUTION FORM

THIS FORM, THE SCHEDULE OF ITEMS, AND THE PROPOSAL GUARANTY MUST BE COMPLETED AS INDICATED AND SUBMITTED TO THE LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT (DOTD) TO CONSTITUTE A VALID BID

STATE PROJECT NO. **742-36-0123**

FEDERAL AID PROJECT NO. **3603(500)**

NAME OF PROJECT **WOODLAND DRIVE REHABILITATION (TULLIS DR. TO GENERAL DEGAULLE DR.)**

I (WE) HEREBY CERTIFY THAT I (WE) HAVE CAREFULLY EXAMINED THE PROPOSAL, PLANS AND SPECIFICATIONS, INCLUDING ANY AND ALL ADDENDA, AND THE SITE OF THE ABOVE PROJECT AND AM (ARE) FULLY COGNIZANT OF ALL PROPOSAL DOCUMENTS, THE MASTER COPY OF WHICH IS ON FILE AT DOTD HEADQUARTERS IN BATON ROUGE, LA., AND ALL WORK, MATERIALS AND LABOR REQUIRED THEREIN, AND AGREE TO PERFORM ALL WORK, AND SUPPLY ALL NECESSARY MATERIALS AND LABOR REQUIRED FOR SUCCESSFUL AND TIMELY COMPLETION OF THE ABOVE PROJECT AND TO ACCEPT THE SUMMATION OF THE PRODUCTS OF THE UNIT PRICES BID ON THE SCHEDULE OF ITEMS ATTACHED HERETO AND MADE A PART HEREOF MULTIPLIED BY THE ACTUAL QUANTITY OF UNIT OF MEASURE PERFORMED FOR EACH ITEM, AS AUDITED BY DOTD, AS FULL AND FINAL PAYMENT FOR ALL WORK, LABOR AND MATERIALS NECESSARY TO COMPLETE THE ABOVE PROJECT, SUBJECT TO INCREASE ONLY FOR PLAN CHANGES (CHANGE ORDERS) APPROVED BY THE DOTD CHIEF ENGINEER OR HIS DESIGNEE. THIS BID IS SUBMITTED IN ACCORDANCE WITH THE GENERAL BIDDING REQUIREMENTS IN THE CONSTRUCTION PROPOSAL AND ALL SPECIAL PROVISIONS, PLANS, SUPPLEMENTAL SPECIFICATIONS, AND THE LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES (2006 EDITION). I (WE) UNDERSTAND THAT THE SUMMATION OF THE PRODUCTS OF THE UNIT PRICES BID ON THE SCHEDULE OF ITEMS MULTIPLIED BY THE ESTIMATED QUANTITY OF UNIT OF MEASURE FOR EACH ITEM, ALONG WITH ANY OTHER FACTORS SPECIFIED TO BE APPLICABLE SUCH AS CONSTRUCTION TIME AND/OR LANE RENTAL, SHALL BE THE BASIS FOR THE COMPARISON OF BIDS. I (WE) UNDERSTAND THAT THE SCHEDULE OF ITEMS MUST CONTAIN UNIT PRICES WRITTEN OUT IN WORDS AND THAT THE SCHEDULE OF ITEMS SUBMITTED AS PART OF THIS BID IS ON THE FORM SUPPLIED BY DOTD IN THE BID PROPOSAL. MY (OUR) PROPOSAL GUARANTY IN THE AMOUNT SPECIFIED FOR THE PROJECT IS ATTACHED HERETO AS EVIDENCE OF MY (OUR) GOOD FAITH TO BE FORFEITED IF THIS BID IS ACCEPTED BY DOTD AND I (WE) FAIL TO COMPLY WITH ANY REQUIREMENT NECESSARY FOR AWARD AND EXECUTION OF THE CONTRACT, AS WELL AS, SIGN AND DELIVER THE CONTRACT AND PAYMENT/PERFORMANCE/RETAINAGE BOND AS REQUIRED IN THE SPECIFICATIONS.

NONCOLLUSION DECLARATION (APPLICABLE TO FEDERAL-AID PROJECTS)

I (WE) DECLARE UNDER PENALTY OF PERJURY UNDER THE LAWS OF THE UNITED STATES AND THE STATE OF LOUISIANA THAT I (WE) HAVE NOT DIRECTLY OR INDIRECTLY, ENTERED INTO ANY AGREEMENT, PARTICIPATED IN ANY COLLUSION, OR OTHERWISE TAKEN ANY ACTION IN RESTRAINT OF FREE COMPETITIVE BIDDING IN CONNECTION WITH THE CONTRACT FOR THIS PROJECT NOR VIOLATED LA. R.S. 48:254.

BIDDER'S DBE GOAL STATEMENT (APPLICABLE TO DBE GOAL PROJECTS)

IF THIS PROJECT IS DESIGNATED BY SPECIAL PROVISION AS A DISADVANTAGED BUSINESS ENTERPRISE (DBE) GOAL PROJECT IN ACCORDANCE WITH THE DBE PROVISIONS OF THIS CONTRACT, THE BIDDER ASSURES DOTD THAT HE/SHE WILL MEET OR EXCEED THE DBE CONTRACT GOAL, OR IF THE BIDDER CANNOT MEET THE REQUIRED DBE GOAL, THE BIDDER ASSURES DOTD THAT HE/SHE HAS MADE AND CAN DOCUMENT GOOD FAITH EFFORTS MADE TOWARDS MEETING THE GOAL REQUIREMENT IN ACCORDANCE WITH THE CONTRACT AND DBE PROGRAM MANUAL INCORPORATED HEREIN BY REFERENCE.

THE APPARENT LOW BIDDER SHALL COMPLETE AND SUBMIT TO THE DOTD COMPLIANCE PROGRAMS OFFICE, FORM CS-6AAA AND ATTACHMENT(S) AND, IF NECESSARY, DOCUMENTATION OF GOOD FAITH EFFORTS MADE BY THE BIDDER TOWARD MEETING THE GOAL, WITHIN TEN BUSINESS DAYS AFTER THE OPENING OF BIDS FOR THIS PROJECT. RESPONSIVENESS OF INFORMATION SUPPLIED IN THIS SECTION OF THIS CONSTRUCTION PROPOSAL SIGNATURE AND EXECUTION FORM IS GOVERNED BY THE DBE REQUIREMENTS INCLUDED WITHIN THE SPECIFICATIONS AND DBE PROGRAM MANUAL.

CERTIFICATION OF EMPLOYMENT OF LOUISIANA RESIDENTS TRANSPORTATION INFRASTRUCTURE MODEL FOR ECONOMIC DEVELOPMENT (TIME) PROJECTS (APPLICABLE TO TIME PROJECTS)

IF THIS PROJECT IS DESIGNATED BY SPECIAL PROVISION AS A TRANSPORTATION INFRASTRUCTURE MODEL FOR ECONOMIC DEVELOPMENT (TIME) PROJECT AS DEFINED IN ACT NO. 16 OF THE 1989 FIRST EXTRAORDINARY SESSION OF THE LEGISLATURE WHICH ENACTED PART V OF CHAPTER 7 OF SUBTITLE II OF TITLE 47 OF THE LOUISIANA REVISED STATUTES OF 1950, COMPRISED OF R.S. 47:820.1 THROUGH 820.6.

THE BIDDER CERTIFIES THAT AT LEAST 80 PERCENT OF THE EMPLOYEES EMPLOYED ON THIS TIME PROJECT WILL BE LOUISIANA RESIDENTS IN ACCORDANCE WITH LOUISIANA R.S. 47:820.3.

NON PARTICIPATION IN PAYMENT ADJUSTMENT (ASPHALT CEMENT AND FUELS) STATEMENT

IF THIS PROJECT IS DESIGNATED BY SPECIAL PROVISION AS BEING SUBJECT TO PAYMENT ADJUSTMENT FOR ASPHALT CEMENT AND/OR FUELS, THE BIDDER HAS THE OPTION OF REQUESTING EXCLUSION FROM SAID PAYMENT ADJUSTMENT PROVISIONS THAT ARE ESTABLISHED BY SPECIAL PROVISION ELSEWHERE HEREIN.

IF THE BIDDER DESIRES TO BE EXCLUDED FROM THESE PAYMENT ADJUSTMENT PROVISIONS,

THE BIDDER IS REQUIRED TO MARK HERE ☐

FAILURE TO MARK THIS BOX PRIOR TO BID OPENING WILL CONSTITUTE FORFEITURE OF THE BIDDER'S OPTION TO REQUEST EXCLUSION.

STATE PROJECT NO. **742-36-0123**

BIDDER SIGNATURE REQUIREMENTS (APPLICABLE TO ALL PROJECTS)

THIS BID FOR THE CAPTIONED PROJECT IS SUBMITTED BY:

Name of Principal (Individual, Firm, Corporation, or Joint Venture)

If Joint Venture, Name of First Partner

(Louisiana Contractor's License Number of Bidder or First Partner to Joint Venture)

(Business Street Address)

(Business Mailing Address, if different)

(Area Code and Telephone Number of Business)

(Telephone Number and Name of Contact Person)

(Telecopier Number, if any)

If Joint Venture, Name of Second Partner

(Louisiana Contractor's License Number of Second Partner to Joint Venture)

(Business Street Address)

(Business Mailing Address, if different)

(Area Code and Telephone Number of Business)

(Telephone Number and Name of Contact Person)

(Telecopier Number, if any)

ACTING ON BEHALF OF THE BIDDER, THIS IS TO ATTEST THAT THE UNDERSIGNED DULY AUTHORIZED REPRESENTATIVE OF THE ABOVE CAPTIONED FIRM, CORPORATION OR BUSINESS, BY SUBMISSION OF THIS BID, AGREES AND CERTIFIES THE TRUTH AND ACCURACY OF ALL PROVISIONS OF THIS PROPOSAL, INCLUSIVE OF THE REQUIREMENTS, STATEMENTS, DECLARATIONS AND CERTIFICATIONS ABOVE AND IN THE SCHEDULE OF ITEMS AND PROPOSAL GUARANTY. EXECUTION AND SIGNATURE OF THIS FORM AND SUBMISSION OF THE SCHEDULE OF ITEMS AND PROPOSAL GUARANTY SHALL CONSTITUTE AN IRREVOCABLE AND LEGALLY BINDING OFFER BY THE BIDDER.

(Signature)

(Printed Name)

(Title)

(Date of Signature)

(Signature)

(Printed Name)

(Title)

(Date of Signature)

CONTRACTOR'S TOTAL BASE BID $ _____

IT IS AGREED THAT THIS TOTAL, DETERMINED BY THE BIDDER, IS FOR PURPOSES OF OPENING AND READING BIDS ONLY, AND THAT THE LOW BID FOR THIS PROJECT WILL BE DETERMINED FROM THE EXTENSION AND TOTAL OF THE BID ITEMS BY DOTD.

CS-14AA
08/06