

ROCKDALE COUNTY, GEORGIA

August 20, 2024

PI 0006934

**COURTESY PARKWAY EXTENSION
FROM FLAT SHOALS RD TO OLD COVINGTON**

**INVITATION TO BID
24-15**



**ROCKDALE COUNTY FINANCE DEPARTMENT
PROCUREMENT DIVISION
958 MILSTEAD AVENUE
CONYERS, GA 30012
770-278-7552**

SPECIAL NOTICE 1

NOTICE TO ALL BIDDERS

TO REPORT BID RIGGING ACTIVITIES CALL:
1-800-424-9071

THE U.S. DEPARTMENT OF TRANSPORTATION (DOT) OPERATES THE ABOVE TOLL-FREE “HOTLINE” MONDAY THROUGH FRIDAY, 8:00 AM TO 5:00 PM, EASTERN TIME. ANYONE WITH THE KNOWLEDGE OF POSSIBLE BID RIGGING, BIDDER COLLUSION, OR OTHER FRAUDULENT ACTIVITIES SHOULD USE THE “HOTLINE” TO REPORT SUCH ACTIVITIES.

THE “HOTLINE” IS PART OF THE DOT’S CONTINUING EFFORT TO IDENTIFY AND INVESTIGATE HIGHWAY CONSTRUCTION CONTRACT FRAUD AND ABUSE AND IS OPERATED UNDER THE DIRECTION OF THE DOT INSPECTOR GENERAL. ALL INFORMATION WILL BE TREATED CONFIDENTIALLY AND CALLER ANONYMITY WILL BE RESPECTED.

THE CONTRACTOR IS ADVISED THAT FEDERAL FUNDS ARE BEING UTILIZED FOR CONSTRUCTION OF THIS PROJECT. THE DISADVANTAGE BUSINESS ENTERPRISE (DBE) GOAL IS SET AT 13%. BE ADVISED THAT ALL DBE CONTRACTORS MUST BE CERTIFIED BY THE GEORGIA DEPARTMENT OF TRANSPORTATION FOR THEIR WORK TO BE COUNTED TOWARDS THE 13% DBE GOAL.

BIDDERS WILL BE REQUIRED TO COMPLETE FEDERAL AID CERTIFICATION OF COMPLIANCE.

SUB-CONTRACTS BY THE PRIME SHOULD ALSO INCLUDE THESE PROVISIONS.

SPECIAL NOTICE 2

720 CALENDAR DAYS ARE ALLOWED FOR CONSTRUCTION ON PROJECT NO. PI 0006934 COURTESY PARKWAY EXTENSION FROM FLAT SHOALS RD TO OLD COVINGTON HWY. CONTRACTOR WILL BE ASSESSED LIQUIDATED DAMAGES IN THE AMOUNT OF \$1,500 PER CALENDAR DAY FOR FAILURE TO COMPLETE THE PROJECT ON SCHEDULE.

THE CONTRACTOR IS ADVISED THE AMOUNT OF SUCH CHARGES IS HEREBY AGREED UPON AS FIXED LIQUIDATED DAMAGES DUE THE COUNTY AFTER THE EXPIRATION OF THE TIME FOR COMPLETION SPECIFIED IN THE CONTRACT. THE CONTRACTOR AND HIS SURETY SHALL BE LIABLE FOR LIQUIDATED DAMAGES IN EXCESS OF THE AMOUNT DUE THE CONTRACTOR ON THE FINAL PAYMENT.

THESE FIXED LIQUIDATED DAMAGES ARE NOT ESTABLISHED AS A PENALTY BUT ARE CALCULATED AND AGREED UPON IN ADVANCE BY THE COUNTY AND THE CONTRACTOR DUE THE UNCERTAINTY AND IMPOSSIBILITY OF MAKING A DETERMINATION AS TO THE ACTUAL AND CONSEQUENTIAL DAMAGES WHICH ARE INCURRED BY THE COUNTY, THE STATE, AND THE GENERAL PUBLIC AS A RESULT OF THE FAILURE ON THE PART OF THE CONTRACTOR TO COMPLETE THE WORK ON TIME.

SPECIAL NOTICE 3

CONTRACTOR IS ADVISED TO PAY SPECIAL ATTENTION TO THE FOLLOWING SPECIAL PROVISIONS FOR SPECIFIC REQUIREMENTS AND ASSESSMENT OF LIQUIDATED DAMAGES FOR FAILURE TO ADHERE TO THE SPECIAL PROVISIONS:

- **SECTION 108.08.C, “RESTRICTIVE WORK HOURS”**

CONTRACTOR IS ALSO ADVISED TO PAY SPECIAL ATTENTION TO SPECIAL PROVISION 107.23.H.2 “*ANY TREE CLEARING ACTIVITIES SHALL BE PROHIBITED BETWEEN MAY 1ST AND JULY 31ST AND BETWEEN DECEMBER 1ST AND FEBRUARY 28TH.*”

SPECIAL NOTICE 4

TRAFFIC SIGNALS

PLEASE BE ADVISED THAT THE AMOUNT OF “FIXED TIME” OPERATION IS TO BE KEPT AT A MINIMUM FOR ALL TRAFFIC SIGNALS ASSOCIATED WITH THIS CONTRACT.

ANY EXISTING PRESENCE DETECTION DAMAGED DURING CONSTRUCTION ARE TO BE REPAIRED AND FULLY FUNCTIONAL WITH IN 48 HOURS. FAILURE TO DO SO WILL RESULT IN THE ASSESSMENT OF LIQUIDATED DAMAGES IN THE AMOUNT OF \$500 PER CALENDAR DAY FOR EACH DAY PAST THE ALLOWABLE 48 HOURS. ROCKDALE COUNTY RESERVES THE RIGHT TO SUSPEND ALL OTHER ACTIVITIES UNTIL THE REPAIRS ARE MADE.

UPON ACTIVATION OF AN UPGRADED AND/OR NEW TRAFFIC SIGNAL, FLASHER, OR BEACON, ETC., THE CONTRACTOR WILL HAVE 48 HOURS TO ENSURE THE UNIT IS FUNCTIONING PROPERLY AND ALL PRESENCE DETECTION IS INSTALLED AND WORKING PROPERLY, UNLESS IT IS AGREED BY THE ENGINEER THAT IT SHOULD NOT BE DONE. FAILURE TO COMPLY WILL RESULT IN THE ASSESSMENT OF LIQUIDATED DAMAGES IN THE AMOUNT OF \$500 PER CALENDAR DAY FOR EACH DAY PAST THE ALLOWABLE 48 HOURS. ROCKDALE COUNTY RESERVES THE RIGHT TO SUSPEND ALL OTHER ACTIVITIES UNTIL THE REPAIRS ARE MADE.

INTRODUCTION:

This is an Invitation to Bid (ITB) for **PI 0006934 Courtesy Parkway Extension (from Flat Shoals Rd to Old Covington)** in Rockdale County. Instructions for preparation and submission of a bid are contained in this packet. Bids must be typed or printed in ink.

PROJECT DESCRIPTION:

The project consists of a new 3-lane undivided urban roadway from Old Covington Highway to Flat Shoals Road. The roadway will bridge over I-20 1200' east of Courtesy Parkway and will include connection roadways to tie to Iris Drive. The proposed bridge will have a width for 5 lanes to account for future traffic needs and HOV/HOT connection. The roadway will intersect with Courtesy Parkway, 1000' north of Dogwood Drive, and will use the existing Courtesy Parkway alignment from this intersection north to Old Covington Highway. The project will include intersection improvements on Flat Shoals Road, Old Covington Highway, and Iris Drive for additional turn lanes. The project is in Rockdale County, and the portion of the project north of I-20 is located within the City of Conyers. The project has a total project length of 1.48 miles.

Any millings are to be considered the property of Rockdale County and are to be returned by Contractor to Rockdale County Department of Transportation, located at 2570 Old Covington Hwy, SW, Conyers, GA 30012.

PURCHASING CONTACT FOR THIS REQUEST:

All questions concerning this ITB and all questions arising subsequent to award are to be addressed to the Purchasing Division via email to Adrienne Brown, at Adrienne.m.brown@rockdalecountyga.gov or the following address:

Rockdale County Finance Department
Purchasing Division
Attn: Adrienne Brown
958 Milstead Avenue
Conyers, GA 30012
Phone: (770) 278-7557, Fax (770) 278-8910
E-mail: Adrienne.m.brown@rockdalecountyga.gov

To maintain a "level playing field", and to assure that all bidders receive the same information, bidders are requested **NOT** to contact anyone other than the contact above until after the award of the contract. Doing so could result in disqualification of the bidder.

Rockdale County provides equal opportunity for all businesses and does not discriminate against any person or business because of race, color, religion, sex, national origin, and handicap, or veterans' status. This policy ensures all segments of the business community have access to supplying the goods and services needed by Rockdale County.

BID COPIES FOR EVALUATION:

Two (2) hard copies, one (1) original hard copy, (*Original must be clearly marked "Original" and the Copies clearly marked "Copies."*) and one (1) USB Flash Drive in Adobe PDF format will be required for review purposes. Flash Drives that are blank or have incorrect information on them will not be acceptable and may be justification for disqualification. Check your Flash Drive(s) to ensure that they have the appropriate material on it before submitting.

All bid materials must be completed and enclosed in a sealed envelope prior to submittal. The ITB number must be clearly written on the outside of the envelope. **Incomplete, incorrect, unsealed, unmarked, or improperly submitted bids may be rejected.**

CONTRACT TERM:

720 Calendar Days

DUE DATE:

Sealed bids will be received at the Rockdale County Finance Department, Procurement Division, 958 Milstead Avenue, Conyers, GA 30012 no later than **2:00 P.M., local time, Thursday, September 19, 2024**. Bids received after this time will not be accepted. Bidders are not required to attend bid opening.

PRE-BID CONFERENCE:

There will be a **MANDATORY** Pre-Bid Conference held at **The Rockdale County Department of Transportation, 2570 Old Covington Hwy, SW, Conyers, GA 30012, at 10:00 a.m., local time, Wednesday, September 4, 2024.** Prime bidders who arrive more than 5 minutes after start of time of the meeting (as stated in the solicitation and by the Procurement representative's watch) or after the discussion portion of the meeting (whichever comes first) may not be permitted to submit a bid on the project. Any questions and/or misunderstandings that may arise from this ITB may be asked and answered at the pre-bid conference; however, oral responses are not authoritative. Bidders are encouraged to review the ITB before attending the pre-bid conference. Questions received after the pre-bid conference must be submitted in writing to Adrienne.m.brown@rockdalecountyga.gov. Any contractor who intends to submit a Bid is required to attend this meeting. Failure to attend this meeting may result in the proposed Bid being deemed non-responsive.

QUESTIONS AND CLARIFICATIONS:

All questions and/or requests for clarifications concerning this ITB must be submitted to the Purchasing Division via email to Adrienne Brown at Adrienne.m.brown@rockdalecountyga.gov no later than **2:00 p.m., local time, on Thursday, September 12, 2024**. It shall be the Bidders responsibility to seek clarification as early as possible prior to the due date and time. Written responses from the County to the questions it receives will be in an addendum and posted to the County's website at www.rockdalecountyga.gov, under Bid Opportunities. Questions or requests for clarifications received after this deadline will not receive a response.

ADDENDA:

Answers to questions submitted that materially change the conditions and specifications of this ITB will be issued in an addendum and posted to the County's website at www.rockdalecountyga.gov under Bid Opportunities. Any discussions or documents will be considered non-binding unless incorporated and issued in an addendum.

It is the bidder's responsibility to check the Rockdale County website at www.rockdalecountyga.gov, under Bid Opportunities for any addenda that may be issued, prior to submitting a bid for this ITB.

FOREIGN PRODUCTS:

Rockdale County prefers to buy items produced and/or manufactured in the United States of America; however, foreign products may be considered provided it is so stated. Bidder certifies that item(s) offered on this bid is/are manufactured/produced in the United States. Yes _____ No _____

If "No" state place: _____

QUALIFICATIONS OF OFFERORS:

Bidders must have a current business license from their home office jurisdiction and provide a copy of that license with the submittal of their bid response. Rockdale County vendors doing business in Rockdale County must have a current Rockdale County Business License.

Bids from any offeror that is in default on the payment of any taxes, license fees, or other monies due to Rockdale County will not be accepted.

Bidders are to submit at least **three (3) references** from projects with similar experience using the materials and process in this Invitation to Bid. Form to provide information is included in the bid document.

GENERAL CONTRACTOR'S LICENSE (if required by law)

As required by O.C.G.A. § 43-41-6, *et seq.*, a Bidder responding to this Invitation to Bid must provide a copy of its Georgia General Contractor's License. The Georgia General Contractor's License must be issued in the name of the Bidder. All licenses must be current, valid, and issued in compliance with applicable law. Failure to provide this license with the Bid may result in the proposed Bid being deemed non-responsive. Effective July 1, 2008: All General Contractors must have a current valid license from the State Licensing Board for Residential and General Contractors, unless specifically exempted from holding such license pursuant to Georgia law (O.C.G.A. §43-41-17).

PREQUALIFICATION OF BIDDERS:

Before submitting a bid in excess of \$2,000,000, the Bidder shall have been prequalified with the Georgia Department of Transportation and received a Certificate of Qualification in accordance with the Rules and Regulations approved and adopted by the State Transportation Board. Bidders submitting bids of \$2,000,000 or less shall have been registered with the Department. In addition, the aggregate total amount a Bidder may have under contract shall not exceed the Current Capacity of the Bidder.

BID:

The Bidder shall be responsible for performing with his own organization at least **fifty percent (50%)** of the Work in this contract. The Bidder shall not subcontract, transfer, assign, or otherwise dispose of the contract or any portion thereof, without the written consent of the County.

The successful Bidder shall secure and pay for necessary approvals, permits, assessments, and changes required for the construction and installation of the project as required by local, state, and federal regulations.

Rockdale County in accordance with Title VI of the Civil Rights Act of 1964 and 78 Stat. 252, 42 USC 2000d—42 and Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, part 21, Nondiscrimination in federally assisted programs of the Department of Transportation issued pursuant to such Act, hereby notifies all bidders that it will affirmatively ensure that in any contract entered into pursuant to this advertisement, minority business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, sex, or national origin in consideration for an award.

The Bidder must comply with Title VI of the Civil Rights Act of 1964, the Anti-Kickback Act, the Contract Work Hour Standard Act, and the National occupational Safety and health Act of 1970.

Bidders and their subcontractors, material suppliers, vendors and other participants must complete the Lower Tier Contractor Certification Regarding Debarment, Suspension and Other Responsibility Matters form contained herein.

Bidders must certify that they do not and will not maintain or provide for their employees any facilities that are segregated on a basis of race, color, creed, or national origin.

All bidders must submit with bid, a bid bond, certified check or cashier's check in the amount of five percent (5%) of the total bid. **Failure to submit a bid bond with the proper rating will result in the bid being deemed non-responsive.** Successful supplier will be required to meet insurance requirements, submit a one hundred ten percent (100%) performance bond and a one hundred ten percent (110%) payment bond. Insurance and Bonding Company must be licensed to do business by the Georgia Secretary of State, authorized to do business in Georgia by The Georgia Insurance Department, listed in the Department of Treasury's Publication of Companies holding Certificates of Authority as Acceptable Surety on Federal Bonds and as acceptable reinsuring companies. **The bid bond, payment bond, and performance bond must have an A.M. Best rating of A-10 or higher.**

Contractor is advised that Federal Funds are being utilized for construction of this project. The Disadvantage Business Enterprise (DBE) goal is set at **13%**. Be advised that all DBE contractors must be certified by the Georgia Department of Transportation for their work to be counted towards the DBE goal. Bidders will be required to complete Federal Aid Certification of compliance. Sub-contracts by the prime should also include these provisions.

Individuals, firms and businesses seeking an award of a Rockdale County contract may not initiate or continue any verbal or written communications regarding a solicitation with any County officer, elected official, employee or other County representative without permission of the Department of Finance named in the solicitation between the date of the issuance of the solicitation and the date of the final contract award by the Board of Commissioners. Violations will be reviewed by the Department of Finance. If determined that such communication has compromised the competitive process, the offer submitted by the individual, firm or business may be disqualified from consideration for award.

The written bid documents supersede any verbal or written prior communications between the parties.

PRE-CONSTRUCTION CONFERENCE:

Prior to beginning construction, A Pre-Construction conference w/ Rockdale County, GDOT Area Engineer, GDOT Project Manager, Contractor and Sub-Contractors (including DBE subcontractors) will be held.”

SPECIFICATIONS:

The undersigned, hereinafter termed the Bidder, proposes to enter into a Contract with Rockdale County, to provide the necessary machinery, tools, apparatus, and other means of construction, and all materials and labor specified in the Contract, or called for by the Drawings, or necessary to complete the Work in the manner therein specified within the time specified, as therein set forth, for:

PI 0006934
COURTESY PARKWAY EXTENSION
FROM FLAT SHOALS RD TO OLD COVINGTON

The Bidder has carefully examined and fully understands the Contract, Plans, Specifications, and other Documents hereto attached, and has made a personal examination of the Site of the proposed Work, and has satisfied himself as to the actual conditions and requirements of the Work, and hereby proposes and agrees that if his bid is accepted, he will contract with the Rockdale County in full conformance with the Contract Documents.

Unless otherwise directed, all work performed shall be in accordance with the Georgia Department of Transportation Standard Specifications Construction of Transportation Systems, 2021 Edition, the 2024 Supplemental Specifications modifying the 2021 Standard Specifications, General Conditions, Supplements thereto (Published and Not Published) and Special Provisions modifying them. All materials used in the process of completion of the work included in the contract will be furnished from Georgia Department of Transportation certified suppliers only and meet the requirements outlined in the GDOT Sampling, Testing and Inspection Guide.

It is the intent of this Bid to include all items of construction and all Work indicated on the Drawings and called for in the Specifications.

In accordance with the foregoing, the undersigned proposes to furnish and construct the items listed in the attached Schedule of Items for the unit prices stated.

The Bidder agrees that the cost of any work performed, materials furnished, services provided, or expenses incurred, which are not specifically delineated in the Contract Documents but which are incidental to the scope, intent, and completion of the Contract, shall be deemed to have been included in the prices bid for the various items scheduled.

OPTION TO AUDIT

Successful bidder will be required to maintain complete records during the life of the contract and for a period of one year after completion of the contract. Such records are to be made available to the County if officially requested, to be audited by a designated County auditing staff. In such audits reveal overcharges and/or undercharges, such will be adjusted, and compensation made by either party to correct charges.

TORT IMMUNITY:

No officer, employee, or agent of the County acting within the scope of his/her employment or function shall be held personally liable in tort or named as a defendant in any action for injury or damage suffered because of any act, event, or failure to act.

SUBMITTAL COST AND CONFIDENTIALITY

Careful consideration should be given before submitting confidential information to Rockdale County. The Georgia Open Records Act permits public scrutiny of most materials collected as part of this process. Please clearly mark any information that is considered a trade secret, as defined by the Georgia Trade Secrets Act of 1990, O.C.G.A. §10-1-760 et seq., as trade secrets are exempt from disclosure under the Open Records Act. Rockdale County does not guarantee the confidentiality of any information not clearly marked as a trade secret.

OPEN RECORDS

The contents of the bids will not be made public until after an award and contract has been executed.

AWARD OF CONTRACT:

The Rockdale County Procurement Office and/or Evaluation Committee make a recommendation for award. The Board of Commissioners will make the actual award to the lowest responsible and responsive bidder. The Rockdale County Board of Commissioners reserve the right to reject any or all bids, to waive technicalities, and to make an award as deemed in its best interest. Any claims for cost incurred by any Bidder in preparation of any part of or total package for this project will not be considered for reimbursement by Rockdale County.

QUANTITIES:

The quantities listed in the Bid Schedule are provided as an estimate for bid purposes. The County will not be obligated to quantities beyond actual needs.

Where Rockdale County provides forms for bid schedule and bond submissions, these forms must be used without exception. Any deducts to the bid must be itemized by the line item number in the bid schedule or Rockdale County will apply the deduct as it deems appropriate.

INSURANCE:

Before starting any work, the successful contractor must furnish to Rockdale County certificate(s) of insurance from companies doing business in Georgia. The Company shall maintain in full force and effect the following insurance during the term of the Agreement:

Coverages:

Limits of Liability:

Workers' Compensation	Statutory
Employers' Liability	\$1,000,000.00
Bodily Injury Liability	\$1,000,000.00 each occurrence
except Automobile	\$1,000,000.00 aggregate
Property Damage Liability	\$1,000,000.00 each occurrence
except Automobile	\$1,000,000.00 aggregate
Personal & Advertising Injury Limit	\$1,000,000.00
Products / Completed Ops.	\$2,000,000.00 aggregate

Automobile Bodily Injury Liability	\$1,000,000.00 each person \$1,000,000.00 each occurrence
Automobile Property Damage Liability	\$1,000,000.00 each occurrence

Property Coverage /Builders Risk Policy Equal to or greater than the existing building limit if performing renovations.

(If hazardous substances are involved)

Contractor's Pollution Liability (with 1-year extended reporting period)	
Each Occurrence	\$1,000,000.00
Aggregate	\$2,000,000.00

Environmental Impairment Liability (with 1-year extended reporting period)	
Each Occurrence	\$1,000,000.00
Aggregate	\$2,000,000.00

Professional Liability/General Liability \$1,000,000.00

Excess Umbrella Liability \$3,000,000.00

All insurance shall be provided by an insurer(s) acceptable to the County and shall provide for thirty (30) days prior notice of cancellation to the County. Upon contract award, Contractor shall deliver to the County a certificate or policy of insurance evidencing Contractor's compliance with this paragraph. Contractor shall abide by all terms and conditions of the insurance and shall do nothing to impair or invalidate the coverage.

Rockdale, GA shall be named as Additional Insured under any General Liability, Business Auto and Umbrella Policies using ISO Additional Insured Endorsement forms CG 2010 or its equivalent. Coverage shall apply as Primary and non-contributory with Waiver of Subrogation in favor of Rockdale County, Georgia.

The insurance carrier must have a minimum rating of A or higher as determined by the rating firm A.M. Best.

Certificates must contain policy number, policy limits, and policy expiration date of all policies. The Invitation to Bid (ITB) number and project name must be inserted in the Description of Operations section of the certificate.

Certificates are to be issued to:
Rockdale County, Georgia
958 Milstead Avenue
Conyers, GA 30012

BONDS:

Rockdale County shall request the following for bids/proposals in excess of Fifty Thousand Dollars (\$50,000.00).

BID BOND

Each bid shall include a bid bond in the amount of five percent (5%) of the total bid amount as guarantee that the bidder shall not withdraw the bid for 120 days after the scheduled bid opening. If awarded the contract, Bidders shall enter a written agreement with Rockdale County in accordance with the bid.

PERFORMANCE BOND

Upon execution and delivery of the contract, the bidder shall furnish Rockdale County a performance bond for one hundred percent (100%) of the full amount of the contract. Maintenance provisions of the bond shall remain in effect for a period of twelve (12) months after acceptance of the work by the County. The surety shall be a reputable bonding company authorized to transact business in the State of Georgia.

PAYMENT BOND

Upon execution and delivery of the contract, the bidder shall furnish Rockdale County a payment bond for one hundred ten percent (110%) of the full amount of the contract. Maintenance provisions of the bond shall remain in effect for a period of twelve (12) months after acceptance of the work by the County. The surety shall be a reputable bonding company authorized to transact business in the State of Georgia.

Insurance and Bonding Company must be licensed to do business by the Georgia Secretary of State, authorized to do business in Georgia by The Georgia Insurance Department, listed in the Department of Treasury's Publication of Companies holding Certificates of Authority as Acceptable Surety on Federal Bonds and as acceptable reinsuring companies.

PERMITS:

The awarded contractor will be responsible for acquiring any permits that are required for this project/purchase. Rockdale County will waive fees on all permits issued by Rockdale County.

ILLEGAL IMMIGRATION REFORM AND ENFORCEMENT ACT OF 2011

Vendors submitting a Qualification package in response to this ITB must complete the Contractor Affidavit under O.C.G.A. §13-10-91(b)(1) which is provided with the ITB package to verify compliance with the Illegal Immigration Reform and Enforcement Act of 2011.

- A. The form must be signed by an authorized officer of the contractor or their authorized agent.
- B. The form must be notarized.
- C. The contractor will be required to have all subcontractors and sub-subcontractors who are engaged to complete physical performance of services under the final contract executed between the County and the contractor complete the appropriate subcontractor and sub-subcontractor affidavits and return them to the County a minimum of five (5) days prior to any work being accomplished by said subcontractor or sub-subcontractor. Format for this affidavit can be provided to the contractor if necessary.

LIQUIDATED DAMAGES

Time is of the essence and is an essential element of this Contract, and the Contractor shall pay to the County, not as a penalty, but as liquidated damages, the sum of \$1,500.00 for each calendar day that there is default of completing the Work within the time limit named herein. If the Contractor abandons the Contract before commencement of the Work or defaults in completion of all the Work after commencement thereof, the Contractor shall be liable for such liquidated damages. These fixed liquidated damages are not established as a penalty but are calculated and agreed upon in advance by the County and the Contractor due to the uncertainty and impossibility of making a determination as to the actual and consequential damages incurred by the County and the general public of Rockdale County, Georgia as a result of the failure on the part of the Contractor to complete the Work on time. Such liquidated damages referred to herein are intended to be and are cumulative and shall be in addition to every other remedy now or hereafter enforceable at law, in equity, by statute, or under the Contract.

PIGGYBACKING

Rockdale County encourages and agrees to the successful bidder extending the pricing, terms and conditions of this solicitation or resultant contract to other governmental entities at the discretion of the successful bidder.

GENERAL INFORMATION:

RECEIPT OF BID:

No bids received after said time or at any place other than the time and place as stated in the notice shall be considered. No responsibility shall attach to Rockdale County for the premature opening of a bid not properly addressed and identified.

WITHDRAWAL OF BID:

A bidder may withdraw his bid before the bid due date, without prejudice to the bidder, by submitting a written request of withdrawal to the Rockdale County Procurement Office.

REJECTION OF BID:

Rockdale County may reject any and all bids and must reject a bid of any party who has been delinquent or unfaithful in any formal contract with Rockdale County. Also, the right is reserved to waive any irregularities or informalities in any bid in the proposing procedure. Rockdale County shall be the sole judge as to which bid is best, and in ascertaining this, will take into consideration the business integrity, financial resources, facilities for performing the work, and experience in similar operations of the various bidders.

STATEMENT OF EXPERIENCE AND QUALIFICATIONS:

The bidder may be required, upon request, to prove to the satisfaction of Rockdale County that he/she has the skill, experience, necessary facilities, and ample financial resources to perform the contract(s) in a satisfactory manner and within the required time. If the available evidence of competency of any bidder is not satisfactory, the bid of such bidder may be rejected. The successful bidder is required to comply with and abide by all applicable federal and state laws in effect at the time the contract is awarded.

NON-COLLUSION AFFIDAVIT:

By submitting a bid, the bidder represents and warrants that such bid is genuine and not sham or collusive or made in the interest or in behalf of any person not therein named, that the bidder has not directly or indirectly induced or solicited any other bidder to put in a sham bid, or any other person, firm or corporation to refrain from proposing and that the bidder has not in any manner sought by collusion to secure to that bidder any advantage over any other bidder.

INTEREST OF:

By submitting a bid, the bidder represents and warrants that a Commissioner, Administrator, employee, nor any other person employed by Rockdale County has, in any manner, an interest, directly or indirectly, in the bid or in the contract which may be made under it, or in any expected profits to arise therefrom.

DOCUMENTS DEEMED PART OF THE CONTRACT:

The notice, invitation to bidders, general conditions, and instructions for bidders, special conditions, specifications, bid, and addenda, if any, will be deemed part of the contract.

GOVERNING LAWS:

This contract is made under and shall be governed and construed in accordance with the laws of the State of Georgia.

ERRORS AND OMISSIONS:

The vendor shall not take advantage of any errors or omissions in this Bid Request and shall promptly notify Rockdale County of any omissions or errors found in this document.

STANDARD INSTRUCTIONS:

1. The instructions contained herein shall be construed as a part of any bid invitation and/or specifications issued by Rockdale County and must be followed by each bidder.
2. The written specifications contained in this bid shall not be changed or superseded except by written addendum from Rockdale County. Failure to comply with the written specifications for this bid may result in disqualification by Rockdale County.
3. All goods and materials shall be F.O.B. Destination Conyers, Georgia and no freight or postage charges will be paid by Rockdale County unless such charges are included in the bid price.
4. The following **ITB# 24-15** must be written clearly on the outside of each bid envelope in order to avoid prior opening in error.
5. All bids must be received and in-hand at bid due date and time. Each bidder assumes the responsibility for having his/her bid received at the designated time and place of bid due date. Bids received after the stated time and date may be subject to rejection without consideration, regardless of postmark. Rockdale County accepts no responsibility for mail delivery.
6. Unless otherwise stated, all bids submitted shall be valid and may not be withdrawn for a period of 120 days from the due date.
7. Each bid form submitted must include the name of the business, mailing address, the name, title and signature of the person submitting the bid. When submitting a bid to Rockdale County the first page of your bid package should be the bid form listing the price, delivery date, etc., unless the bid form is requested to be in a separate envelope.
8. Rockdale County reserves the right to accept a bid that is not the lowest price if, in the County's judgment, such bid is in the best interest of the County and the public. The County reserves the right to reject any and all bids.
9. Telephone, Emailed or Facsimile bids will not be accepted.
10. No sales tax will be charged on any orders except for contracts that include construction materials being purchased through a third party.

Federal I.D. #58-6000882
Sales Tax Exempt #308750008
11. If applicable, completed questionnaires must be signed manually. Rockdale County reserves the right to accept or reject any bid on the basis of incomplete or inaccurate answers to the questionnaire.
12. If applicable, warranty information shall be provided.
13. If applicable, bidders shall state delivery time after receiving order.
14. Bidders shall identify all subcontractors and include an explanation of the service or product that they may provide.

GWINNETT COUNTY, GEORGIA	
PROJECT #:	PI0006934
PROJECT:	Courtesy Parkway Extension from Flat Shoals Rd to Old Covington Hwy
BID NUMBER:	24-15

BID SCHEDULE

Item #	GDOT #	Description	Units	Est. Bid Quantity	Unit Price Bid	Total Price Bid
005	150-1000	TRAFFIC CONTROL: PROJECT NO. PI0006934	LS	1.00		
010	150-5010	TRAFFIC CONTROL, PORTABLE IMPACT ATTENUATOR	EA	2.00		
015	153-1300	FIELD ENGINEERS OFFICE TP 3	EA	1.00		
020	158-1000	TRAINING HOURS	HR	7,000.00		
025	201-1500	CLEARING & GRUBBING: PROJECT NO. PI0006934	LS	1.00		
030	205-0001	UNCLASS EXCAVATION	CY	33,759.00		
035	206-0002	BORROW EXCAVATION, INCL MATL	CY	312,608.00		
040	310-1101	GR AGGR BASE CRS, INCL MATL	TN	28,772.00		
045	318-3000	AGGR SURF CRS	TN	550.00		
050	432-5010	MILL ASPH CONC PVMT, VARIABLE DEPTH	SY	16,131.00		
055	433-1100	REINF CONC APPROACH SLAB, INCL CURB	SY	520.00		
060	441-0016	DRIVEWAY CONCRETE, 6 IN TK	SY	52.00		
065	441-0104	CONC SIDEWALK, 4 IN	SY	11,700.00		
070	441-0108	CONC SIDEWALK, 8 IN	SY	812.00		
075	441-0754	CONCRETE MEDIAN, 7 1/2 IN	SY	143.00		

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GWINNETT COUNTY, GEORGIA	
PROJECT #:	PI0006934
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BID NUMBER:	24-15

BID SCHEDULE

Item #	GDOT #	Description	Units	Est. Bid Quantity	Unit Price Bid	Total Price Bid
080	441-4020	CONC VALLEY GUTTER, 6 IN	SY	105.00		
085	441-6216	CONC CURB & GUTTER, 8 IN X 24 IN, TP 2	LF	640.00		
090	441-6222	CONC CURB & GUTTER, 8 IN X 30 IN, TP 2	LF	21,173.00		
095	446-1100	PVMT REINF FABRIC STRIPS, TP 2, 18 INCH WIDTH	LF	4,533.00		
100	500-9999	CLASS B CONC, BASE OR PVMT WIDENING	CY	120.00		
105	620-0100	TEMPORARY BARRIER, METHOD NO. 1	LF	1,720.00		
110	621-3126	CONCRETE BARRIER, TYPE 26S	LF	72.00		
115	632-0003	CHANGEABLE MESSAGE SIGN, PORTABLE, TYPE 3	EA	4.00		
120	634-1200	RIGHT OF WAY MARKERS	EA	121.00		
125	641-1100	GUARDRAIL, TP T	LF	284.00		
130	641-1200	GUARDRAIL, TP W	LF	8,129.00		
135	641-5001	GUARDRAIL ANCHORAGE, TP 1	EA	15.00		
140	641-5015	GUARDRAIL TERMINAL, TP 12A, 31 IN, TANGENT, ENERGY-ABSORBING	EA	10.00		
145	643-0010	FIELD FENCE WOVEN WIRE	LF	1,350.00		
PAVEMENT						
150	402-1802	RECYCLED ASPH CONC PATCHING, INCL BITUM MATL & H LIME	TN	151.00		

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Item #	GDOT #	Description	Units	Est. Bid Quantity	Unit Price Bid	Total Price Bid
155	402-1812	RECYCLED ASPH CONC LEVELING, INCL BITUM MATL & H LIME	TN	193.00		
160	402-3103	RECYCLED ASPH CONC 9.5 MM SUPERPAVE, TYPE II, GP 2 ONLY, INCL BITUM MATL & H LIME	TN	394.00		
165	402-3121	RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	TN	7,100.00		
170	402-3130	RECYCLED ASPH CONC 12.5 MM SUPERPAVE, GP 2 ONLY, INCL BITUM MATL & H LIME	TN	4,655.00		
175	402-3190	RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	TN	4,975.00		
180	413-0750	TACK COAT	GL	9,961.00		

DRAINAGE

185	009-3000A	POST CONSTRUCTION STORMWATER - STA 162+50, LT, (BARRACUDA MAX S8)	LS	1.00		
190	009-3000B	POST CONSTRUCTION STORMWATER - STA 115+00, RT, (BARRACUDA MAX S4)	LS	1.00		
195	009-3000C	POST CONSTRUCTION STORMWATER - STA 115+38, RT, (BARRACUDA MAX S8)	LS	1.00		
200	009-3000D	POST CONSTRUCTION STORMWATER - STA 101+30, RT, (BARRACUDA MAX S4)	LS	1.00		
205	009-3000E	POST CONSTRUCTION STORMWATER - STA 107+23, RT, (BARRACUDA MAX S4)	LS	1.00		
210	009-3000F	POST CONSTRUCTION STORMWATER - STA 217+93, RT, (BARRACUDA MAX S8)	LS	1.00		
215	009-3000G	POST CONSTRUCTION STORMWATER - STA 157+00, RT, (3K BAYSEPERATOR)	LS	1.00		
220	207-0203	FOUND BK FILL MATL, TP II	CY	94.00		
225	441-0050	CONC SLOPE DRAIN	SY	13.00		

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Item #	GDOT #	Description	Units	Est. Bid Quantity	Unit Price Bid	Total Price Bid
230	441-0204	PLAIN CONC DITCH PAVING, 4 IN	SY	915.00		
235	441-0303	CONC SPILLWAY, TP 3	EA	3.00		
240	500-3002	CLASS AA CONCRETE	CY	163.00		
245	500-3200	CLASS B CONCRETE	CY	11.00		
250	500-3800	CLASS A CONCRETE, INCL REINF STEEL	CY	11.00		
255	511-1000	BAR REINF STEEL	LB	15,317.00		
260	550-2180	SIDE DRAIN PIPE, 18 IN, H 1-10	LF	74.00		
265	550-2240	SIDE DRAIN PIPE, 24 IN, H 1-10	LF	57.00		
270	550-4118	FLARED END SECTION 18 IN, SIDE DRAIN	EA	2.00		
275	550-4124	FLARED END SECTION 24 IN, SIDE DRAIN	EA	2.00		
280	550-4218	FLARED END SECTION 18 IN, STORM DRAIN	EA	10.00		
285	550-4224	FLARED END SECTION 24 IN, STORM DRAIN	EA	2.00		
290	550-4236	FLARED END SECTION 36 IN, STORM DRAIN	EA	1.00		
295	550-5180	STORM DRAIN PIPE, 18 IN, CLASS III	LF	7,435.00		
300	550-5182	STORM DRAIN PIPE, 18 IN, CLASS IV	LF	380.00		

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Item #	GDOT #	Description	Units	Est. Bid Quantity	Unit Price Bid	Total Price Bid
305	550-5183	STORM DRAIN PIPE, 18 IN, CLASS V	LF	152.00		
310	550-5240	STORM DRAIN PIPE, 24 IN, CLASS III	LF	3,549.00		
315	550-5242	STORM DRAIN PIPE, 24 IN, CLASS IV	LF	157.00		
320	550-5300	STORM DRAIN PIPE, 30 IN, CLASS III	LF	129.00		
325	550-5360	STORM DRAIN PIPE, 36 IN, CLASS III	LF	1,073.00		
330	550-5420	STORM DRAIN PIPE, 42 IN, CLASS III	LF	190.00		
335	550-5423	STORM DRAIN PIPE, 42 IN, CLASS V	LF	102.00		
340	550-5720	STORM DRAIN PIPE, 72 IN, CLASS III	LF	28.00		
345	550-5722	STORM DRAIN PIPE, 72 IN, CLASS IV	LF	55.00		
350	550-9000	VIDEO INSPECTION	LF	2,700.00		
355	611-3000	RECONSTR CATCH BASIN, GROUP 1	EA	2.00		
360	611-3030	RECONSTR STORM SEW MANHOLE, TYPE 1	EA	3.00		
365	668-1100	CATCH BASIN, GP 1	EA	103.00		
370	668-1110	CATCH BASIN, GP 1, ADDL DEPTH	LF	114.00		
375	668-1200	CATCH BASIN, GP 2	EA	1.00		

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380	668-1210	CATCH BASIN, GP 2, ADDL DEPTH	LF	10.00		
385	668-2100	DROP INLET, GP 1	EA	18.00		
390	668-2110	DROP INLET, GP 1, ADDL DEPTH	LF	6.00		
395	668-4300	STORM SEWER MANHOLE, TP 1	EA	14.00		
400	668-4311	STORM SEWER MANHOLE, TP 1, ADDL DEPTH, CL 1	LF	19.00		
405	668-4312	STORM SEWER MANHOLE, TP 1, ADDL DEPTH, CL 2	LF	43.00		
410	668-4313	STORM SEWER MANHOLE, TP 1, ADDL DEPTH, CL 3	LF	83.00		
TEMPORARY EROSION CONTROL						
415	163-0232	TEMPORARY GRASSING	AC	75.00		
420	163-0240	MULCH	TN	1,272.00		
425	163-0301	CONSTRUCT AND REMOVE CONSTRUCTION EXITS	EA	4.00		
430	163-0503	CONSTRUCT AND REMOVE SILT CONTROL GATE, TP 3	EA	11.00		
435	163-0520	CONSTRUCT AND REMOVE TEMPORARY PIPE SLOPE DRAIN	LF	2,068.00		
440	163-0527	CONSTRUCT AND REMOVE RIP RAP CHECK DAMS, STONE PLAIN RIP RAP/SAND BAGS	EA	73.00		
445	163-0528	CONSTRUCT AND REMOVE FABRIC CHECK DAM - TYPE C SILT FENCE	LF	1,680.00		
450	163-0541	CONSTRUCT AND REMOVE ROCK FILTER DAMS	EA	13.00		

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Item #	GDOT #	Description	Units	Est. Bid Quantity	Unit Price Bid	Total Price Bid
455	163-0550	CONSTRUCT AND REMOVE INLET SEDIMENT TRAP	EA	119.00		
460	165-0030	MAINTENANCE OF TEMPORARY SILT FENCE, TP C	LF	13,850.00		
465	165-0041	MAINTENANCE OF CHECK DAMS - ALL TYPES	LF	1,530.00		
470	165-0087	MAINTENANCE OF SILT CONTROL GATE, TP 3	EA	11.00		
475	165-0101	MAINTENANCE OF CONSTRUCTION EXIT	EA	2.00		
480	165-0105	MAINTENANCE OF INLET SEDIMENT TRAP	EA	119.00		
485	165-0110	MAINTENANCE OF ROCK FILTER DAM	EA	13.00		
490	165-0310	MAINTENANCE OF CONSTRUCTION EXIT TIRE WASH AREA (PER EACH)	EA	1.00		
495	167-1000	WATER QUALITY MONITORING AND SAMPLING	EA	6.00		
500	167-1500	WATER QUALITY INSPECTIONS	MO	36.00		
505	171-0030	TEMPORARY SILT FENCE, TYPE C	LF	27,700.00		
510	643-8200	BARRIER FENCE (ORANGE), 4 FT	LF	3,900.00		
515	716-2000	EROSION CONTROL MATS, SLOPES	SY	26,677.00		
PERMANENT EROSION CONTROL						
520	603-2181	STN DUMPED RIP RAP, TP 3, 18 IN	SY	585.00		
525	603-7000	PLASTIC FILTER FABRIC	SY	585.00		

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Item #	GDOT #	Description	Units	Est. Bid Quantity	Unit Price Bid	Total Price Bid
530	700-6910	PERMANENT GRASSING	AC	38.00		
535	700-7000	AGRICULTURAL LIME	TN	68.00		
540	700-8000	FERTILIZER MIXED GRADE	TN	7.00		
545	700-8100	FERTILIZER NITROGEN CONTENT	LB	1,700.00		
550	700-9300	SOD	SY	5,000.00		

SIGNS

555	610-9401	REM STR SUPPORT, TYPE 1, INCL ILLUM SIGN SYSTEM, STA 514+00 NB	LS	1.00		
560	636-1033	HIGHWAY SIGNS, TP 1 MATL, REFL SHEETING, TP 9	SF	15.00		
565	636-1036	HIGHWAY SIGNS, TP 1 MATL, REFL SHEETING, TP 11	SF	351.00		
570	636-1080	HIGHWAY SIGNS, ALUM EXTRUDED PANELS, REFL SHEETING, TP 11	SF	167.00		
575	636-2070	GALV STEEL POSTS, TP 7	LF	510.00		
580	636-2090	GALV STEEL POSTS, TP 9	LF	312.00		
585	638-1001	STR SUPPORT FOR OVERHEAD SIGN, TP I , STA 515+50 NB - SIGNAL #1	LS	1.00		

STRIPING

590	653-0120	THERMOPLASTIC PVMT MARKING, ARROW, TP 2	EA	73.00		
595	653-1704	THERMOPLASTIC SOLID TRAF STRIPE, 24 IN, WHITE	LF	250.00		
600	653-1804	THERMOPLASTIC SOLID TRAF STRIPE, 8 IN, WHITE	LF	5,601.00		

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Item #	GDOT #	Description	Units	Est. Bid Quantity	Unit Price Bid	Total Price Bid
605	653-2501	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, WHITE	LM	6.00		
610	653-2502	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, YELLOW	LM	7.00		
615	653-3501	THERMOPLASTIC SKIP TRAF STRIPE, 5 IN, WHITE	GLF	1,200.00		
620	653-4502	THERMOPLASTIC SKIP TRAF STRIPE, 5 IN, YELLOW	GLM	2.00		
625	653-6004	THERMOPLASTIC TRAF STRIPING, WHITE	SY	1,282.00		
630	653-6006	THERMOPLASTIC TRAF STRIPING, YELLOW	SY	1,415.00		
635	654-1001	RAISED PVMT MARKERS TP 1	EA	847.00		
640	654-1003	RAISED PVMT MARKERS TP 3	EA	98.00		
645	657-1085	PREFORMED PLASTIC SOLID PVMT MKG, 8 IN, CONTRAST (BLACK-WHITE), TP PB	LF	600.00		
650	657-6085	PREFORMED PLASTIC SOLID PVMT MKG, 8 IN, CONTRAST (BLACK-YELLOW), TP PB	LF	1,200.00		
SIGNAL INSTALLATION						
655	636-1041	HIGHWAY SIGNS, TP 2 MATL, REFL SHEETING, TP 9	SF	73.00		
660	639-3004	STEEL STRAIN POLE, TP IV, W/40 FT MAST ARM	EA	1.00		
665	639-3004	STEEL STRAIN POLE, TP IV, W/55 FT MAST ARM	EA	3.00		
670	647-1000	TRAFFIC SIGNAL INSTALLATION NO. 1	LS	1.00		
675	682-6233	CONDUIT, NONMETL, TP 3, 2 IN	LF	1,490.00		

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Item #	GDOT #	Description	Units	Est. Bid Quantity	Unit Price Bid	Total Price Bid
680	682-9950	DIRECTIONAL BORE, 5 INCH - SIGNAL #1	LF	270.00		

685	682-9950	DIRECTIONAL BORE, 7 INCH - SIGNAL #1	LF	95.00		
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BRIDGE NO. 1

690	154-1000	CONSTRUCTION VIBRATION MONITORING	LS	1.00		
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695	211-0200	BRIDGE EXCAVATION, GRADE SEPARATION	CY	225.00		
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700	500-0100	GROOVED CONCRETE	SY	2,163.00		
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705	500-1011	SUPERSTR CONCRETE, CL D, BR NO. 1	LS	1.00		
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710	500-3002	CLASS AA CONCRETE	CY	429.00		
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715	507-9003	PSC BEAMS, AASHTO TYPE III, BR NO. 1	LF	1,383.00		
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720	507-9033	PSC BEAMS, AASHTO, BULB TEE, 74 IN, BR NO. 1	LF	2,038.00		
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725	511-1000	BAR REINF STEEL	LB	83,914.00		
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730	511-3000	SUPERSTR REINF STEEL, BR NO. 1	LS	1.00		
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735	520-0589	H-PILE POINTS, HP 14 X 89	EA	40.00		
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740	520-1151	PILING IN PLACE, STEEL H, HP 14 X 89	LF	3,024.00		
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745	520-4151	LOAD TEST, STEEL H, HP 14 X 89	EA	1.00		
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750	523-1100	DYNAMIC PILE TEST	EA	2.00		
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Item #	GDOT #	Description	Units	Est. Bid Quantity	Unit Price Bid	Total Price Bid
755	544-1000	DECK DRAIN SYSTEM, BR NO. 1	LS	1.00		

760	643-1152	CH LK FENCE, ZC COAT, 6 FT, 9 GA	LF	628.00		
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WALL NO. 1

765	310-1101	GR AGGR BASE CRS, INCL MATL	TN	7,387.00		
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770	457-1015	GEOGRID REINFORCEMENT, TP C	SY	20,376.00		
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775	627-1000	MSE WALL FACE, 0 - 10 FT HT, WALL NO. 1	SF	91.00		
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780	627-1010	MSE WALL FACE, 10 - 20 FT HT, WALL NO. 1	SF	3,172.00		
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785	627-1020	MSE WALL FACE, 20 - 30 FT HT, WALL NO. 1	SF	6,216.00		
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790	627-1030	MSE WALL FACE, GTR THAN 30 FT HT, WALL NO. 1	SF	3,566.00		
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795	627-1100	COPING A, WALL NO. 1	LF	584.00		
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800	627-1180	ADDITIONAL MSE BACKFILL	CY	374.00		
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805	643-1152	CH LK FENCE, ZC COAT, 6 FT, 9 GA	LF	451.00		
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WALL NO. 2

810	310-1101	GR AGGR BASE CRS, INCL MATL	TN	4,397.00		
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815	457-1015	GEOGRID REINFORCEMENT, TP C	SY	11,031.00		
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820	627-1000	MSE WALL FACE, 0 - 10 FT HT, WALL NO. 2	SF	44.00		
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825	627-1010	MSE WALL FACE, 10 - 20 FT HT, WALL NO. 2	SF	2,995.00		
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830	627-1020	MSE WALL FACE, 20 - 30 FT HT, WALL NO. 2	SF	12,080.00		
835	627-1030	MSE WALL FACE, GTR THAN 30 FT HT, WALL NO. 2	SF	19,232.00		
840	627-1100	COPING A, WALL NO. 2	LF	740.00		
845	627-1120	COPING B, WALL NO. 2	LF	492.00		
850	627-1180	ADDITIONAL MSE BACKFILL	CY	480.00		
855	643-1152	CH LK FENCE, ZC COAT, 6 FT, 9 GA	LF	634.00		

WATER & SEWER

860	610-1700	REM SAN SEWER PIPE, 16 IN	LF	325.00		
865	610-2370	REMOVE WATER MAIN, 8 IN (AT STORM PIPE CONFLICTS)	LF	180.00		
870	610-2380	REMOVE WATER MAIN, 12 IN (AT STORM PIPE CONFLICTS)	LF	80.00		
875	610-6625	REMOVE MANHOLE	EA	2.00		
880	611-8010	ADJUST HYDRANT TO GRADE	EA	5.00		
885	611-8050	ADJUST MANHOLE TO GRADE, SEWER	EA	5.00		
890	611-8120	ADJUST WATER METER TO GRADE	EA	1.00		
895	611-8140	ADJUST WATER VALVE BOX TO GRADE	EA	8.00		
900	660-1110	TEMPORARY BYPASS PUMPING SYSTEM INSTALLATION	EA	1.00		

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905	660-0816	SAN SEWER PIPE, 16 IN DUCTILE IRON	LF	325.00		
910	668-3300	SEWER MANHOLE, TP 1	EA	2.00		
915	668-3313	SEWER MANHOLE, TP 1, ADDL DEPTH, CL 3	LF	38.00		
920	670-1060	WATER MAIN, 6 IN	LF	40.00		
925	670-1080	WATER MAIN, 8 IN	LF	1,997.00		
930	670-1120	WATER MAIN, 12 IN	LF	441.00		
935	670-1600	CUT & PLUG EXISTING WATER MAIN	EA	6.00		
940	670-2002	VALVE MARKERS	EA	30.00		
945	670-2060	GATE VALVE, 6 IN	EA	5.00		
950	670-2080	GATE VALVE, 8 IN	EA	8.00		
955	670-2700	ABANDONMENT OF WATER VALVES	EA	7.00		
960	670-3126	TAPPING SLEEVE & VALVE ASSEMBLY, 12 IN X 6 IN	EA	1.00		
965	670-3127	TAPPING SLEEVE & VALVE ASSEMBLY, 12 IN X 8 IN	EA	1.00		
970	670-4000	FIRE HYDRANT	EA	7.00		
975	670-4500	CONCRETE THRUST COLLAR, 6 IN PIPE OR SMALLER	EA	1.00		

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Item #	GDOT #	Description	Units	Est. Bid Quantity	Unit Price Bid	Total Price Bid
980	670-4510	CONCRETE THRUST COLLAR, 8 IN PIPE	EA	8.00		
985	670-4520	CONCRETE THRUST COLLAR, 12 IN PIPE	EA	9.00		
990	670-5010	WATER SERVICE LINE, 1 IN	LF	200.00		
995	670-5620	WATER SERVICE LINE, 3/4 IN	LF	50.00		
1000	670-7220	INSERTION VALVE, 8 IN	EA	2.00		
1005	670-9450	ROCK EXCAVATION	CY	200.00		
1010	670-9710	RELOCATE EXIST FIRE HYDRANT	EA	1.00		
1015	670-9900	REMOVE EXIST WATER METER, INCL BOX	EA	1.00		
1020	670-9920	REMOVE EXISTING FIRE HYDRANT	EA	2.00		

TOTAL

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BID SCHEDULE

Item #	GDOT #	Description	Units	Est. Bid Quantity	Unit Price Bid	Total Price Bid
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BID SCHEDULE

Note: The County requires pricing and terms to remain firm for the duration of this contract. Contract to begin upon date of issuance of the "Notice to Proceed" for duration of **720 Calendar Days**. Failure to hold pricing firm for the duration of this contract will be sufficient cause for the County to declare bid non-responsive.

The undersigned acknowledges receipt of the following addenda, listed by number and date appearing on

<u>ADDENDUM NO.</u>	<u>DATE</u>
1). _____	_____
2). _____	_____
3). _____	_____
4). _____	_____
5). _____	_____
6). _____	_____

CERTIFICATION OF NONCOLLUSION IN BID PREPARATION _____
(Signature) (Date)

The County requires that all who enter into a contract for the physical performance of services with the County must satisfy O.C.G.A. § 13-10-91 and Rule 300-10-1-.02, in a manner, and such are conditions of the contract.

In compliance with the attached specifications, the undersigned offers and agrees, if this bid is accepted by the Board of Commissioners within one-hundred twenty (120) days of the date of bid opening, to furnish any or all of the items upon which prices are quoted within the time specified in the bid schedule.

LEGAL BUSINESS NAME: _____
(If your company is an LLC, you must identify all principals to include address and phone numbers in your submittal)

ADDRESS: _____

DOES YOUR COMPANY CURRENTLY HAVE A LOCATION WITHIN ROCKDALE COUNTY? YES NO

REPRESENTATIVE SIGNATURE: _____

PRINT AUTHORIZED REPRESENTATIVE'S NAME: _____

TELEPHONE NUMBER: _____ FAX: _____

E-MAIL ADDRESS _____

COMPANY NAME: _____
 Failure to return this page my result in rejection of bid.

ROCKDALE COUNTY BOARD OF COMMISSIONERS
NON-COLLUSION AFFIDAVIT OF VENDOR

State of _____)

County of _____)

_____, being first duly sworn, deposes and says that:

(1) He/She is _____ (owner, partner officer, representative, or agent) of _____, the Vendor that has submitted the attached ITB;

(2) He/She is fully informed respecting the preparation and contents of the attached ITB and of all pertinent circumstances respecting such ITB;

(3) Such ITB is genuine and is not a collusive or sham ITB;

(4) Neither the said Vendor nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affidavit, has in any way colluded, conspired, connived or agreed, directly or indirectly with any other Vendor, firm or person to submit a collusive or sham ITB in connection with the Contract for which the attached ITB has been submitted or refrain from proposing in connection with such Contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other Vendor, firm or person to fix the price or prices in the attached ITB or of any other Vendor, or to fix any overhead, profit or cost element of the proposing price or the proposing price of any other Vendor, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against Rockdale County or any person interested in the proposed Contract; and

(5) The price or prices quoted in the attached ITB are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Vendor or any of its agents, representatives, owners, employees, or parties in interest, including this affidavit.

(Signed)

(Title)

Subscribed and Sworn to before me this _____ day of _____, 202__

Name _____

Title _____

My commission expires (Date) _____

ROCKDALE COUNTY BOARD OF COMMISSIONERS
NON-COLLUSION AFFIDAVIT OF SUB-CONTRACTOR

State of _____)

County of _____)

_____, being first duly sworn, deposes and says that:

(1) He/She is _____ (owner, partner officer, representative, or agent) of _____, the sub-contractor that has submitted the attached ITB;

(2) He/She is fully informed respecting the preparation and contents of the attached ITB and of all pertinent circumstances respecting such ITB;

(3) Such ITB is genuine and is not a collusive or sham ITB;

(4) Neither the said sub-contractor nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affidavit, has in any way colluded, conspired, connived or agreed, directly or indirectly with any other Vendor, firm or person to submit a collusive or sham ITB in connection with the Contract for which the attached ITB has been submitted or refrain from proposing in connection with such Contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other Vendor, firm or person to fix the price or prices in the attached ITB or of any other Vendor, or to fix any overhead, profit or cost element of the proposing price or the proposing price of any other Vendor, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against Rockdale County or any person interested in the proposed Contract; and

(5) The price or prices quoted in the attached ITB are fair and proper and are not tainted by any collusion, conspiracy, connivance, or unlawful agreement on the part of the sub-contractor or any of its agents, representatives, owners, employees, or parties in interest, including this affidavit.

(Signed)

(Title)

Subscribed and Sworn to before me this _____ day of _____, 202__.

Name _____

Title _____

My commission expires (Date)

Contractor Affidavit under O.C.G.A. §13-10-91(b)(1)

By executing this affidavit, the undersigned contractor verifies its compliance with O.C.G.A. §13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the physical performance of services on behalf of (name of public employer) has registered with, is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. §13-10-91. Furthermore, the undersigned contractor will continue to use the federal work authorization program throughout the contract period and the undersigned contractor will contract for the physical performance of services in satisfaction of such contract only with subcontractors who present an affidavit to the contractor with the information required by O.C.G.A. §13-10-91(b). Contractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

Federal Work Authorization User Identification Number

Date of Authorization

Name of Contractor

Name of Project

Name of Public Employer

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on _____, ___, 202__ in _____ (city), _____ (state).

Signature of Authorized Officer or Agent

Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME
ON THIS THE _____ DAY OF _____, 202__.

NOTARY PUBLIC
My Commission Expires:

Subcontractor Affidavit under O.C.G.A. § 13-10-91(b)(3)

By executing this affidavit, the undersigned subcontractor verifies its compliance with O.C.G.A. § 13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the physical performance of services under a contract with (name of contractor) on behalf of (name of public employer) has registered with, is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91. Furthermore, the undersigned subcontractor will continue to use the federal work authorization program throughout the contract period and the undersigned subcontractor will contract for the physical performance of services in satisfaction of such contract only with sub-subcontractors who present an affidavit to the subcontractor with the information required by O.C.G.A. § 13-10-91(b). Additionally, the undersigned subcontractor will forward notice of the receipt of an affidavit from a sub-subcontractor to the contractor within five business days of receipt. If the undersigned subcontractor receives notice that a sub-subcontractor has received an affidavit from any other contracted sub-subcontractor, the undersigned subcontractor must forward, within five business days of receipt, a copy of the notice to the contractor. Subcontractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

Federal Work Authorization User Identification Number

Date of Authorization

Name of Subcontractor

Name of Project

Name of Public Employer

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on _____, ___, 202__ in _____(city), _____(state).

Signature of Authorized Officer or Agent

Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME
ON THIS THE _____ DAY OF _____, 202__.

NOTARY PUBLIC
My Commission Expires:

Sub-subcontractor Affidavit under O.C.G.A. §13-10-91(b)(4)

By executing this affidavit, the undersigned sub-subcontractor verifies it compliance with O.C.G.A. §13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the physical performance of services under a contract for (name of subcontractor or sub-subcontractor with whom such sub-subcontractor has privity of contract) and (name of contractor) on behalf of (name of public employer) has registered with, is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. §13-10-91. Furthermore, the undersigned sub-subcontractor will continue to use the federal work authorization program throughout the contract period and the undersigned sub-subcontractor will contract for the physical performance of services in satisfaction of such contract only with sub-subcontractors who present an affidavit to the sub-subcontractor with the information required by O.C.G.A. §13-10-91(b). The undersigned sub-subcontractor shall submit, at the time of such contract, this affidavit to (name of subcontractor or sub-subcontractor with whom such sub-subcontractor has privity of contract). Additionally, the undersigned sub-subcontractor will forward notice of the receipt of any affidavit from a sub-subcontractor to (name of subcontractor or sub-subcontractor with whom such sub-subcontractor has privity of contract). Sub-subcontractors hereby attests that its federal work authorization user identification number and date of authorization are as follows:

Federal Work Authorization User Identification Number

Date of Authorization

Name of Sub-Subcontractor

Name of Project

Name of Public Employer

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on _____, ____, 202__ in _____ (city), _____ (state).

Signature of Authorized Officer or Agent

Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME
ON THIS THE _____ DAY OF _____, 202__.

NOTARY PUBLIC

My Commission Expires: _____

Affidavit Verifying Status for County Public Benefit Application

By executing this affidavit under oath, as an applicant for the award of a contract with Rockdale, County Georgia, I _____ . [Name of natural person applying on behalf of individual, business, corporation, partnership, or other private entity] am stating the following as required by O.C.G.A. Section 50-36-1:

1) _____ I am a United States citizen

OR

2) _____ I am a legal permanent resident 18 years of age or older or I am an otherwise qualified alien or non-immigrant under the Federal Immigration and Nationality Act 18 years of age or older and lawfully present in the United States.*

In making the above representation under oath, I understand that any person who knowingly and willfully makes a false, fictitious, or fraudulent statement or representation in an affidavit shall be guilty of a violation of Code Section 16-10-20 of the Official Code of Georgia.

Signature of Applicant:

Date

Printed Name:

* _____
Alien Registration number for non-citizens

SUBSCRIBED AND SWORN
BEFORE ME ON THIS THE
_____ DAY OF _____, 202__.

Notary Public
My commission Expires:

***Note:** O.C.G.A. § 50-36-1(e)(2) requires that aliens under the federal Immigration and Nationality Act, Title 8 U.S.C., as amended, provide their registration number. Because legal permanent residents are included in the federal definition of "alien", legal permanent residents must also provide their alien registration number. Qualified aliens that do not have an alien registration number may supply another identifying number below.

BID BOND FORM

KNOW ALL MEN BY THESE PRESENTS, that we, _____ (hereinafter called the Principal) and _____ (hereinafter called the Surety), a corporation chartered and existing under the laws of the State of _____ with its principal offices in the City of _____ and listed in the Federal Register and licensed to write surety bonds in the State of Georgia, are held and firmly bound unto Rockdale County, Georgia, in the full and just sum of _____ Dollars, (\$ _____) good and lawful money of the United States of America, to be paid upon demand of Rockdale County, Georgia, to which payment well and truly to be made we bind ourselves, our heirs, executors, administrators, and assigns, jointly and severally and firmly by these presents.

WHEREAS, the Principal is about to submit, or has submitted to Rockdale County, Georgia, a Bid for ITB No. _____.

WHEREAS, the Principal desires to file this Bond in accordance with law to accompany this Bid.

NOW, THEREFORE, the conditions of this obligation are such that if the Bid be accepted within one hundred and twenty (120) days of the Bid opening, the Principal shall execute a Contract in accordance with the Bid and upon the terms, conditions, and prices set forth therein, and in the form and manner required by Rockdale County, Georgia, and within ten (10) days from the date of Notice of Award of the Contract, execute a sufficient and satisfactory Performance Bond equals to 100% of the Contract Price and Payment Bond equals to 110% of the Contract Price, payable to Rockdale County, Georgia, in form and with security satisfactory to Rockdale County and furnish satisfactory proof of the insurance required, then this obligation to be void; otherwise, to be and remain in full force and virtue in law; and the Surety shall, upon failure of the Principal to comply with any or all of the foregoing requirements within the time specified above, immediately pay to the aforesaid Rockdale County, Georgia, upon demand, the amount hereof in good and lawful money of the United States of America, not as a penalty, but as liquidated damages.

IN TESTIMONY THEREOF, the Principal and Surety have caused these presents to be duly

signed and sealed this _____ day of _____, 202__ .

PRINCIPAL

By: _____ (SEAL)
Signature of Principal

Print Name and Title of Authorized Signer

Print Name of Principal Business

ATTEST:

Corporate Secretary

SURETY

By: _____ (SEAL)
Signature of Surety (by Power of Attorney)

Print Name and Title of Authorized Signer

Print Name of Surety Business

WITNESS:

PERFORMANCE BOND

STATE OF GEORGIA

BOND NO. _____

COUNTY OF ROCKDALE

KNOW ALL MEN BY THESE PRESENTS, that we, _____,
as Principal, (hereinafter known as Contractor), and we, _____, as Surety, do hereby
acknowledge ourselves indebted and firmly bound and held unto Rockdale County, Georgia for use and benefit of
those entitled thereto, in the sum of _____ Dollars (\$_____)
for the payment of which will and truly to be made, in lawful money of the United States of America, we do
hereby bind ourselves, successors, assigns, heirs and personal representatives.

BUT THE CONDITION OF THE FOREGOING OBLIGATION OR BOND IS THIS:

WHEREAS, the Owner has engaged the said Contractor for the sum of _____
Dollars (\$_____) for construction of Rockdale County, Georgia,

ITB# : _____ as more fully appears in a written Contract Agreement
bearing the date of _____, 2024, a copy of which Contract Agreement is by reference hereby made a
part hereof.

NOW, THEREFORE, if said Contractor shall fully and faithfully perform all the undertakings and obligations
under the said Contract Agreement hereinbefore referred to and shall fully indemnify and save harmless the said
Owner from all costs and damage whatsoever which it may suffer by reason of any failure on the part of said
Contractor to do so, and shall fully reimburse and repay the said Owner any and all outlay and expense which it
may incur in making good any such default, and shall correct all defects in products and workmanship appearing
within one year of the completion of all Work, then this obligation shall be null and void, otherwise, it shall
remain in full force and effect.

And for value received it is hereby stipulated and agreed that no change, extension of time, alteration or addition
to the terms of the said Contract Agreement, or in the Work to be performed there under, or the Specifications
accompanying the same shall in any wise affect the obligations under this Contract Agreement or Bond, and
notice is hereby waived of any such damage, extension of time, alteration or addition to the terms of the Contract
Agreement or to the Work or to the Contract Documents.

This bond is given pursuant to and in accordance with the provisions of O.C.G.A. Section 36-10-1 et. seq. and
36-82-100 et. seq. and all the provisions of the law referring to this character of Bond as set forth in said Sections
or as may be hereinafter enacted, and these are hereby made a part hereof to the same extent as if set out herein
in full.

IN WITNESS WHEREOF, the said Contractor has hereunder affixed its signature and seal, and said Surety has
hereunto caused to be affixed its corporate signature and seal, by its duly authorized officers, on this ____ day of
_____, 2024, executed in two (2) counterparts.

CONTRACTOR - PRINCIPAL:

By: _____

Name: _____
(Please Print)

Title: _____

Address: _____

Phone: _____

ATTEST:

Name: _____
(Please Print)

Title: _____ (SEAL)

Note: Attestation for a corporation must be by the corporate secretary; for a partnership by another partner; for an individual by a notary.

SURETY:

By: _____

Name: _____
(Please Print)

Title: _____ (SEAL)

WITNESS:

Name: _____
(Please Print)

Title: _____ (SEAL)

Note: Surety companies executing bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the Project is located.

Resident agent in state in which Work is to be performed:

By: _____

Name: _____
(Please Print)

Title: _____

Address: _____

Phone: _____

PAYMENT BOND

STATE OF GEORGIA

BOND NO. _____

COUNTY OF ROCKDALE

KNOW ALL MEN BY THESE PRESENTS, that we, _____, as Principal, (hereinafter known as Contractor), and we, _____, as Surety, are held and firmly bound unto Rockdale County, Georgia (hereinafter called the Owner), in the penal sum of _____ Dollars (\$ _____) lawful money of the United States of America, for the payment of which sum will and truly to be made, we bind ourselves, our heirs, personal representatives, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, said Contractor has entered into a certain Contract Agreement with said Owner, dated _____, 2024, for construction of Rockdale County, Georgia **ITB#** _____ : _____ (hereinafter called the Contract), which Contract Agreement and the Contract Documents for said Work shall be deemed a part hereof as fully as if set out herein.

NOW, THEREFORE, the condition of this obligation is such, that if said Contractor and all subcontractors to whom any portion of the Work provided for in said Contract Agreement is sublet and all assignees of said Contractor and of such subcontractors shall promptly make payments to all persons supplying them with labor, products, services, or supplies for or in the prosecution of the Work provided for in such Contract Agreement, or in any amendment or extension of or addition to said Contract Agreement, and for the payment of reasonable attorney's fees, incurred by the claimant in suits on this Bond, then the above obligation shall be void; otherwise, it shall remain in full force and effect.

HOWEVER, this Bond is subject to the following conditions and limitations:

- (a) Any person, firm or corporation that has furnished labor, products, or supplies for or in the prosecution of the Work provided for in said Contract Agreement shall have a direct right of action against the Contractor and Surety on this Bond, which right of action shall be asserted in a proceeding, instituted in the county in which the Work provided for in said Contract Agreement is to be performed or in any county in which Contractor or Surety does business. Such right of action shall be asserted in proceedings instituted in the name of the claimant or claimants for its use and benefit against said Contractor and Surety or either party (but not later than one year after the final settlement of said Contract Agreement) in which action such claim or claims shall be adjudicated, and judgment rendered thereon.
- (b) In no event shall the Surety be liable for a greater sum than the penalty of this Bond, or subject to any suit, action or proceeding thereon that is instituted later than one year after the final settlement of said Contract Agreement.
- (c) This Bond is given pursuant to and in accordance with provisions of O.C.G.A. Section 13-10-1 et. seq. and 36-82-100 et. seq. hereinafter, and all the provisions of law referring to this character of Bond as set forth in said Sections or as may be hereinafter enacted, and these are hereby made a part hereof to the same extent as if set out herein in full.

IN WITNESS WHEREOF, the said Contractor has hereunder affixed its signature and seal, and said Surety has hereunto caused to be affixed its corporate signature and seal, by its duly authorized officers, on this _____ day of _____, 2024, executed in two (2) counterparts.

CONTRACTOR - PRINCIPAL:

By: _____

Name: _____

(Please Print)

Title: _____

Address: _____

Phone: _____

ATTEST:

Name: _____

(Please Print)

Title: _____

(SEAL)

Note: Attestation for a corporation must be by the corporate secretary; for a partnership by another partner; for an individual by a notary.

SURETY:

By: _____

Name: _____

(Please Print)

Title: _____

(SEAL)

WITNESS:

Name: _____

(Please Print)

Title: _____

(SEAL)

Note: Surety companies executing bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the Project is located.

Resident agent in state in which Work is to be performed:

By: _____

Name: _____

(Please Print)

Title: _____

Address: _____

Phone: _____

CONTRACTOR'S QUALIFICATION STATEMENT AND QUESTIONNAIRE

NAME OF PROPOSED CONTRACTOR: _____

I. INSTRUCTIONS

- A. All questions are to be answered in full. If copies of other documents will answer the question completely, they may be attached and clearly labeled. If additional space is needed, additional pages may be attached and clearly labeled.
- B. The owner, Rockdale County, Georgia, its agents and representatives, shall be entitled to contact each and every reference listed in response to this questionnaire, and each entity referenced in any response to any question in this questionnaire. By completing this questionnaire, the contractor expressly agrees that any information concerning the contractor in possession of said entities and references may be made available to the owner.
- C. Only complete and accurate information shall be provided by the contractor. The contractor hereby warrants that, to the best of its knowledge and belief, the responses contained herein are true, accurate, and complete. The contractor also acknowledges that the owner is relying on the truth and accuracy of the responses contained herein. If it is later discovered that any material information given in response to a question was provided by the contractor, knowing it was false, it shall constitute grounds for immediate termination or rescission by the owner of any subsequent agreement between the owner and the contractor. The owner shall also have and retain any other remedies provided by law.
- D. The completed form shall be submitted with contractor's proposals.
- E. This form, its completion by the contractor, and its use by the contractor, and its use by the owner, shall not give rise to any liability on the part of the owner to the contractor or any third party or person.

II. GENERAL BACKGROUND

- A. Current address of contractor: _____

- B. Previous Name or address of contractor: _____

- C. Current president or CEO and years in position: _____
- D. Number of permanent employees: _____
- E. Name and address of affiliated companies: _____

III. FINANCIAL STATUS

- A. Please attach financial statements for the past three years for which they are complete. If such statements are not available, please furnish the following information:

1. LAST COMPLETE FISCAL YEAR:

- A. Revenues (Gross) _____
- B. Expenditures (Gross) _____
- C. Overhead & Admin (Gross) _____
- D. Profit (Gross) _____

2. YEAR PRIOR TO "1" ABOVE:

- A. Revenues (Gross) _____
- B. Expenditures (Gross) _____
- C. Overhead & Admin (Gross) _____
- D. Profit (Gross) _____

3. YEAR PRIOR TO "2" ABOVE:

- A. Revenues (Gross) _____
- B. Expenditures (Gross) _____
- C. Overhead & Admin (Gross) _____
- D. Profit (Gross) _____

B. BANKRUPTCIES

1. Has the Contractor, or any of its parents or subsidiaries, ever had a Bankruptcy Petition filed in its name, voluntarily or involuntarily? (If yes, specify date, circumstances, and resolution).

2. Has any Majority Shareholder ever had a Bankruptcy Petition filed in his/her name, voluntarily or involuntarily? (If yes, specify date, circumstances, and resolution).

C. BONDING

1. What is the Contractor's current bonding capacity? _____
2. What is the value of the Contractor's work currently under contract? _____

IV. COMPANY EXPERIENCE – SIMILAR PROJECTS

Rockdale County request a minimum of three, (3) references where work of a **similar size and scope** has been completed **in the last (5) five years**. **DO NOT submit a project list in lieu of this form**. Attaching a list may deem the contractor's bid **non-responsive**.

1. Company Name _____

Brief Description of Project _____

Completion Date _____

Start Date _____ Contract Amount \$ _____

Contact Person _____ Telephone _____

E-Mail Address _____

2. Company Name _____

Brief Description of Project _____

Completion Date _____

Start Date _____ Contract Amount \$ _____

Contact Person _____ Telephone _____

E-Mail Address _____

3. Company Name _____

Brief Description of Project _____

Completion Date _____

Start Date _____ Contract Amount \$ _____

Contact Person _____ Telephone _____

E-Mail Address _____

Company Name _____

Note: References should be customized for each project vs. submitting the same set of references for every project bid. The references listed should be of similar size and scope of the project bidding for. Failure to return this page may result in rejection of bid.

LIST OF SUBCONTRACTORS

I do _____, do not _____, propose to subcontract some of the work on this project. Rockdale County expects bidders to have a proposed plan to perform all significant items of work prior to bidding. This plan for major items of work must be indicated below. I propose to Subcontract work to the following subcontractors.

NAME AND ADDRESS

TYPE OF WORK

<u>Mandatory Declarations</u> (If self-performed please indicate as such)	
	Traffic Control
	Grading
	Concrete
	Asphalt Paving
	Bridge
	Traffic Signal
	Walls
	Water / Sewer
<u>Additional Subcontractors</u>	

Company Name: _____

Failure to return this page may result in rejection of bid.

INSTRUCTIONS FOR LIST OF DBE PARTICIPANTS

If a DBE Goal is indicated, you must propose to achieve a goal that is equal or greater than the percentage required. If no goal is indicated, you may propose your own goal.

The DBE firms to be utilized as counting toward the proposed goal must be listed on this form, along with their addresses, type of work and the amount to be paid to each of the minority firms. The amount entered will not necessarily be the contract amount, but must be the actual amount that will be paid to the DBE firm. In the case of a DBE supplier, the amount paid and 60% of that amount both will be entered; and only the 60% figure should be added to the total. An example of this is shown in the example chart:

Vendor Number	Company Name And Address (City and State)	Type Of Work	*Work Code	Race Neutral	Race Conscious	Amount
	ABC Oil Company Atlanta, GA	Diesel Fuel Supplier				\$80,000.00 (60%= \$48,000.00)

* For Departmental use ONLY. Do not fill in Work Codes.

The Contractor shall indicate for each DBE and Type of Work whether the DBE Participant is Race Neutral or Race Conscious by placing a checkmark in the appropriate column.

V. ARBITRATIONS, LITIGATIONS, AND OTHER PROCEEDINGS

Has your company been involved in any construction arbitration demands filed by, or against, you in the last five years? _____

Has your company been involved in any construction-related lawsuits (other than labor or personal injury litigation) filed by, or against, you in the last five years? _____

Has your company been involved in any lawsuits, proceedings, or hearings initiated by the National Labor Relations Board or similar state agency in the past seven years? _____

Has your company been involved in any lawsuits, proceedings, or hearings initiated by the Occupational Safety and Health Administration concerning the project safety practices of the Contractor in the last seven years? _____

Has your company be involved in any lawsuits, proceedings, or hearings initiated by the Internal Revenue Service, or any state revenue department, concerning the tax liability of the Contractor (other than audits) in the last seven years? _____

Have any criminal proceedings or investigations been brought against the Contractor in the last ten years? _____

If you answered yes to any of the questions above, please identify the nature of the claim, the amount in dispute, the parties, and the ultimate resolution of the proceeding (attach documentation if needed):

VI. COMMENTS

Please list any additional information that you believe would assist the Owner in evaluating the possibility of using the Contractor on this Project. You may attach such additional information as an Exhibit to this Statement and Questionnaire.

I certify to the Owner that the information and responses provided on this Questionnaire are true, accurate and complete. The Owner, or its designated representative, may contact any entity or reference listed in this Questionnaire. Each entity or reference may make any information concerning the Contractor available to the Owner, or its designated representative.

Contractor:

Signature

Date

Title

Sworn to and subscribed before me
This _____ day of _____

Signature

Notary Public

My Commission Expires:

SAMPLE CONTRACT
(PAGE 1 OF 7)

The County reserves the right to revise this contract as this is just a sample.

AGREEMENT FOR THE CONSTRUCTION OF THE
[COURTESY PARKWAY EXTENSION FROM FLAT SHOALS RD TO OLD COVINGTON]

This Agreement entered into on this ____ day of _____, 2024, between ROCKDALE COUNTY, GEORGIA, a political subdivision of the State of Georgia, whose address is 962 Milstead Avenue, Conyers, Georgia 30012, (hereinafter referred to as the “County”) and [CONTRACTOR’S NAME], a [DESCRIPTION OF CONTRACTOR’S BUSINESS TYPE], whose address is [CONTRACTOR’S ADDRESS] (hereinafter referred to as “Contractor”).

WHEREAS, the County desires to engage the services of Contractor for the construction of the [PROJECT NAME]; and

WHEREAS, Contractor is qualified to perform this service and desires to render this service to the County as provided herein.

NOW THEREFORE, the County engages the services of Contractor for and in consideration of the mutual promises contained in this Agreement and the parties agree as follows:

1. **Services Provided by Contractor.**

The Contractor will furnish all products, tools, construction equipment, skill and labor of every description necessary to carry out and to complete in a good, firm, substantial workmanlike manner the construction of the [PROJECT NAME] as described in the County’s Invitation to Bid (ITB) [ITB#] incorporated herein by reference, (hereinafter called “Work”), and Contractor’s bid dated [DATE], attached hereto and made a part hereof (hereinafter called “Bid”).

Contractor shall provide, at their expense, all vehicles and equipment necessary to provide this Work. The Work shall be performed at the direction of Rockdale County or their designee and consistent with all Federal, State and Local laws.

The Contract Documents, bid documents, Invitation to Bid, and drawings are considered essential parts of the Agreement, and requirements occurring in one are as binding as though occurring in all. They are intended to define, describe and provide for all labor necessary to complete the Work in an acceptable manner, ready for use, or operation by the County.

2. **Fees and Compensation.**

(a) **Contract Price:** The Contract Price shall not exceed [CONTRACT AMOUNT] and shall be the total amount payable by the County to the Contractor for the performance of the Work set forth in the Contract Documents, unless amended as agreed upon by both parties in writing as detailed in this Agreement. The County shall provide payment within thirty (30) days of receiving said invoice.

It is understood that the Contractor shall provide and pay for all products, labor (including labor performed after regular working hours, on Saturdays or Sundays, or on legal holidays), tools, construction equipment, supervision, and all other services and facilities of any nature whatsoever necessary to execute, complete, place into operation, and deliver the Work.

**SAMPLE CONTRACT
(PAGE 2 OF 7)**

- (b) **Payments Withheld:** The County may decline to approve an application for payment, in whole or in part, as may be necessary to protect the County from loss because of:
- (1) Failure of the Contractor to make payments properly to subcontractors or for labor or products.
 - (2) Unsatisfactory prosecution of the Work by the Contractor either due to quality of the Work or if the Contractor is behind the currently approved construction schedule.
- When the above reasons for nonpayment are corrected, then payment will be made for amounts withheld because of such reasons, not later than the next payment.
- (c) **Effective Dates of Agreement.**
The Contractor shall begin the Work no later than thirty (30) days after issuance of the Notice to Proceed and shall complete the Work no later than number of days (720) Calendar Days after issuance of the Notice to Proceed, unless a time extension is authorized in writing by the Project Manager.
Time is of the essence and is an essential element of this Contract, and the Contractor shall pay to the County, not as a penalty, but as liquidated damages, the sum of \$1,500.00 for each calendar day that there is default of completing the Work within the time limit named herein. If the Contractor abandons the Contract before commencement of the Work or defaults in completion of all the Work after commencement thereof, the Contractor shall be liable for such liquidated damages. These fixed liquidated damages are not established as a penalty but are calculated and agreed upon in advance by the County and the Contractor due to the uncertainty and impossibility of making a determination as to the actual and consequential damages incurred by the County and the general public of Rockdale County, Georgia as a result of the failure on the part of the Contractor to complete the Work on time. Such liquidated damages referred to herein are intended to be and are cumulative and shall be in addition to every other remedy now or hereafter enforceable at law, in equity, by statute, or under the Contract.
- (d) **Rejection of Work and Materials.**
All products furnished and all Work completed will be inspected by the County. All products furnished and all Work completed that is not in accordance with the Contract Documents or that is defective will be rejected. All rejected products or Work shall be removed immediately. If rejected products or Work is not removed within 48 hours, the County will have the right and authority to stop the Work immediately and will have the right to arrange for the removal of said rejected products or Work at the cost and expense of the Contractor.
- (e) **Supervision of Work.**
The Contractor shall supervise and direct the Work. The Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of the Work. The Contractor shall employ and maintain on the Work a qualified supervisor or superintendent who shall be designated in writing by the Contractor as the Contractor's representative at the site. The supervisor shall be present on the site at all times as required to perform adequate supervision and coordination of the Work.
The supervisor shall have full authority to act on behalf of the Contractor and to execute the orders or directions of the County without delay. The supervisor shall have full authority to promptly supply products, tools, plant equipment and labor as may be required. The supervisor's authority shall be such that all communication given to the supervisor shall be as binding as if given to the Contractor.

SAMPLE CONTRACT
(PAGE 3 OF 7)

The Contractor shall employ only competent and skilled personnel. The Contractor shall, upon demand from the County, immediately remove any superintendent, foreman or workman whom the County may consider incompetent or undesirable.

6. **Changes in the Contract.**

The County may at any time, as the need arises, order changes within the scope of the Work without invalidating the Contract Agreement. If such changes increase or decrease the amount due under the Contract Documents, or in the time required for performance of the Work, an equitable adjustment will be authorized by Change Order.

7. **Insurance.**

The Contractor shall not commence any work under this Contract until all insurance, as stipulated in the Invitation to Bid, has been obtained and such insurance has been approved by the County, nor shall the Contractor allow any subcontractor to commence any work on subcontractor's contract until all similar insurance required of the subcontractor has been so obtained and approved by the Contractor.

8. **Interruption of Facility Operations.**

The Contractor shall provide the County with written notice at least three days prior to any interruption in facility operations required by construction activity. The notice shall include the date and time of the scheduled interruption, the length of time the interruption will be in effect, the procedures to be followed, a complete identification of all those processes, equipment and operations to be affected and all other information the County may require. The Contractor shall provide any equipment, piping, auxiliary power or other means necessary to sustain facility operations.

9. **Protection of Work, Property and Persons.**

- (a) The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. The Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to all employees on the Work and other persons who may be affected thereby, all the Work and all products to be incorporated therein, whether in storage on or off the site, and other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.
- (b) The Contractor shall comply with the Department of Labor Safety and Health Regulations for construction, promulgated under the Occupational Safety and Health Act of 1970 (PL 91-596) and under Section 107 of the Contract Work Hours and Safety Standards Act (PL 91-54) as amended. The Contractor shall erect and maintain, as required by the conditions and progress of the Work, all necessary safeguards for safety and protection.
- (c) The Contractor shall remedy all damage, injury or loss to any property, improvements or facilities caused, directly or indirectly, in whole or in part, by the Contractor or any of the Contractor's subcontractors or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable. The property, improvements or facilities shall be replaced or restored to a condition as good as when the Contractor entered upon the Work. In case of failure on the part of the Contractor to restore such property, or make good such damages or injury, the County may, after 48 hours written notice, proceed to repair, rebuild, or otherwise restore such property, improvements or facilities as may be deemed necessary. The cost thereof will be deducted from any monies due, or which may become due the Contractor under this Contract.
- (d) In emergencies affecting the safety of persons or the Work or property at the site or adjacent thereto, the Contractor, without special instruction or authorization from the County, shall act to prevent threatened damage, injury, or loss.

**SAMPLE CONTRACT
(PAGE 4 OF 7)**

- (e) Completed Work and stored products shall be suitably protected during unseasonable weather, to allow Work to proceed in a timely fashion. Work planned, or in progress, should be performed to minimize impact of adverse weather.

10. **Protection of the Environment.**

- (a) The Contractor shall be responsible for taking all measures required to minimize all types of pollution associated with the undertaking of the proposed Work and shall abide by the requirements of all governmental agencies having jurisdiction over the Work or Contractor's Project operations. This shall include but not be limited to air, water & noise pollution during torch cutting, grinding, burning, and grading operations.
- (b) Any area used or involved in the Project that is disturbed by the Contractor, shall be restored to original or better condition, even though such area is outside the limits of that specified for grading, grassing, or landscaping.
- (c) The Contractor is responsible for maintenance of all erosion control measures, final removal of all temporary BMP's, and irrigation of all permanent vegetative measures until fully established.

11. **Protection, Location and Relocation of Utilities.**

The Contractor shall notify utility owners of the new work in accordance with Georgia Law by calling the Utilities Protection Center (UPC) at 800-282-7411, 72 hours before work is to begin. The Contractor shall protect from damage all existing improvements or utilities at, or in proximity to, the site of the Work, and shall repair or restore any damage to such facilities resulting from failure to exercise reasonable care in the performance of Work. If the Contractor fails or refuses to repair any such damage promptly, the County may have the Work performed and charge the cost thereof to the Contractor.

Prior to the construction or installation of any new Work, the Contractor shall excavate all existing utilities within the vicinity of the Work to their actual vertical and horizontal location. In order to avoid conflicts between existing and new Work, the Contractor shall either relocate the existing utility on a temporary or permanent basis or shall take whatever means necessary to protect the existing facilities or utilities during the installation of new Work.

12. **Mutual Release/Indemnification.**

Each party hereby agrees to indemnify and hold harmless the other party from any form of action, lawsuit or claim brought by or on behalf of the indemnifying party's employees, agents or invitees and related in any way to Product/Equipment/Services supplied by Seller under this Agreement. Each party expressly agrees that the obligation of indemnity under this Paragraph extends to an action, lawsuit or claim alleging negligence of the indemnitee.

13. **Termination of Agreement.**

In the event either party elects to terminate this Agreement for whatever reason deemed appropriate, written notice shall be provided and termination shall be effective 15 days from receipt of written notice.

**SAMPLE CONTRACT
(PAGE 5 OF 7)**

14. **Notice.**
Any notice or other communication required or permitted to be given under this Agreement must be in writing and must be mailed by overnight delivery or certified mail, postage prepaid, so that the notifying party can prove delivery of notice and the date thereof, and addressed as follows:

To the County:

Rockdale County, Georgia
Department of Finance
Attn: Tina Malone
P.O. Box 289
Conyers, Georgia 30012

To the Contractor:

[COMPANY NAME]
Attn: [REPRESENTATIVE]
[ADDRESS 1]
[ADDRESS 2]
[CITY, STATE, ZIP CODE]

The addresses stated in this paragraph may be changed by the respective parties upon a documented notice delivered in advance, pursuant to this paragraph.

15. **Assignment.**
The Contractor shall have no right to transfer or assign its interest in this Agreement without the prior written consent of an authorized representative of the County.

16. **Corporate Authority.**
Contractor represents to the County that this Agreement, the transaction contemplated in this Agreement, and the execution and delivery hereof, have been duly authorized by all necessary corporate proceedings and actions, including, without limitation, the action on the part of the directors. The individual executing this Agreement on behalf of Contractor warrants that he or she is authorized to do so and that this Agreement constitutes the legally binding obligation of the corporation.

17. **Waiver.**
No action taken pursuant to this Agreement shall be deemed to constitute a waiver by the party taking such action of compliance with any representation, warranty, covenant or agreement in this Agreement. The waiver by any party of a breach of any provision or condition contained in this Agreement shall not operate or be construed as a waiver of any subsequent breach or of any other conditions.

18. **Severability.**
If any provision of this Agreement or application to any party or circumstances shall be determined by any court of competent jurisdiction to be unenforceable to any extent, the remainder of this Agreement or the application of such provision to such person or circumstances, other than those as to which it is so determined invalid or unenforceable, shall not be affected thereby, and each provision hereof shall be valid and shall be enforced to the fullest extent permitted by law.

19. **Interpretation.**
Should any provision of this Agreement require a judicial interpretation, the parties agree that the body interpreting or construing this Agreement will not apply the assumption that the terms of this Agreement will be more strictly construed against one party by reason of the rule of legal construction that an instrument is to be construed more strictly against the party which itself or through its agents prepared the Agreement. The parties acknowledge and agree that they and their agents have each participated equally in the negotiation and preparation of this Agreement.

**SAMPLE CONTRACT
(PAGE 6 OF 7)**

20. **Venue & Jurisdiction.**

The County and the Contractor, by entering into this Promissory Note, hereby agree that the courts of Rockdale County, Georgia shall have jurisdiction to hear and determine any claims or disputes between them pertaining directly or indirectly to this Agreement. Contractor expressly submits and consents in advance to such jurisdiction in any action or proceeding commenced in said courts. The choice of forum set forth in this section shall not be deemed to preclude the bringing of any action by the County or the enforcement by the County of any judgment obtained in such forum in any other appropriate jurisdiction. Further, the Contractor hereby waives the right to assert the defense of forum non-conveniens and the right to challenge the venue of any court proceeding.

21. **Governing Law.**

This Agreement shall be construed and interpreted according to the provisions of the laws of the State of Georgia.

22. **Binding Effect.**

This Agreement shall be binding upon the Contractor and its successors and permitted assigns.

23. **Further Assurances.**

The Contractor agrees to execute, acknowledge, seal and deliver, after the date of this Agreement, without additional consideration, such further assurances, instruments and documents, and to take such further actions, as the County may reasonably request in order to fulfill the intent of this Agreement and the transactions contemplated by this Agreement.

24. **Entire Agreement.**

This Agreement, its attachments, and essential documents (as provided in ¶ 1 above) represent the entire understanding of the parties with regard to the subject matter of this Agreement. There are no oral agreements, understandings, or representations made by any party to this Agreement that are outside of this Agreement and are not expressly stated in it. No supplement, modification, or amendment of this Agreement will be binding unless executed in writing by all parties.

By signing this Agreement, the parties acknowledge that they have read each and every page of this Agreement before signing same and that they understand and assent to all the terms thereof. In addition, by signing this Agreement, the parties acknowledge that they are entering into this Agreement freely and voluntarily and under no compulsion or duress.

SAMPLE CONTRACT
(PAGE 7 OF 7)

IN WITNESS WHEREOF, the parties have hereunto set their hands and seals on the date and year first above written.

[CONTRACTOR'S NAME]

ROCKDALE COUNTY, GEORGIA
BOARD OF COMMISSIONERS

By: _____

By: _____
Osborn Nesbitt, Sr., Chairman

Witness:

Attest:

By: _____

By: _____
Jennifer Rutledge, County Clerk

Approved as to Form:

By: _____
M. Qader A. Baig, County Attorney

BIDDER'S CHECKLIST

_____ **Bid Bond in the Amount of 5% of the Total Bid Amount**

Note: Performance Bond, Payment Bond, and Proof of Insurance coverage are required after contract award.

_____ **THREE (3) HARDCOPIES (one original, two photocopies) and ONE (1) FLASH DRIVE (containing a copy in Adobe PDF format) of the following documents: all documents shall be fully completed, signed, and dated:**

_____ **Bid Schedule (See Pages 16-30)**

_____ **DBE Form (See Pages 47-48)**

_____ **Federal Aid Certification (See Page 61)**

_____ **All Applicable Affidavit Forms (See Pages 31-36)**

_____ **Contractor's Qualifications Statement & Questionnaire (See Pages 43-50)**

_____ **Subcontractors (See Page 46)**

_____ **Any Proposed Deviations from the Required Specifications, Including Necessary Explanations and Conditions**

_____ **Proof of Business License**

_____ **Proof of Georgia General Contractor License**

_____ **Proof of GDOT Prequalification**

The purpose of this checklist is to remind bidders of the documents generally required for the bid submittal. It is the bidder's responsibility to include additional documents requested in the bid that may not be shown on the checklist, if applicable.

SPECIAL PROVISIONS AND ADDITIONS

- NOTICE TO ALL BIDDERS
- REQUIRED CONTRACT PROVISIONS FOR FEDERAL-AID CONSTRUCTION CONTRACTS
- GEORGIA DEPARTMENT OF TRANSPORTATION - REQUIRED CONTRACT PROVISIONS, FOR FEDERAL-AID CONSTRUCTION CONTRACTS
- NOTICE TO CONTRACTORS - COMPLIANCE WITH TITLE VI OF THE CIVIL RIGHTS ACT 1964 FOR FEDERAL CONTRACTS
- DAVIS BACON GENERAL WAGE DETERMINATION (ROCKDALE COUNTY)
- STANDARD FEDERAL EQUAL OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS
- FEDERAL REGISTER – NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246)
- DISADVANTAGED BUSINESS ENTERPRISE PROGRAM CRITERIA FOR ACCEPTABILITY
- PROMPT PAY
- BUY AMERICA & CONVICT PRODUCED MATERIALS
- FEDERAL AID CERTIFICATION – EQUAL EMPLOYMENT OPPORTUNITY
- NON-COLLUSION CERTIFICATION
- INSTRUCTIONS FOR REPORTING DBE PARTICIPATION AND DBE PARTICIPATION REPORT

- SECTION 105.07 – CONTROL OF WORK
- SECTION 107.23H – LEGAL REGULATIONS AND RESPONSIBILITY TO THE PUBLIC
- SECTION 108.08 – PROSECUTION AND PROGRESS
- SECTION 150 – TRAFFIC CONTROL
- SECTION 150.5 – TRAFFIC CONTROL
- SECTION 150.6 – TRAFFIC CONTROL
- SECTION 154 – CONSTRUCTION VIBRATION MONITORING
- SECTION 165 – MAINTENANCE OF TEMPORARY EROSION AND SEDIMENTATION CONTROL DEVICES
- SECTION 205 – ROADWAY EXCAVATION
- SECTION 300 – GENERAL SPECIFICATIONS FOR BASE AND SUBBASE COURSES
- SECTION 449 – BRIDGE DECK JOINT SEALS
- SECTION 457 – GEOGRID REINFORCEMENT
- SECTION 500 – CONCRETE STRUCTURES
- SECTION 523 – DYNAMIC PILE TESTING
- SECTION 627 – MECHANICALLY STABILIZED EMBANKMENT RETAINING WALL CONTRACTOR DESIGN
- SECTION 660 – SANITARY SEWERS
- SECTION 670 – WATER DISTRIBUTION SYSTEM
- SECTION 809 – GEOGRID MATERIALS
- SECTION 865 – MANUFACTURE OF PRESTRESSED CONCRETE BRIDGE MEMBERS
- SECTION 881 – FABRIC

BFI & WFI

SOIL REPORT

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

**FEDERAL AID CERTIFICATION
(English Project)**

Revised: April 19, 2024
First Use Date 2021 Specifications: April 16, 2021

Failure to complete appropriate certification requirements identified below or submission of a false certification shall render the bid non-responsive.

EQUAL EMPLOYMENT OPPORTUNITY

I further certify that I have / have not participated in a previous contract or subcontract subject to the equal opportunity clause, as required by Executive Orders 10925, 11114, or 11246, and that I have / have not filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

I understand that if I have participated in a previous Contract or Subcontract subject to the Executive Orders above and have not filed the required reports that 41 CFR 601.7 (b)(1) prevents the award of this Contract unless I submit a report governing the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U. S. Department of Labor.

Reports and notifications required under 41 CFR 604, including reporting subcontract awards in excess of \$10,000.00 should be addressed to:

Mr. Samuel Maiden
Regional Director, U. S. Department of Labor
Office of Federal Contract Compliance Programs, Region 4
Rm. 7B75
61 Forsyth St. SW
Atlanta, GA 30303

EXAMINATION OF PLANS AND SPECIFICATIONS

I acknowledge that this Project will be constructed in English units.

I certify that I have carefully examined the Plans for this Project and the Standard Specifications, 2021 Edition, the 2024 Supplemental Specifications modifying the 2021 Standard Specifications, and Special Provisions included in and made a part of this Proposal, and have also personally examined the site of the work. On the basis of the said Specifications and Plans, I propose to furnish all necessary machinery, tools, apparatus and other means of construction, and do all the work and furnish all the materials in the manner specified.

I understand the quantities mentioned are approximate only and are subject to either increase or decrease and hereby propose to perform any increased or decreased quantities of work or extra work on the basis provided for in the Specifications.

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

NON-COLLUSION CERTIFICATION

I hereby certify that I have not, nor has any member of the firm(s) or corporation(s), either directly or indirectly entered into any agreement, participated in any collusion, nor otherwise taken any action in restraint of free competitive bidding in connection with this submitted bid.

It is understood and agreed that this Proposal is one of several competitive bids made to the Department of Transportation, and in consideration of mutual agreements of the bidders, similar hereto, and in consideration of the sum of One Dollar cash in hand paid, receipt whereof is hereby acknowledged, the undersigned agrees that this Proposal shall be an option, which is hereby given by the undersigned to the Department of Transportation to accept or reject this Proposal at any time within thirty (30) calendar days from the date on which this sealed proposal is opened and read, unless a longer period is specified in the Proposal or the successful bidder agrees in writing to a longer period of time for the award, and in consideration of the premises, it is expressly covenanted and agreed that this Proposal is not subject to withdrawal by the Proposer or Bidder, during the term of said option.

I hereby acknowledge receipt of the following checked amendments of the Proposal, Plans, Specifications and/or other documents pertaining to the Contract.

Amendment Nos.: I understand that failure to confirm the receipt of amendments is cause for rejection of bids.

(COMPANY NAME)

Signature of Contractor

(SEAL)

Printed Name of Signee

Title

NOTICE TO ALL BIDDERS

To report bid rigging activities call:

1-800-424-9071

The U.S. Department of Transportation (DOT) operates the above toll-free “hotline” Monday through Friday, 8:00 AM to 5:00 PM, Eastern Time. Anyone with the knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the “hotline” to report such activities.

The “hotline” is part of the DOT’s continuing effort to identify and investigate highway construction contract fraud and abuse, and is operated under the direction of the DOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

**REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS**

- I. General
- II. Nondiscrimination
- III. Non-segregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion
- XI. Certification Regarding Use of Contract Funds for Lobbying
- XII. Use of United States-Flag Vessels:

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under title 23, United States Code, as required in 23 CFR 633.102(b) (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services). 23 CFR 633.102(e).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider. 23 CFR 633.102(e).

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services) in accordance with 23 CFR 633.102. The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in solicitation-for-bids or request-for-proposals documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract). 23 CFR 633.102(b).

2. Subject to the applicability criteria noted in the following sections, 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. 23 CFR 633.102(d).

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. 23 U.S.C. 114(b). The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors. 23 U.S.C. 101(a).

II. NONDISCRIMINATION (23 CFR 230.107(a); 23 CFR Part 230, Subpart A, Appendix A; EO 11246)

The provisions of this section related to 23 CFR Part 230, Subpart A, Appendix A are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR Part 60, 29 CFR Parts 1625-1627, 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR Part 60, and 29 CFR Parts 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR Part 230, Subpart A, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

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 (see 28 CFR Part 35, 29 CFR Part 1630, 29 CFR Parts 1625-1627, 41 CFR Part 60 and 49 CFR Part 27) 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 provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR Part 35 and 29 CFR Part 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 contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract. 23 CFR 230.409 (g)(4) & (5).

b. The contractor will accept as its 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, sexual orientation, gender identity, 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, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program 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 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 or other knowledgeable company official.

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 minorities and women.

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 minorities and women 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 minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees and establish with such identified sources procedures whereby minority and women 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, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such 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, sexual orientation, gender identity, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to ensure 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 its 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 their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

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). In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

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 employees who are minorities and women 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 good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. 23 CFR 230.409. 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 good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith 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, sexual orientation, gender identity, 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 contracting agency 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 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, sexual orientation, gender identity, national origin, age, or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide

sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. 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 contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established thereunder. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors, suppliers, and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurances Required:

a. The requirements of 49 CFR Part 26 and the State DOT's FHWA-approved Disadvantaged Business Enterprise (DBE) program are incorporated by reference.

b. 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 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 recipient deems appropriate, which may include, but is not limited to:

- (1) Withholding monthly progress payments;
- (2) Assessing sanctions;
- (3) Liquidated damages; and/or
- (4) Disqualifying the contractor from future bidding as non-responsible.

c. The Title VI and nondiscrimination provisions of U.S. DOT Order 1050.2A at Appendixes A and E are incorporated by reference. 49 CFR Part 21.

11. 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 the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

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

(1) The number and work hours 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; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women.

b. The contractors and subcontractors will submit an annual report to the contracting agency 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](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of more than \$10,000. 41 CFR 60-1.5.

As prescribed by 41 CFR 60-1.8, the contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location under the contractor's control where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size), in accordance with 29 CFR 5.5. The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. 23 U.S.C. 113. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. 23 U.S.C. 101. Where applicable law requires that projects be treated as a project on a Federal-aid highway, the provisions of this subpart will apply regardless of the location of the project. Examples include: Surface Transportation Block Grant Program projects funded under 23 U.S.C. 133 [excluding recreational trails projects], the Nationally Significant Freight and Highway

Projects funded under 23 U.S.C. 117, and National Highway Freight Program projects funded under 23 U.S.C. 167.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages (29 CFR 5.5)

a. *Wage rates and fringe benefits.* All laborers and mechanics employed or working upon the site of the work (or otherwise working in construction or development of the project under a development statute), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act ([29 CFR part 3](#))), the full amount of basic hourly wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. As provided in paragraphs (d) and (e) of 29 CFR 5.5, the appropriate wage determinations are effective by operation of law even if they have not been attached to the contract. Contributions made or costs reasonably anticipated for bona fide fringe benefits under the Davis-Bacon Act ([40 U.S.C. 3141\(2\)\(B\)](#)) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.e. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics must be paid the appropriate wage rate and fringe benefits on the wage determination for the classification(s) of work actually performed, without regard to skill, except as provided in paragraph 4. of this section. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided*, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under paragraph 1.c. of this section) and the Davis-Bacon poster (WH-1321) must 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.

b. *Frequently recurring classifications.* (1) In addition to wage and fringe benefit rates that have been determined to be prevailing under the procedures set forth in [29 CFR part 1](#), a wage determination may contain, pursuant to § 1.3(f), wage and fringe benefit rates for classifications of laborers and mechanics for which conformance requests are regularly submitted pursuant to paragraph 1.c. of this section, provided that:

(i) The work performed by the classification is not performed by a classification in the wage determination for which a prevailing wage rate has been determined;

(ii) The classification is used in the area by the construction industry; and

(iii) The wage rate for the classification bears a reasonable relationship to the prevailing wage rates contained in the wage determination.

(2) The Administrator will establish wage rates for such classifications in accordance with paragraph 1.c.(1)(iii) of this section. Work performed in such a classification must be paid at no less than the wage and fringe benefit rate listed on the wage determination for such classification.

c. *Conformance.* (1) The contracting officer must require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract be classified in conformance with the wage determination. Conformance of an additional classification and wage rate and fringe benefits is appropriate only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is used in the area by the construction industry; and

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

(2) The conformance process may not be used to split, subdivide, or otherwise avoid application of classifications listed in the wage determination.

(3) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken will be sent by the contracting officer by email to DBAconformance@dol.gov. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

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

(5) The contracting officer must promptly notify the contractor of the action taken by the Wage and Hour Division

under paragraphs 1.c.(3) and (4) of this section. The contractor must furnish a written copy of such determination to each affected worker or it must be posted as a part of the wage determination. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 1.c.(3) or (4) of this section must be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

d. *Fringe benefits not expressed as an hourly rate.* 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 may either pay the benefit as stated in the wage determination or may pay another bona fide fringe benefit or an hourly cash equivalent thereof.

e. *Unfunded plans.* If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, *Provided*, That the Secretary of Labor has found, upon the written request of the contractor, in accordance with the criteria set forth in § 5.28, 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.

f. *Interest.* In the event of a failure to pay all or part of the wages required by the contract, the contractor will be required to pay interest on any underpayment of wages.

2. Withholding (29 CFR 5.5)

a. *Withholding requirements.* The contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for the full amount of wages and monetary relief, including interest, required by the clauses set forth in this section for violations of this contract, or to satisfy any such liabilities required by any other Federal contract, or federally assisted contract subject to Davis-Bacon labor standards, that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to Davis-Bacon labor standards requirements and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld. In the event of a contractor's failure to pay any laborer or mechanic, including any apprentice or helper working on the site of the work all or part of the wages required by the contract, or upon the contractor's failure to submit the required records as discussed in paragraph 3.d. of this section, the contracting agency may on its own initiative and 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.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with paragraph

2.a. of this section or Section V, paragraph 3.a., or both, over claims to those funds by:

- (1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
- (2) A contracting agency for its procurement costs;
- (3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
- (4) A contractor's assignee(s);
- (5) A contractor's successor(s); or
- (6) A claim asserted under the Prompt Payment Act, [31 U.S.C. 3901–3907](#).

3. Records and certified payrolls (29 CFR 5.5)

a. Basic record requirements (1) Length of record retention. All regular payrolls and other basic records must be maintained by the contractor and any subcontractor during the course of the work and preserved for all laborers and mechanics working at the site of the work (or otherwise working in construction or development of the project under a development statute) for a period of at least 3 years after all the work on the prime contract is completed.

(2) Information required. Such records must contain the name; Social Security number; last known address, telephone number, and email address of each such worker; each worker's correct classification(s) of work actually performed; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in [40 U.S.C. 3141\(2\)\(B\)](#) of the Davis-Bacon Act); daily and weekly number of hours actually worked in total and on each covered contract; deductions made; and actual wages paid.

(3) Additional records relating to fringe benefits. Whenever the Secretary of Labor has found under paragraph 1.e. of this section 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 [40 U.S.C. 3141\(2\)\(B\)](#) of the Davis-Bacon Act, the contractor must maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits.

(4) Additional records relating to apprenticeship. Contractors with apprentices working under approved programs must maintain written evidence of the registration of apprenticeship programs, the registration of the apprentices, and the ratios and wage rates prescribed in the applicable programs.

b. Certified payroll requirements (1) Frequency and method of submission. The contractor or subcontractor must submit weekly, for each week in which any DBA- or Related Acts-covered work is performed, certified payrolls to the contracting

agency. The prime contractor is responsible for the submission of all certified payrolls by all subcontractors. A contracting agency or prime contractor may permit or require contractors to submit certified payrolls through an electronic system, as long as the electronic system requires a legally valid electronic signature; the system allows the contractor, the contracting agency, and the Department of Labor to access the certified payrolls upon request for at least 3 years after the work on the prime contract has been completed; and the contracting agency or prime contractor permits other methods of submission in situations where the contractor is unable or limited in its ability to use or access the electronic system.

(2) Information required. The certified payrolls submitted must set out accurately and completely all of the information required to be maintained under paragraph 3.a.(2) of this section, except that full Social Security numbers and last known addresses, telephone numbers, and email addresses must not be included on weekly transmittals. Instead, the certified payrolls need only include an individually identifying number for each worker (e.g., the last four digits of the worker's Social Security number). The required weekly certified payroll information may be submitted using Optional Form WH-347 or in any other format desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division website at <https://www.dol.gov/sites/dolgov/files/WHD/legacy/files/wh347.pdf> or its successor website. It is not a violation of this section for a prime contractor to require a subcontractor to provide full Social Security numbers and last known addresses, telephone numbers, and email addresses to the prime contractor for its own records, without weekly submission by the subcontractor to the contracting agency.

(3) Statement of Compliance. Each certified payroll submitted must be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor, or the contractor's or subcontractor's agent who pays or supervises the payment of the persons working on the contract, and must certify the following:

(i) That the certified payroll for the payroll period contains the information required to be provided under paragraph 3.b. of this section, the appropriate information and basic records are being maintained under paragraph 3.a. of this section, and such information and records are correct and complete;

(ii) That each laborer or mechanic (including each helper and apprentice) working 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 [29 CFR part 3](#); and

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification(s) of work actually performed, as specified in the applicable wage determination incorporated into the contract.

(4) Use of Optional Form WH-347. The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 will satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(3) of this section.

(5) *Signature.* The signature by the contractor, subcontractor, or the contractor's or subcontractor's agent must be an original handwritten signature or a legally valid electronic signature.

(6) *Falsification.* The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under [18 U.S.C. 1001](#) and [31 U.S.C. 3729](#).

(7) *Length of certified payroll retention.* The contractor or subcontractor must preserve all certified payrolls during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

c. *Contracts, subcontracts, and related documents.* The contractor or subcontractor must maintain this contract or subcontract and related documents including, without limitation, bids, proposals, amendments, modifications, and extensions. The contractor or subcontractor must preserve these contracts, subcontracts, and related documents during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

d. *Required disclosures and access (1) Required record disclosures and access to workers.* The contractor or subcontractor must make the records required under paragraphs 3.a. through 3.c. of this section, and any other documents that the contracting agency, the State DOT, the FHWA, or the Department of Labor deems necessary to determine compliance with the labor standards provisions of any of the applicable statutes referenced by § 5.1, available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and must permit such representatives to interview workers during working hours on the job.

(2) *Sanctions for non-compliance with records and worker access requirements.* If the contractor or subcontractor fails to submit the required records or to make them available, or refuses to permit worker interviews during working hours on the job, the Federal agency may, after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, that maintains such records or that employs such workers, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available, or to permit worker interviews during working hours on the job, may be grounds for debarment action pursuant to § 5.12. In addition, any contractor or other person that fails to submit the required records or make those records available to WHD within the time WHD requests that the records be produced will be precluded from introducing as evidence in an administrative proceeding under [29 CFR part 6](#) any of the required records that were not provided or made available to WHD. WHD will take into consideration a reasonable request from the contractor or person for an extension of the time for submission of records. WHD will determine the reasonableness of the request and may consider, among other things, the location of the records and the volume of production.

(3) *Required information disclosures.* Contractors and subcontractors must maintain the full Social Security number and last known address, telephone number, and email address

of each covered worker, and must provide them upon request to the contracting agency, the State DOT, the FHWA, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or other compliance action.

4. Apprentices and equal employment opportunity (29 CFR 5.5)

a. *Apprentices (1) Rate of pay.* Apprentices will be permitted to work at less than the predetermined rate for the work they perform when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship (OA), or with a State Apprenticeship Agency recognized by the OA. A person who is not individually registered in the program, but who has been certified by the OA or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice, will be permitted to work at less than the predetermined rate for the work they perform in the first 90 days of probationary employment as an apprentice in such a program. In the event the OA or a State Apprenticeship Agency recognized by the OA withdraws approval of an apprenticeship program, the contractor will no longer be permitted to use apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(2) *Fringe benefits.* Apprentices must be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringe benefits must be paid in accordance with that determination.

(3) *Apprenticeship ratio.* The allowable ratio of apprentices to journeyworkers on the job site in any craft classification must not be greater than the ratio permitted to the contractor as to the entire work force under the registered program or the ratio applicable to the locality of the project pursuant to paragraph 4.a.(4) of this section. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in paragraph 4.a.(1) of this section, must be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under this section must be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(4) *Reciprocity of ratios and wage rates.* Where a contractor is performing construction on a project in a locality other than the locality in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyworker's hourly rate) applicable within the locality in which the construction is being performed must be observed. If there is no applicable ratio or wage rate for the locality of the project, the ratio and wage rate specified in the contractor's registered program must be observed.

b. *Equal employment opportunity.* The use of apprentices and journeyworkers under this part must be in conformity with

the equal employment opportunity requirements of Executive Order 11246, as amended, and [29 CFR part 30](#).

c. 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. 23 CFR 230.111(e)(2). 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 journeyworkers shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract as provided in 29 CFR 5.5.

6. Subcontracts. The contractor or subcontractor must insert FHWA-1273 in any subcontracts, along with the applicable wage determination(s) and such other clauses or contract modifications as the contracting agency may by appropriate instructions require, and a clause requiring the subcontractors to include these clauses and wage determination(s) in any lower tier subcontracts. The prime contractor is responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this section. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and may be subject to debarment, as appropriate. 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract as provided in 29 CFR 5.5.

9. Disputes concerning labor standards. As provided in 29 CFR 5.5, disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility. a. By entering into this contract, the contractor certifies that neither it nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of [40 U.S.C. 3144\(b\)](#) or § 5.12(a).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of [40 U.S.C. 3144\(b\)](#) or § 5.12(a).

c. The penalty for making false statements is prescribed in the U.S. Code, Title 18 Crimes and Criminal Procedure, [18 U.S.C. 1001](#).

11. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#);

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#);

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#); or

d. Informing any other person about their rights under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#).

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

Pursuant to 29 CFR 5.5(b), the following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchpersons and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek. 29 CFR 5.5.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph 1. of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages and interest from the date of the underpayment. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or

mechanic, including watchpersons and guards, employed in violation of the clause set forth in paragraph 1. of this section, in the sum currently provided in 29 CFR 5.5(b)(2)* for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph 1. of this section.

* \$31 as of January 15, 2023 (See 88 FR 88 FR 2210) as may be adjusted annually by the Department of Labor, pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990.

3. Withholding for unpaid wages and liquidated damages

a. *Withholding process.* The FHWA or the contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in this section on this contract, 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 that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with Section IV paragraph 2.a. or paragraph 3.a. of this section, or both, over claims to those funds by:

- (1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
- (2) A contracting agency for its procurement costs;
- (3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
- (4) A contractor's assignee(s);
- (5) A contractor's successor(s); or
- (6) A claim asserted under the Prompt Payment Act, [31 U.S.C. 3901](#)–3907.

4. Subcontracts. The contractor or subcontractor must insert in any subcontracts the clauses set forth in paragraphs 1. through 5. of this section and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor is responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1. through 5. In the

event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

5. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in this part;

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or this part;

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or this part; or

d. Informing any other person about their rights under CWHSSA or this part.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System pursuant to 23 CFR 635.116.

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 contracting agency. 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 635.116).

a. The term "perform work with its own organization" in paragraph 1 of Section VI refers to workers employed or leased 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 or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions: (based on longstanding interpretation)

- (1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
- (2) the prime contractor remains responsible for the quality of the work of the leased employees;

- (3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
- (4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

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 or propose on the contract as a whole and in general are to be limited to minor components of the overall contract. 23 CFR 635.102.

2. Pursuant to 23 CFR 635.116(a), the contract amount upon which the requirements set forth in paragraph (1) of Section VI 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. Pursuant to 23 CFR 635.116(c), 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 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 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 contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract. (based on long-standing interpretation of 23 CFR 635.116).

5. The 30-percent self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements. 23 CFR 635.116(d).

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

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 Part 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the 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. 23 CFR 635.108.

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 Part 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. 3704). 29 CFR 1926.10.

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. 3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

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, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR Part 635) in one or more places where it is readily available to all persons concerned with the project:

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 11, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT (42 U.S.C. 7606; 2 CFR 200.88; EO 11738)

This provision is applicable to all Federal-aid construction contracts in excess of \$150,000 and to all related subcontracts. 48 CFR 2.101; 2 CFR 200.327.

By submission of this bid/proposal or the execution of this contract or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, subcontractor, supplier, or vendor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal Highway Administration and the Regional Office of the Environmental Protection Agency. 2 CFR Part 200, Appendix II.

The contractor agrees to include or cause to be included the requirements of this Section in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements. 2 CFR 200.327.

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

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200. 2 CFR 180.220 and 1200.220.

1. Instructions for Certification – First Tier Participants:

- a. By signing and submitting this proposal, the prospective first tier 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 first tier 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 first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction. 2 CFR 180.320.
- c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default. 2 CFR 180.325.
- d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances. 2 CFR 180.345 and 180.350.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900-180.1020, and 1200. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first 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 entering into this transaction. 2 CFR 180.330.

g. The prospective first tier 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 Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold. 2 CFR 180.220 and 180.300.

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. 2 CFR 180.300; 180.320, and 180.325. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. 2 CFR 180.335. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (<https://www.sam.gov/>). 2 CFR 180.300, 180.320, and 180.325.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective 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. 2 CFR 180.325.

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.335;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment 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, 2 CFR 180.800;

(3) 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 (a)(2) of this certification, 2 CFR 180.700 and 180.800; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default. 2 CFR 180.335(d).

(5) Are not a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(6) Are not a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability (USDOT Order 4200.6 implementing appropriations act requirements).

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal. 2 CFR 180.335 and 180.340.

3. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders, and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200). 2 CFR 180.220 and 1200.220.

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

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

this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to 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. 2 CFR 180.365.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900 – 180.1020, and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

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. 2 CFR 1200.220 and 1200.332.

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 exceeding the \$25,000 threshold. 2 CFR 180.220 and 1200.220.

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 is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (<https://www.sam.gov/>), which is compiled by the General Services Administration. 2 CFR 180.300, 180.320, 180.330, and 180.335.

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. 2 CFR 180.325.

4. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

a. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals:

(1) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.355;

(2) is a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(3) is a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability. (USDOT Order 4200.6 implementing appropriations act requirements)

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

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000. 49 CFR Part 20, App. A.

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 its bid or proposal that the participant 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.

XII. USE OF UNITED STATES-FLAG VESSELS:

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, or any other covered transaction. 46 CFR Part 381.

This requirement applies to material or equipment that is acquired for a specific Federal-aid highway project. 46 CFR 381.7. It is not applicable to goods or materials that come into inventories independent of an FHWA funded-contract.

When oceanic shipments (or shipments across the Great Lakes) are necessary for materials or equipment acquired for a specific Federal-aid construction project, the bidder, proposer, contractor, subcontractor, or vendor agrees:

1. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels. 46 CFR 381.7.

2. To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b)(1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Office of Cargo and Commercial Sealift (MAR-620), Maritime Administration, Washington, DC 20590. (MARAD requires copies of the ocean carrier's (master) bills of lading, certified onboard, dated, with rates and charges. These bills of lading may contain business sensitive information and therefore may be submitted directly to MARAD by the Ocean Transportation Intermediary on behalf of the contractor). 46 CFR 381.7.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS
PREFERENCE FOR APPALACHIAN DEVELOPMENT
HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS
ROAD CONTRACTS (23 CFR 633, Subpart B, Appendix B)**

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

December 15, 2008

APPENDIX A
NOTICE TO CONTRACTORS
COMPLIANCE WITH TITLE VI OF THE CIVIL RIGHTS ACT OF 1964
FOR
FEDERAL-AID CONTRACTS

During the performance of this Contract, the Contractor, for itself, its assignees and successors in interest (hereinafter referred to as the “Contractor”), agrees as follows:

1. Compliance with Regulations: The Contractor will comply with the Regulations of the Department of Transportation relative to nondiscrimination in Federally-assisted programs of the Department of Transportation (Title 49, Code of Federal Regulations, Part 21, hereinafter referred to as the “Regulations”), which are herein incorporated by reference and made a part of the Contract.
2. Nondiscrimination: The Contractor, with regard to the work performed by it afterward and prior to completion of the contract work, will not discriminate on the ground of race, color, national origin, disability, sex, or age in the selection and retention of subcontracts including procurements of materials and leases of equipment. This will be done in accordance with Title VI of the Civil Rights Act of 1964 and other Non-Discrimination Authorities i.e., Section 504 of the 1973 Rehabilitation Act, the 1973 Federal-Aid Highway Act, the 1975 Age Discrimination Act, and the Americans with Disabilities Act of 1990. The Contractor will not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices when contract covers a program set forth in Appendix B of the Regulations. In addition, the Contractor will not participate either directly or indirectly in discrimination prohibited by 23 CFR 710.405 (b).
3. Solicitations for subcontracts, including procurements of materials and equipment: In all solicitations, either by competitive bidding or negotiation made by the Contractor for work to be performed under a subcontract, including procurements of materials or equipment, each potential subcontractor or supplier shall be notified by the Contractor of the Contractor’s obligations under this Contract and the Regulations relative to nondiscrimination on the ground of race, color, national origin, disability, sex or age.

4. Information and Reports: The Contractor will provide all information and reports required by the Regulations, or orders and instructions issued pursuant thereto, and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Department of Transportation or the Federal Highway Administration to be pertinent to ascertain compliance with such Regulations, orders and instructions. Where any information required of a Contractor is in the exclusive possession of another who fails or refuses to furnish this information, the Contractor shall so certify to the Department of Transportation, or the Federal Highway Administration as appropriate, and shall set forth what efforts it has made to obtain the information.

5. Sanctions for Noncompliance: In the event of the Contractor's noncompliance with the nondiscrimination provisions of this Contract, the Department of Transportation shall impose such Contract sanctions as it or the Federal Highway Administration may determine to be appropriate, including, but not limited to:

- (a) withholding of payments to the Contractors under the Contract until the Contractor complies, and/or
- (b) Cancellation, termination or suspension of the Contract, in whole or in part.

6. Incorporation of Provisions: The Contractor will include the provisions of paragraph (1) through (6) in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations, orders or instruction issued pursuant thereto. The Contractor will take such action with respect to any subcontract or procurement as the Department of Transportation or the Federal Highway Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, however, that in the event a Contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as result of such direction, the Contractor may request the State to enter into such litigation to protect the interests of the State, and, in addition, the Contractor may request the United States to enter into such litigation to protect the interest of the United States.

Superseded General Decision Number: GA20230284

State: Georgia

Construction Type: Highway

Counties: Lamar, Meriwether, Pickens, Pike and Rockdale
Counties in Georgia.

HIGHWAY CONSTRUCTION PROJECTS

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	<ul style="list-style-type: none">. Executive Order 14026 generally applies to the contract.. The contractor must pay all covered workers at least \$17.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2024.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	<ul style="list-style-type: none">. Executive Order 13658 generally applies to the contract.. The contractor must pay all covered workers at least \$12.90 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2024.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <http://www.dol.gov/whd/govcontracts>.

	Rates	Fringes
CARPENTER, Excludes Form Work....	\$ 15.54 **	0.00
CEMENT MASON/CONCRETE FINISHER...	\$ 14.70 **	0.00
FENCE ERECTOR.....	\$ 16.54 **	0.00
FORM WORKER.....	\$ 15.26 **	2.08
HIGHWAY/PARKING LOT STRIPING: Operator (Striping Machine).....	\$ 12.37 **	1.95
INSTALLER - GUARDRAIL.....	\$ 15.65 **	0.00
INSTALLER - SIGN.....	\$ 13.03 **	0.00
IRONWORKER, REINFORCING.....	\$ 14.64 **	0.00
IRONWORKER, STRUCTURAL.....	\$ 15.12 **	0.00
LABORER: Concrete Paving Joint Sealer.....	\$ 17.66	0.00
LABORER: Grade Checker.....	\$ 11.45 **	0.00
LABORER: Mason Tender - Brick...	\$ 11.61 **	0.00
LABORER: Mason Tender - Cement/Concrete.....	\$ 11.44 **	0.00
LABORER: Pipelayer.....	\$ 12.45 **	0.00
LABORER: Asphalt (Includes Distributor, Raker, Screed, Shoveler, and Spreader).....	\$ 13.15 **	0.00
LABORER: Common or General, Includes Erosion Control.....	\$ 11.13 **	0.00
OPERATOR: Backhoe/Excavator/Trackhoe.....	\$ 16.69 **	2.41
OPERATOR: Bobcat/Skid Steer/Skid Loader.....	\$ 13.38 **	0.00
OPERATOR: Broom/Sweeper.....	\$ 14.83 **	1.38
OPERATOR: Bulldozer.....	\$ 16.07 **	1.81
OPERATOR: Compactor.....	\$ 14.64 **	0.00
OPERATOR: Concrete Saw.....	\$ 18.94	0.00
OPERATOR: Crane.....	\$ 21.06	4.24
OPERATOR: Distributor.....	\$ 17.00 **	1.93
OPERATOR: Grader/Blade.....	\$ 18.42	5.04
OPERATOR: Hydroseeder.....	\$ 15.20 **	0.00

OPERATOR: Loader.....	\$ 14.27 **	1.49
OPERATOR: Mechanic.....	\$ 19.54	0.00
OPERATOR: Milling Machine Groundsman.....	\$ 13.43 **	1.24
OPERATOR: Milling Machine.....	\$ 16.00 **	1.31
OPERATOR: Paver (Asphalt, Aggregate, and Concrete).....	\$ 16.50 **	2.93
OPERATOR: Piledriver.....	\$ 16.70 **	0.00
OPERATOR: Roller.....	\$ 13.86 **	1.35
OPERATOR: Scraper.....	\$ 12.64 **	0.00
OPERATOR: Screed.....	\$ 14.67 **	1.86
OPERATOR: Shuttle Buggy.....	\$ 14.06 **	1.98
PAINTER: Spray.....	\$ 23.30	0.00
TRAFFIC CONTROL: Flagger.....	\$ 11.70 **	1.01
TRAFFIC CONTROL: Laborer-Cones/ Barricades/Barrels - Setter/Mover/Sweeper.....	\$ 12.60 **	0.00
TRAFFIC SIGNALIZATION: Laborer.....	\$ 13.75 **	1.14
TRAFFIC SIGNALIZATION: Electrician.....	\$ 23.41	4.26
TRUCK DRIVER: Dump Truck.....	\$ 15.00 **	0.00
TRUCK DRIVER: Flatbed Truck.....	\$ 14.91 **	1.07
TRUCK DRIVER: Hydroseeder Truck.....	\$ 16.74 **	0.00
TRUCK DRIVER: Lowboy Truck.....	\$ 18.98	0.00
TRUCK DRIVER: Off the Road Truck.....	\$ 12.38 **	0.00
TRUCK DRIVER: Pickup Truck.....	\$ 13.29 **	0.00
TRUCK DRIVER: Water Truck.....	\$ 13.19 **	1.46
TRUCK DRIVER: Semi/Trailer Truck.....	\$ 16.26 **	0.00

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

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 ** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 (\$17.20) or 13658 (\$12.90). Please see the Note at the top of the wage

determination for more information. Please also note that the minimum wage requirements of Executive Order 14026 are not currently being enforced as to any contract or subcontract to which the states of Texas, Louisiana, or Mississippi, including their agencies, are a party.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

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) (iii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

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 National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

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

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

Washington, DC 20210

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

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

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

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

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

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

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END OF GENERAL DECISION"

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

**STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION
CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246) (43 FR14895)**

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 delegated 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. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.
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 individually required to comply with its obligations under the EEO clause, and to make a 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 Contractors 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 and timetables.
4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7a through p 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. The Contractor is expected to make substantially uniform progress toward its goals in each craft during the period specified.

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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, nor the regulations promulgated pursuant thereto.
6. In order for the non-working 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 shall be based upon its 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 two or more women to each construction project. The Contractor shall specifically 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 organization's 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 therefore, along with whatever additional actions the Contractor may have 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 sent 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 expressly include minority 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 the notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its 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.

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- 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 onsite supervisory personnel such as Superintendents, 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 any advertising in the news media, specifically 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 organization, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's area and employment needs. Not later than one 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 test 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 Part 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 one or more of 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 any one or more of its obligations under 7a through p 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

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benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual 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 single goal for minorities and a separate single 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 particular 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 specific minority group of women is underutilized).
10. The Contractor shall not use the goals and timetables 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 any 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 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 its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those 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 shall not be required to maintain separate records.
15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

FEDERAL REGISTER / VOL. 45, NO. 194 / FRIDAY, OCTOBER 3, 1980 / NOTICES**NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE
EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246) (43 FR
14895)**

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 and timetables 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 areas, are as follows:

GOALS FOR FEMALE**PARTICIPATION****APPENDIX A
(43 FR 19473)**

The following goals and timetables for female utilization shall be included in all Federal and federally assisted construction contracts and subcontracts in excess of \$10,000. The goals are applicable to the contractor's aggregate on-site construction workforce whether or not part of that workforce is performing work on a Federal or federally-assisted construction contract or subcontract. Area covered: Goals for Women apply nationwide.

Goals and timetables

Timetable	Goals (percent)
4-1-78 to 3-31-79	3.1
4-1-79 to 3-31-80	5.0
4-1-80 Until Further Notice	6.9

**GOALS FOR
MINORITY
PARTICIPATION****Appendix B-80**

Until further notice, the following goals for minority utilization in each construction craft and trade shall be included in all Federal or federally assisted construction contracts and subcontracts in excess of \$10,000 to be performed in the respective geographical areas. The goals are applicable to each nonexempt contractor's total onsite construction workforce, regardless of whether or not part of that workforce is performing work on a Federal, federally assisted or non-federally related project, contract or subcontract.

FEDERAL REGISTER / VOL. 45, NO. 194 / FRIDAY, OCTOBER 3, 1980 /NOTICES

Construction contractors which are participating in an approved Hometown Plan (see 41 CFR 60-4-5) are required to comply with the goals of the Hometown Plan with regard to construction work they perform in the areas covered by the Hometown Plan. With regard to all their other covered construction work, such contractors are required to comply with the applicable SMSA or EA goal contained in this appendix B-80.

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State	Goal (percent)
Georgia:	
035 Augusta, GA:	
SMSA Counties:	
0600 Augusta, GA-SC.....	27.2
GA Columbia; GA Richmond, SC Aiken;	
Non-SMSA Counties	32.-8
GA Burke; GA Emanuel; GA Glascock; GA Jefferson;	
GA Jenkins; GA Lincoln; GA McDuffie, GATalleferro;	
GA Warren; GA Wilkes; SC Allendale; SC Bamberg;	
SC Barnwell; SC Edgefield; SCMcCormick;	
36 Atlanta, GA:	
SMSA Counties:	
0520 Atlanta, GA.....	21.2
GA Butts; GA Cherokee; GA Clayton; GA	
Cobb; GA DeKalb; GA Douglas; GA Fayette, GA	
Forsyth; GA Fulton; GA Gwinnett; GA Henry; GA	
Newton; GA Paulding; GA Rockdale; GA Walton	
Non-SMSA Counties.....	19.5
GA Banks; GA Barrow; GA Bartow; GA Carroll; GA Clarke;	
GA Coweta; GA Dawson; GA Elbert; GAFannin;	
GA Floyd; GA Franklin; GA Gilmer; GAGordon;	
GA Greene; GA Habersham; GA Hall; GA	
Haralson; GA Hart; GA Heard; GA Jackson; GA	
Jasper; GA Lamar; GA Lampkin; GA Madison;	
GA Morgan; GA Oconee, GA Oglethorpe; GA	
Pickins, GA Pike; GA Polk; GA Rabun; GA	
Spalding; GA Stephens; GA Towns; GA; Union; GA Upson	
White	
37 Columbus, GA:	
SMSA Counties:	
1800 Columbus, GA – AL.....	29.6
Al Russell; GA Chattahoochee; GA Columbus	

Non-SMSA Counties.....	31.6
Al Chambers; AJ Lee; GA Harris; GA Marion;GA Meriwether; GA Quitman; GA Schley; GA Stewart; GA Sumter; GA Talbot: GATroup; GA Webster	
38 Macon, GA:	
SMSA Counties:	
4680 Macon, GA.....	27.5
GA Bibb; GA Houston; GA Jones; GATwigg	
Non-SMSA Counties.....	31.7
GA Baldwin; GA Bleckley; Crawford; GA Crisp; GA Dodge; GA Dooly; GA Hancock; GAJohnson; GA Laurens; GA Macon; GA Monroe; GA Peach; GA Pulaski; GA Putman; GA Taylor; GA Telfair; GA Treutlan; GA Washington; GA Wheeler; GA Wilcox; GA Wilkinson	
39 Savannah, GA:	
SMSA Counties:	
7520 Savannah, GA.....	30.6
GA Bryan; GA Chatham; GA Effingham	
Non-SMSA Counties.....	29.8
GA Appling; GA Atkinson; GA Bacon, GA Bulloch; GA Candler; GA Coffee; GA Evans; GA Jeff Davis; GA Liberty; GA Long; GA McIntosh; GA Montgomery; GA Screven; GA Tattnall; GA Toombs; GAWayne; SC Beaufort; SC Hampton; SC Jasper	
40 Albany, GA:	
SMSA Counties:	
0120 Albany, GA.....	32.1
GA Dougherty; GA Lee	
Non-SMSA Counties.....	31.1
GA Baker; GA Ben Hill; GA Berrien; GA Brooks; GA Calhoun; GA Clay; GA Clinch; GA Colquitt; GA Cook; GA Decatur; GA Early; GA Echols; GA Grady; GA Irwin; GA Lanier; GA Lowndes; GA Miller; GA Mitchell; GA Randolph; GA Seminole; GA Terrell; GA Thomas; GA Tift; GA Turner; GA Worth	
Florida:	
41 Jacksonville FL:	
Non-SMSA Counties.....	
GA Brantley; GA Camden; GA Charlton; GA Glynn; GA Pierce; GA Ware	22.2

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
DISADVANTAGED BUSINESS ENTERPRISE PROGRAM
CRITERIA FOR ACCEPTABILITY

The purpose of this special provision is to establish criteria for acceptability of DBE firms for work performed on this contract. The intent is to ensure all participation counted toward fulfillment of the DBE goals is (1) real and substantial, (2) actually performed by viable, independent DBE owned firms, and (3) in accordance with the spirit of the applicable laws and regulations.

The policy of the Georgia Department of Transportation is to ensure compliance with Title VI of the Civil Rights Act of 1964, 49 Code of Federal Regulations, Part 26 and related statutes and regulations in all program activities.

To this end the Georgia Department of Transportation shall not discriminate on the basis of race, color, sex or national origin in the award, administration and performance of any Georgia Department of Transportation assisted contract or in the administration of its Disadvantaged Business Enterprise Program. The Georgia Department of Transportation shall take all necessary and reasonable steps to ensure nondiscrimination.

The DBE Goal specified in the contract will be a percentage representing the DBE Race Conscious Participation. The Contractor will strive to achieve an additional percentage in his/her contracts for all projects during the course of the current State Fiscal Year, in order to meet the overall Georgia Department of Transportation DBE goal.

The DBE program applies to all Federal Aid projects regardless if a DBE Goal is established in the Contract or not. If no percentage goal is set forth in the proposal, the contractor may enter a proposed DBE participation. This voluntary DBE participation will count as race neutral DBE participation. Prime Contractor shall report race-neutral participation in accordance with the DBE Monthly Report requirements shown in this document.

Project DBE payments and commitments may not be transferred to or combined with another contract.

DEFINITIONS: For the purposes of this provision, the following definitions will apply:

Disadvantaged Business Enterprises (DBE) are firms Certified by the Georgia Unified Certification program that are for-profit small business concerns:

- 1) Which is at least 51 percent owned by one or more individuals who are both socially and economically disadvantaged or, in the case of a corporation, in which 51 percent of the stock is owned by one or more such individuals; and
- 2) Whose management and daily business operations are controlled by one or more of the socially and economically disadvantaged individuals who own the business.

Good Faith Efforts means efforts to achieve a DBE goal or other requirement of this part which, by their scope, intensity, and appropriateness to the objective, can reasonably be expected to fulfill the program requirement.

Joint Venture means an association of a DBE firm and one or more other firms to carry out a single, for-profit business enterprise, for which the parties combine their property, capital, efforts, skills and knowledge, and in which the DBE is responsible for a distinct, clearly defined portion of the work of the contract and whose share in the capital contribution, control, management, risks, and profits of the joint venture are commensurate with its ownership interest.

Socially and Economically Disadvantaged Individual means any individual who is a citizen (or lawfully admitted permanent resident) of the United States and who is –

- (1) Any individual who the Department finds to be a socially and economically disadvantaged individual on a case-by-case basis.
- (2) Any individual in the following groups, members of which are reputedly presumed to be socially and economically disadvantaged.
 - (i) “Black Americans,” which includes persons having origins, in any of the Black racial groups of Africa;
 - (ii) “Hispanic Americans,” which includes persons of Mexican, Puerto Rican, Cuban, Dominican, Central or South American, or other Spanish or Portuguese culture or origin, regardless of race;
 - (iii) “Native Americans,” which includes persons who are American Indians, Eskimos, Aleuts, or Native Hawaiians;

- (iv) “Asian-Pacific Americans,” which includes persons whose origins are from Japan, China, Taiwan, Korea, Burma (Myanmar), Vietnam, Laos, Cambodia (Kampuchea), Thailand, Malaysia, Indonesia, the Philippines, Brunei, Samoa, Guam, the U.S. Trust Territories of the Pacific Islands (Republic of Palau), the Commonwealth of the Northern Marianas Islands, Macao, Fiji, Tonga, Kiribati, Juvalu, Nauru, Federated States of Micronesia, or Hong Kong;
- (v) “Subcontinent Asian Americans,” which includes persons whose origins are from India, Pakistan, Bangladesh, Bhutan, the Maldives Islands, Nepal or Sri Lanka;
- (vi) Women;
- (vii) Any additional groups whose members are designated as socially and economically disadvantaged by the SBA, at such time as the SBA designation becomes effective.

(3) GDOT will presume that such persons are socially and economically disadvantaged only to the extent permitted by applicable federal law.

Race-conscious measure is one focused specifically on assisting only DBEs, including women-owned DBEs.

Race-neutral measure is one being, or can be, used to assist all small businesses. For the purposes of this part, race-neutral includes gender-neutrality.

Joint Check is a two-party check written by a prime contractor, to a DBE firm and a regular dealer of material/supplies or another third party for items or services incorporated into a project. The prime contractor issues the check as payer to the DBE and the supplier jointly (to guarantee payment to the supplier) in payment for the material/supplies used by the DBE.

DBE DIRECTORY: A DBE directory or source list is available to facilitate identifying DBEs with capabilities relevant to general contracting requirements and to particular solicitations. The Department has made the directory electronically available to all bidders and proposers in their efforts to meet the DBE requirements. The directory or listing includes firms which the Department has certified to be eligible DBEs in accordance with 49 CFR Part 26.

GOAL FOR PARTICIPATION: If a percentage goal for DBE participation in this contract is set forth elsewhere in this proposal, the Contractor shall complete the DBE GOALS – Commitment List form included in the proposal.

The Contractor is encouraged to make every effort to achieve the goal set by the Department. However, if the Contractor cannot find sufficient DBE participants to meet the goal established by the Department, the Department may consider for award a proposal with less participation than the established goal in accordance with GDOT Standard Specification 102.07.H Failure to List Disadvantaged Business Enterprise (DBE) Participants, 49 Code of Federal Regulations 26.53 Good Faith Effort Procedures, and 49 CFR Appendix A to Part 26—Guidance Concerning Good Faith Efforts.

To be eligible for award of this contract, all bidders are required to submit the following information, as well as Good Faith Effort supporting documentation when applicable, to the Department by the close of business on the 3rd working day following opening of the bid as a matter of bidder responsibility

- i. The names and addresses of DBE firms committed to participate in the Contract;
- ii. A description of the work each DBE will perform; The Contractor shall provide information with their bid showing that each DBE listed by the Contractor is certified in the NAICS code(s) for the kind of work the DBE will be performing.
- iii. The dollar amount of participation for each DBE firm participating; Written documentation of the bidder's commitment to use a DBE subcontractor whose participation it submits to meet a contract goal;
- iv. Written confirmation from the DBE committed to participating in the contract, as provided in the prime contractor's commitment.
- v. If the contract goal is not met, evidence of good faith efforts must be provided.

Failure by a bidder to furnish the above information may subject the bid to disqualification. Also failure by the bidder to submit satisfactory evidence of good faith efforts may subject the bid to disqualification.

Award of a contract by the Department to a Prime Contractor who has listed DBE participants with the bid does not constitute final approval by the Department of the listed DBE. The Department reserves the right to approve or disapprove a Disadvantaged firm after a review of the Disadvantaged firm's proposal participation. Payment to the Contractor under the contract may be withheld until

final approval of the listed DBEs is granted by the Department.

If the Contractor desires to substitute a DBE in lieu of those listed in the proposal, a letter of concurrence shall be required from the listed DBE prior to approval of the substitution, unless this requirement is waived by the Department.

Agreements between bidder and a DBE promising not to provide Subcontracting quotations to other bidders are prohibited.

SUBLETTING DISCRIMINATION PROHIBITED: No person shall be excluded from participation in, denied the benefits of, or otherwise discriminated against in connection with the award and performance of this contract on the grounds of race, color, sex or national origin.

The following assurance becomes a part of this contract and must be included in and made a part of each subcontract the prime contractor enters into with their subcontractors (49 CFR

26.13):

“The contractor, and/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 DOT – assisted contracts. Failure by the contractor to carry out these requirements is (breach) of this contract which may result in the termination of this contract or such other remedy as the Department deems appropriate”.

FAILURE TO ACHIEVE REQUIREMENTS: Periodic reviews shall be made by the Department to determine the extent of compliance with the requirements set forth in this provision. If the Contractor is found to be in noncompliance, further payments for any work performed may be withheld until corrective action is taken. If corrective action is not taken, it may result in termination of this contract. During the life of the contract, the contractor will be expected to demonstrate good faith efforts at goal attainment as provided by 49 CFR 26.

The contractor shall utilize the specific DBEs listed to perform the work and supply the materials for which each is listed unless the contractor obtains the Department’s written consent to substitute and, unless the Department’s consent is provided the contractor shall not be entitled to any payment for work or material unless it is performed or supplied by the listed DBE, in accordance with 49 CFR 26.53.

Participation will be counted toward fulfillment of the DBE goal as follows:

- (A) When a DBE participates in a contract, the Contractor counts only the value of

the work actually performed by the DBE toward DBE goals.

(1) Count the entire amount of the portion of a construction contract (or other contract not covered by paragraph (A) (2) of this section) performed by the DBE's own forces. Include the cost of supplies and materials obtained by the DBE for the work of the contract, including supplies purchased or equipment leased by the DBE (except supplies and equipment the DBE subcontractor purchases or leases from the prime contractor or its affiliate).

(2) Count the entire amount of fees or commissions charged by a DBE firm for providing a bona fide service, such as professional, technical consultant, or managerial services, or for providing bonds or insurance specifically required for the performance of a DOT-assisted contract, toward DBE goals, provided the Department determines the fee is reasonable and not excessive as compared with fees customarily allowed for similar services.

(3) When a DBE subcontracts part of the work of its contract to another firm, the value of the subcontracted work may be counted toward DBE goals only if the DBE's subcontractor is itself a DBE. Work that a DBE subcontracts to a non-DBE firm does not count toward DBE goals.

(B) **Joint Venture:** When a DBE performs as a participant in a joint venture, count a portion of the total dollar value of the contract equal to the distinct, clearly defined portion of the work of the contract the DBE performs with own forces toward DBE goals.

(C) **Commercially Useful Function:** Count expenditures to a DBE contractor toward DBE goals only if the DBE is performing a commercially useful function (CUF) on that contract.

(1) A DBE performs a commercially useful function when responsible for execution of the work of the contract and carrying out responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the DBE must also be responsible, with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the material itself.

- a. Joint Check Agreement:** All two-party checks written by a prime contractor, to a DBE firm and a third party must be approved by the Department prior to claiming DBE credit. After-the-fact requests may not be permitted toward the Goal.
- (2) A DBE does not perform a commercially useful function if their role is limited to being an extra participant in a transaction, contract, or project through which funds are passed in order to obtain the appearance of DBE participation.
- (3) If a DBE does not perform or exercise responsibility for at least 30 percent of the total cost of their contract with their own work force, or the DBE subcontracts a greater portion of the work of a contract than would be expected on the basis of normal industry practice for the type of work involved, the Department will presume the DBE is not performing a commercially useful function.
- (4) When a DBE is presumed not to be performing a commercially useful function as provided in paragraph (C) (3) of this section, the DBE may present evidence to rebut this presumption.
- (5) The Department's decisions on commercially useful function matters are subject to review by the US DOT, but are not administratively appealable to the US DOT.
- (D) **Trucking:** The following factors are to be used in determining whether a DBE trucking company is performing a commercially useful function:
- (1) The DBE must be responsible for the management and supervision of the entire trucking operation for which they are responsible on a particular contract, and there cannot be a contrived arrangement for the purpose of meeting DBE goals.
- (2) The DBE must itself own and operate at least one fully licensed, insured, and operational truck used on the contract.
- (3) The DBE receives credit for the total value of the transportation services it provides on the contract using trucks it owns, insures, and operates using drivers it employs.
- (4) The DBE may lease trucks from another DBE firm, including an owner / operator who are certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provided on the contract.
- (5) The DBE may also lease trucks from a non-DBE and is entitled to credit only for the fee or commission it receives as a result of the lease arrangement. The

DBE does not receive credit for the total value of the transportation services provided by the lessee, since these services are not provided by a DBE.

- (6) The DBE may lease trucks without drivers from a non-DBE bona-fide truck leasing agency. If the DBE leases trucks from a non-DBE truck leasing agency and uses its own employees as drivers, it is entitled to credit for the total value of these hauling services.
- (7) For purposes of this paragraph (D), a lease must indicate the DBE has exclusive use of and control over the truck. This does not preclude the leased truck from working for others during the term of the lease with the consent of the DBE, so long as the lease gives the DBE absolute priority for use of the leased truck. Leased trucks must display a "leased to" sign with the name and identification number of the DBE.

(E) Count expenditures with DBEs for materials or supplies toward DBE goals as provided in the following:

- (1) (i) If the materials or supplies are obtained from a DBE manufacturer, count 100 percent of the cost of the materials or supplies toward DBE goals.
(ii) For purposes of this paragraph, a manufacturer is a firm that operates or maintains a factory or establishment that produces, on the premises, the materials, supplies, articles, or equipment required under the contract and of the general character described by the specifications.

- (2) (i) If the materials or supplies are obtained from a DBE regular dealer, count 60 percent of the cost of the materials or supplies toward DBE goals. (ii) For purposes of this section, a regular dealer is a firm owning, operating, or maintaining a store, warehouse, or other establishment in which the materials, supplies, articles or equipment of the general character described by the specifications and required under the contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business.

(A) To be a regular dealer, the firm must be an established, regular business engaging, as its principal business and under its own name, in the purchase and sale or lease of the products in question.

(B) A person may be a regular dealer in such bulk items as petroleum products, steel, cement, gravel, stone, or asphalt without owning, operating, or maintaining a place of business as provided in this

paragraph **(E)(2)(ii)** if the person both owns and operates distribution equipment for the products. Any supplementing of regular dealers' own distribution equipment shall be by a long-term lease agreement and not on an ad hoc or contract-by-contract basis.

(C) Packagers, brokers, manufacturers' representatives, or other persons who arrange or expedite transactions are not regular dealers within the meaning of this paragraph **(E)(2)**.

- (3) With respect to materials or supplies purchased from a DBE which is neither a manufacturer nor a regular dealer, count the entire amount of fees or commissions charged for assistance in the procurement of the materials and supplies, or fees or transportation charges for the delivery of materials or supplies required on a job site, toward DBE goals, provided you determine the fees to be reasonable and not excessive as compared with fees customarily allowed for similar services. Do not count any portion of the cost of the materials and supplies themselves toward DBE goals, however.
- (4) You must determine the amount of credit awarded to a firm for the provision of materials and supplies (e.g., whether a firm is acting as a regular dealer or a transaction expeditor) on a contract-by-contract basis. Do not count the participation of a DBE subcontractor toward the prime contractor's DBE achievements until the amount being counted toward the goal has been paid to the DBE.
- (5) No participation will be counted not in compliance with Special Provision entitled "Criteria for Acceptability" which is a part of this contract or with any provisions included in 49 CFR Part 26.

- (6) If the contract amount overruns, the contractor will not be required to increase the dollar amount of DBE participation. Likewise, if the contract amount under runs, the contractor will not be allowed to under run the dollar amount of DBE participation except when the DBE subcontracted items themselves under run. Contractor must demonstrate Good Faith Effort in meeting the goal during commission of the contract.

REPORTS

- A. The contractor shall submit a “DBE Participation Report” on this contract monthly which shall include the following:
 1. The name of each DBE participating in the contract.
 2. A description of the work to be performed, materials, supplies, and services provided by each DBE.
 3. Whether each DBE is a supplier, subcontractor, owner/operator, or other.
 4. The dollar value of each DBE subcontract or supply agreement.
 5. The previous, current, and total-to-date payments to each DBE participating in the contract, minus any credits not allowed.
 6. Must include Contractor’s signature with the following statement: “I HEREBY CERTIFY THAT THE ABOVE STATEMENT IS TRUE AND CORRECT. SUPPORTING DOCUMENTATION IS ON FILE AND IS AVAILABLE FOR INSPECTION BY DEPARTMENT PERSONNEL AT ANY TIME. ALL PARTICIPATION COUNTED TOWARD FULFILLMENT OF THE DBE GOAL IS (1) REAL AND SUBSTANTIAL; (2) ACTUALLY PERFORMED BY VIABLE, INDEPENDENT DBE OWNED FIRMS; AND (3) IN ACCORDANCE WITH THE SPIRIT OF APPLICABLE LAWS AND REGULATIONS”.
 7. The report shall be updated by the Prime Contractor whenever the approved DBE has performed a portion of the work that has been designated for the contract. Copies of this report should be transmitted promptly to the Engineer. Failure to submit the report within 30 calendar days following the end of the month may cause payment to the contractor to be withheld.

8. The Prime Contractor shall notify the Project Engineer at least 24 hours prior to the time the DBE commences working on the project. The DBE must furnish supervision of the DBE portion of the work, and the person responsible for this supervision must report to the Project Engineer when they begin work on the project. They must also inform the Project Engineer when their forces will be doing work on the project.

B. In order to comply with 49 CFR 26.11, the Prime Contractor shall submit documentation regarding all payments made from the Prime to all DBE subcontractors on federal aid projects in the form of copies of cancelled checks or bank electronic fund transfer (EFT) receipts which validate said payments made on the DBE Monthly Participation Reports. This information shall be required monthly and submitted with the DBE Monthly Participation Report.

C. Failure to respond within the time allowed in the request will be grounds for withholding all payments on all Contracts.

SUBSTITUTION OF DBEs: The Contractor shall make reasonable efforts to replace a DBE Subcontractor unable to perform work for any reason with another DBE. The Department shall approve all substitutions of Subcontractors in order to ensure the substitute firms are eligible DBEs.

When a DBE subcontractor is terminated, or fails to complete its work on the contract for any reason, the prime contractor must make good faith efforts to find another DBE subcontractor to substitute for the original DBE. These good faith efforts shall be directed at finding another DBE to perform at least the same amount of work under the contract as the DBE that was terminated, to the extent needed to meet the contract goal. The good faith efforts shall be documented by the contractor. If the recipient requests documentation under this provision, the contractor shall submit the documentation within 7 days, which may be extended for an additional 7 days if necessary at the request of the contractor, and the recipient shall provide a written determination to the contractor stating whether or not good faith efforts have been demonstrated.

CERTIFICATION OF DBEs: To ensure the DBE Program benefits only firms owned and controlled by Disadvantaged Individuals, the Department shall certify the eligibility of DBEs and joint ventures involving DBEs named by bidders.

Questions concerning DBE Certification/Criteria should be directed to the EEO Office at (404) 631-1972.

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

First Use 2021 Specifications: April 16, 2021

SPECIAL PROVISION

PROMPT PAYMENT:

Prime Contractors, who sublet a portion of their work, shall pay their subcontractors for satisfactory performance of their contracts no later than 10 calendar days from receipt of each payment made to them. Any delay or postponement of payment among the parties may take place only for good cause with prior written approval from the Department. If the contractor is found to be in noncompliance with these provisions, it shall constitute a breach of contract and further payments for any work performed may be withheld until corrective action is taken. If corrective action is not taken, it may result in termination of the contract.

Prime contractors must maintain records and documents of payments to subcontractors, including DBEs, for a minimum of three (3) years after Contract Final Acceptance. These records shall be made available for inspection upon request by any authorized representative of the Georgia Department of Transportation or USDOT.

All subcontract agreements shall contain this requirement.

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

REQUIRED CONTRACT PROVISIONS FOR FEDERAL-AID CONTRACTS

BUY AMERICA

November 18, 2022

All iron, steel, coatings and construction materials permanently incorporated into this project must be produced in the United States of America.

This requirement, however, does not prevent a minimal use of foreign materials and coatings, provided the cost of materials and coatings used does not exceed one-tenth of one percent (0.1 percent) of the total contract cost or \$2,500.00, whichever is greater.

However, pig iron and processed, pelletized, or reduced iron ore used in the production of these products may be manufactured outside the United States.

Construction materials shall include an article, material, or supply that is or consists primarily of:

- of non-ferrous metals;
- plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables);
- glass (including optic glass);
- lumber; or
- drywall.

Construction materials do not include iron and steel; manufactured products; cement and cementitious materials; aggregate such as stone, sand, or gravel; or aggregate binding agents or additives.

NOTE: Coatings include: epoxy coating, galvanizing, painting and any other coating that protects or enhances the value of the material.

CONVICT PRODUCED MATERIALS

April 16, 2021

Materials produced by convict labor after July 1, 1991, may not be used for Federal-Aid highway construction projects unless it meets the following criteria:

1. The materials must be produced by convicts who are on parole, supervised release or probation from a prison; or,
2. If produced in a qualified prison facility, the amount of such materials produced in any 12-month period shall not exceed the amount produced in such facility for such construction during the 12-month period ending July 1, 1987. A qualified prison is defined as one producing convict made materials prior to July 1, 1987.

First Use Date: January 1, 2007
Revised: March 26, 2008
March 5, 2009
September 30, 2009
August 6, 2012

DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

SPECIAL PROVISION

Utility Conflicts

Utility companies having known facilities that conflict with the construction of this project will be directed by the Department to adjust or relocate their facilities and will be notified of the contract award.

Conform to all the requirements of the Specifications as they relate to cooperation with utility owners and the protection of utility installations that exist on the project. Refer to the requirements of Section 107, Legal Regulations and Responsibility to the Public, with particular attention to Subsection 107.21.

Coordinate The Work with any work to be performed by others in any right of way clearance and arrange a schedule of operations that will allow for completion of the Project within the specified contract time. Where stage construction is required, notify the utility owner when each stage of work is completed and the site is available for utility work to proceed.

Information concerning utility facilities known to exist within the project limits, including the list of owners, is available for reference.

Under Georgia Code Section 32-6-171, utilities are required to remove or relocate their facilities. The Department is required to give the utility at least 60 days written notice directing the removal, relocation, or adjustment and the utility owner is required to begin work within the time specified in the utility's work plan or revised workplan.

Upon request, copies of all approved Work Plans submitted by utility companies having facilities on this project will be made available for examination by the Contractor at the Department's District Office. Utility Adjustment Schedules, when submitted to the Department by the utilities, will be made available to the Contractor after the Notice to Contractors has been posted by the Office of Construction Bidding Administration. The Contractor is responsible for considering in its bid all existing and proposed utility locations and the removals, relocations, and adjustments specified in the Utility's Work Plan.

For this Project, Utility Owners that are required to remove, relocate, or adjust their facility to accommodate the construction of this Project may be liable to the Contractor for damages or delay costs resulting from the Utility Owner's failure to clear conflicts

within the time specified in the approved Utility Work Plan. If the Utility Owner is unable to submit and obtain Department approval of a revised Work Plan or fails to complete the removal, relocation, or adjustment of its facilities in accordance with the approved Work Plan, the Utility Owner may be liable to the Department, or the Contractor, for damages or delay costs.

In accordance with Subsection 105.06 of the Specifications, the Department is not liable for payment of any claims due to utility delays, inconvenience or damage sustained by the Contractor due to interference of any utilities or appurtenances, or the operation of moving them.

In any case in which the Contractor believes that it will be entitled to damages or delay costs from the Utility Owner in accordance with O.C.G.A. 32-6-171, the Contractor shall provide written notice to the Utility Owner and the Department within ten (10) days from the time of the dispute or potential dispute is identified. The Contractor shall follow the Procedures for Utility Damages or Delay Costs outlined in the latest edition of The Utility Accommodation Policy and Standards Manual. Failure to follow the above will result in waiver of the Contractor's claim against the Utility Owner for damages or delay costs.

In accordance with Subsection 107.21.G delays by utilities will continue to be considered by the Department in charging Contract Time. For purposes of applying provisions of this paragraph, railroads and the Metropolitan Atlanta Rapid Transit Authority (MARTA) are considered utilities.

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

SPECIAL PROVISION

**P. I. NO. 0006934
Rockdale County**

Section 105 – Control of Work

Retain section 105.07 as written and add the following:

105.07 Cooperation Between Contractors

The Department reserves the right at any time to Contract for and perform other or additional work on or near The Work covered by the Contract. Projects with planned let dates anticipated during the construction timeline of PI 0006934 in the area include, but are not limited to, currently designated as project:

- PI 731048, I-20@ SR 138/ SR 20 Interchange Reconstruction & Widening

When separate Contracts are let within the limits of any one Project, each contractor shall conduct his work so as not to interfere with or hinder the progress or completion of The Work being performed by other Contractors. Contracting working on the same Project shall cooperate with each other.

Each Contractor involved shall assume all liability, financial or otherwise, in connection with his Contract and shall protect and save harmless the Department from any and all damages or claims that may arise because of inconvenience, delay, or loss experienced by him because of the presence and operations of other Contractors working within the limits of the same Project.

The Contractor shall arrange his work and shall place and dispose of the materials being used so as not to interfere with the operations of the other contractors within the limits of the same Project. He shall join his work with that of others in an acceptable manner and shall perform it in proper sequence to that of the others. The End Construction PI 731048 is approximately located 300 feet northwest of the proposed Courtesy Parkway Bridge over I-20.

DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

SPECIAL PROVISION

PI # 0006934
Rockdale County

Section 107—Legal Regulations and Responsibility to the Public

Add the following to Subsection 107.23:

H. Protection of Ecological Resources

The following conditions are intended as a minimum to protect these species and their habitat during any activities that are in close proximity to the known location(s) of these species.

1. All Project personnel shall be advised about the potential presence and appearance of the state protected Altamaha shiner (*Cyprinella xaenura*) and federally protected tri-colored bat (*Perimyotis subflavus*). Suitable habitat for the Altamaha shiner is present within Perennial Stream (PS) 2/Snapping Shoals Creek, PS 2A and PS 9. Suitable habitat for tri-colored bat is present within the forested areas. Additionally, all bats are protected under Georgia state law (Official Code of Georgia § 27-1-28). Pictures and habitat information shall be posted in a conspicuous location in the Project field office until such time that Project construction activities have been completed and time charges have stopped. In addition, the Contractor shall be responsible for maintaining one set of pictures and habitat information on the Project site that is easily accessible at all times. If a Project field office is not present, a copy of the pictures and habitat information shall be supplied to the Project personnel to be kept on the Project during construction activities. All personnel shall be advised that there are civil and criminal penalties for harassing, harming, pursuing, hunting, shooting, wounding, killing, capturing, or collecting of the above species in knowing violation of the Endangered Species Act of 1973 and the Georgia Endangered Wildlife Act of 1973.
2. Any tree clearing activities shall be prohibited between May 1st and July 31st and between December 1st and February 28th.
3. Erodible stockpiled materials and excavation spoil should be placed at least 200 feet away from streams, wetlands, and open waters, if feasible. All disturbed soil located within 200 feet of a stream, wetland, or open water shall be mulched daily or covered with erosion control mats until work in such areas has been completed. If mulch is necessary, mulch with tackifiers or soil stabilizers that are anionic and non-oil based (e.g., granular PAM) shall be used to reduce turbidity and increase longevity. Erosion and sediment control devices (e.g., compost filter socks or silt fence) shall be installed around erodible stockpiles and excavation spoils within 200 feet of a stream, wetland, or open water.

SP 107.23H – Protection of Ecological Resources

4. Within 200 feet of a stream, wetland, or open water, secondary containment and spill response procedures (e.g., spill kits) shall be provided on site for all heavy equipment to prevent the spread of pollutants during oil changes, refueling, and equipment maintenance. When feasible, mineral based hydraulic fluids should be replaced with synthetic biodegradable hydraulic fluid.
5. Omit the application of lime and fertilizer within 200 feet Perennial Stream 2/Snapping Shoals Creek, PS 2A and PS 9; (see Environmental Resource Impact Table [ERIT] for station numbers).
6. In the event any incident occurs that causes injury to the above species along the Project corridor, the Contractor shall report the incident immediately to the Engineer who in turn will notify the State Environmental Administrator, Georgia Department of Transportation, Office of Environmental Services at (404) 631-1100. With the exception of traffic control and erosion control, all activity shall cease pending consultation by the Department with the Fish and Wildlife Service, Georgia Department of Natural Resources Wildlife Resources Division, and the Federal Highway Administration.
7. The Contractor shall keep a log detailing any incidents that cause harm or injury to the above species on or adjacent to the Project until such time that Project construction has been completed and time charges have stopped. Following Project completion, the log and a report summarizing any incidents that caused harm to these species shall be submitted by the Contractor to the Engineer, and via email to the GDOT Office of Environmental Services (ecology_submittals@dot.ga.gov) with the PI number in the subject line of the email. GDOT in turn will provide copies of the report to the Fish and Wildlife Service, Georgia Department of Natural Resources Wildlife Resources Division, and the Federal Highway Administration.
8. All costs pertaining to any requirement contained herein shall be included in the overall bid submitted unless such requirement is designated as a separate Pay Item in the Proposal.

DEPARTMENT OF TRANSPORTATION

STATE OF GEORGIA

SPECIAL PROVISION

**P. I. NO. 0006934
Rockdale County**

Section 108 – Prosecution and Progress

Retain section 108 as written and add the following:

108.08 Failure or Delay in Completing Work on Time

C. Restrictive Work Hours

1. Failure to re-open travel lanes as specified in Special Provision 150.6.A.1 – 150.6.A.5 will result in the assessment of Liquidated Damages in the amount of \$1,000 per hour or portion thereof.
2. Failure to adhere to the specified restrictions of lane closures in Special Provision 150.6.B and/or 150.6.C will result in the assessment of non-refundable deductions as specified in Special Provision 150.7.01.

The above rates are cumulative and are in addition to any Liquidated Damages which may be assessed for failure to complete the overall project.

February 01, 2017
Revised October 22, 2018
Revised December 7, 2020
Revised June 22, 2022
Revised January 24, 2024

DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

SPECIAL PROVISION

Section 150—Traffic Control

150.1 General Description

This section, as supplemented by the Plans, Specifications, and Manual on Uniform Traffic Control Devices ([MUTCD](#)) shall be considered the Temporary Traffic Control (TTC) Plan in accordance with Work Zone Safety and Mobility Policy. Activities shall consist of furnishing, installing, maintaining, and removing necessary traffic signs, pedestrian signs, barricades, lights, signals, cones, pavement markings and other traffic control devices and shall include flagging and other means for guidance and protection of vehicular and pedestrian traffic through the Work Zone. This Work shall include both maintaining existing devices and installing additional devices as necessary in construction work zones.

The Contractor shall be responsible for the maintenance of traffic signals and Advanced Traffic Management System (ATMs) devices from the time that the system is modified until final acceptance. The maintenance of traffic signals and ATMs devices that are not a part of the Work and that are not in conflict with any portion of the Work shall not be the responsibility of the Contractor. However, the Contractor is still responsible for damages to all devices that they or their subcontractors cause, in accordance with Section 107 and other Specifications.

When any provisions of this Specification or the Plans do not meet the minimum requirements of the [MUTCD](#), the [MUTCD](#) shall control. The 2023 Edition of the [MUTCD](#) including revisions shall be in effect for the duration of the project.

All traffic control devices used during the construction of the project shall meet the standards utilized in the [MUTCD](#), and shall comply with the requirements of these Specifications, Georgia Construction Standards and Details, Project Plans, Design Manuals, and Special Provisions.

The needs and control of all road users (motorists, bicyclists and pedestrians within the highway right-of-way and easements, including persons with disabilities in accordance with the Americans with Disabilities Act of 1990 (ADA), Title II,) through a Temporary Traffic Control (TTC) zone shall be an essential part of highway construction, utility work, maintenance operations and management of traffic incidents.

Utilities included in the Contract are bound by Special Provision 150 and shall follow its requirements. For utilities not included in the Contract but working within the project limits, they shall, at a minimum follow the [MUTCD](#). Moreover, in accordance with [Utility Accommodation Policy and Standards Manual dated 2016](#), the Engineer reserves the right to require additional certified flaggers, signs, warning lights, channelization devices, and other safety devices as may be necessary to properly protect, warn, and safeguard the traveling public. In addition, the Department reserves the right to place time restrictions or moratoriums on all utility work covered under a permit when, in the opinion of the Department, the continuance of the Work would seriously hinder traffic flow, be needlessly disruptive, or would unnecessarily inconvenience the traveling public. In case of emergencies, Utilities shall be provided access in accordance with [Utility Accommodation Policy and Standards Manual](#).

150.1.01 Definitions

For Special Provision 150, the definitions for “shall”, “should”, and “may” will be in accordance with [MUTCD \(1A.13\) \(1C.02\)](#).

Shall (Standard) - a statement of required, mandatory, or specifically prohibitive practice regarding a traffic control device.

Should (Guidance) - a statement of recommended, but not mandatory, practice in typical situations, with deviations allowed if engineering judgment or engineering study indicates the deviation to be appropriate.

May (Option) - a statement of practice that is a permissive condition and carries no requirement or recommendation.

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Section 104 - Scope of Work

Section 105 - -Control of Work-Legal Regulations and Responsibility to the Public

Section 107 - Legal Regulations and Responsibility to the Public

Section 108 - Prosecution and Progress

Section 209 - Subgrade Construction

Section 400 - Hot Mix Asphaltic Concrete Construction

Section 441 - Miscellaneous Concrete

Section 429 - Rumble Strips

Section 620 - Temporary Barrier

Section 632 - Portable Changeable Message Signs

Section 641 - Guardrail

Section 647 - Traffic Signal Installation

Section 648 - Traffic Impact Attenuator

Section 652 - Painting Traffic Stripe

Section 653 - Thermoplastic Traffic Stripe

Section 654 - Raised Pavement Markers

Section 656 - Removal of Pavement Markings

Section 657 - Preformed Plastic Pavement Markings

Section 658 - Polyurea Traffic Strip

Section 659 - Hot Applied Preformed Plastic Pavement Markings

Section 911 - Sign Posts

Section 912 - Sign Blanks and Panels

Section 913 - Reflectorizing Materials

B. Referenced Documents

ASTM D4956-13 (Retro-reflectivity)

American Traffic Safety Services Association (ATSSA)

Construction Detail A-3 Curb Cut (Wheelchair) Ramps Concrete Sidewalk Details

Construction Detail A-4 Detectable Warning Surface Truncated Dome Size, Spacing and Alignment Requirements

Construction Detail T-3A (Type 7, 8, and 9 Square Tube Post Installation Detail)

GDOT Signing and Marking Design Guidelines

Georgia Standard 4000W “Lengths of Advancement, Clear Zone Distances, Fill Height Embankment”

Georgia Standard 4960 “Temporary Barrier (End Treatment Options)”

Georgia Standard 9102 “Traffic Control Detail for Lane Closure on Two-Lane Highway”

Georgia Standard 9106 “Traffic Control Detail for Lane Closure on Multi-Lane Divided Highway”

Georgia Standard 9107 “Traffic Control Detail for Lane Closure on Multi-Lane Undivided Highway”

Georgia Standard 9121 “Tapers, Signs, and Markings for Passing Lanes”

Manual for Assessing Safety Hardware (MASH)

Manual on Uniform Traffic Control Devices (MUTCD)

National Cooperative Highway Research Program (NCHRP) 350

National Safety Council

Qualified Product List #29 (QPL-29) Reflective Sheeting

Qualified Product List #34 (QPL-34) Work Zone Traffic Control Devices (Drums, Type III Barricades, Vertical Panels, and Portable Sign Systems)

Qualified Product List #35 (QPL-35) Drive Type Galvanized Steel Sign Posts

Qualified Product List #46 (QPL-46) Traffic Pavement Markings

Qualified Product List #64 (QPL-64) Attenuator Units (Compression Crash Cushion) and Guardrail End Treatments

Qualified Product List #76 (QPL-76) Raised Pavement Markers and Channel Markers

Qualified Product List #79 (QPL-79) Portable Arrow Boards

Qualified Product List #82 (QPL-82) “Portable Changeable Message Signs”

Utility Accommodation Policy and Standards Manual

Work Zone Safety and Mobility Policy

150.1.04 Submittals/Preconstruction

A. Worksite Traffic Control Supervisor

The Contractor shall designate a qualified individual as the Worksite Traffic Control Supervisor (WTCS). The WTCS shall be responsible for selecting, installing, and maintaining all traffic control devices in accordance with the Plans, Specifications, Special Provisions and the [MUTCD](#). The WTCS shall be currently certified by the [American Traffic Safety Services Association \(ATSSA\)](#) Work Site Traffic Supervisor Certification program or the [National Safety Council](#) Certification program. On-line classes will not be accepted.

The WTCS shall be available on a twenty-four (24) hour basis to perform their duties. If the Work requires traffic control activities to be performed during the daylight and nighttime hours, it may be necessary for the Contractor to designate an alternate WTCS. An alternate WTCS must meet the same requirements and qualifications as the primary WTCS and be accepted by the Engineer prior to beginning any traffic control duties. The Worksite Traffic Control Supervisor's traffic control responsibilities shall have priority over all other assigned duties.

As the representative of the Contractor, the WTCS shall have full authority to act on behalf of the Contractor in administering the TTC Plan. The WTCS shall have appropriate training in safe traffic control practices in accordance with Part 6 of the [MUTCD](#). In addition to the WTCS, all other individuals making decisions regarding traffic control shall meet the training requirements of the Part 6 of the [MUTCD](#).

The Worksite Traffic Control Supervisor (WTCS) shall have a copy of Part 6 of the [MUTCD](#) and the Contract on the job site. Copies of the current MUTCD may be obtained from the FHWA web page at <http://mutcd.fhwa.dot.gov>.

The WTCS shall supervise the initial installation of traffic control devices. The Engineer, prior to the beginning of construction, will review the initial installation. Modifications to traffic control devices as required by sequence of operations or staged construction shall be reviewed by the WTCS.

Any work performed on the interstate or limited access highway right-of-way that requires traffic control shall be supervised by a submitted/approved certified Worksite Traffic Control Supervisor. No work requiring traffic control shall be performed unless the certified WTCS is on the worksite. Failure to maintain a Certified Worksite Traffic Control Supervisor on the Work will be considered as non-performance under [Subsection 150.7.01](#).

The WTCS or alternate WTCS shall be available on a full-time basis to maintain traffic control devices with access to all personnel, materials, and equipment necessary to respond effectively to an emergency situation within forty-five (45) minutes of notification of the emergency.

The WTCS shall perform inspections, at a minimum once a month, to ensure that traffic control is maintained. For all interstate and limited access highways, the WTCS shall perform, as a minimum, weekly traffic control inspections. The inspections will start with the installation of the advance warning signs and will stop when a maintenance acceptance is issued or when the corrective list is completed.

An inspection shall include both daytime and nighttime reviews. The inspection shall be reported to the Engineer on a Traffic Control Inspection Report, (TC-1). Unless modified by the special conditions or by the Engineer, routine deficiencies shall be corrected within a twenty-four (24) hour period. Failure to comply with these provisions shall be grounds for dismissal from the duties of WTCS and/or removal of the WTCS from the project. Failure of the WTCS to execute their duties shall be considered as non-performance under [Subsection 150.7.01](#).

The Engineer will periodically review the Work for compliance with the requirements of the TTC plan.

On projects where traffic control duties will not require full time WTCS supervision, the Engineer may allow the Contractor's Project superintendent, foreman, subcontractor, or other designated personnel to serve as the WTCS as long as satisfactory results are obtained. Nevertheless, the individual shall meet the requirements and perform the duties of a WTCS.

TRAFFIC CONTROL INSPECTION REPORT (TC-1)

Project No.: _____ County: _____

Contractor: _____ Date: _____ Daytime: _____

Nighttime: _____

PURPOSE: To provide adequate warning, delineation, and channelization to assist in guiding road users in advance of and through the work zone by utilizing proper pavement markings, signs, and other MUTCD compliant devices.

RESPONSIBILITY: The Worksite Traffic Control Supervisor (WTCS) has the duty of ensuring that all traffic control devices are installed and maintained according to the requirements of the Traffic Control Plan.

DEFICIENCIES: Items noted below require corrective measures be performed within the next _____ hours/days.

<u>LOCATION</u>	<u>DESCRIPTION</u>	<u>ACTION REQUIRED</u>

(use additional sheets if needed)

Signature: _____ WTCS or DOT performing inspection

DOT inspection presented to WTCS Date: _____ Time: _____

TO BE COMPLETED BY THE WTCS

The attached deficiencies were corrected by Date: _____ Time: _____

Signature _____ Return TC-1 to DOT inspector.

The WTCS certifies that all traffic control devices in use on the project are MASH/NCHRP 350 crashworthy compliant.

Traffic Control Checklist

Satisfactory Unsatisfactory Non-applicable

Signs

S

U

N

- Are the signs correctly installed?
- Signs are in place according to TTC Plans. Signs are plumb and level. Signs are at the proper height.
- Are the signs visible and readable to the public both daytime and nighttime?
- Is retroreflectivity good?
- Are signs not in use including PCMS properly stored?

TTC Devices

S

U

N

- Are they MASH/NHCRP 350 approved? Do they meet MUTCD and Special Provision 150 requirements?
- Are they installed according to manufacture recommendation?
- Are they in acceptable/marginal condition? Are they stable? Is the retroreflectivity good?

Clear Zone

S

U

N

- Are all material and equipment stored beyond the clear zone?
- If stored in clear zone, are they protected by positive barrier?
- Are drop-offs marked and healed according to Special Provision 150?

Positive Barriers

S

U

N

- Are the barriers in acceptable/marginal condition and FHWA approved?
- Are the barrier reflectors proper and in good condition?
- Do the barriers extend to the proper advancement length? Are the tapers according to GA Standards?

Attenuators and Guardrails

S

U

N

- Are the proper attenuator assemblies in use?
- Gating - Is the recovery area free of debris and provide the necessary recovery area?
- Is the assembly in accordance with manufacture's recommendation?
- Are the guardrails properly anchored and/or attached to the barrier?
- Are shoes and transition sections in accordance with Standards?

Pavement Markings

S

U

N

- Are the pavement markings visible and legible?
- Can they be seen during the daytime and nighttime?
- Are there no conflicting pavement markings?
- Are the pavement markings including RPM installed and maintained according to section 150?

B. Sequence of Operations

Any Sequence of Operations provided in this Contract in conjunction with any staging details which may be shown in the Plans, is a suggested sequence for performing the Work. It is intended as a general staging plan for the orderly execution of the Work while minimizing the impact on pedestrian facilities, mainline, cross-streets and side streets. The Contractor shall develop detailed staging and temporary traffic control plans for performing specific areas of the Work including but not limited to all traffic shifts, detours, bridge widenings, paces, or other activities that disrupt traffic or pedestrian flow. The Engineer may require detailed staging and TTC Plans for lane closures or disruption to pedestrian facilities. These Plans shall be submitted for approval at least two (2) weeks prior to the scheduled date of the activity. Activities that have not been approved at least seven (7) days prior to the scheduled date shall be rescheduled.

Where traffic is permitted through the work area under stage construction, the Contractor may choose to construct, at no additional expense to the Department, temporary on-site bypasses, or detours in order to expedite the Work. Plans for such temporary bypasses or detours shall be submitted to the Engineer for review and approval thirty (30) calendar days prior to the proposed construction. Such bypasses or detours shall be removed promptly when in the opinion of the Engineer; they are no longer necessary for the satisfactory progress of the Work. Bypasses and detours shall meet the minimum requirements of Subsection 150.3.01.E.

As an option to the Sequence of Operations in the Contract, the Contractor may submit an alternative Sequence of Operations for review and approval. Alternate Sequence of Operations for pedestrian facilities shall be in compliance with the MUTCD and ADA. Pedestrian needs identified in the preconstruction phase shall be included in the proposed alternate plan.

The Department will not pay, or in any way, reimburse the Contractor for claims arising from the Contractor's inability to perform the Work in accordance with the Sequence of Operations provided in the Contract or from an approved Contractor alternate.

The Contractor shall secure the Engineer's approval of the Contractor's proposed plan of operation, sequence of work and methods of providing for the safe passage of vehicular and pedestrian traffic before it is placed in operation. The proposed plan of operation shall supplement the approved traffic control plan. Any major changes to the approved TTC plan, proposed by the Contractor, shall be submitted to the Department for approval.

Some additional traffic control details will be required prior to any major shifts or changes in traffic. The traffic control details shall include, but not be limited to, the following:

1. A detailed drawing showing traffic locations and lanes for each step of the change.
2. The location, size, and message of all signs required by the MUTCD, Plan, Special Provisions, and other signs as required to fit conditions. Any portable changeable message signs used shall be included in the details.
3. The method to be used in, and the limits of, the obliteration of conflicting lines and markings.
4. Type, location, and extent of new lines and markings.
5. Horizontal and vertical alignment and superelevation rates for detours, including cross-section and profile grades along each edge of existing pavement.
6. Drainage details for temporary and permanent alignments.
7. Location, length, and/or spacing of channelization and protective devices (temporary barrier, guardrail, barricades, etc.)
8. Starting time, duration, and date of planned change.
9. For each traffic shift, a paving plan, erection plan, or work site plan, as appropriate, detailing workforce, materials, and equipment necessary to accomplish the proposed Work. This will be the minimum resource allocation required in order to start the Work.

The above details shall be submitted to the Engineer for approval at least fourteen (14) days prior to the anticipated traffic shift. Submission should be made electronically in a portable document format (pdf). The Contractor shall have traffic control details for a traffic shift which has been approved by the Engineer prior to commencement of the physical shift. All preparatory work relative to the traffic shift, which does not interfere with traffic, shall be accomplished prior to the designated starting time. The Engineer and the Contractor's representative will verify that all conditions have been met prior to the Contractor obtaining materials for the actual traffic shift.

C. Pedestrian Considerations

All existing pedestrian facilities, including access to transit stops, shall be maintained. Where pedestrian routes are closed, alternate routes shall be provided. Closures of existing, interim, and final pedestrian facilities shall have the prior written approval of the Engineer. When existing pedestrian facilities are disrupted, closed, or relocated in a TTC zone, the temporary facilities shall be detectable and shall include accessibility features consistent with the features present in the existing pedestrian facility. Pedestrian facilities are considered improvements and provisions made to accommodate or encourage walking. Whenever a sidewalk is to be closed, the Engineer shall notify the maintaining agency two (2) weeks prior to the closure. Prior to closure, detectable barriers (that are detectable by a person with a visual disability traveling with the aid of a long cane), as described by the MUTCD, shall be placed across the full width of the closed sidewalk. Barriers and channelizing devices used along a temporary pedestrian route shall be in compliance with the MUTCD.

Temporary Traffic Control devices used to delineate a Temporary Traffic Control Zone Pedestrian Walkway shall be in compliance with Subsection 150.3.01.A. Appropriate signs as described in the MUTCD shall be maintained to allow safe passage of pedestrian traffic or to advise pedestrians of walkway closures (Refer to MUTCD Figures TA-28 and TA-29 for guidance). Advance closure signing should be placed at intersections rather than midblock locations so that pedestrians are not confronted with midblock work sites that will induce them to attempt skirting the work site or making a midblock crossing. Temporary Traffic Control devices and construction material shall not intrude into the usable width of the pedestrian walkway. Signs and other devices shall be placed such that they do not narrow or restrict any pedestrian passage to less than forty-eight inches (≥ 48 ").

1. Pedestrian Signage

A pedestrian walkway shall not be severed or relocated for non-construction activities, such as parking for construction vehicles and equipment. Movement by construction vehicles and equipment across designated pedestrian walkways should be minimized. When necessary, construction activities shall be controlled by flaggers. Pedestrian walkways shall be kept free of mud, loose gravel, or other debris.

When temporary covered walkways are used, they shall be lighted during nighttime hours. When temporary traffic barrier is used to separate pedestrian and vehicular traffic, the temporary barrier shall meet Manual for Assessing Safety Hardware (MASH) Test Level 3 and/or NCHRP-350 Test Level Three. The barrier ends shall be protected in accordance with Georgia Standard 4960. Curbing shall not be used as a substitute for temporary traffic barriers when temporary traffic barriers are required. Tape, rope, or plastic chain strung between temporary traffic control devices are not considered as detectable and shall not be used as a control for pedestrian movements.

The WTCS shall inspect the activity area daily to ensure that effective pedestrian TTC is being maintained. The inspection of TTC for pedestrian traffic shall be included as part of the TC-1 report.

2. Temporary Pedestrian Facilities

Temporary pedestrian facilities shall be detectable and include accessibility features consistent with the features present in the existing pedestrian facility. The geometry, alignment and construction of the facility should meet the applicable requirements of the "Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG)".

a. Temporary Walkways with Detectable Edging

A smooth, continuous hard surface (firm, stable and slip resistant) shall be provided throughout the entire length of the temporary pedestrian facility. Compacted soils, sand, crushed stone, or asphaltic pavement millings shall not be used as a surface course for walkways.

Temporary walkways shall include detectable edging as defined in the MUTCD. When temporary traffic barrier is included as a pay item in the Contract and where locations identified on the Plans for positive protection will also allow them to serve as pedestrian detectable edging, payment will be made for the temporary traffic barrier in accordance with [Section 620](#). No payment will be made for temporary walkways with Detectable Edging where existing pavements or existing edging (that meets the requirements of MUTCD) are utilized as temporary walkways. Payment for temporary detectable edging, including approved barriers and channelizing devices, installed on existing pavements shall be included in Traffic Control-Lump Sum.

Regardless of the materials used, temporary walkways shall be constructed with sufficient thickness and durability to withstand the intended use for the duration of the construction project. If concrete or asphalt is used as the surface course for the walkway, it shall be a minimum of one and one-half inches ($\geq 1\text{-}1/2''$) thick. Temporary walkways constructed across unimproved streets and drives shall be a minimum thickness of four inches ($\geq 4''$) for concrete and three inches ($\geq 3''$) for asphalt. Joints formed in concrete sidewalks shall be in accordance with [Section 441](#). Concrete surfaces shall have a broom finish.

If plywood is used as a walkway, it must be a minimum of three quarters of an inch ($\geq 3/4''$) thick, pressure treated and supported with pressure treated longitudinal joists spaced a maximum of sixteen inches ($\leq 16''$) on center. The plywood shall be secured to the joist with galvanized nails or galvanized deck screws. Nails and screws shall be countersunk to prevent snagging or tripping the pedestrians. A slip resistant friction course shall be applied to any plywood surface that is used as a walkway. Any slip resistant material used shall have the prior written approval of the Engineer.

The Contractor may propose alternate types of Temporary Walkways provided that the Contractor can document that the proposed walkway meets the requirements of the "Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG)". Alternate types of Temporary Walkways shall have the prior written approval of the Engineer.

Temporary walkways shall be constructed and maintained so there are no abrupt changes in grade or terrain that could cause a tripping hazard or could be a barrier to wheelchair use. The Contractor shall construct and maintain the walkway to ensure that joints in the walkway have a vertical difference in elevation of no more than one quarter ($\leq 1/4''$) of an inch and that the horizontal joints have gaps no greater than one half ($\leq 1/2''$) of an inch. The grade of the temporary walkway should parallel the grade of the existing walkway or roadway and the cross slope should be no greater than two percent ($\leq 2\%$). A width of sixty inches (60"), if practical, should be provided throughout the entire length of any temporary walkway. The temporary walkway shall be a minimum width of forty eight (48") inches. When it is not possible to maintain a minimum width of sixty (60") inches throughout the entire length of temporary walkway, a sixty (60") inch by sixty (60") inch passing space should be provided at least every two hundred feet (200 ft.), to allow individuals in wheelchairs to pass.

Temporary walkways shall be constructed on firm subgrade. Compact the subgrade according to [Section 209](#). Furnish and install any needed temporary pipes prior to constructing any walkway to ensure positive drainage away from or beneath the temporary walkway. Once the walkway is no longer required, remove any temporary materials, and restore the area to the original conditions or as shown in the Plans.

b. Temporary Curb Cut Wheelchair Ramps

Temporary curb cut wheelchair ramps shall be constructed in accordance with [Section 441](#) and [Construction Detail A-3 Curb Cut \(Wheelchair\) Ramps Concrete Sidewalk Details](#). Ramps shall also include a detectable warning surface in accordance with [Construction Detail A-4 Detectable Warning Surface Truncated Dome Size, Spacing and Alignment Requirements](#). Other types of material for the construction of the temporary curb cut wheelchair ramps, including the detectable warning surface, may be provided the Contractor can provide documentation that the material to be used meets the requirements

of the “Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG)”. When a wheelchair ramp is no longer required, remove the temporary materials, and restore the area to existing conditions or as shown in the Plans. For the items required to restore the area to original conditions or as shown in the Plans, measures for payment shall be covered by Contract pay items. If pay items are not included in the Contract, then payment for these items shall be included in Traffic Control-Lump Sum.

c. Temporary Audible Information Device

Temporary audible information devices, when shown in the Plans, shall be installed in compliance with the “Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG)”. The devices shall be installed in accordance with the manufacturer’s recommendations. Prior to installation, the Contractor shall provide the Engineer with a set of manufacturer’s drawings detailing the proper installation procedures for each device. When no longer required, the devices shall remain the property of the Contractor.

150.2 Materials and Traffic Control Devices

150.2.01 Traffic Control Devices

A. NCHRP 350 and MASH

All devices shall be certified in accordance with the Manual for Assessing Safety Hardware (MASH) Test Level 3 and/or the National Cooperative Highway Research Program (NCHRP) 350 Test Level 3 as applicable unless modified by this Special Provision. In addition, temporary work zone devices, including portable barriers, manufactured after December 31, 2019, must have been successfully tested under 2016 edition of MASH requirements. Such devices manufactured on or before this date, and successfully tested under either NCHRP Report 350 or the 2009 edition of MASH, may continue to be used throughout their normal service lives.

B. Approval

All traffic control devices with applicable Qualified Products List (QPL) categories shall come from the appropriate QPL list. Products not on the QPL may be used with an approval letter from the Georgia Department of Transportation Office of Materials and Testing. If there is no applicable QPL, the Contractor shall provide proof of MASH/NCHRP 350 certification. The proof may be a letter or written statement from the manufacturer that the product is MASH/NCHRP 350 approved. Decal certifications are not proof of certification and are not required.

C. Quality Guidelines for All Temporary Traffic Devices

All traffic control devices found to be unacceptable in accordance with the current ATSSA, “Quality Guidelines for Temporary Traffic Devices and Features” regardless of total numbers shall be replaced within twenty-four (24) hours unless stated otherwise in the Specifications, in the Contract, or as directed by the Engineer.

150.2.02 Retroreflectivity Requirements

A. Signs

Reflective sheeting shall meet the requirements of Section 913 and QPL-29

All construction warning signs (black on fluorescent orange) shall meet the minimum reflectivity and color requirements of ASTM D4956 Type XI regardless of the mounting height. All other signs reflectorization shall be in accordance with the Plans, Contract, and “GDOT Signing and Marking Design Guidelines”.

B. Channelization Devices

Reflective sheeting shall meet the requirements of Section 913 and QPL-29

All channelization devices (white/ fluorescent orange and white/red) shall meet the minimum retroreflectivity requirements of ASTM D4956 Type IV or Type VI.

150.2.03 Arrow Panels

Arrow panels shall meet the requirements for [MUTCD \(6L.06\)](#) and QPL-79.

Portable sequential arrow, sequential chevron, or flashing arrow panels shall be a minimum size of forty-eight inches (48") high by ninety-six inches (96") wide with not less than fifteen (15) lamps used for the arrow. The arrow shall occupy virtually the entire size of the arrow panel and shall have a minimum legibility distance of one (1) mile. The minimum legibility distance is the distance at which the arrow panel can be comprehended by an observer on a sunny day, or clear night. Arrow panels shall be equipped with automatic dimming features for use during hours of darkness. The arrow panels shall also meet the requirements for a Type C panel as shown in the MUTCD (6L.06). The sequential or flashing arrow panels shall not be used for lane closure on two-lane, two-way highways when traffic is restricted to one-lane operations in which case, appropriate signing, flaggers and when required, pilot vehicles will be deemed sufficient.

The arrow panels shall be placed on the shoulder at or near the point where the lane closing transition begins. The panels shall be mounted on a vehicle, trailer, or other suitable support. Vehicle mounted panels shall be provided with remote controls. Minimum mounting height shall be seven feet (7') above the roadway to the bottom of the panel, except on vehicle mounted panels which should be as high as practical.

For emergency situations, arrow display panels that meet the MUTCD requirements for Type A or Type B panels may be used until Type C panels can be located and placed at the site. The use of Type A and Type B panels shall be held to the minimum length of time possible before having the Type C panel(s) in operation. The Engineer shall determine when conditions and circumstances are considered to be emergencies. The Contractor shall notify the Engineer, in writing, when any non-specification arrow display panel(s) is being used in the Work.

150.2.04 Channelization Devices

A. General

Channelization shall clearly delineate the travel way through the work zone and alert drivers and pedestrians to conditions created by work activities in or near the travel way. Channelization shall be in accordance with the Plans, Specifications, MUTCD, QPL-34, and the following requirements.

B. Drums

1. Design

Drums shall meet the minimum requirement of the [MUTCD \(6K.06\)](#). Drums shall have six inch (6") wide stripes – white/fluorescent orange.

2. Application

Drums shall be used as the required channelizing device to delineate the full length of a lane closure, shift, or encroachment, except as modified by this Subsection.

3. Longitudinal Channelization

Drums shall be spaced as listed below for various roadside work conditions except as modified by [Subsection 150.3.11](#). Spacing shall be used for situations meeting any of the conditions listed as follows:

a. FORTY FOOT (40') SPACING MAXIMUM

- For difference in elevation exceeding two inches (> 2").
- For heeled sections no steeper than 4:1 as shown in [Subsection 150.3.11](#), Detail 150-H.

b. EIGHTY FOOT (80') SPACING MAXIMUM

- For difference in elevation of two inches ($\leq 2''$) or less.
- Flush areas where equipment or workers are within ten feet ($\leq 10'$) of the travel lane.

c. 200 FOOT SPACING MAXIMUM: Where equipment or workers are more than ten feet ($> 10'$) from travel lane. Lateral offset clearance to be four feet (4') from the travel lane.

- For paved areas, eight feet ($> 8'$) or greater in width that are paved flush with a standard width travel lane.
- For disturbed shoulder areas not completed to typical section that are flush to the travel lane and considered a usable shoulder.

4. Removal of Drums

Drums may be removed after shoulders are completed to typical section and grassed. Guardrail and other safety devices shall be installed and appropriate signs advising of conditions such as soft or low shoulder shall be posted before the drums are removed.

C. Vertical Panels

1. Design

All vertical panels shall meet the minimum requirements of the [MUTCD \(6K.05\)](#). All vertical panels shall have a minimum of 270 square inches of retroreflective area facing the traffic and be a minimum of thirty-six inches ($\geq 36''$) high. The vertical panels shall be in addition a minimum eight inches ($\geq 8''$) wide with a stripe width of six inches (6") – white/fluorescent orange.

2. Application

Vertical panels with retroreflectivity less than Type VI can only be used when traffic drums reduce the travel lane to less than ten feet ($\leq 10'$); vertical panels shall be used to restore the travel lane to ten feet ($\geq 10'$) or greater. No other application of vertical panels with retroreflectivity less than type VI will be permitted.

Vertical panels with a minimum type VI retroreflectivity and six (6") inch stripe may be used for longitudinal channelization in the activity zone where work takes place for short-term stationary lane closures and intermediate-term stationary lane closures. They can be used for lane closures lasting three (3) days and with Engineer approval up to seven (7) days. They shall not be used in the transition zone including the tapers and the tangent lengths between tapers.

D. Cones

1. Design:

All cones shall be a minimum of twenty-eight inches ($\geq 28''$) in height regardless of application and shall meet the requirements of the [MUTCD \(6K-1\)](#).

Retroreflectivity may be deleted from all cones.

2. Application

On interstates, cones shall be prohibited. On all other routes, cones may only be used for longitudinal channelization in the activity zone where work takes place for short-term stationary lane closures. They shall not be used in the transition zone including the tapers and the tangent lengths between tapers. The use of cones for nighttime work will not be permitted. Cones shall not be stored or allowed to be visible on the worksite during nighttime.

Cones may be used for daytime flagging operations including tapers at flagging stations.

E. Barricades

1. Design

Type 3 barricades shall meet the minimum requirements of the [MUTCD \(6K.07\)](#). The Contractor has the option of choosing Type 3 barricades from the [QPL-34](#) or the Contractor may utilize generic barricades that are approved by the [Federal Highway Administration \(FHWA\)](#). When barricades have been specifically crash tested with signs attached, the Contractor has the responsibility to attach the signs as per the manufacturer's recommendations to ensure crashworthiness. If the barricades were not tested with the signs, crashworthy compliance may require that rigid signs be mounted separate from the Type 3 barricade.

The use of Type 1 and Type 2 barricades will not be permitted.

2. Application

Type 3 barricades shall be placed as required by the Plans, the Standards, and as directed by the Engineer.

When a barricade is placed so that it is subject to side impact from a vehicle, a drum shall be placed at the side of the barricade to add target value to the barricade.

F. Warning Lights

1. Design

All warning lights shall meet the requirements of the [MUTCD \(6L.07\)](#).

2. Application:

- a. Type A low-intensity flashing lights shall be used as shown in the Plans, the Standards, and as directed by the Engineer.
- b. Type C Steady-Burn lights shall be used as shown in the Plans, the Standards, and as directed by the Engineer.

150.2.05 Flashing Beacon

The flashing beacon assembly, when specified, shall be used in conjunction with construction warning signs, regulatory, or guide signs to inform traffic of special road conditions which require additional driver attention. The flashing beacon assembly shall be installed in accordance with the requirements of [Section 647](#).

150.2.06 Guardrail

Guardrail shall comply with [Section 641](#) Guardrail and the guardrail standards.

When the removal and installation of guardrail is required, as a part of the Work, the following time restrictions shall apply unless modified by the special conditions:

From the time that the existing guardrail or temporary positive barrier protection is removed, the Contractor has fourteen (14) days to install the new guardrail and anchors. During the interim, the location without guardrail shall be protected with drums spaced at a maximum spacing of twenty feet (20'). The guardrail blunt end is to be treated as a fixed object and shall be protected. The maximum length of rail that can be removed at any time without being replaced with positive barrier protection is a total of 2000 linear feet of existing rail or the total length of one run of existing rail, whichever is less. Based on existing field conditions, the Engineer may review the Work and require that the guardrail be installed earlier than the maximum time allowed.

The Contractor shall install new guardrail, such that traffic exposure to fixed objects is minimized. Within the same workday, temporary attenuators, as defined in [Subsection 150.2.10](#), should be installed on the approach to fixed objects that can't be protected with guardrail. Truck mounted attenuators may be used to shield exposed fixed objects for periods not to exceed fourteen (14) days. No separate payment will be made for truck mounted attenuators, attenuators, or other methods unless provided for in the Contract.

When the roadway is open to traffic, guardrail panels shall be lapped to comply with the directional flow of traffic. Should the staging of the Work require that the lap of the guardrail be changed, this Work shall be completed before the roadway is opened to traffic. The Work to change the lap of any guardrail shall be included in Traffic Control-Lump Sum.

The laps on anchors shall be in accordance with the manufacturer's recommendations and installation instructions. As a result, a trailing anchor may be lapped opposing the flow of traffic.

Failure to comply with the above time and quantity restrictions shall be considered as non-compliance under [Subsection 150.7.01](#).

150.2.07 Interim Signs

A. Sign Blanks and Panels

All TTC sign blanks and panels should conform to [Section 912](#) of the Specifications. Alternative sign blank materials (composites, polycarbonates, fiberglass reinforced plastics, recycled plastics, etc.) shall have a letter of approval from the Office of Materials and Testing for use as interim construction signs before these materials are allowed to be incorporated into the Work, unless these rigid sign blanks are currently approved as a crashworthy sign blank material under [QPL- 34](#).

Unless specified elsewhere in the Contract, Specifications, Plans, and/or directed by the Engineer, sign sizes are according to the following:

1. All construction signs sizes shall follow the dimensions provided in the MUTCD Table 6G-1, GH-1, and 6I-1 "Temporary Traffic Control Zone Sign and Plaque Sizes" under the column for "Freeway or Expressway".
2. For all other signs used just for staging, the sign sizes shall follow the dimensions provided in the MUTCD Table 2B-1 "Regulatory Sign and Plaque Sizes" for the largest size.
3. Permanent signs used for staging shall be according to Plans.

Plywood blanks or panels will not be permitted.

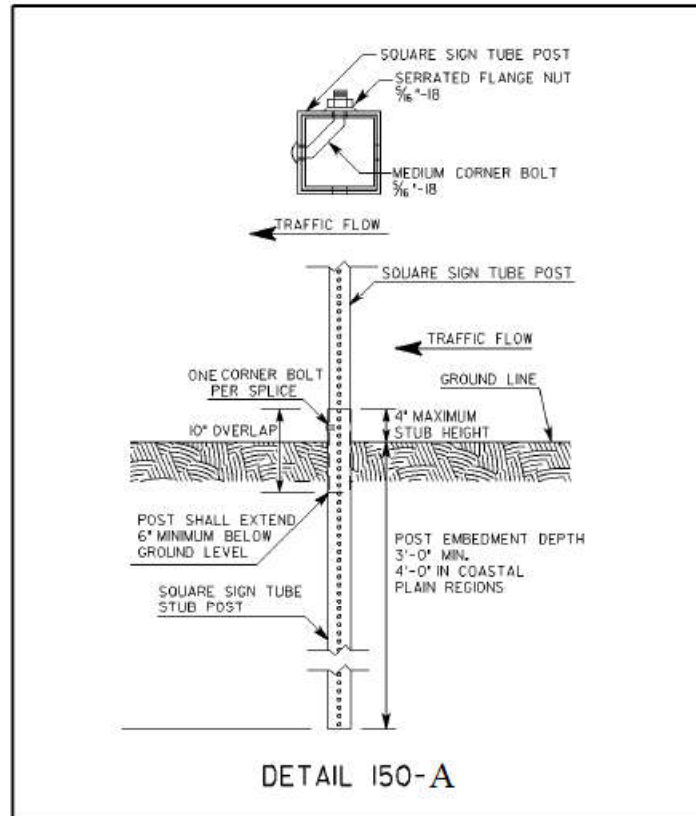
The use of flexible signs will not be permitted.

For utility work not included in the Contract, the utility Contractor may use flexible signs within the project limits.

B. Posts

Permanent mounting height to the bottom of sign shall be seven (7) feet to eight (8) feet measured vertically from the bottom of the sign to the elevation of the near edge of the pavement or from the walkway. Posts for all interim signs should be square tubular post meeting the requirements of Section 911, QPL-35, and Construction Detail T-3A (Type 7, 8, and 9 Square Tube Post Installation Detail). Ground mounted sign(s) that are greater than 48" wide shall be mounted on two posts. For barrier mounted sign, single post mount is allowed. The post(s) shall not extend beyond the top of the sign(s). The sign(s) shall be substantially plumbed and leveled.

Unprotected interim posts shall be spliced as shown in Detail 150-A, unless full length unspliced posts are used. Unprotected post splices will not be permitted any higher than four inches above the ground line to lessen the possibility of affecting the undercarriage of a vehicle. Installation of posts may require establishment of openings in existing pavements, islands, shoulders, etc.



150.2.08 Pavement Markings

All temporary traffic striping shall conform to the applicable requirements of Section 652, Section 653, Section 657, Section 658, Section 659, and QPL-46.

A. All Traffic Striping for 45 Days or Less (≤ 45 Days)

All traffic striping that will be in place for 45 days or less shall be 4 inches or greater in width.

B. All Temporary Striping Beyond 45 days (>45 Days)

All traffic striping applied on intermediate surfaces shall be a minimum 5 inches in width or as shown on the Plans. On final surfaces when temporary striping will be overlaid or eradicated, the temporary striping shall be a minimum 5 inches in width.

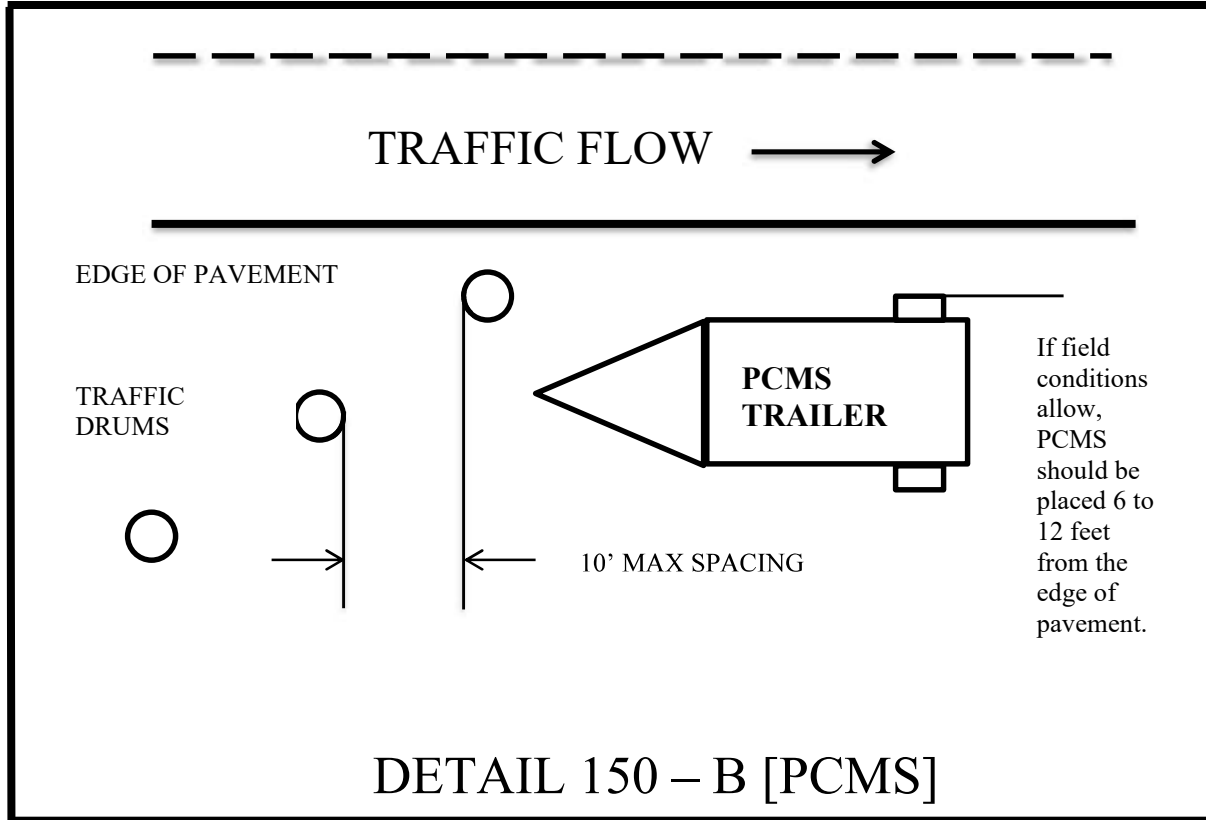
C. All Temporary Traffic Striping on Final Surface

All temporary traffic striping applied to final surfaces which will not be overlaid or grinded may be 4 inches in width or as shown on the Plans.

150.2.09 Portable Changeable Message Signs

When specified, a portable changeable message sign (PCMS) shall meet the minimum requirements of Section 632, MUTCD (6L.05) and be on QPL-82. The maximum amount of messages allowed to be flashed on one PCMS is two phases (flashes). The language and the timing of the messages shall comply with the MUTCD and Section 632. When used as an advanced device, the PCMS should typically be placed ahead of the construction activities. If the PCMS is used as a substitute for another device, then the requirements for the other device apply.

Any PCMS in use, which is not protected by positive barrier protection, shall be delineated by a minimum of three drums that meet the requirement of Subsection 150.2.04.B. The drum spacing shall not exceed a maximum of ten (10') feet as shown in Detail 150-B. When the PCMS is within twenty (20') feet of the opposing traffic flow, the trailing end of the PCMS shall be delineated with a minimum of three drums spaced in the same manner as the approach side of the PCMS.



When not in use, the PCMS shall be removed from the roadway, unless protected by positive barrier protection. If the PCMS is protected by positive barrier protection, the sign panel shall be turned away from traffic when not in use.

150.2.10 Portable Impact Attenuators

This work consists of the furnishing (including spare parts), installation, maintenance, relocation, reuse as required, and removal of Portable Impact Attenuator Units/Arrays.

Portable Impact Attenuator Unit/Arrays installation shall conform to the requirements of Section 648, Manufacturer's recommendations and "(Georgia Standard 4960 "Temporary Barrier (End Treatment Options)" and shall be installed at locations designated by the Engineer, and/or as shown on the Plans. When gating attenuators are used, the Contractor shall maintain the appropriate recovery area in accordance with the manufacturers' recommendations.

Generic sand/water loaded modules are prohibited. Manufacturers' sand/water loaded modules with specific arrays that have been NCHRP 350/MASH approved can be used in appropriate locations.

The test level of protection provided shall equal or exceed the speed limit. Test level 3 shall be used for forty-five (45) mph or above.

150.2.11 Portable Temporary Traffic Control Signals

The use of Portable Temporary Traffic Control Signals shall meet the following minimum requirements:

Only two-lane, two-way roadways will be allowed to utilize Portable Temporary Traffic Control Signals.

All portable traffic control signals shall meet the physical display and operational requirements of conventional traffic signals described in the MUTCD.

Each signal face shall have at least three lenses. The lenses shall be red, yellow, and green in color and shall give a circular type of indication. All lenses shall be twelve (12") inches nominal in diameter. A minimum of two signal faces shall face each direction of traffic. A minimum of one signal head shall be suspended over the roadway travel lane in a manner that will allow the bottom of the signal head housing to be not less than seventeen (17') feet above and not more than nineteen (19') feet above the pavement grade at the center of the travel lane. The second signal head may be located over the travel lane with the same height requirements or the second signal head may be located on the shoulder. When the signal head is located on the shoulder, the bottom of the signal head housing shall be at least eight (8') feet but not more than (15') feet above the pavement grade at the center of highway.

Advance warning signage and appropriate pavement markings shall be installed as part of the temporary signal operation.

The signals shall be operated in a manner consistent with traffic requirements. The signals may be operated in timed-mode or in a vehicle-actuated mode. The signals shall be interconnected in a manner to ensure that conflicting movements cannot occur. To ensure that the appropriate operating pattern, including timing is displayed to the traveling public, regular inspections, including the use of accurate timing devices shall be made by the WTCS. If, at any time, any part of the system fails to operate within these requirements then the use of the signal shall be suspended, and the appropriate flagging operation shall begin immediately.

The (WTCS) shall continuously monitor the portable traffic control signal to ensure compliance with the requirements for maintenance under the MUTCD. The signal shall be maintained in a manner consistent with the intention of the MUTCD, with emphasis on cleaning of the optical system. Timing changes shall be made only by the WTCS. The WTCS shall keep a written record of all timing changes.

The portable temporary traffic signal shall have two power sources and shall be capable of running for seven calendar days continuously.

The Contractor shall have an alternate temporary traffic control plan in the event of failure of the signal.

150.2.12 Raised Pavement Markers

Raised pavement markers (RPMs) shall meet the requirements of [Section 654](#) and QPL-76 .

150.2.13 Rumble Strips

Rumble strips incorporated into the Work shall meet the requirements of [Section 429](#) and the MUTCD. Existing rumble strips that are positioned in the traveled way to warn traffic of a stop condition shall be reinstalled prior to opening to traffic. Based on the following requirements:

Intermediate surfaces that will be in use for more than forty-five (45) calendar days shall have rumble strips reinstalled on the traveled way in the area of a stop condition. Non-refundable deductions in accordance with Subsection 150.7.01 will be assessed for any intermediate surface in place for greater than 45 days without rumble strips.

Rumble strips shall be installed on the final surface within fourteen (14) calendar days of the placement of the final surface in the area of the stop condition. Failure to install within fourteen (14) calendar days will result in assessment of non-refundable deductions in accordance with Subsection 150.7.01.

Prior to the removal of any rumble strips located in the travel lane, stop ahead (W3-1) warning signs shall be double indicated ahead of the stop condition. These warning signs shall be a minimum of 48 inches by 48 inches. These warning signs shall remain in place until the rumble strips have been reinstalled on the traveled way. Any existing warning

signs for the stop ahead condition shall be removed or covered while the 48" X 48" (W3-1) signs are in place. When the rumble strips have been reinstalled, these warning signs should be promptly removed, and any existing signage placed back in service.

150.2.14 Temporary Barriers

A. Design:

Temporary barriers shall meet the requirements of [Sections 620](#). The lengths of advancement should be in accordance with [Georgia Standard 4000W "Lengths of Advancement, Clear Zone Distances, and Fill Height Embankment"](#). The approach end of the taper should have 10:1 or flatter ground slope. Temporary barriers shall not be used as a channelization device. Their use is in accordance with [MUTCD \(6K.09\)](#).

B. Application:

Temporary barriers shall be placed as required by the Plans, Standards, and as directed by the Engineer. When Temporary barrier is located twenty feet ($\leq 20'$) or less from a travel lane, yellow reflectors shall be fixed to the top of the barrier at intervals not greater than forty feet ($\leq 40'$) in the longitudinal section and twenty feet (20') in the taper section and shall be mounted approximately two inches (2") above the barrier. If both lanes of a two-lane two-way roadway are within twenty feet ($\leq 20'$) or less of the barrier then the reflectors shall be installed for both directions of traffic.

The reflectors shall be one hundred (100) square inches (ASTM Type VII or VIII/ Type XI) reflective sheeting mounted on flat-sheet blanks. The reflectors shall be mounted approximately two inches above the top of the barrier. The reflectors shall be attached to the barrier with adhesive or by a drilled-in anchor type device. The reflectors shall not be attached to a post or board that is placed between the gaps in the barrier sections.

Approach end of Temporary barrier shall be protected according to [Georgia Standard 4960 "Temporary Barrier \(End Treatment Options\)"](#) or by a portable impact attenuator.

On interstates or other controlled access highways where lane shifts or crossovers cause opposing traffic to be separated by less than forty feet ($<40'$), portable barrier should be used as a separator.

150.2.15 Temporary Guardrail Anchorage- Type 12

This work consists of the furnishing, installation, maintenance, and removal of Temporary Guardrail Anchorage- Type 12 used for Portable Barrier or temporary guardrail end treatment. Materials used in the Temporary Guardrail Anchorage- Type 12 shall meet the requirements of [Section 641](#) of the Specifications and current Georgia Standards and may be new or used. Materials salvaged from the Project, which meet the requirements of Standards, may be utilized if available. The use of any salvaged materials will require prior approval of the Engineer.

Installation of the Temporary Guardrail Anchorage- Type 12 shall conform to the requirements of the Plans, current Georgia Standards and [Section 641](#) of the Specifications. Installation shall also include sufficient additional guardrail and appurtenances to effect the transition and connection to Temporary Concrete Barrier as required by the details in [Georgia Standard 4960 "Temporary Barrier \(End Treatment Options\)"](#).

150.2.16 Temporary Traffic Signals

Temporary traffic signals shall meet the requirements of [Section 647](#) and the MUTCD.

150.3 Construction Requirements

150.3.01 General

A. Implementation Requirements

No work shall be started on any project phase until the appropriate traffic control devices have been placed in accordance with the Project requirements. Changes to traffic flow shall not commence unless all labor, materials, and equipment necessary to make the changes are available on the Project.

When any shift or change is made to the location of traffic or to the flow patterns of traffic, including pedestrian traffic, the permanent safety features shall be installed and fully operational before making the change. If staging or site conditions prevent the installation of permanent features, then the equivalent interim devices shall be utilized. This work shall also include any necessary removal and reinstallation of guardrail panels to achieve the required panel lap to accommodate the appropriate shift and traffic flow including the final traffic flow configuration. The cost of performing this work shall be included in Traffic Control-Lump Sum.

Any section of the Work that is on a new location shall have all permanent safety features installed and fully operational before the Work is opened to traffic. Safety features shall include, but are not limited to the following items:

Guardrails including anchors and delineation with properly lapped panels

- 1) Cable Barrier
- 2) Impact attenuators
- 3) Traffic signals
- 4) Warning devices
- 5) Pavement markings including, but not limited to, words, symbols, stop bars, arrows, hatching and crosswalks
- 6) Roadway signs including regulatory, warning, and guide

Outdoor lighting shall be considered as a safety feature for welcome centers, rest areas, and weigh station projects. For typical roadway type projects, new street lighting is not considered a safety feature, unless specifically noted in the Plans or in the special conditions.

B. Maintenance of Traffic Control Devices

Traffic control devices shall be in acceptable condition when first erected on the Project and shall be maintained in accordance with [Section 104](#) throughout the construction period. All unacceptable traffic control devices shall be replaced within twenty-four (24) hours. When not in use, all traffic control devices shall be removed, placed or covered so as not to be visible to traffic.

C. Traffic Interruption Restrictions

The Department reserves the right to restrict construction operations when, in the opinion of the Engineer, the continuance of the Work would seriously hinder traffic flow, be needlessly disruptive or unnecessarily inconvenience the traveling public. The Contractor shall suspend and/or reschedule any work when the Engineer deems that conditions are unfavorable for continuing the Work.

Advanced notification requirements to the Contractor to suspend work will be according to the events and the time restrictions outlined below:

Incident management - No advanced notice required

Threatening/Inclement weather - twenty-four (24) hours

Holiday, sporting events, unfavorable conditions - Three (3) calendar days

If the Work is suspended, the Contractor may submit a request for additional Contract time as allowed under [Section 108](#). The Department will review the request and may grant additional Contract time as justified by the impact to the Contractor's schedule. Compensation for loss of productivity, rescheduling of crews, rental of equipment or

delays to the Contractor's schedule will not be considered for payment. Additional Contract time will be the only consideration granted to the Contractor.

D. Work Zone Restrictions

1. Interstate

The Contractor should not simultaneously perform work on both the inside shoulder and outside shoulder on either direction of traffic flow when the Work is within 12 feet of the travel-way. Shoulders can be alternated if areas are separated by at least one-half mile of distance.

2. Non-Interstate Divided Highways

The Contractor should not simultaneously perform work on both the inside shoulder and outside shoulder on either direction of traffic flow when the Work is within 12 feet of the travel-way. Shoulders can be alternated if areas are separated by at least one-half mile distance in rural areas or at least 500 feet of distance in urban areas.

3. Non-Divided Highways

a. The Contractor should not simultaneously perform work on opposite sides of the roadway when the Work is within 12 feet of the travel-way. Shoulders can be alternated if areas are separated by at least one-half mile of distance in rural areas or at least 500 feet of distance in urban areas.

b. On two-lane projects where full width sections of the existing subgrade, base or surfacing are to be removed, and new base, subgrade, or surfacing are to be constructed, the Contractor should maintain one-lane of traffic through the construction area by removing and replacing the undesirable material for half the width of the existing roadway at a time. Replacement should be made such that paving is completed to the level of the existing pavement in the adjacent lane by the end of the workday or before opening all the roadway to traffic.

E. Work Zone Geometric Restrictions

There should be no reduction in the total number of available traffic lanes including turning lanes that existed prior to construction, except as specifically allowed by the Contract and as approved by the Engineer.

Travel lane Clearances: All portions of the Work should maintain the following minimum requirements:

Horizontal: The combined dimensions of the paved shoulder and the roadway surface remaining outside the Work Zone should be no less than sixteen feet ($\geq 16'$) in width at any location.

Vertical: The overhead clearance should not be reduced to less than fifteen feet ($\geq 15'$) at any location.

The restrictions above apply to all shifts, lane closures, on-site detours and off-site detours whether shown in the Contract or proposed by the Contractor. It shall be the responsibility of the Contractor to verify that these minimum requirements have been met before proceeding with any phase of the Work. Two-lane, two-way roadways may have temporary horizontal restrictions of less than sixteen feet ($\geq 16'$) during flagging operations. The minimum horizontal clearance should be restored before the flagging operation is removed.

F. Clear Zone

At the end of the workday, all equipment, materials, and TTC devices not in use should be moved out of the clear zone or behind positive protection. The clear zone is defined by Georgia Standard 4000W "Lengths of Advancement, Clear Zone Distances, Fill Height Embankment". For urban roadway with curb, the minimum set back is six (6') feet from the curb face. If stored behind positive protection, proper lengths of advancement should be maintained. If stored behind guardrail the items shall be a minimum five feet ($\geq 5'$) from the face of the guardrail and not in the recovery zone of the anchor.

The WTCS shall monitor the Work to ensure that all the rocks, boulders, construction debris, stockpiled materials, equipment, tools, and other potential hazards are kept clear of the travel lane.

G. Milled Surface Restrictions

Unless modified by the special conditions, a milled surface on any asphaltic concrete surface shall not be allowed to remain open to traffic for a period of time that exceeds thirty (30) calendar days.

H. Construction Vehicles

The Contractor's vehicles shall travel in the direction of normal roadway traffic and shall not reverse direction except at intersections, interchanges, or approved temporary crossings. The Contractor may submit a plan requesting that construction traffic be allowed to travel in the opposite direction of normal traffic when it would be desirable to modify traffic patterns to accommodate specific construction activities.

Prior approval of the Engineer shall be obtained before any construction traffic is allowed to travel in a reverse direction. If the Contractor's submittal is approved, the construction traffic shall be separated from normal traffic by appropriate traffic control devices.

The parking of Contractor's and/or workers' personal vehicles within the work area or adjacent to traffic is prohibited. It shall be the responsibility of the WTCS to ensure that any vehicle present at the worksite is necessary for the completion of the Work.

I. Environmental Impacts

The Contractor shall ensure that dust, mud, and other debris from construction activities do not interfere with normal traffic operations or adjacent properties.

J. Existing Street Lights

Existing street lighting shall remain lighted as long as practical and until removal is approved by the Engineer.

K. Nighttime Work Lighting

Adequate temporary lighting shall be provided at all nighttime work sites where workers will be immediately adjacent to traffic.

L. Removal/Reinstallation of Miscellaneous Items

In the prosecution of the Work, if it becomes necessary to remove any existing signs, markers, guardrail, etc. not covered by specific pay item, they shall be removed, stored and reinstalled, when directed by the Engineer, to line and grade, and in the same condition as when removed.

150.3.02 Personnel – Worker Safety Apparel

In accordance with MUTCD [\(6D.03\)](#) [\(6C.04\)](#) all workers, within the right-of-way who are exposed either to traffic or to work vehicles and construction equipment within the TTC zone, shall wear high-visibility safety apparel that meets the Performance Class 2 or better.

150.3.03 Signage - General

A. Signing Requirements of the Temporary Traffic Control (TTC) Plan

When existing regulatory, warning or guide signs are required for proper traffic and pedestrian control, the Contractor shall maintain these signs in accordance with the TTC plan. The Contractor shall review the status of all existing signs, interim signs added to the Work, and permanent sign installations that are part of the work to eliminate any conflicting or non-applicable signage in the TTC Plan. The Contractor's review of all signs in the TTC Plan shall establish compliance with the requirements of the MUTCD and Section 150. Any conflicts shall be reported to the Engineer immediately and the WTCS shall take the necessary measures to eliminate the conflict.

The Contractor shall make every effort to eliminate the use of interim signs as soon as the Work allows for the installation of permanent signs.

All existing illuminated signs shall remain lighted and be maintained by the Contractor.

Existing street name signs shall be maintained at street intersections.

Refer to section 150.2.05.B. Sign Blanks and Panels for size and material requirements.

B. Conflicting or Non-Applicable Signs

Any sign(s) or portions of a sign(s) that are not applicable to the TTC plan shall be covered so as not to be visible to traffic or shall be removed from the roadway when not in use. The WTCS shall review all traffic shifts and changes in the traffic patterns to ensure that all conflicting signs have been removed. The review shall confirm that the highest priority signs have been installed and that signs of lesser significance are not interfering with the visibility of the high priority signs. High priority signs include signs for road closures, shifts, detours, lane closures and curves. Any signs, such as speed zones and speed limits, passing zones, littering fines and litter pick up, that reference activities that are not applicable due to the presence of the Work shall be removed, stored and reinstalled when the Work is completed.

Failure to promptly eliminate conflicting or non-applicable signs shall be considered as non-performance under Subsection 150.7.01.

C. Removal of Existing Signs and Supports

The Contractor shall not remove any existing signs and supports without prior approval from the Engineer. All existing signs and supports which are to be removed shall be stored and protected if this material will be required later in the Work as part of the TTC plan. If the signs are not to be utilized in the Work, then the signs will become the property of the Contractor unless otherwise specified in the Contract documents.

D. Interim Guide, Warning and Regulatory Signs

Interim guide, warning, or regulatory signs required to direct traffic and pedestrians shall be furnished, installed, reused, and maintained by the Contractor in accordance with the MUTCD, the Plans, Special Provisions, Special Conditions, or as directed by the Engineer. These signs shall remain the property of the Contractor. When the signs are used for long-term stationary operations as defined MUTCD [\(6G.02\)](#), the bottom of all interim signs shall be mounted seven feet (7') to eight feet (8') above the level of the pavement edge or sidewalk. The signs offset should be six feet (6') to twelve feet (12') from the pavement edge or two feet ($\geq 2'$) minimum for sidewalks according to MUTCD [\(6F-1\)](#) [\(6G-1, 6H-1, and 6I-1\)](#). Special Conditions under Subsection 150.6 may modify this requirement.

Portable signs may be used when the duration of the Work is less than three (3) days or as allowed by the special conditions in Subsection 150.6. Portable interim signs shall be mounted a minimum of one foot ($\leq 1'$) above the level of the pavement edge for directional traffic of two (2) lanes or less and at seven feet (7') for directional traffic of three (3) or more lanes according to MUTCD [\(6F-2\)](#). Signs shall be mounted at the height recommended by the manufacturer's crashworthy testing requirements.

All sign blanks shall be rigid whether the sign is mounted as a portable sign, on a Type III barricade or as a permanent mount height sign. Utilities and their subcontractors working in the project limits, and not included in the project Contract, may use non-rigid signs.

E. Existing Special Guide Signs

Existing special guide signs on the Project shall be maintained until conditions require a change in location or legend content. When change is required, existing signs shall be modified and continued in use if the required modification can be made within existing sign borders using design requirements (legend, letter size, spacing, border, etc.) equal to that of the existing signs, or of [Subsection 150.3.E.2](#). Differing legend designs shall not be mixed in the same sign.

1. Special Guide Signs

Special guide signs are those expressway or freeway guide signs that are designed with message content (legend) that applies to a particular roadway location. When an existing special guide sign is in conflict with work to be performed, the Contractor shall remove the conflicting sign and reset it in a new, non-conflicting location which has been approved by the Engineer.

2. Interim Special Guide Signs

When it is not possible to utilize existing signs, either in place or relocated, the Contractor shall furnish, erect, maintain, modify, relocate, and remove new interim special guide signs in accordance with the Plans or as directed by the Engineer. Interim special guide signs that may be required in addition to, or a replacement for, existing expressway and freeway (interstate) signs shall be designed and fabricated in compliance with the minimum requirements for guide signing contained in [Chapter 2E “Guide Signs – Freeway and Expressway”](#) of the MUTCD. All interstate shields on these signs shall be 48 inches and 60 inches for two-numeral and three-numeral routes, respectively.

The road name of the exit or route shield shall be placed on the exit gore sign.

3. Interim Overhead Guide Sign Structures

Interim overhead special guide sign structures are not required to be lighted unless specifically required by the Plans. If lighting is required, the sign shall be lighted as soon as erected and shall remain lighted, during the hours of darkness, until the interim sign is no longer required. The Contractor shall notify the Power Company at least thirty (30) days prior to desire connection to the power source.

4. Permanent Special Guide Signs

The installation of new permanent special guide signs and the permanent modification or resetting of existing special guide signs, when included in the Contract, shall be accomplished as soon as practical to minimize the use of interim special guide signs. If lighting is required by the Plans, all new permanent overhead special guide signs shall be lighted as soon as erected.

F. Stop Sign Regulated Intersections

For intersections that utilize stop sign(s) to control the flow of traffic and to restrict the movement of vehicles, the stop sign(s) shall be maintained for the duration of the Work or until such time that the stop condition is eliminated or until an interim or permanent traffic signal can be installed to provide proper traffic control. The traffic signal shall be installed and properly functioning before the removal of the existing stop sign(s) is permitted. If the existing intersection is enhanced traffic control features, such as stop lines, double indicated stop signs, oversized signs, advanced warning stop ahead signs, rumble strips on the approaches or flashing beacons located overhead or on

the shoulders then these features shall be maintained for the duration of the project or until the permanent traffic control plan has been implemented.

Whenever the staging of the Work requires that the traveled way be relocated or realigned the Contractor shall reinstall all enhanced traffic control features noted above on the newly constructed sections of the Work. The cost of relocating the stop lines, stop signs, advanced warning signs, the rumble strips and the flashing beacons shall be included in the price bid for Traffic Control - Lump Sum unless individual pay items are included in the Contract for rumble strips and/or flashing beacons. When pay items are included in the Contract for rumble strips or flashing beacons then these items will be paid per each.

When staging requires the relocation or realignment of an existing stop condition, it may be necessary to consider the addition of enhanced traffic control features even though none existed at the original location. Horizontal and vertical alignment changes at a new location may have decreased or restricted sight distance or the stop condition may occur sooner than in the previous alignment. If these conditions occur, then the Engineer and/or the WTCS should consider additional measures to enhance the motorist's awareness of the changes even though the staging plans may not address enhanced features. Stop signs should be a minimum of thirty-six (36") inches for interim situations. The use of forty-eight (48") inch stop signs may be warranted under project specific conditions. Flags may be used on interim/permanent stop signs that are mounted at seven (7') feet in height for a short duration in order to direct additional attention to a new or relocated stop sign(s). Flags should not be used for durations exceeding two weeks unless unusual or site-specific conditions warrant a longer period of time. The use of Type "A" flashing red light(s) attached to the stop sign(s) may be appropriate during the same period that the flags are in use to increase attention.

The use of rumble strips and/or PCMS may be considered. The use of new rumble strips, where none previously existed, shall have the prior approval of District Traffic Operations before being included as part of the temporary traffic control plan. The message(s) displayed on any PCMS shall have the prior approval of the Engineer and the message(s) shall be included as part of the TTC plan for the interim staging.

The placement of any additional interim ground mounted signs and posts or stop lines shall be considered as incidental to the price bid for Traffic Control - Lump Sum. The installation of rumble strips, flashing beacons or the use of Portable Changeable Message Signs (PCMS) shall be considered as Extra Work unless pay items are included in the Contract.

G. Low Shoulder Signage

1. Low Shoulder for Construction/Reconstruction/Resurfacing Projects

"Low Shoulder" (W8-9) signs shall be erected when a difference in elevation less than four (< 4') feet from the traveled way, exceeds one inch (> 1") but does not exceed three inches (≤ 3 ") between the travel lane and any type of shoulder. *For all projects after April 1, 2023*, "Low Shoulder" (W8-9) signs shall be a minimum dimension of forty-eight inches by forty-eight inches (48"x48")

The spacing of the signs shall not exceed one (1) mile and the signs shall be placed immediately past each crossroad intersection. The "Low Shoulder" signs shall remain in place until the difference in elevation is eliminated and the shoulder has been dressed and permanently grassed for a minimum of thirty (30) calendar days. These signs shall be furnished, installed, maintained, and removed by the Contractor as part of Traffic Control-Lump Sum. These signs shall be fluorescent orange with black borders.

2. Shoulder Drop-Off for Construction/Reconstruction/Resurfacing Project

"Shoulder Drop-Off" (W8-17) signs shall be used when a difference in elevation, less than four feet (< 4') from the traveled way, exceeds three inches (> 3") and is not protected by positive barrier protection. These warning signs shall be placed in advance of the drop-off. *For all projects after April 1, 2023*, "Shoulder Drop-Off" (W8-17) shall be a minimum dimension of forty-eight inches by forty-eight inches (48"x48")

The spacing of the signs shall not exceed one (1) mile and the signs shall be placed immediately past each crossroad intersection. The "Shoulder Drop-Off" signs shall remain in place until the difference in elevation is

eliminated and the shoulder has been dressed and permanently grassed for a minimum of thirty (30) calendar days. These signs shall be furnished, installed, maintained, and removed by the Contractor as part of Traffic Control-Lump Sum. These signs shall be black borders on fluorescent orange background.

H. Bump Signage

A bump sign (W8-1) shall be utilized when a transverse joint in the pavement structure has a vertical difference in elevation of three quarters ($\geq 3/4$) of an inch or greater in depth with no horizontal taper to ramp the traffic from one elevation to the other. This condition typically occurs at approach slabs during pavement milling operations and at transverse joints in asphaltic pavement lifts. Other conditions include utility and storm drainage repairs that require concrete placement for patching and/or steel plating. *For all projects after April 1, 2023, "Bump" sign (W8-1) shall be a minimum dimension of forty-eight inches by forty-eight inches (48"x48")*

The W8-1 sign shall be placed sufficiently in advance to warn the motorist of the condition.

I. Sign Visibility

All existing, interim, and new permanent signs shall be installed to be completely visible and legible for an advance distance in compliance with the MUTCD. Any clearing required for maintaining the line of sight to existing, interim or permanent signs shall be done as part of the requirements of the TTC plan. The clearing shall include any advance warning signs, both interim and permanent, that are installed as a part of the Work including advance warning signs that are installed outside the limits of the project. Limbs, brush, construction equipment and materials shall be kept clear of the driver's line of sight to all signs that are part of the TTC plan.

150.3.04 Advance Warning Signs

A. Project Signs - All Type of Highways

Advance warning signs shall be placed ahead of the work area in accordance with Part 6 of the MUTCD and unless noted below shall include a series of at least three advance road work (W20-1) signs placed at the termini of the project. The series shall have the legend ROAD WORK (1500 FEET, 1000 FEET, AND 500 FEET).

At grade intersecting roadways and on-ramps shall be signed with a minimum of one ROAD WORK AHEAD sign.

When work terminates at a "T" intersection, a minimum of one "ROAD WORK AHEAD" sign shall be placed in advance of the intersection and one "END ROAD WORK" sign shall be placed at the termination end of the intersection. Field conditions may require the use of additional warning signage.

1. State Routes

Advanced Warning Signs on State Routes shall be a minimum dimension of forty-eight inches by forty-eight inches (48" x 48"). When a State Route intersects a project which consists of adding travel lanes, reconstructing an existing roadway or new location work, the State Route approaches shall have a minimum of three (W20-1) advanced warning signs (1500 ft., 1000 ft., 500 ft.). The termination end of an intersecting State Route shall have END ROAD WORK signage.

The W20-1 signs shall be placed at the termini of the project or sufficiently in advance of the termini to allow for lane shifts, lane closures and other activities which may also require advanced warning signs. The advanced warning signs for the project should not overlap with the advanced warning signs for lane shifts, lane closures, etc.

The length of a work zone should be held to the minimum length required to accomplish the Work. If a project has multiple individual worksites within the overall limits of the project, each site should be signed individually if the advance warning signs for each site can be installed without overlapping an adjacent worksite. As soon as the work is completed at any individual site, the warning signs shall be removed from that site. Clean-up work shall be performed with portable signage.

Project mileage indicated on the G20-1 sign shall be the actual project mileage rounded up to the nearest whole mile. Projects less than two (< 2) miles in length or individual worksites that are part of a multiple worksite project may delete this sign. The G20-1 sign shall be forty-eight inches by twenty-four inches (48" x 24") and the G20-2 sign shall be forty-eight inches by twenty-four inches (48" x 24").

2. Interstate, Limited Access and Multilane Divided Highways

In addition to the W20-1 signs required at 500 ft., 1000 ft. and 1500 ft., multi-lane divided highways shall also have additional advanced warning signs installed with the legend "ROAD WORK (2 MILES, 1 MILE and 1/2 MILE). All construction warning signs on divided highways shall be double indicated (i.e., on the left and right sides of the roadway.) If the use of the half (1/2) mile, one (1) mile and two (2) mile advanced warning signs cause an overlap with other work or do not benefit field conditions then the Engineer may review the use of these signs and eliminate their installation. When the posted speed limit is fifty (\leq 50) mph or less, the one-half (1/2) mile, one (1) mile and two (2) mile signs should be eliminated especially in urban areas.

The W20-1 advance warning signs for ROAD WORK 500 FEET; 1000 FEET; and 1500 FEET shall be temporarily covered when work involving the advanced warning signs for lane shifts and lane closures overlap these signs. The ROAD WORK 1/2 MILE, ROAD WORK 1 MILE, and ROAD WORK 2 MILES shall be in place when the 500, 1000 and 1500 feet signs are temporarily covered.

When the Temporary Traffic Control zone already has advanced warning (W20-1) signs installed the W20-1 signs required for lane closures under Standard 9106 should be eliminated.

3. Ramp Work on Limited Access Highways

The work zone shall not be signed for the entire length of the mainline of a limited access highway when only short individual worksites, interchange or ramp work is being performed.

When work is restricted to ramp reconstruction or widening activities, the advance warning signs on the mainline section of the limited access highway shall be limited to the use of portable advance warning signs. These portable advance warning signs shall only be utilized when work activity is within the gore point of the ramp and the mainline traveled way or work is active in the acceleration/deceleration lane adjacent to the mainline traveled way. Portable advance warning signs (W20-1: 1500 ft. /1000 ft. /500 ft.) shall be installed on the traveled way of the limited access highway when the above conditions are present. The advance warning signs shall be installed only in one direction where work is active. All portable signs shall be double indicated. When work is not active, the ramp work shall be advanced warned by the use of a single forty-eight inches by forty-eight inches (48" x 48") "ROAD WORK AHEAD" (W20-1) with an "ON RAMP" plaque (W13-4p) sign along the right shoulder of the mainline traveled way prior to the beginning of the taper for the deceleration lane. Differences in elevation shall be in compliance with the requirements of Subsection 150.3.11 prior to the removal of the portable (W20-1) advanced warning signs from the mainline.

B. Highway Work Zone

In accordance with Georgia Code, O.C.G.A. § 40-6-188, all sections or segments of the roadway under construction or reconstruction shall be signed as a Highway Work Zone except non-state highway two-lane two-way resurfacing projects. Two conditions can be applied to a Highway Work Zone. Condition 1 is when no reduction in the existing speed limit is required. Condition 2 is when worksite conditions require a reduction of the speed limit through the designated Work Zone. Properly marking a Highway Work Zone shall include the following minimum requirements:

1. No Reduction in the Existing Posted Speed Limit in Highway Work Zone

- a. Signage shall be posted at the beginning point of the Highway Work Zone warning the traveling public that increased penalties for speeding violations are in effect. The beginning point of Highway Work Zone is at the project limits, start of work zone, or at the start of the first taper. The HWZ-2 sign shall be placed a minimum of 600 feet in advance of the Highway Work Zone and shall not be placed more than 1000 feet in advance of the Work Zone. If no speed reduction is required, it is recommended that the HWZ-2 be placed at 750 feet from the work area between the ROAD WORK 500 FT. and the ROAD WORK 1000 FT. signs.

HWZ-2 signs shall be placed at intervals not to exceed one mile for the length of the project. HWZ-2 signs should be placed on the mainline after all major intersections except State Routes. State Routes shall be signed as per the requirements for intersecting roadways below.

- b. The existing speed limit shall be posted at the beginning of the Work Zone. Existing Speed Limit signs (R2-1) shall be maintained.
 - c. Intersecting state routes shall be signed in advance of each intersection with the Work Zone with an HWZ-2 sign to warn motorists that increased fines are in effect. All other intersecting roadways that enter into a designated Highway Work Zone may be signed in advance of each intersection with the Work Zone. When construction equipment and personnel are present in the intersection on the mainline of a multi-lane roadway, the intersecting side roads shall be signed in advance with HWZ-2 signs. As soon as the work operation clears the intersection, the signage may be removed.
 - d. Sign HWZ-3 shall be posted at the end of the Highway Work Zone indicating the end of the zone and indicating that increased penalties for speeding violations are no longer in effect.
 - e. When a designated Highway Work Zone is no longer necessary, all signs shall be removed immediately.
2. Reducing the Speed Limit in a Highway Work Zone

Highway Work Zone signs shall be posted as required in Condition 1 above and in accordance with Detail 150-C.

A "Reduced Speed Ahead" sign shall be posted 600 feet prior to the reduced speed limit.

Then a "Speed Limit" signage (R2-1) for the reduced speed limit shall be erected at the beginning of the Work Zone. Additional signs shall be placed at whichever is least:

- a. on non-interstate roads after every junction with a numbered (state or U.S.) route.
- b. on interstates entrance ramp 1,500 feet from the end of the entrance taper. Detail 150-D
- c. on non-interstate and interstate, a maximum spacing of no greater than one (1) mile apart.

On interstates and multi-lane divided highways, the speed limit signs shall be double indicated when the reduced speed is in use.

Additional signs may be necessary to adjust for actual field conditions.

For limited access (interstate) highways and controlled access multi-lane divided highways, the posted speed limit shall be reduced as required below.

When any one or more of the following conditions exist and the existing speed limit is sixty-five (65) mph or seventy (70) mph, the speed limit shall be reduced by ten (10) mph. If the existing speed limit is sixty (60) mph, the speed limit should be reduced by five (5) mph. If the existing speed limit is fifty-five (≤ 55) mph or less, the Contractor can only reduce the speed limit with the prior approval of the Engineer. The reduction in the speed limit shall be no greater than ten (10) mph:

- a) Lane closure(s) of any type and any duration.
- b) The difference in elevation exceeds two inches ($> 2''$) adjacent to a travel lane as shown in Subsection 150.3.11, Detail 150-E, Detail 150-F.
- c) Any areas where equipment or workers are within ten feet (10') of a travel lane.
- d) Temporary portable concrete barriers located less than two feet (2') from the traveled way.
- e) As directed by the Engineer for conditions distinctive to this project.

When the above conditions are not present, the speed limit shall be immediately returned to the existing posted speed limit. A speed reduction shall not be put in place for the entire length of the project unless conditions warranting the speed reduction are present for the entire project length. All existing speed limit signs within the temporary speed reduction zone shall be covered or removed while the temporary reduction in the speed limit is in effect. All signs shall be erected to comply with the minimum requirements of the MUTCD.

At a minimum, the following records shall be kept by the WTCS:

- a) Identify the need for the reduction.
- b) Record the time of the installation and removal of the temporary reduction.
- c) Fully describe the location and limits of the reduced speed zone.
- d) Document any accident that occurs during the time of the reduction.

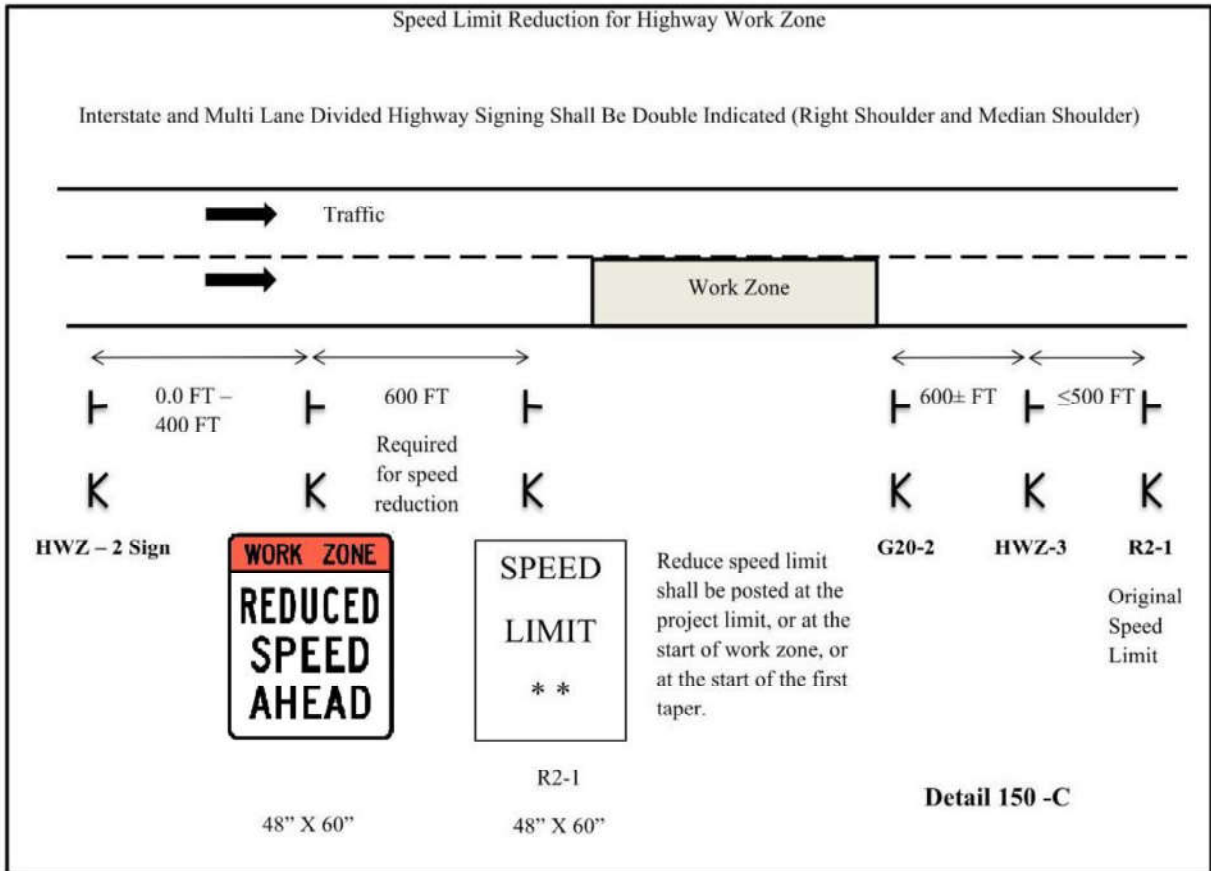
A copy of the weekly records for reduced speed zones shall be submitted to the Engineer.

When a pilot vehicle is used on a two-lane two-way roadway, the speed limit should not be reduced. For special conditions specific to the Work, on two-lane two-way roadways or multi-lane highways, the Contractor may reduce the posted speed limit with the prior approval of the Engineer.

3. Variable Speed Limit Zones

Projects that are within or extends into variable speed limit zones shall be posted according to condition 1 with HWZ-1, HWZ-2, and HWZ-3 signs. No additional "speed limit" signs, (R2-1), shall be posted. Any reduction or increase in speed limits will be controlled by the normal operation of the variable speed limit system.

Upon request, a maximum speed limit of fifty-five (55) mph may be set for the project limits.





HWZ-2:

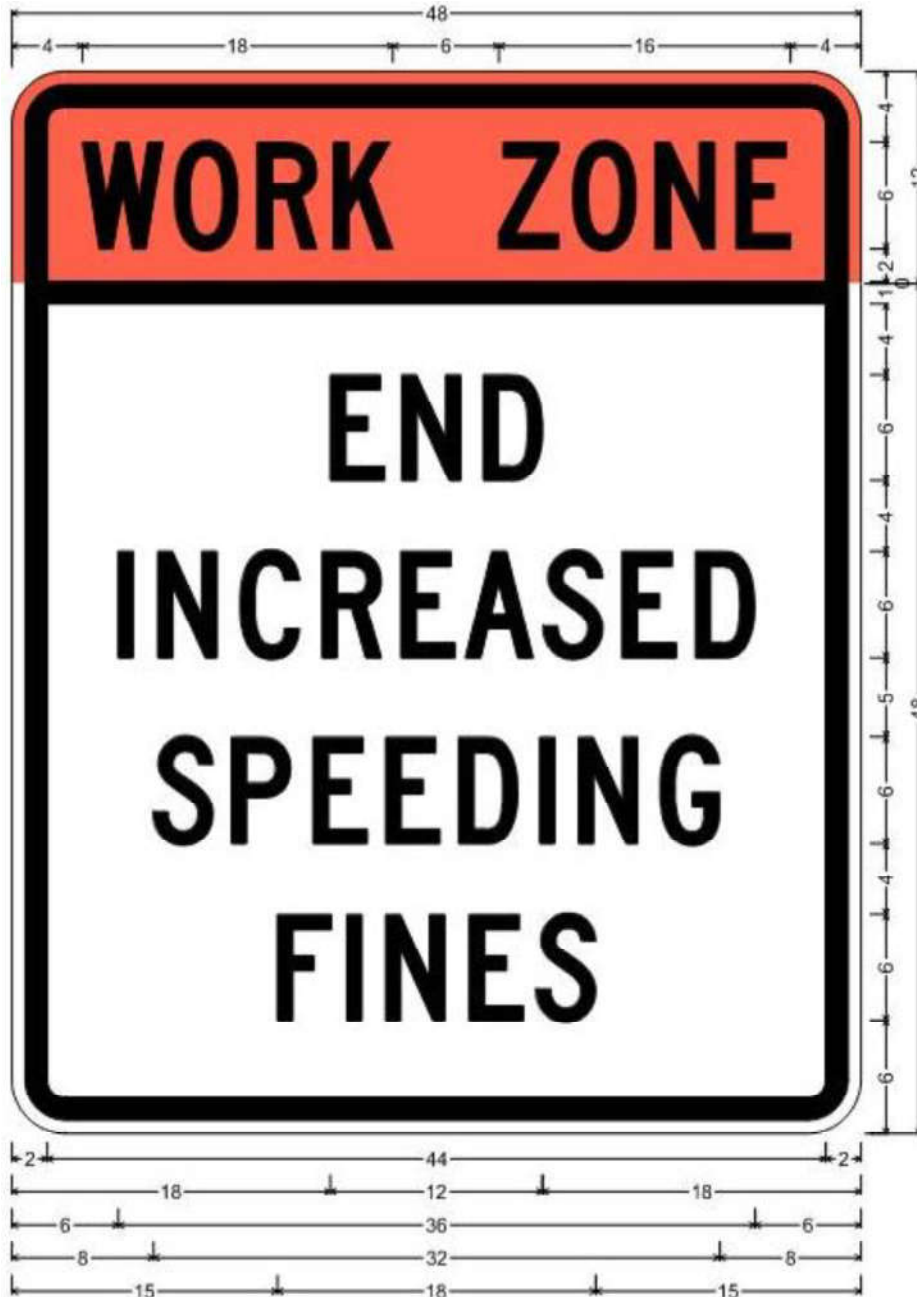
3" Radius, 1" Border, 1" Indent, Black on Fluorescent orange;
"WORK ZONE", C 2K specified length;

3" Radius, 1" Border, 1" Indent, Black on White;
"SPEEDING", C 2K specified length; "FINES", C 2K specified length;
"INCREASED", C 2K specified length;

3" Radius, 1" Border, 1" Indent, Black on White;
"MINIMUM", D 2K specified length; "FINE \$100", D 2K specified length;

HWZ-2

1. All HWZ-2 sign panels shall be rigid.
2. The size of the HWZ-2 sign shall not be reduced for use on two-lane roadways.



HWZ-3;

3" Radius, 1" Border, 1" Indent, Black on Fluorescent orange;

"WORK ZONE", C 2K specified length;

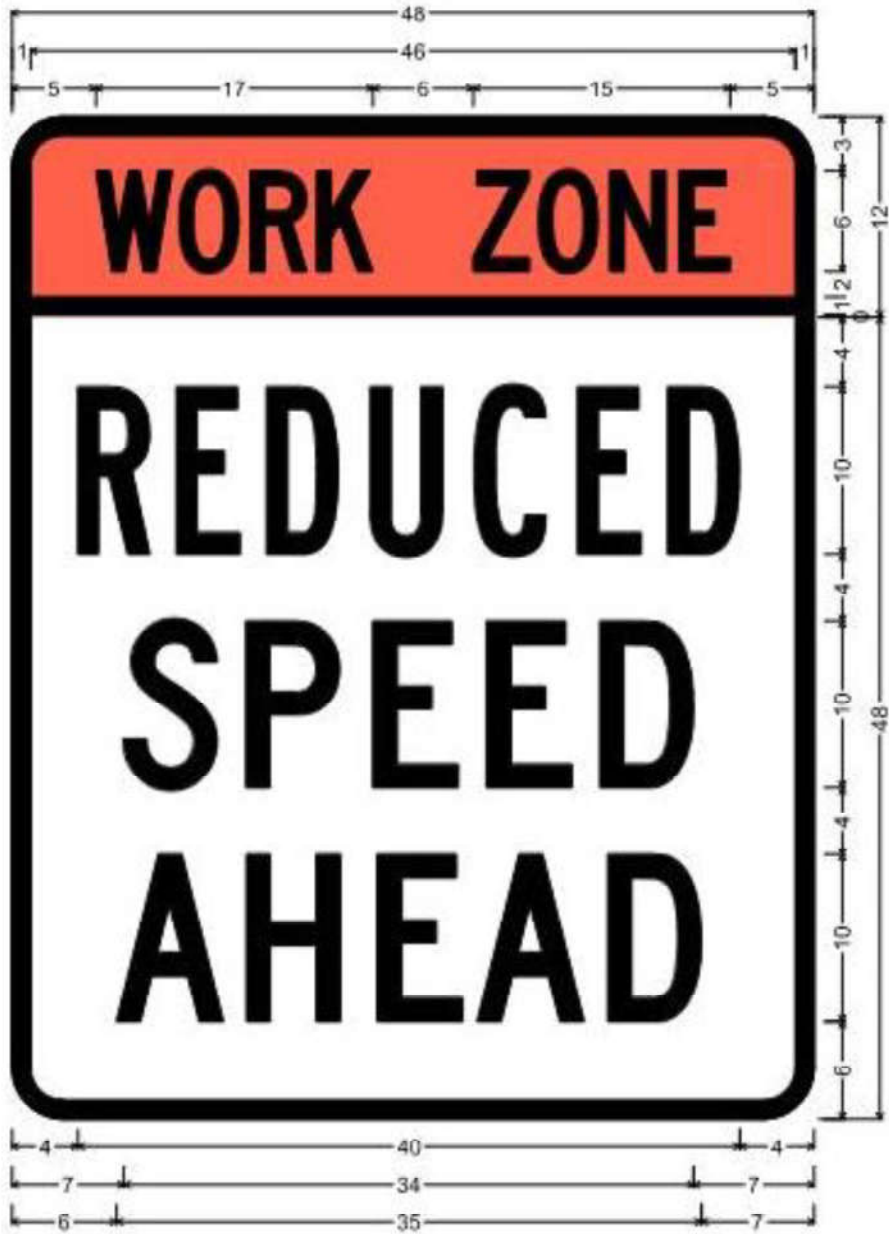
3" Radius, 1" Border, 1" Indent, Black on White;

"END", C 2K specified length; "INCREASED", C 2K specified length;

"SPEEDING", C 2K specified length; "FINES", C 2K specified length;

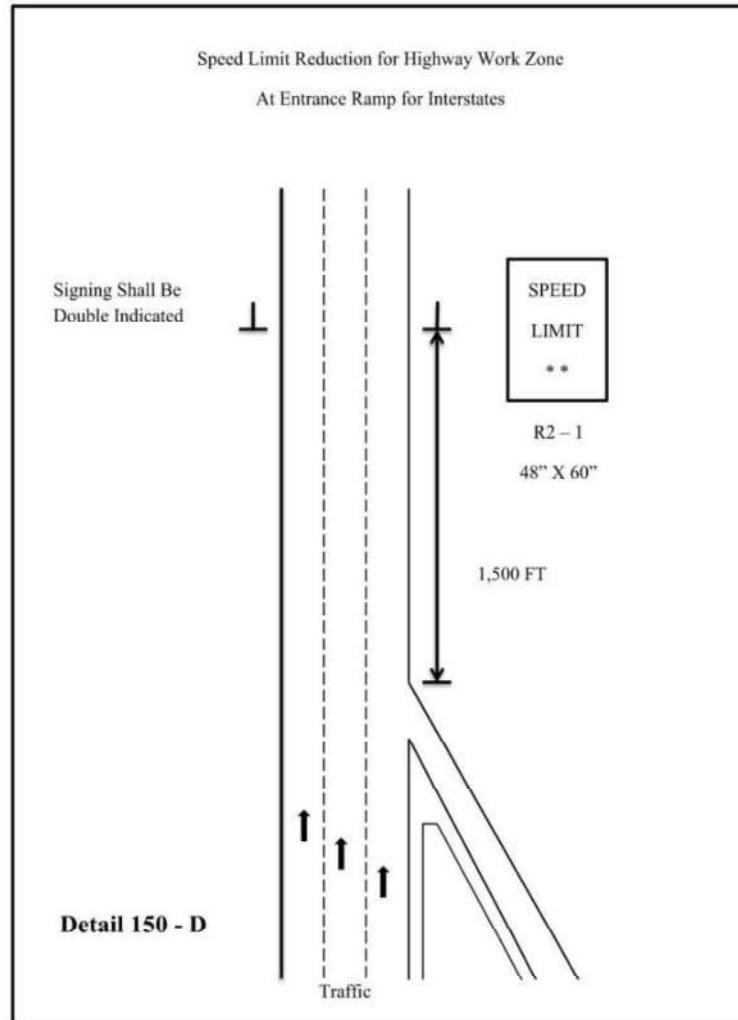
HWZ-3

1. All HWZ-3 sign panels shall be rigid.
2. The size of the HWZ-3 sign shall not be reduced for use on two-lane roadways.



3" Radius, 1" Border, Black on Fluorescent orange:
 "WORK", C 2K 60% spacing; "ZONE", C 2K 60% spacing;

3" Radius, 1" Border, Black on White;
 "REDUCED", B 2K; "SPEED", C 2K; "AHEAD", C 2K;



C. Installation/Removal of Work Area Signage

No payment will be made for Traffic Control-Lump Sum until the Work has actually started on the Project. The installation of traffic control signage does not qualify as the start of work. Advanced warning signs shall not be installed until the actual beginning of work activities. Any permanent mount height signs installed as the work is preparing to start shall be covered until all signs are installed unless all signs are installed within seven (≤ 7) calendar days after beginning installation.

All temporary traffic control devices shall be removed as soon as practical when these devices are no longer needed. When work is suspended for short periods of time, temporary traffic control devices that are no longer appropriate, shall be removed or covered.

All construction warning signs shall be removed within seven (≤ 7) calendar days after time charges are stopped or pay items are complete. If traffic control devices are left in place for more than ten (> 10) calendar days after completion of the Work, the Department shall have the right to remove such devices, claim possession thereof, and deduct the cost of such removal from any monies due, or which may become due, the Contractor.

CORRECTIVE LIST WORK: Portable signs shall be utilized to accomplish the completion of all corrective list items, if the corrective list is the only work being performed. The portable signs shall be removed daily. All permanent mount height signs shall be removed prior to the beginning of the corrective list only work, except "Low/Shoulder" signs and any signs that have the prior written approval of the Engineer to remain in place while the corrective list work is in progress.

Failure to promptly remove the construction warning signs within the seven (7) calendar days after the completion of the Work or failure to remove or cover signs when work is suspended for short periods of time shall be considered as non-performance under Subsection 150.7.01.

150.3.05 Shoulder/Lane Closures

A. Approval/Restrictions

All shoulder closures and lane closures of any type or duration shall have the prior approval of the Engineer.

1. Closure Length

The length of a shoulder closure and a lane closure shall not exceed two (2) miles in length excluding the length of the tapers unless the prior approval of the Engineer has been obtained. The Engineer may extend the length of the closure based upon field conditions; however, the length of a work zone should be held to the minimum length required to accomplish the Work. Shoulder closure and Lane Closures shall not be spaced closer than one mile. The advanced warning signs for the Project should not overlap with the advanced warning signs for lane shifts, lane closures, etc.

2. Duration

The first (7) calendar days in an Urban area and the first three (3) calendar days in a Rural area of any lane closure shall be signed and marked as per Georgia Standard 9106 "Traffic Control Detail for Lane Closure on Multi-Lane Divided Highway" or Georgia Standard 9107 "Traffic Control Detail for Lane Closure on Multi-Lane Undivided Highway". However, lane closures that exist for a duration longer than three (> 3) calendar days may be signed and marked as per the details in Georgia Standard 9121 "Tapers, Signs, and Markings for Passing Lanes", provided the prior approval of the Engineer is obtained. The approved lane drop shall utilize a PCMS and only the signs and markings shown for the termination end of the lane drop in Georgia Standard 9121. All warning signs in the lane drop sequence shall be used. Drums may be substituted for the Type I Crystal Delineators at the same spacing.

B. Shoulder Closures

In accordance with MUTCD (6N.06), when paved shoulders, having a width of eight feet ($\geq 8'$) or more are closed, at least one (1) advance warning sign shall be used. The sign(s) should read SHOULDER CLOSED (W21-5a). The signs are only posted on the side with the shoulder closure. Where the downstream end of the shoulder closure extends beyond the distance that can be perceived by road users, a supplementary plaque bearing the message NEXT XX FEET(W16-4P) or MILES (W7-3aP) should be placed below the SHOULDER CLOSED (W21-5a) sign. These signs shall be placed 500 feet prior to the shoulder closure. For multi-shoulder closures, the Shoulder Closed sign shall be repeated after two (2) miles at 500 feet prior to the next shoulder closure.

A shoulder closure will require a shoulder taper of (1/3) L (L=merging taper length). Traffic drums shall be used for the taper. Arrow boards are not required.

If positive barriers are used to close the shoulder, the taper and drums shall be in accordance with Standard 4960, Temporary Barrier (End Treatment Options). The approach end of the barrier taper should be 10:1 or flatter slope.

C. Lane Closure

1. Advance Warning Signs

The Advance Warning signs shall be in accordance with MUTCD and Georgia Standard 9106 "Traffic Control Detail for Lane Closure on Multi-Lane Divided Highway" and Georgia Standard 9107 "Traffic Control Detail for Lane Closure on Multi-Lane Undivided Highway".

When the Temporary Traffic Control zone already has advanced warning (W20-1) signs installed the W20-1 signs required for lane closures under Standard 9106 and 9107 should be eliminated.

For Interstate, Limited Access and Multi-lane Divided Highways, an additional PCMS shall be placed one (1) mile in advance of a lane closure with a message denoting the appropriate lane closure one (1) mile ahead. No other message shall be displayed on this PCMS. The PCMS shall be placed on the outside shoulder in accordance with Detail 150-B [PCMS]. This is in addition to the other traffic control devices required by Standard 9106.

At the discretion of the Engineer, the Contractor may start placing advance warning signs a half-hour (1/2 hr.) prior to the lane closure.

2. Transition Area – Taper

Drums shall be used on all transition tapers. If traffic drums with retroreflectivity of less than type VI are used for a merge taper that exists into the night, all drums located in the taper shall have, for the length of the taper only, a six inch (6”) fluorescent orange (ASTM Type VI, VII, VIII, IX or X) reflectorized top stripe on each drum. The top six inch (6”) stripe may be temporarily attached to the drum while in use in a taper. The Engineer may allow the fluorescent orange reflectorized six inch (6”) top stripe on each drum in a merging taper to remain in place during daylight hours provided there is a lane closure(s) with a continuous operation that begins during one nighttime period and ends during another nighttime period. All drums that have the six inch (6”) top stripe permanently attached shall not be used for any other conditions.

In accordance with [MUTCD \(6B.08\)](#), the minimum length for a merging taper for a lane closure on the travel way shall be as shown in Table 150-1:

TABLE 150-1

Posted Speed Limit, MPH	Lane Width 9 Feet	Lane Width 10 Feet	Lane Width 11 Feet	Lane Width 12 Feet	Maximum Drum Spacing in Tapers, (Feet)
Minimum Taper Length (L) in Feet					
20	60	70	75	80	20
25	95	105	115	125	25
30	135	150	165	180	30
35	185	205	225	245	35
40	240	270	295	320	40
45	405	450	495	540	45
50	450	500	550	600	50
55	495	550	605	660	55
60	540	600	660	720	60
65	585	650	715	780	65
70	630	700	770	840	70
75	675	750	825	900	75

If site conditions require a longer taper, then the taper shall be lengthened to fit particular individual situations.

The length of shifting tapers should be at least one-half (1/2) L.

Multiple Lane Closures:

- a.** A maximum of one (1) lane at a time shall be closed with each merging taper.
- b.** A minimum tangent length of two (≥ 2) L shall be installed between each individual lane closure taper. The tangent length is part of the transition area. Therefore, only traffic drums can be used in the tangent.

3. Activity Area

The activity area consists of a buffer and the work space. Georgia Standard 9106 “Traffic Control Detail for Lane Closure on Multi-Lane Divided Highway” states “Buffer zones of 300’ minimum, 500’ desirable are required for tangent sections and shall be increased for horizontal or vertical curves due to sight distance considerations”

Georgia Standard 9107 “Traffic Control Detail for Lane Closure on Multi-Lane Undivided Highway” requires a fifty feet (50’) buffer. The buffer shall be increased for horizontal or vertical curves due to sight distance considerations”

The channelization devices are spaced at a maximum of eighty feet (80’).

4. Termination Area

Georgia Standard 9106 “Traffic Control Detail for Lane Closure on Multi-Lane Divided Highway” requires a 150 feet buffer and a minimum 200 feet downstream taper.

Georgia Standard 9107 “Traffic Control Detail for Lane Closure on Multi-Lane Undivided Highway” requires 150 feet downstream taper.

D. Removal of Lane Closures

To provide the greatest possible convenience to the public in accordance with [Section 107](#), the Contractor shall remove all signs, lane closure markings, and devices immediately when lane closure work is completed or temporarily suspended for any length of time or as directed by the Engineer. All portable signs and portable sign mounting devices shall be removed from the roadway to an area which will not allow the sign to be visible and will not allow the sign or sign mounting device to be impacted by traffic. All devices shall be stored beyond the clear zone or behind positive protection.

E. Exit and Entrance Ramps

On multi-lane highways, where traffic has been shifted to the inside lanes, the exit and entrance ramps shall have drums placed on both sides of the ramp. This requirement will apply to any situation where traffic is shifted to contra flows or inside staging lanes to facilitate reconstruction work in the vicinity of exit and entrance ramps. The temporary ramp taper length should be greater than, or equal to, the existing taper length. Interim EXIT gore signs shall be placed at the ramp divergence. The “EXIT OPEN” sign shown in Figure TA-42 of the MUTCD shall be utilized. For exit ramps, drums spacing shall be decreased to ten feet (10’) for 200 feet in advance of the temporary gore and be decreased to ten feet (10’) for the first 100 feet of the temporary gore, and throughout the exit ramp. For on-ramps, drums should be used 200 feet prior to the ramp and end 100 feet past the merge taper. The drum spacing for the on ramp may be decreased but should not obstruct the view of the drivers i.e. for the ramp vehicles.

150.3.06 Traffic Pacing Method

A. Pacing of Traffic

With prior approval from the Engineer, traffic may be paced allowing the Contractor up to twenty (20) minutes maximum to work in or above all lanes of traffic for the following purposes:

1. Placing bridge members or other bridge work.
2. Placing overhead sign structures.
3. Other work items requiring interruption of traffic.

The Contractor shall provide a uniformed law enforcement officer with patrol vehicle and blue flashing light for each direction of pacing. The law enforcement officer, Engineer, and flaggers at ramps shall be provided with a radio which will provide continuous contact with the Contractor.

When ready to start the work activity, the law enforcement vehicle will act as a pilot vehicle slowing the traffic, thereby providing a gap in traffic allowing the Contractor to perform the Work. Any on-ramps between the pace and the work area shall be blocked during pacing of traffic, with a flagger properly dressed and equipped with a Stop/Slow paddle. Each ramp should be opened after the law enforcement vehicle has passed.

Pilot vehicles shall travel at a safe pace speed. The Contractor shall provide a vehicle to proceed in front of the law enforcement vehicle and behind the other traffic in order to inform the Contractor's work force when all vehicles have cleared the area.

Traffic should not be permitted to stop during pacing unless approved by the Engineer.

B. Methods of Signing for Traffic Pacing

At a point not less than 1,000 feet in advance of the beginning point of the pace, the Contractor shall place a PCMS sign with the message "TRAFFIC SLOWED AHEAD EXPECT SHORT DELAY".

150.3.07 Flagging Operations

A. Flaggers

Flaggers shall be provided as required to handle traffic, as specified in the Plans or Special Provisions, and as required by the Engineer.

B. Flagger Certification

All flaggers shall meet the requirements of the [MUTCD](#) and shall have received training and a certificate upon completion of the training from one of the following organizations:

National Safety Council
American Traffic Safety Services Association (ATSSA)

On-line classes are not accepted.

Failure to provide certified flaggers as required above shall be reason for the Engineer suspending work involving the flagger(s) until the Contractor provides the certified flagger(s). Flaggers shall have proof of certification and valid identification (photo I.D.) available any time they are performing flagger duties.

C. Flagger Appearance and Equipment

Flaggers shall wear Performance Class 2 or better for daytime activities. Flaggers shall wear Performance Class 3 or better high-visibility clothing for nighttime activities. Flagger stations shall be illuminated at night according to [MUTCD \(6M.08\)](#). They shall use a Stop/Slow paddle meeting the requirements of the [MUTCD \(6D.02\)](#) for controlling traffic. The Stop/Slow paddles shall have a shaft length of seven feet ($\geq 7'$) minimum. The Stop/Slow paddle shall be retroreflectORIZED for both day and night usage. In addition to the Stop/Slow paddle, a flagger may use a flag as an additional device to attract attention. This flag shall meet the minimum requirements of the [MUTCD \(6D.02\)](#). The flag shall, as a minimum, be twenty-four inches ($\geq 24"$) square and red or red/orange in color.

D. Flagger Warning Signs

Signs for flagger traffic control shall be placed in advance of the flagging operation, in accordance with the [MUTCD](#) and [Georgia Standard 9102 "Traffic Control Detail for Lane Closure on Two-Lane Highway"](#). In addition, signs at

regular intervals, warning of the presence of the flagger shall be placed beyond the point where traffic can reasonably be expected to stop under the most severe conditions for that day's work.

E. Pilot Vehicle Requirements

Pilot vehicles should be required during placement of bituminous surface treatment or asphaltic concrete on two-lane roadways unless otherwise specified. Pilot vehicles shall meet the requirements of the [MUTCD \(6E.04\)](#).

F. Automated Flagger Assistance Devices

The Contractor may request, in writing, the use of Automated Flagger Assistance Devices (AFAD). The equipment shall meet the requirements of [MUTCD \(6L.02\)](#). As a part of this request, the Contractor shall also submit an alternate temporary traffic TTC plan in the event of a failure of the AFAD. Any alternate plan that requires the use of flaggers shall include the use of certified flaggers. The Contractor shall obtain the approval of the Engineer before the use of any AFAD will be permitted.

G. Portable Temporary Traffic Control Signals

The Contractor may request, in writing, the substitution of portable temporary traffic control signals for flaggers on two-lane two-way roadways provided the temporary signals meets the requirements of the MUTCD, [Section 647](#), and [subsection 150.2.11](#). As a part of this request, the Contractor shall also submit an alternate TTC plan in the event of a failure of the signals. Any alternate plan that requires the use of flaggers shall include the use of certified flaggers. The Contractor shall obtain the approval of the Engineer before the use of any portable temporary traffic control signals will be permitted.

150.3.08 Traffic Signals

A. Responsibility/Cost

If the sequence of operations, staging, or the TTC plan requires the relocation or shifting of any components of an existing traffic signal system then any work on these traffic signals will be considered as part of Traffic Control – Lump Sum.

B. Law Enforcement Officer Requirement

In accordance with Georgia law § 40-6-20, law enforcement officers shall be used to regulate and maintain traffic control at functioning signalized intersections when lane closures or traffic shifts block or restrict movements causing interference with road user flows and will not allow the activated traffic signal to guide the traffic through the signal site.

150.3.09 Mobile Operations

A mobile operation is defined by a minimum speed of three (3) mph. When pavement markings (centerlines, lane lines, and edge lines) are applied in a continuous operation by moving vehicles and equipment, the following minimum equipment and warning devices shall be required. These devices and equipment are in addition to the minimum requirements of the MUTCD.

All vehicles shall be equipped with the official slow moving vehicle symbol sign. All vehicles shall have a minimum of two (2) flashing or rotating beacons visible in all directions. All protection vehicles shall have an arrow panel mounted on the rear. All vehicles requiring an arrow panel shall have, as a minimum, a Type B panel. All vehicle mounted signs shall be mounted with the bottom of the sign a minimum height of forty-eight inches (48") above the pavement. All sign legends shall be covered or removed from view when work is not in progress.

The lead vehicle may be a separate vehicle or the work vehicle applying the pavement markings may be used as the lead vehicle. The lead vehicle shall have an arrow panel mounted so that the panel is easily visible to oncoming (approaching) traffic. The arrow panel should operate in the caution mode.

The work vehicle(s) applying markings shall have an arrow panel mounted on the rear. The arrow panel should typically operate in the caution mode. The work vehicle placing cones shall follow directly behind the work vehicle applying the markings.

A protection vehicle shall follow the last work vehicle at all times and shall be equipped with a truck mounted attenuator that shall be certified for impacts not less than sixty-two (62) mph in accordance with MASH/NCHRP350 Test Level Three (3).

150.3.10 Pavement Markings

A. General

Full pattern pavement markings in conformance with Chapter 3A and 3B, except 3B.0 3, of the MUTCD are required on all courses before the roadway is opened to traffic, unless noted in this section. No passing zones shall be marked to conform to Subsection 150.3.10.D.1.b. During construction and maintenance activities on all highways open to traffic, both existing markings and markings applied under this Section shall be fully maintained until Final Acceptance. If the pavement markings are, or become, unsatisfactory in the judgment of the Engineer due to wear, weathering, or construction activities, they shall be restored immediately.

Markings on the final surface course, which must be removed, shall be a removable type. The Contractor will be permitted to use paint, thermoplastic, or tape on pavement which is to be overlaid as part of the Project, unless otherwise directed by the Engineer. Partial (skip) reflectorization (i.e. reflectorizing only a portion of a stripe) will not be allowed.

1. Resurfacing Projects

Pavement markings shall be provided on all surfaces that are placed over existing markings. Interim and final markings shall conform in type and location to the markings that existed prior to resurfacing unless changes or additions are noted in the Contract. The replacement of parking spaces will not be required unless a specific item or note has been included in the Contract. Any work to make additions to the markings that existed prior to resurfacing is to be considered as extra work.

2. Widening and Reconstruction Projects

If the lane configuration is altered from the preconstruction layout then pavement markings will be as required by the Plans or the Engineer.

3. New Location Construction Projects

Pavement marking plans will be provided.

B. Installation and Removal of Pavement Markings

1. Installation

All pavement markings, both interim and permanent, shall be applied to a clean surface. The Contractor shall furnish the layout and preline the roadway surface for the placement of pavement markings applied as part of the TTC plan. All interim marking tape and RPM's on the final surface shall be removed prior to the placement of the final markings.

The Contractor shall sequence the Work in such a manner as to allow the installation of markings in the final lane configuration at the earliest possible stage of the Work.

2. Removal

Markings no longer applicable shall be removed in accordance with [Section 656](#).

The elimination of conflicting pavement markings by overpainting with unapproved paint or any type of liquid asphalt is not acceptable.

3. Intermediate Surface

Interim markings shall be removed by methods that will cause minimal damage to the pavement surface, while also ensuring that traveling public will not be confused or misdirected by any residual markings remaining on the intermediate surface. The use of approved black-out tape and black-out paint (manufactured for the sole purpose of covering existing pavement markings) may be permitted on some interim surfaces, provided the results are satisfactory to the Engineer.

4. Final Surface

No interim paint or thermoplastic markings will be permitted on any final surface unless the interim markings are in alignment with the location of the permanent markings and the interim marking will not interfere or adversely affect placement of the permanent markings. The proposed method of removal for layout errors that require markings to be removed from the final surface shall have the prior approval of the Engineer. Any damage to the final pavement surface caused by the pavement marking removal process shall be repaired at the Contractor's expense by methods acceptable and approved by the Engineer. [Section 400](#) shall apply when corrective measures are required. The use of black-out tape or black-out paint will not be permitted under any circumstance to correct layout errors on any final surface.

Traffic shifts that are done on the final surface shall be accomplished using interim traffic marking tape that can be removed without any blemishing of the final surface. Interim traffic marking tape shall be used on any of the following final surfaces: asphaltic concrete, Portland cement concrete, and bridge deck surfaces. The Contractor may propose alternate traffic markings and removal methods on the final surface. Submitted proposals shall include the type of material, method of removal and a cost comparison to the traffic marking tape method. Prior to any approval, the Contractor shall field demonstrate to the satisfaction of the Engineer that the proposed traffic markings can be removed without any blemishing of the final surface. If the proposal is determined to be acceptable, a supplemental agreement will be executed prior to the installation of the proposed alternate traffic markings. The supplemental agreement shall denote the type of traffic marking materials, method of removal and any cost and/or time savings to the Department. The Department will not consider or participate in any cost increase that may result from implementing the proposed alternate method.

5. Pay Factor Reduction for Asphaltic Concrete Final Surfaces

When the correction of an error in the layout of the final pavement markings requires the final surface to be grounded, blemished, scarred, or polished the pay factor shall be reduced to 0.95 for the entire surface area of the final topping that has a blemish, polished or a scarred surface. The reduced pay factor shall not be confined to only the width and length of the stripe or the dimensions of the blemished areas, the whole roadway surface shall have the reduced pay factor applied. The area of the reduced pay factor shall be determined by the total length and the total width of the roadway affected. If the affected area is not corrected, the reduction in pay shall be deducted from the final payment for the topping layer of asphaltic concrete. The Engineer shall make the final determination whether correction or a reduced pay factor is acceptable.

The eradication of pavement markings on intermediate and final concrete surfaces shall be accomplished by a method that does not grind, polish, or blemish the surface of the concrete. The method used for the removal of the interim markings shall not spall chip the joints in the concrete and shall not damage the sealant in the joints. Any joint or sealant repairs shall be included in the bid price for Traffic Control-Lump Sum. The proposed method of removal shall have the prior approval of the Engineer.

Failure to promptly remove conflicting or non-applicable pavement markings shall be considered as non-performance under [Subsection 150.7.01](#).

6. Preparation and Planning for Traffic Shifts

When shifting of traffic necessitates removal of centerline, lane lines, or edge lines, all such lines shall be removed prior to, during, or immediately after any change to present the least interference with traffic. Interim traffic marking tape shall be used as a temporary substitute for the traffic markings being removed.

Before any change in traffic lane(s) alignment, marking removal equipment shall be present on the project for immediate use. If marking removal equipment failures occur, the equipment shall be repaired or replaced (including leasing equipment if necessary), so that the removal can be accomplished without delay.

Except for the final surface, markings on asphaltic concrete may be obliterated by an overlay course, when approved by the Engineer. When an asphaltic concrete overlay is placed for the sole purpose of eliminating conflicting markings and the in place asphaltic concrete section will allow, said overlay will be eligible for payment only if designated in the Plans. Overlays to obliterate lines will be paid for only once and further traffic shifts in the same area shall be accomplished with removable markings. Only the minimum asphaltic concrete thickness required to cover lines will be allowed. Excessive build-up will not be permitted. When an overlay for the sole purpose of eliminating conflicting markings is not allowed, the markings no longer applicable shall be removed in accordance with [Section 656](#).

C. Raised Pavement Markers

Retroreflective raised pavement markers (RPMs) shall be placed as listed below for all asphaltic concrete pavements before the roadway is open to traffic, unless noted this section. On the final surface, RPMs shall be placed according to the timeframes specified in [Subsection 150.3.10.D](#) for full pattern pavement markings. When Portland Cement Concrete is an intermediate or final surface and is open to traffic, one (1) calendar day is allowed for cleaning and drying before the installation of RPMs is required.

Raised pavement markers are not allowed on the right edge lines under any situation.

Retroreflective raised pavement markers (RPMs) shall be placed and/or maintained on intermediate pavements surfaces on all highways that the final ride surface is not completed within 45 calendar days which is open to traffic. This includes all resurfacing projects along with widening and reconstruction projects. The RPMs shall be placed as follows:

1. Supplementing Lane Lines:

- a. Eighty foot (80') center on skip lines with curvature less than three degrees. (Includes tangents)
- b. Forty foot (40') centers on solid lines and all lines with curvature between three degrees and six degrees.
- c. Twenty foot (20') centers on curves over six degrees.
- d. Twenty foot (20') centers on lane transitions or shifts.

2. Supplementing Ramp Gore Lines:

- a. Twenty foot (20') centers, two each, placed side by side.

3. Other Lines:

- a. As shown on the Plans or directed by the Engineer.

D. Exceptions for Interim Markings

Some exceptions to the time of placement and pattern of markings are permitted as noted below; however, full pattern pavement markings are required for the completed project.

1. Two-Lane, Two-Way Roadways

a. Skip Lines

If used, interim temporary tape or paint skip (broken) stripe may only be used for a maximum of three (3) calendar days. The stripes shall be at least two feet (> 2') long with a maximum gap of thirty-eight feet ($\leq 38'$). On curves greater than six degrees (>6°), a one foot (1') stripe with a maximum gap of nineteen feet ($\leq 19'$) shall be used. In lane shift areas, solid lines will be required.

Interim raised pavement markers may be substituted for the interim skip (broken) stripes. If raised pavement markers are substituted for the two foot (2') interim skip stripe, three (3) markers spaced at equal intervals over a two foot (2') distance will be required. No separate payment will be made if the interim raised pavement markers are substituted for interim skip lines.

Interim raised pavement markers shall be retro-reflective, shall be the same color as the pavement markers for which they are substituted, and shall be visible during daytime.

The type of interim marker and method of attachment to the pavement shall be approved by the Office of Materials and Testing but in no case will the markers be attached by the use of nails. Flexible reflective markers, Type 14 or Type 15, may be used for a maximum of three (3) calendar days as an interim marker. Any flexible reflective markers in use shall be from the QPL-76.

The interim raised pavement markers shall be maintained until the full pattern pavement markings are applied. At the time full pattern markings are applied the interim raised markers shall be removed in a manner that will not interfere with application of the full pattern pavement markings.

b. No Passing Zones Two-Lane, Two-Way Roadways

Passing zones shall be re-established in the locations existing prior to resurfacing unless otherwise noted in the Contract. No changes to the location of passing zones shall be done without the written approval of the Engineer. For periods not to exceed three (3) calendar days where interim skip centerlines are in place, no-passing zones shall be identified by using post or portable mounted DO NOT PASS regulatory signs (R4-1) twenty-four inches by thirty inches (24" x 30") at the beginning and at intervals not to exceed one-half ($\leq 1/2$) mile within each no-passing zone. A post or portable mounted PASS WITH CARE regulatory sign (R4-2) twenty-four inches by thirty inches (24" x 30") shall be placed at the end of each no-passing zone. Post mounted signs shall be placed in accordance with the MUTCD. Portable signs shall be secured in such a manner to prevent misalignment and minimize the possibility of being blown over by weather conditions or traffic.

On new location projects and on projects where either horizontal or vertical alignments has been modified; the location of No-Passing Zones will be identified by the Engineer.

c. Edge lines

• Bituminous Surface Treatment Paving

Edge lines will not be required on intermediate surfaces (including asphaltic concrete leveling for bituminous surface treatment paving) that are in use for a period of less than sixty (<60) calendar days except at bridge approaches, on lane transitions, lane shifts, and in such other areas as determined by the Engineer. On the final surface, edge lines shall be placed within thirty (≤ 30) calendar days of the time that the final surface was placed.

• All Other Types of Pavement

Edge lines will not be required on intermediate surfaces that are in use for a period of less than thirty (<30) calendar days except at bridge approaches, on lane transitions, lane shifts, and in such other areas as determined by the Engineer. On the final surface, edge lines shall be placed within fourteen (≤ 14) calendar days of the time that the surface was placed.

2. Multi-Lane Highways – With No Paved Shoulder(s) or Paved Shoulder(s) Four Feet or Less ($\leq 4'$)

a. Undivided Highways (Includes Paved Center Turn Lane)

- Centerlines and No-Passing Barrier-Full Pattern centerlines and no-passing barriers shall be restored before opening to traffic.
- Lane lines- Interim skip (broken) stripe as described in Subsection 150.3.10.D.1.a. may be used for periods not to exceed three (≤ 3) calendar days. Skip lines are not permitted in lane shift areas. Solid lines shall be used.
- Edge lines- Edge lines shall be placed on intermediate and final surfaces within three (3) calendar days of obliteration.

b. Divided Highways (Grass or Raised Median)

- Lane lines- Full pattern skip stripe shall be restored before opening to traffic. Skip lines are not permitted in lane shift areas. Solid lines shall be required.
- Centerline/Edge line- Solid lines shall be placed on intermediate and final surfaces within three calendar days of obliteration.

3. Limited Access Roadways and Roadways with Paved Shoulders Greater Than Four Feet ($> 4'$)

a. Same as Subsection 150.3.10.D.2 except as noted in (b) below.

b. Edge lines-

- Asphaltic Concrete Pavement- Edge lines shall be placed on intermediate and final surfaces prior to opening to traffic.
- Portland Cement Concrete Pavement- Edge lines shall be placed on any surface open to traffic no later than one calendar day after work is completed on a section of roadway. All water and residue shall be removed prior to daily striping.

4. Ramps for Multi-Lane Divided Highways

A minimum of one solid line edge stripe shall be placed on any intermediate surface of a ramp prior to opening the ramp to traffic. The other edge stripe may be omitted for a maximum period of three (3) calendar days on an intermediate surface. Appropriate channelization devices shall be spaced at a maximum of twenty-five feet (25') intervals until the other stripe has been installed.

The final surface shall have both stripes placed prior to opening the ramp to traffic.

5. Miscellaneous Pavement Markings

a. Final Surface

School zones, railroads, symbols, words, arrows, and other similar markings shall be placed on final surfaces conforming to [Section 652](#) within fourteen (14) calendar days of completion of the final surface. Final markings shall conform to the type of pay item in the Plans. When no pay item exists in the Plans the final markings shall conform to [Section 652](#) for painted markings.

b. Intermediate Surface

Intermediate surfaces that will be in use for more than forty-five (45) calendar days shall have the miscellaneous pavement markings installed to conform to the requirement of [Section 652](#). Under Subsection 150.6, Special Conditions, or as directed by the Engineer these markings may be eliminated.

c. Stop Line

All stop signs and traffic signals shall have temporary twelve inch (12") stop lines placed in accordance with [MUTCD \(3B. 19\)](#) on all surfaces prior to opening to traffic. Temporary tape may be used.

150.3.11 Differences in Elevations Between Travel Lanes and Shoulders

All time frames and requirements may be changed with the Engineer's approval.

A. Differences in Elevations

Difference in elevations due to construction between travel lanes and/or shoulders within the clear zone should be limited to the following:

1. Difference of two inches ($\leq 2''$) or less between adjacent travel lanes should remain for a maximum period of fourteen (14) calendar days.
2. Difference of two inches ($\leq 2''$) or less between adjacent travel lane and paved shoulder should remain for a maximum of thirty (30) calendar days. Traffic control devices shall be in accordance with [Detail 150-G](#).
3. Difference of greater than two inches ($> 2''$) is permitted for continuous operations. Traffic control devices shall be in accordance with [Detail 150-E](#).
4. Difference of greater than two inches ($> 2''$) between travel lanes and/or shoulders for non-continuous operations will not be allowed for more than a twenty-four (24) hour period. For the first twenty-four (24) hours, traffic control shall be in accordance with [Detail 150-E](#). After twenty-four (24) hours the section should be healed according to [Detail 150 - H](#). This condition can exist for a maximum sixty (60) calendar days.
 - a. A single length of area that does not exceed 1000 feet total length may be left open as a startup area for periods not to exceed forty-eight (48) hours provided the Contractor can demonstrate the ability to complete the Work in a proficient manner. Prior approval of the Engineer shall be obtained before any startup area may be allowed.
 - b. For cement stabilized base, work adjacent to the travel lane and/or shoulders shall be healed as per [Detail 150-H](#) within forty-eight (48) hours after the seven (7) calendar day curing period is complete for each section placed. During the placement and curing period, traffic control shall be in accordance [Detail 150 E](#).

Failure to meet these requirements shall be considered as non-performance of Work under [Subsection 150.7.01](#).

B. Healed Section

Healed section and traffic control devices should be placed in accordance with Detail 150-H. If crushed stone materials are used to provide a healed section no separate payment will be made for the material used to heal any section. The Contractor may submit a plan to utilize existing pay items for crushed stone provided the plan clearly demonstrates that the materials used to heal an area will be incorporated into the Work with minimal waste. Handling and hauling of any crushed stone used to heal shall be kept to a minimum. The Engineer shall determine if the crushed stone used to heal meets the Specifications for gradation and quality when the material is placed in the final location.

C. Emergency Situations

Inclement weather, traffic accidents, and other events beyond the control of the Contractor may prevent the Work from being completed as required above. The Contractor shall notify the Engineer in writing stating the conditions and reasons that have prevented the Contractor from complying with the time limitations. The Contractor shall also outline a plan detailing immediate steps to complete the Work. Failure to correct these conditions on the first calendar day that conditions will allow corrective work shall be considered as non-performance of Work under Subsection 150.7.01.

D. Plating

Plating for drainage structures, utility facilities, etc. is prohibited on the interstates. Plating on State Routes and secondary roads will require the prior approval of the project Engineer. Steel plates shall not be used on highways with a posted speed greater than forty-five (45) mph. The plate shall completely cover the pavement cut or excavation. The plate shall be adequately secured and shall provide a safe and reasonable transition to the adjoining roadway surface. An asphalt wedge can be used to provide a smooth transition over the plate(s). Temporary traffic control warning signs W8-24 shall be posted in advance warning motorist about plates in roadway in accordance with the MUTCD. Plating should not remain in place for more than four (4) calendar days.

E. Asphaltic Concrete Resurfacing Projects

1. Shoulder Construction Included as a Part of the Contract

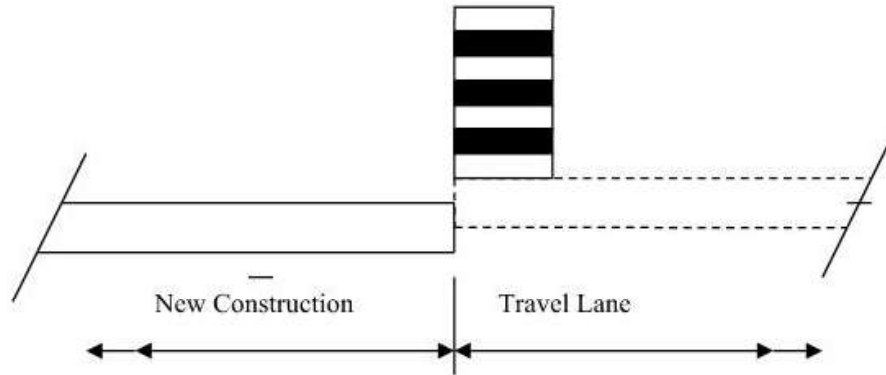
When the placement of asphaltic concrete materials creates a difference in elevation greater than two inches (> 2") between the earth shoulder (grassed or un-grassed) and the edge of travel lane or between the earth shoulder and a paved shoulder that is less than four feet (< 4') in width, the Contractor shall place and maintain drums in accordance with the requirements of Subsection 150.2.04.B.3. When the edge of the paved surface is tapered with a safety edge, drums may be spaced at two (2) times the speed limit in MPH. Drums shall remain in place and be maintained until the difference in elevation has been eliminated by the placement of the appropriate shoulder materials.

2. Shoulder Construction Not Included as a Part of the Contract

When the placement of asphaltic concrete materials creates a difference in elevation greater than two inches (> 2") between the earth shoulder (grassed or un-grassed) and the edge of travel lane or between the earth shoulder and a paved shoulder that is less than four feet (< 4') in width, the Contractor shall notify the Engineer, in writing, when the resurfacing work including all corrective list items has been completed.

Drums spaced at twenty foot (20') intervals. **Note:** If the travel way width is reduced to less than ten feet (< 10') by the use of drums, vertical panels shall be used in lieu of drums.

Location of drums when Elevation Difference exceeds four inches (> 4")

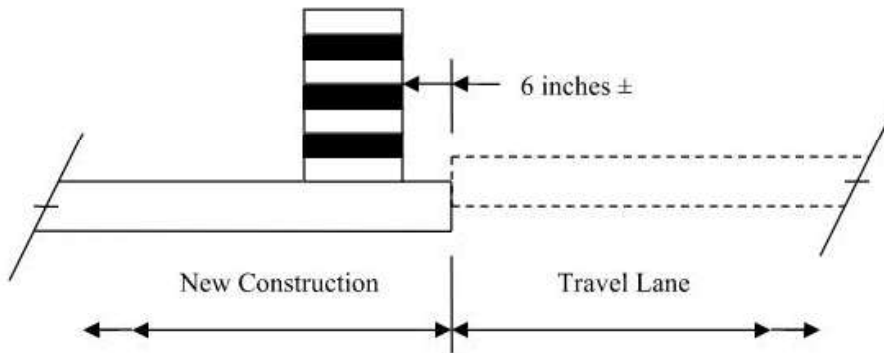


ELEVATION DIFFERENCE GREATER THAN FOUR INCHES (> 4")

DETAIL 150-E

Drums spaced at forty foot (40') intervals.

Location of drums when Elevation Difference is greater than two inches (> 2") to four inches (4")

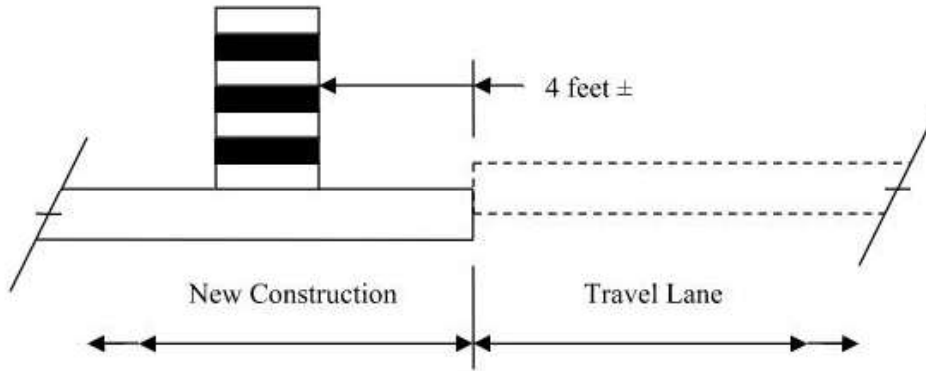


ELEVATION DIFFERENCE GREATER THAN TWO INCHES (> 2") TO FOUR INCHES (4")

DETAIL 150-F

Drums spaced at eighty foot (80') intervals.

Location of drums when Elevation Difference is two inches ($\leq 2''$) or less.



ELEVATION DIFFERENCE OF TWO INCHES ($\leq 2''$) OR LESS

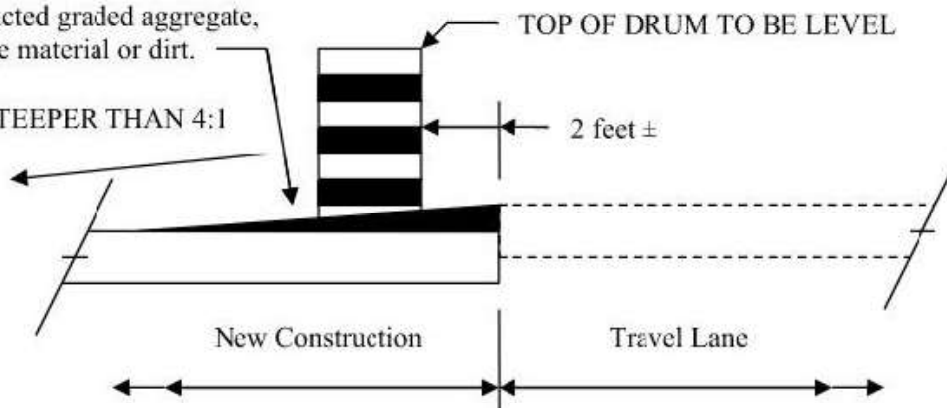
DETAIL 150-G

Location of drums immediately after completion of healed sections spaced at 40 foot (40') intervals

Healed Section

Compacted graded aggregate, subbase material or dirt.

NO STEEPER THAN 4:1



HEALED SECTION

DETAIL 150-H

150.3.12 Work Zone Law Enforcement

Work zone law enforcement consists of utilizing a uniformed law enforcement officer equipped with patrol vehicle and blue flashing lights to enforce traffic laws in construction work zones and the administration of this service. Payment for work zone law enforcement will be made only for the utilization in work zones during lane closures, traffic pacing, or other activities that occur within travel lanes. The Contractor will be responsible for negotiating a rate of reimbursement and making reimbursement to that law enforcement agency.

The Contractor will be responsible for coordinating and scheduling the utilization of the work zone law enforcement. The Engineer may require the use of work zone law enforcement at specific times and locations.

Work zone law enforcement will be required in all work zones during lane closures, traffic pacing, or other activities that occur within travel lanes on the interstate.

150.4 Measurement

150.4.01 Traffic Control Items

A. Traffic Control

When listed as a pay item in the Proposal, payment will be made at the lump sum price bid, which will include all traffic control not paid for separately, and will be paid as follows:

When the first Construction Report is submitted, a payment of twenty-five percent (25%) of the lump sum price will be made. For each progress payment thereafter, the total of the Project percent complete shown on the last pay statement plus twenty-five percent (25%) will be paid (less previous payments), not to exceed one hundred percent (100%).

When no payment item for Traffic Control-Lump Sum is shown in the Proposal, all of the requirements of Section 150 and the Temporary Traffic Control Plan shall be in full force and effect. The cost of complying with these requirements will not be paid for separately but shall be included in the overall bid submittal.

B. Changeable Message Sign, Portable

Portable changeable message sign will be measured as specified in [Section 632](#).

C. Flashing Beacon Assembly

Flashing beacon assemblies will be measured as specified in [Section 647](#).

D. Pavement Markings

Pavement markings will be measured as specified in Section 150.

E. Portable Impact Attenuators

Each portable impact attenuator will be measured by the unit/array which shall include all material components, hardware, incidentals, labor, site preparation, and maintenance, including spare parts recommended by the manufacturer for repairing accident damage. Each unit will be measured only once regardless of the number of locations installed, moves required, or number of repairs necessary because of traffic damage. Upon completion of the project, the units shall be removed and retained by the Contractor.

F. Signs

When shown as a pay item in the Contract, interim special guide signs will be paid for as listed below. All other regulatory, warning, and guide signs, as required by the Contract, will be paid for under Traffic Control Lump Sum or included in the overall bid submitted.

1. Interim ground mounted or interim overhead special guide signs will be measured for payment by the square foot. This payment shall be full compensation for furnishing the signs, including supports as required, erecting, illuminating overhead signs, maintaining, removing, re-erecting, and final removal from the Project. Payment will be made only one time regardless of the number of moves required.
2. Remove and reset existing special guide signs, ground mount or overhead, complete, in place, will be measured for payment per each. Payment will be made only one time regardless of the number of moves required.
3. Modify special guide signs, ground mount or overhead, will be measured for payment by the square foot. The area measured shall include only that portion of the sign modified. Payment shall include materials, removal from posts or supports when necessary, and remounting as required.

G. Temporary Audible Information Device

Temporary audible information devices are measured as the actual number furnished and installed in accordance with the manufacturer's recommendations, which shall include all necessary materials, equipment, labor, site preparation, maintenance, and removal. Each temporary audible information device will be paid for only one time regardless of the number of times it's reused during the duration of the Work. These devices shall remain the property of the Contractor.

H. Temporary Barrier

Temporary barrier shall be measured as specified in [Sections 620](#).

I. Temporary Curb Cut Wheelchair Ramps

Temporary curb cut wheelchair ramps are measured as the actual number formed and poured, complete and accepted, which shall include all necessary materials, equipment, labor, site preparation, maintenance, and removal. No additional payment will be made for sawing existing sidewalk and removal and disposal of removed material for temporary wheelchair ramp construction. No additional payment will be made for constructing the detectable warning surface.

J. Temporary Guardrail Anchorage, Type 12

Temporary guardrail anchorage- Type 12 will be measured by each assembly, complete in place and accepted according to the details shown in the Plans, which shall also include the additional guardrail and appurtenances necessary for transition and connection to temporary concrete barrier. Payment shall include all necessary materials, equipment, labor, site preparation, maintenance, and removal.

K. Temporary Walkways with Detectable Edging

Temporary walkways with detectable edging will be measured in linear feet (meters), complete in place and accepted, which shall include all necessary materials, equipment, labor, site preparation, temporary pipes, passing spaces, maintenance, and removal. Excavation and backfill are not measured separately for payment. No payment will be made for temporary walkways where existing pavements or existing edging (that meets the requirements of MUTCD) are utilized for the temporary walkway. Payment for temporary detectable edging, including approved barriers and channelizing devices, installed on existing pavement shall be included in Traffic Control-Lump Sum.

L. Traffic Signal Installation- Temporary

Temporary traffic signal installation will be measured as specified in [Section 647](#).

M. Work Zone Law Enforcement

When work zone law enforcement is shown as a pay item, work zone law enforcement will be measured for payment by the hour. The Contractor shall provide a daily work record containing the actual number of hours charged by the law enforcement officer. The daily work record shall be compiled on a form provided by the Department, signed by the law enforcement officer, signed by the Contractor's Worksite Traffic Control Supervisor attesting that the law enforcement was utilized during the time recorded, and then submitted to the Engineer.

Work zone law enforcement will be measured for payment by the hour up to the maximum number of hours included in the Contract. The Engineer may at their discretion increase the maximum number of hours.

Payment shall be full compensation for reimbursing the law enforcement agency and for all cost incurred by the Contractor in coordinating, scheduling, and administering the item work zone law enforcement.

If no work zone law enforcement pay item is included in the Contract, then all work zone law enforcement cost shall be included in Traffic Control – Lump Sum.

150.5 Reserved

150.6 Special Conditions

Special Conditions, if used, will be included elsewhere in the Contract.

150.7 Payment

When shown in the Schedule of Items in the Proposal, the following items will be paid for separately. Payment will be made under:

Item No. 150	Traffic control -	Lump Sum
Item No. 150	Traffic control, solid traffic stripe __ inch, (color)	Per linear mile
Item No. 150	Traffic control, skip traffic stripe __ Inch, (color)	Per linear mile
Item No. 150	Traffic control, solid traffic stripe, thermoplastic 24 inch, color	Per linear mile
Item No. 150	Traffic control, raised pavement markers –all types	Per each
Item No. 150	Remove and reset, existing special guide signs, overhead, complete-in-place	Per each
Item No. 150	Temporary walkways with detectable edging	Per linear foot
Item No. 150	Temporary curb cut wheelchair ramps	Per each
Item No. 150	Temporary audible information device	Per each
Item No. 150	Work Zone Law Enforcement	Per hour

150.7.01 Enforcement and Adjustments

The safe passage of pedestrians and traffic through and around the temporary traffic control zone, while minimizing confusion and disruption to traffic flow, shall have priority over all other Contractor activities. Continued failure of the Contractor to comply with the requirements of Section 150 - Traffic Control will result in non-refundable deductions of monies from the Contract as shown in this Subsection for non-performance of Work.

Failure of the Contractor to comply with this Specification shall be reason for the Engineer suspending all other work on the Project except erosion control and traffic control, taking corrective action as specified in [Section 105](#), and/or withholding payment of monies due to the Contractor for any work on the Project until traffic control deficiencies are corrected. These other actions shall be in addition to the deductions for non-performance of traffic control.

SCHEDULE OF DEDUCTIONS FOR EACH CALENDAR DAY OF DEFICIENCIES OF TRAFFIC CONTROL INSTALLATION AND/OR MAINTENANCE		
ORIGINAL TOTAL CONTRACT AMOUNT		
From More Than	To and Including	Daily Charge
\$0	\$100,000	\$250
\$100,000	\$1,000,000	\$650
\$1,000,000	\$5,000,000	\$1,300
\$5,000,000	\$20,000,000	\$2,000
\$20,000,000	\$40,000,000	\$2,600
\$40,000,000	\$-----	\$4,000

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

SPECIAL PROVISION

Section 150—Traffic Control

Delete Subsection 150.5 and add the following:

150.5 Statewide or National Elections

A. Lane Closures

In conformance with Executive Order 14019, Access to Voting, issued on March 7, 2021, no lane closures or activities that inhibit pedestrian travel shall be allowed within one (1) mile of any polling place between the hours of 6:00 AM and 7:00 PM during statewide or national elections.

Failure to adhere to the above restrictions specified will result in the assessment of non-refundable deductions as specified in Special Provision 150.7.01.

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
SPECIAL PROVISION**

**P. I. NO. 0006934
Rockdale County**

Section 150—Traffic Control

Retain section 150 as written and add the following:

SECTION 150.6 SPECIAL CONDITIONS:

A. Lane Closures

1. Courtesy Parkway Extension, Dogwood Drive, and Old Covington Highway:
 - a. The contractor shall not install lane closures, perform flagging, or move equipment or materials on the travel way that interferes with traffic flow between the hours of 6:00 am to 9:00 am and 3:00 pm to 6:00 pm Monday through Friday.
 - b. Equipment or material moved on or across the travel way at other times shall be done in a manner as to not interfere with traffic.
2. Flat Shoals Road:
 - a. The contractor shall not install lane closures, perform flagging, or move equipment or materials on the travel way that interferes with traffic flow between the hours of 6:00 am to 9:00 am and 2:00 pm to 6:00 pm Monday through Friday.
 - b. Equipment or material moved on or across the travel way at other times shall be done in a manner as to not interfere with traffic.
3. Iris Drive SE:
 - a. The contractor shall not install lane closures, perform flagging or move equipment or materials on the travel way that interferes with traffic flow between the hours of 6:00 am to 9:00 am and 3:00 pm to 6:00 pm Monday through Friday and 7:00 am to 12:00 pm on Sunday.
 - b. Equipment or material moved on or across the travel way at other times shall be done in a manner as to not interfere with traffic.
4. I-20 (six lane divided roadway separated by concrete median barrier):
 - a. Closure of the existing inside shoulders in each direction is permitted to reconstruct the concrete median barrier for placement of proposed Overhead Structural Support Type 1 and removal of existing Overhead Structural Support Type 1.
 - b. Single inside lane closure in each direction is allowed between the hours of 9:00 pm Friday through 5:00 am Monday.
 - c. Double lane closures in each direction are not allowed at any time.
5. Pacing of I-20 traffic to place proposed Courtesy Parkway Extension bridge beams is restricted to the hours of 9:00 pm to 5:00 am Monday through Sunday.

B. Holiday Restrictions:

1. There will be no daytime lane closures nor daytime pace on I-20, Flat Shoals Road, and Courtesy Pkwy, respectively, allowed between the Tuesday before Thanksgiving until January 2nd on a yearly basis. It is the responsibility of the Contractor to verify the schedule and plan The Work accordingly.

C. Masters Golf Tournament

1. The Contractor shall not install lane closures, road closures, flagging operations, pace traffic, move equipment or materials or any other activity on I-20 starting the Saturday prior to the week of the Masters Golf Tournament and ending the Monday after the week of the Masters Tournament of each year. It is the responsibility of the Contractor to verify the schedule and plan Work accordingly.

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

SPECIAL PROVISION

PROJECT: CSSTP-0006-00(934), Rockdale County

PI No. 0006934

BRIDGE # 1

Section 154 — Construction Vibration Monitoring

Add the following:

154.1 General Description

This Work consists of performing preconstruction crack surveys, seismograph and other monitoring of construction vibrations, and post construction crack surveys of the buildings located on Parcels 7 adjacent to the proposed project construction on Dogwood Drive by procuring the services of a prequalified subcontractor specializing in this work.

154.1.01 Definitions

General Provisions 101 through 150.

154.1.02 Related References

A. Standard Specifications

General Provisions 101 through 150.

B. Referenced Documents

General Provisions 101 through 150.

154.1.03 Submittals

A. Prequalification of Subcontractor

Submit the following documentation for the Engineer's review and approval a minimum of thirty days prior to beginning construction activities on the project:

Evidence of the subcontractor's successful completion of at least five projects similar in concept and scope to the proposed crack survey and vibration monitoring. Include names, addresses and telephone numbers of the owners' representatives for verification.

Résumés of employees performing this work. Provide evidence showing each employee possesses experience and knowledge similar in concept and scope of this work for performing crack surveys and installing and reading seismographs. Provide evidence that the reports will be reviewed and signed by a Georgia Licensed Professional Engineer or Georgia Licensed Professional Geologist. The Department will be sole judge of determining if employees are qualified to perform the work on this project.

A detailed survey plan, monitoring plan, and sequence of work that describes all materials, methods and equipment to be used to complete the crack survey and vibration monitoring.

B. Construction Monitoring

Submit the following documentation during construction monitoring:

Preconstruction Crack Survey Report documenting existing conditions of buildings prior to construction activities in accordance with subsection 154.3.03.B.

Monthly Seismograph Data and Data Summary Report and Activity Log of all construction activities within 500 feet (152 meters) of the seismograph in accordance with subsection 154.3.03.A.1.

Reports of building conditions regarding cracks or any other damage potentially caused by construction activities as complaints are received in accordance with subsection 154.3.03.C.

C. Post Construction

Submit a Post Construction Crack Survey Report in accordance with subsection 154.3.03.D documenting post construction condition of cracks or damage identified in the pre-construction survey and cracks or any other damage potentially caused by construction activities.

154.2 Materials

General Provision 101 through 150.

154.3 Construction Requirements

154.3.01 Personnel

Ensure all employees performing this work have been approved by the Engineer in accordance with subsection 154.1.03.A.

154.3.02 Equipment

A. Seismograph

Use a seismograph(s) that is weather proof and capable of continuously recording particle velocity in three perpendicular components with a flat response of 2-250 HZ over a range of at least 0.01 to 5.0 inches per second (0.254 to 127 mm per second). Provide a seismograph(s) that employs an internal dynamic calibration during each recording sequence and that has been shake table tested within the previous 24 months verifying an accuracy of +/- 5% over the frequency range of 4 to 125 Hertz. Provide a recorder/ software system that is capable of digitally storing and reproducing vibration levels in tabular or histogram (bar graph) form at no greater than six minute intervals.

154.3.03 Construction

Obtain Engineer's written approval of the Prequalification documents submitted in accordance with Subsection 154.1.03.A prior to beginning this work.

Perform the preconstruction crack survey prior to starting construction activities on the project.

Install and begin seismograph monitoring prior to starting excavation, shoring and backfilling construction activities on the project.

Maintain seismograph until excavation, shoring and backfilling, compaction of subgrade, base and pavement construction activities on the project are complete.

A. Seismograph Installation and Monitoring

Monitor vibrations at building(s) using seismograph(s) when construction activities including, but not limited to, excavation, shoring installation, backfilling, and compaction of subgrade, base and pavement are within 75 feet (23 meters) of the building(s), or otherwise have the potential to result in vibrations that may cause damage or complaints. Relocate seismograph(s) as needed. Protect the seismograph from weather and vandalism. Replace missing or damaged equipment at no cost to the Department. Document the following information at the time that the seismograph is installed:

Date and time of installation

Coordinates of installed instrument or Station and offset
Method of transducer attachment
Name and affiliation of the person installing the instrument

1. Monthly Seismograph Data and Data Summary Report and Activity Log:

Compile a Monthly Seismograph Data and Data Summary Report containing the data from the seismograph and a summarization of the data showing time and magnitude of the maximum vibration that has occurred each day.

Maintain an activity log of all construction activities within 500 feet (152 meters) of the seismograph
Include the following data in each log:

Location of construction activity

Type of construction activity

Types and number of construction equipment being used, including model, manufacture and weight.

Date and times construction equipment was used.

Submit Monthly Seismograph Data Summary Report and Activity Log to the Engineer on a monthly basis.

B. Preconstruction Crack Survey

Complete a preconstruction crack survey on the outside and inside of all buildings located on Parcels 7
Document building conditions by taking photographs and detailed notes citing location, length and width of cracks. Compile documentation into a Preconstruction Crack Survey Report and submit to the Engineer.

C. Building Monitoring

Monitor buildings during construction for any new cracks and or elongation or widening of existing cracks.
Provide a report of building conditions to the Engineer regarding cracks or any other damage potentially caused by construction activities as complaints are received.

D. Post Construction Crack Survey

Complete a post construction crack survey on the outside and inside of all buildings located on Parcels: #.
Document building conditions by taking photographs and detailed notes citing condition of cracks or damage identified in the pre-construction survey; also, location, length and width of cracks or any other damage potentially caused by construction activities.

154.4 Measurement

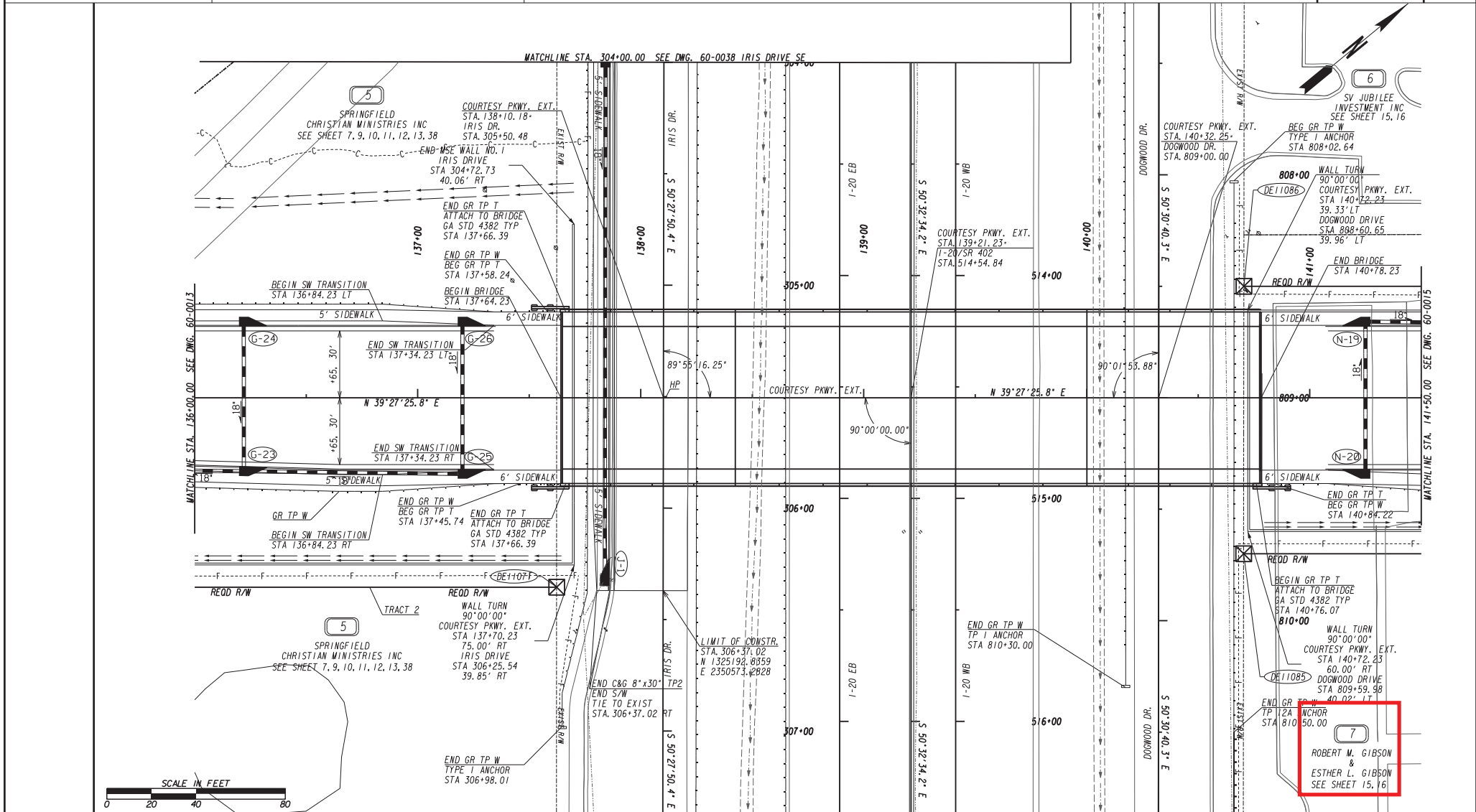
The Work under this Contract Item is not measured separately for payment.

154.5 Payment

This Contract Item completed and accepted will be paid for at the Lump Sum Price bid. Payment will be full compensation for furnishing and installing the seismograph(s), for monitoring and reporting vibration data recorded on the seismograph(s), and completing crack survey and documenting building conditions and providing copies of all data to the Engineer in accordance with this specification. Seismographs and all other measuring equipment and devices will remain property of the Contractor.

Payment will be made under:

Item No. 154	Construction Vibration Monitoring	Per Lump Sum
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PROPERTY AND EXISTING R/W LINE	-----E-----
REQUIRED R/W LINE	-----F-----
CONSTRUCTION LIMITS	-----C-----
EASEMENT FOR CONSTR	-----H-----
& MAINTENANCE OF SLOPES	-----S-----
EASEMENT FOR CONSTR OF SLOPES	-----O-----
EASEMENT FOR CONSTR OF DRIVES	-----X-----

BEGIN LIMIT OF ACCESS.....BLA	-----B-----
END LIMIT OF ACCESS.....ELA	-----E-----
EXISTING LIMIT OF ACCESS	-----O-----
REQ'D LIMIT OF ACCESS	-----R-----
EXISTING LIMIT OF ACCESS & R/W	-----H-----
REQ'D LIMIT OF ACCESS & R/W	-----S-----
ORANGE BARRIER FENCE	-----O-----
ESA - ENV. SENSITIVE AREA	-----S-----

DATE	REVISIONS	DATE	REVISIONS

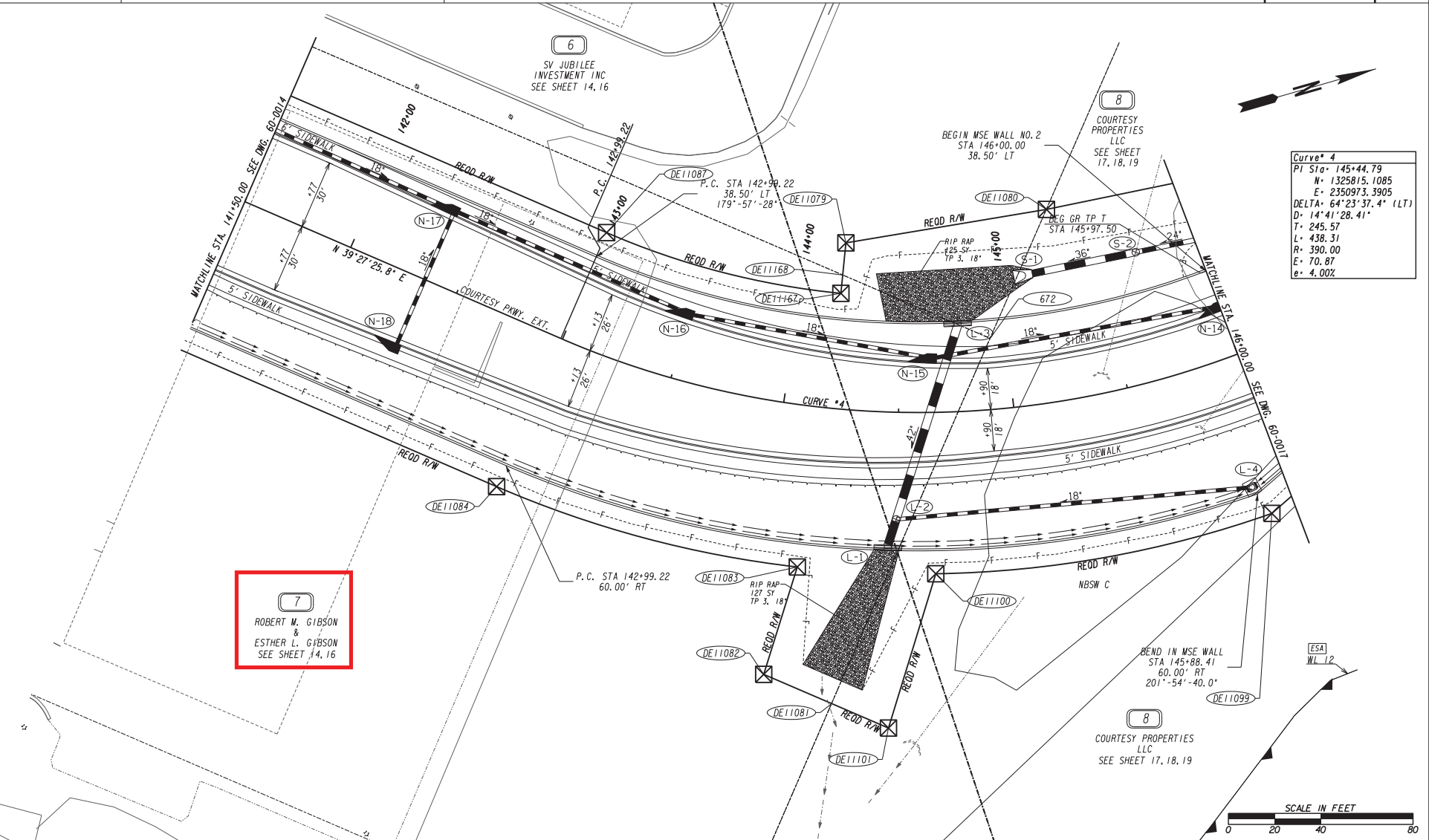
DATE	REVISIONS	DATE	REVISIONS

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

RIGHT OF WAY MAP

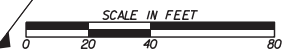
PROJECT NO.: CSSTP-0006-00(934)
COUNTY: ROCKDALE
LAND LOT NO: 246
LAND DISTRICT: 10TH
GWD 476
DATE 6/18/21 SH 14 OF 45

DRAWING NO.
60-0014



Curve* 4
 PI Sta= 145+44.79
 N= 1325815.1085
 E= 2350973.3905
 DELTA= 64°23'37.4" (LT)
 D= 14'41'28.41"
 T= 245.57
 L= 438.31
 R= 390.00
 E= 70.87
 e= 4.00%

7
 ROBERT M. GIBSON
 &
 ESTHER L. GIBSON
 SEE SHEET 14, 16



PROPERTY AND EXISTING R/W LINE	---
REQUIRED R/W LINE	---
CONSTRUCTION LIMITS	---
EASEMENT FOR CONSTR	---
& MAINTENANCE OF SLOPES	---
EASEMENT FOR CONSTR OF SLOPES	---
EASEMENT FOR CONSTR OF DRIVES	---

BEGIN LIMIT OF ACCESS.....BLA	---
END LIMIT OF ACCESS.....ELA	---
EXISTING LIMIT OF ACCESS	---
REQ'D LIMIT OF ACCESS	---
EXISTING LIMIT OF ACCESS & R/W	---
REQ'D LIMIT OF ACCESS & R/W	---
ORANGE BARRIER FENCE	---
ESA - ENV. SENSITIVE AREA	---

DATE	REVISIONS	DATE	REVISIONS

DATE	REVISIONS	DATE	REVISIONS

STATE OF GEORGIA
 DEPARTMENT OF TRANSPORTATION
RIGHT OF WAY MAP
 PROJECT NO.: CSSTP-0006-00(934)
 COUNTY: ROCKDALE
 LAND LOT NO: 246, 323
 LAND DISTRICT: 10TH, 16TH
 GMD 476
 DATE 6/18/21 SH 15 OF 45

DRAWING NO.
60-0015

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

SPECIAL PROVISION

**PROJECT: Courtesy Pkwy Extension
From Flat Shoals Rd to Old Covington Hwy
PI No. 0006934, Rockdale County**

WALLS # 1 and 2

Section 154 — Construction Vibration Monitoring

Add the following:

154.1 General Description

This Work consists of performing preconstruction crack surveys, seismograph and other monitoring of construction vibrations, and post construction crack surveys of the buildings located on Parcels 6 & 7 adjacent to the proposed project construction on Courtesy Pkwy Extension, Rockdale County by procuring the services of a prequalified subcontractor specializing in this work.

154.1.01 Definitions

General Provisions 101 through 150.

154.1.02 Related References

A. Standard Specifications

General Provisions 101 through 150.

B. Referenced Documents

General Provisions 101 through 150.

154.1.03 Submittals

A. Prequalification of Subcontractor

Submit the following documentation for the Engineer's review and approval a minimum of thirty days prior to beginning construction activities on the project:

Evidence of the subcontractor's successful completion of at least five projects similar in concept and scope to the proposed crack survey and vibration monitoring. Include names, addresses and telephone numbers of the owners' representatives for verification.

Résumés of employees performing this work. Provide evidence showing each employee possesses experience and knowledge similar in concept and scope of this work for performing crack surveys and installing and reading seismographs. Provide evidence that the reports will be reviewed and signed by a Georgia Licensed Professional Engineer or Georgia Licensed Professional Geologist. The Department will be sole judge of determining if employees are qualified to perform the work on this project.

A detailed survey plan, monitoring plan, and sequence of work that describes all materials, methods and equipment to be used to complete the crack survey and vibration monitoring.

B. Construction Monitoring

Submit the following documentation during construction monitoring:

Preconstruction Crack Survey Report documenting existing conditions of buildings prior to construction activities in accordance with subsection 154.3.03.B.

Monthly Seismograph Data and Data Summary Report and Activity Log of all construction activities within 500 feet (152 meters) of the seismograph in accordance with subsection 154.3.03.A.1.

Reports of building conditions regarding cracks or any other damage potentially caused by construction activities as complaints are received in accordance with subsection 154.3.03.C.

C. Post Construction

Submit a Post Construction Crack Survey Report in accordance with subsection 154.3.03.D documenting post construction condition of cracks or damage identified in the pre-construction survey and cracks or any other damage potentially caused by construction activities.

154.2 Materials

General Provision 101 through 150.

154.3 Construction Requirements

154.3.01 Personnel

Ensure all employees performing this work have been approved by the Engineer in accordance with subsection 154.1.03.A.

154.3.02 Equipment

Seismograph

Use a seismograph(s) that is weather proof and capable of continuously recording particle velocity in three perpendicular components with a flat response of 2-250 HZ over a range of at least 0.01 to 5.0 inches per second (0.254 to 127 mm per second). Provide a seismograph(s) that employs an internal dynamic calibration during each recording sequence and that has been shake table tested within the previous 24 months verifying an accuracy of +/- 5% over the frequency range of 4 to 125 Hertz. Provide a recorder/ software system that is capable of digitally storing and reproducing vibration levels in tabular or histogram (bar graph) form at no greater than six minute intervals.

154.3.03 Construction

Obtain Engineer's written approval of the Prequalification documents submitted in accordance with Subsection 154.1.03.A prior to beginning this work.

Perform the preconstruction crack survey prior to starting construction activities on the project.

Install and begin seismograph monitoring prior to starting construction activities on the project.

Maintain seismograph and crack monitoring until excavation, shoring and backfilling, compaction of subgrade, base and pavement construction activities on the project are complete.

A. Seismograph Installation and Monitoring

Monitor vibrations at building(s) using seismograph(s) when construction activities including, but not limited to, excavation, shoring installation, backfilling, and compaction of subgrade, base and pavement are within 75 feet (23 meters) of the building(s), or otherwise have the potential to result in vibrations that may cause damage or complaints. Relocate seismograph(s) as needed. Protect the seismograph from weather and vandalism. Replace missing or damaged equipment at no cost to the Department. Document the following information at the time that the seismograph is installed:

Date and time of installation

Coordinates of installed instrument or Station and offset

Method of transducer attachment

Name and affiliation of the person installing the instrument

Monthly Seismograph Data and Data Summary Report and Activity Log:

Compile a Monthly Seismograph Data and Data Summary Report containing the data from the seismograph and a summarization of the data showing time and magnitude of the maximum vibration that has occurred each day.

Maintain an activity log of all construction activities within 500 feet (152 meters) of the seismograph

Include the following data in each log:

Location of construction activity

Type of construction activity

Types and number of construction equipment being used, including model, manufacture and weight.

Date and times construction equipment was used.

Submit Monthly Seismograph Data Summary Report and Activity Log to the Engineer on a monthly basis.

B. Preconstruction Crack Survey

Complete a preconstruction crack survey on the outside and inside of all buildings located on Parcels 6 & 7. Document building conditions by taking photographs and detailed notes citing location, length and width of cracks. Compile documentation into a Preconstruction Crack Survey Report and submit to the Engineer.

C. Building Monitoring

Monitor buildings during construction for any new cracks and or elongation or widening of existing cracks. Provide a report of building conditions to the Engineer regarding cracks or any other damage potentially caused by construction activities as complaints are received.

D. Post Construction Crack Survey

Complete a post construction crack survey on the outside and inside of all buildings located on Parcels 6 & 7. Document building conditions by taking photographs and detailed notes citing condition of cracks or damage identified in the pre-construction survey; also, location, length and width of cracks or any other damage potentially caused by construction activities.

154.4 Measurement

The Work under this Contract Item is not measured separately for payment.

154.5 Payment

This Contract Item completed and accepted will be paid for at the Lump Sum Price bid. Payment will be full compensation for furnishing and installing the seismograph(s) for monitoring and reporting vibration data recorded on the seismograph(s) and completing crack survey and documenting building conditions and providing copies of all data to the Engineer in accordance with this specification. Seismographs and all other measuring equipment and devices will remain property of the Contractor.

Payment will be made under:

Item No. 154	Construction Vibration Monitoring	Per Lump Sum
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**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

**SPECIAL PROVISION
P.I. No. 0006934
Rockdale County**

**Section 165—Maintenance of Temporary Erosion and
Sedimentation Control Devices**

Delete the opening text of Subsection 165.3.05 and replace with the following and retain lettered subsections:

As a minimum, clean sediment from all temporary erosion control devices (except temporary sediment basins) installed on the project when:

- One-third the capacity by volume, as measured by depth, has been reached when the erosion control device is within 200 feet of Perennial Stream (PS) 2/Snapping Shoals Creek, PS 2A and PS 9 (see Environmental Resource Impact Table [ERIT] for station numbers) for added protection of ecological resources (see Special Provision 107.23H); or
- One-half the capacity by volume, as measured by depth, has been reached otherwise for all other erosion control devices (except temporary sediment basins).

Clean sediment from all temporary sediment basins installed on a project when one-third the capacity of the storage volume has been filled.

Handle excavated sediment from any erosion or sediment control device in one of the following ways:

- Remove sediment from the immediate area and immediately stabilize it to prevent the material from refilling any erosion or sediment control device.
- Place and mix it in the roadway embankment or waste it in an area approved by the Engineer.

Repair or replace at no cost to the Department any erosion or sediment control device that is not functioning properly or is damaged due to negligence or abuse.

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

SPECIAL PROVISION

**PROJECT NO. CSSTP-0006-00(934), Rockdale County
P.I. NO. 0006934**

SECTION 205 – ROADWAY EXCAVATION

Add the following to Sub-section 205.3.05.E:

The soils that will be excavated from the following cut sections are primarily Class IIC2 soils with poor load carrying characteristics. Do not place these soils within 3 feet (915 mm) of the subgrade directly beneath the pavement in fill sections. These soils may be placed in the bottom of high fill sections or used to flatten slopes as directed by the Engineer:

Station to Station

117+00± to 123+50± (Courtesy Pkwy)

Location

Left & Right

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

SPECIAL PROVISION

**PI 0006934
Rockdale County**

Section 300—General Specifications for Base and Subbase Courses

Delete Subsection 300.3.02.H and substitute the following:

H. Fine Grading Equipment

An approved fine grading machine is required for finishing the base and subbase material supporting Portland cement concrete pavement or hot mix asphaltic concrete pavement. Ensure fine grader:

- Is self-propelled and track driven.
- Is capable of trimming and finishing the base and subbase to the specified tolerances utilizing a rotating cutter head in front of a strike-off screed.
- Spans at least one lane width and is controlled automatically by direct contact with a string line or a combination of string line and existing pavement as appropriate.
- Is capable of trimming and finishing base and subbase to the specified tolerances.

Furnish, place, and maintain the necessary string lines to provide continuous line and grade reference to the fine grader control system. GPS controlled equipment can be used in lieu of string lines.

For Graded Aggregate Base construction, a motor grader equipped with GPS controlled equipment can be used as an option for fine grading.

GPS controlled Equipment will include but is not limited to:

1. Ability to read electronic files containing Department supplied data used to design the project.
2. Fixed or movable base station setup on the project to serve as a point of reference for the project. As the project progresses, the movable base station shall be moved for proper system function. If the base station is at a fixed location, radio repeaters will be utilized to ensure the signals from the base station are received throughout the project.
3. A GPS sensor mounted atop a mast affixed to the cutting blade. The masts will be arranged in a dual mast setup with a mast on each end of the blade attachment or in a lone mast setup. The sensor will be able to receive signals from the base station and/or a laser transmitter.
4. A blade position sensor with the ability to detect blade attitude and elevation of the cutting blade and relay this information to the operator. Blade attitude is defined as the orientation of the blade with respect to the three spatial axes in relation to a reference plane.
5. An operator-visible display allowing the operator to visually receive all necessary data in real-time from the GPS system and the cutting blade to properly construct the section to grade. The display will also reflect any changes made by the operator to any operation of the cutting blade.

6. If conformity to the cross sections with the prior listed equipment is unsatisfactory, provide a laser transmitter placed no farther than 800 feet (244 m) from the fine grading equipment. Projects having work progressing at different work sites more than 800 feet (244 m) apart necessitate the use of more than one laser transmitter to ensure accuracy. Select a location for the laser transmitter having a change in elevation of 25 feet (7.62 m) or less from the laser transmitter to the sensor mounted on the cutting blade. If project geography necessitates the use of more than one laser transmitter, the setup of the transmitters will be set to ensure the elevation difference between two consecutive transmitters in an array is not more than 25 feet (7.62 m); and this array cannot exceed a total change in elevation of 100 feet (30.5 m).

Office of Materials & Research

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

SPECIAL PROVISION

**P.I. No: 0006934
Rockdale County**

SECTION 449 – Bridge Deck Joint Seals

Add the following Subsections to Section 449:

449.1 General Description

- A preformed silicone joint seal, or

449.1.03 Submittals

C. Submissions for Preformed Silicone Joint Seal

The following Preformed Silicone Joint and Adhesive may not be used on this project under this Special Provision 449: Wabo®SPS, and Wabo®Sil Caltrans.

449.2 Materials

J. Preformed Silicone Joint Seal and adhesive.

- The preformed silicone joint seal shall as a minimum:
- Be held in place by a non-sag, high modulus silicone adhesive.
- Be compatible with the following header material: Concrete, Elastomeric Concrete, Epoxy, and Steel.
- Withstand the effects of vertical and lateral movements, skew movements and rotational movement without adhesive or cohesive failure.
- The depth of the joint seal shall be recessed below the riding surface throughout the normal limits of joint movement.
- Resistant to ultraviolet rays.
- Resistant to abrasion, oxidation, oils, gasoline, salt, and other materials that may be spilled on or applied to the surface.

Ensure the joint meets the following physical properties:

Test	Requirements	Test Method
Hardness Type A durometer	53 \pm 5	ASTM D 2240
Tensile Strength (min)	550 psi (3.8 Mpa)	ASTM D 412
Elongation at break (min)	350%	ASTM D 412
Tear Strength (min)	80 lb/in (92 kg/cm)	ASTM D 624
Compression set (max)	30% at 350° F	ASTM D 395
Operating temp range (min)	-60° F to 450° F (51° C to 232° C)	

The adhesive shall also have the following properties:

Test	Requirements	Test Method
Sag/flow (max)	3/16" (4.8 mm)	ASTM C 639
Hardness	23 \pm 3	ASTM C 661
Tack free time (max)	30 minutes	ASTM C 679
Skin over time (tooling Time) (max)	5 minutes	AT 75° F/50% RH
Cure through to 1/4" thickness (max)	16 hours	AT 75° F/50% RH
Resistance to UV	No Degradation	ASTM C 793
Peel Adhesion to substrates (min)	50 lb/in (58kg/cm)	ASTM C 794

449.3.03 Preparation

A. Surface Preparation

2. Preparation for Joint Seal

Remove: "Saw-cutting of the concrete deck may be necessary to provide an acceptable attachment surface for the joint seal".

449.3.05 Construction

H. Preformed Silicone Joint Seal

1. After the concrete, elastomeric concrete, or epoxy header material has developed enough strength to be traffic ready, remove the temporary joint filler (when called for) and thoroughly clean the joint faces of all joint filler.
2. Remove all residue from the joint by lightly sandblasting the interior faces of the joint header. Prior to silicone joint seal installation, ensure surfaces are completely dry and all recommendations of the manufacture have been completed.
3. Clean the preformed silicone joint seal prior to installation by wiping it down with a cloth saturated with denatured alcohol.
4. Apply a 3/8" thick bead of adhesive along both sides of the joint at the depth recommended by the manufacture.
5. Position the joint seal to the proper depth and profile according to manufacture recommendations.
6. Apply a bead of adhesive along the top side of the joint on each side as recommended by the manufacture.
7. Tool the adhesive twice to insure complete contact with the vertical edge.
8. Use of unapproved waterproofing materials and practices not recommended by the joint seal manufacturer to seal post installation leaks is prohibited.

449.3.07 Contractor Warranty and Maintenance

Transmit a copy of the manufacture's standard five-year performance warranty on each installation to the Bridge Maintenance Unit and the Contractor.

The Contractor by acceptance of the work described in this Specification, shall guarantee, to replace defective joint installations due to adhesive or cohesive failure, and failure under normal traffic for a period of (3) three years. Commence the (3) year period on the date of the acceptance of the work. This guarantee shall cover all labor and materials required by the Department to satisfactorily repair and replace defective bridge joints. Transmit a copy of this agreement to the Bridge Maintenance.

July 13, 2005

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

SPECIAL PROVISION

**Courtesy Pkwy Extension From Flat Shoals Rd to Old Covington Hwy
PI No. 0006934, Rockdale County**

SECTION 457 – GEOGRID REINFORCEMENT

Delete Section 457 as written and substitute the following:

457.1 Description

This Work consists of placing geogrid reinforcement under new embankments at the locations and to the elevations or depths indicated on the Plans or as directed by the Engineer.

457.2 Materials

Use geogrid materials that meet the requirements of Special Provision Section 809– Geogrid Materials.

457.3 Construction

Place the geogrid reinforcement in accordance with the following requirements:

1. Preparation For Placement:
 - a. Clearing and Grubbing: Clear and grub the areas of the proposed reinforcement in accordance with the applicable portions of Section 201.
 - b. Benching: Bench into existing embankments in accordance with the applicable portions of Section 208 and the Plans.
 - c. Embankments: Construct embankments in accordance with the applicable sections of Section 208.
 - d. Attach weights to any geogrids that are to be placed in inundated areas to allow for placement to the required elevations or depths.
2. Placement of Geogrids: Place geogrids in a manner and at the locations shown on the Plans. Place the grids with the machine direction perpendicular to the roadway unless specified

otherwise on the Plans. Place the geogrids level or sloping away from the existing embankment at an inclination that is no greater than 5°. Spread the geogrids out free of wrinkles, bends or undulation and hold the geogrids taut by wooden stakes or other mechanical means while the embankment material is being placed.

3. **Fill Placement Over Geogrid:** Place fill over the geogrid in accordance with the Plans and applicable portions of Section 208. Maintain at least 4 inches (102 mm) of soil between the grid and any rubber-tired construction equipment. Maintain at least 8 inches (203 mm) of soil between the grid and any track construction equipment.
4. **Degree of Compaction:** Compact embankment fills to at least 95 percent of the maximum laboratory dry density for the full depth of the embankment, unless otherwise specified. The Engineer may adjust compaction requirements for initial lifts of fill over unstable soils until a stable mat is formed. Determine the maximum laboratory dry density and in place density of the compacted fill in accordance with Sub-Section 208.3.05.B.2.
5. **Joints or Splices:** Place grids in continuous strips in the direction of main reinforcement. Do not use joints or splices in the machine direction unless the joint or splice can be shown by laboratory tests to carry 100% of the required ultimate tensile strength of the grid.
6. **Damaged Material:** Remove any geogrid material damaged in shipping, storage or placement from the project and replace it at no additional expense to the Department.

457.4 Measurement

Geogrid reinforcement is measured for payment in square yards (meters) of accepted geogrid materials in place for Type C. Measurement is to the nearest square yard (meters).

457.5 Payment

Geogrid reinforcement is paid for at the Contract Price per square yard (meters), for geogrid Types A, B and C, complete and in place. Payment is full compensation for furnishing materials, placing materials, and for all labor, equipment, tools and incidentals necessary to perform the Work.

Payment for work under Section 457 will be made under:

Item No. 457-1015. Geogrid Reinforcement, Type C..... Per Square Yard (Meters)

Office of Materials and Testing

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

SPECIAL PROVISION

**P.I. No: 0006934
Rockdale County**

Section 500—Concrete Structures

Delete Subsection 500.1 and substitute the following:

This work consists of manufacturing and using High Performance Portland cement concrete to construct precast-prestressed concrete bridge members as shown in the plans and using normal weight Portland cement concrete to construct structures as shown in the Plans.

Add the following to Subsection 500.1.02.A:

Section 831—Admixtures

Add the following to Subsection 500.1.02.B:

AASHTO T 277

Add the following to Subsection 500.1.03.A:

High Performance Concrete Mix Designs

The Fabricator is responsible for all concrete mix designs. Ensure that concrete mixes contain enough cement to produce workability within the water-cement ratio specified in Table 1A—High Performance Concrete Mix Table, below.

Submit a mix design for approval to the Office of Materials and Research. Include the sources and actual quantity of each ingredient and laboratory results that demonstrate the ability of the design to attain both the required compressive strength and chloride permeability at 56 days.

Include laboratory compressive strength test results of at least eight test cylinders prepared and cured according to AASHTO T 126. Ensure these test cylinders are made from two or more separate batches with an equal number of cylinders made from each batch.

Also include laboratory chloride permeability test results of at least two test specimens prepared and tested according to AASHTO T 277. Ensure these test specimens are made from two or more separate batches with an equal number of specimens made from each batch.

Table 1A—High Performance Concrete Mix Table

English									
Class of Concrete	Coarse Aggregate Size No.	(1) Minimum Cement Factor (lbs/yd ³)	Maximum Water/Cement ratio (lbs/lbs)	(2) Slump Acceptance Limits (in) Lower-Upper		Entrained Air Acceptance Limits (%) Lower-Upper		(3) Minimum Compressive Strength at 56 days (psi)	Maximum Chloride Permeability at 56 days (Coulombs)
“AAA HPC”	67	650	.330	2	7	3.5	6.5	Beams – As shown on the Plans Piling – 5000	Beams – 3,000 Piling – 2,000
Metric									
Class of Concrete	Coarse Aggregate Size No.	(1) Minimum Cement Factor (kg/m ³)	Maximum Water/Cement ratio (kg/kg)	(2) Slump acceptance Limits (mm) Lower-Upper		Entrained Air Acceptance Limits (%) Lower-Upper		(3) Minimum Compressive Strength at 56 days (MPa)	Maximum Chloride Permeability At 56 days (Coulombs)
“AAA HPC”	67	386	.330	50	180	3.5	6.5	Beams – As shown on the Plans Piling – 35	Beams – 3,000 Piling – 2,000

- Determine the slump acceptance after the addition of high-range water reducer.
- Determine the minimum compressive strength at 56 days using 4 in. diameter x 8 in. high (100 mm x 200 mm) cylinders.

Add the following to Subsection 500.2 Table 3:

Fly Ash	831.2.03.A.1
Silica Fume	831.2.03.A.4

Add the following note to Subsection 500.2 Table 3:

- Use Type I or III Portland cement in High Performance concrete. Do not use air-entraining cement.

Add the following to Subsection 500.3.04.D.4:

- For High Performance concrete, fly ash may be used as an additive at an addition rate not to exceed 15% of the cement by weight.

Add the following to Subsection 500.3.04.D:

- Silica Fume
Silica Fume may be used as an additive at an addition rate not to exceed 10% of the cement by weight.

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

SPECIAL PROVISION

PROJECT: CSSTP-0006-00(934), Rockdale County

PI No. 0006934

SECTION 523 - DYNAMIC PILE TESTING

523.1 General Description

The work consists of performing dynamic pile testing using the Pile Driving Analyzer (PDA) to monitor the driving of piles with accelerometer and strain gauges attached to the piles. Piles to be dynamically tested will be identified in the Special Provision or on the Plans. Prior to pile driving, the Engineer will determine production or test piles to be dynamically tested. Perform the dynamic pile testing in accordance with ASTM D4945-12.

Take dynamic measurements during driving of any required piles. Drive the pile as shown in the Special Provisions or on the Plans.

523.2 Materials

Furnish measuring instruments for dynamic pile testing. Attach instruments near the top of the piles with bolts placed in drilled holes. Furnish materials, labor and equipment necessary for installation of the instruments.

523.3 Construction Requirements

Measure wave speed prior to driving piles. Wave speed measurements will not be required for Steel H piles or metal shell piles. When wave speed measurements are performed, place the piles in a horizontal position not in contact with other piles.

Perform dynamic pile testing during driving. Modify the driving to reduce the stress and/or eliminate the damage, should the recommended stress level be exceeded or if damage occurs (determined visually or as indicated by the instrumentation).

Do not exceed the following maximum driving stresses, as determined by the dynamic pile testing:

1. For Steel piles:

0.9 Fy, where Fy = Yield strength of steel

2. For Prestressed Concrete Piles:

Compression:

$$\sigma_{dr} = (0.85f'_c - f_{pe})$$

Tension in Normal Environments:

$$\sigma_{dr} = (0.095\sqrt{f'_c} + f_{pe})$$

Tension in Severe Corrosive Environments:

$$\sigma_{dr} = \phi_{da}f_{pe}$$

where;

σ_{dr} = maximum allowed driving stress, ksi

f'_c = specified minimum 28-day compressive strength of concrete, ksi

f_{pe} = effective prestress in concrete, ksi, (after all losses) at the time of driving taken as 0.78 times the initial prestress force

Re-drive friction piles that do not obtain bearing after a freeze period of a minimum of 24 hours or for a period designated on the Plans, whichever is longer. Reset the gauges if required. Re-strike the pile with a warm hammer until a maximum penetration of 3 inches (76 mm) or 40 blows is reached, whichever occurs first. The Engineer may modify the Pile Driving Objective based on the results of the PDA work.

Provide two weeks' notice prior to the driving of designated piles and cooperate with the Engineer in connection with the performance of Dynamic Pile Testing.

Provide a complete report consisting of but not limited to PDA field monitoring data, results of CAPWAP computer analyses, and recommendations such as pile lengths, hammer fuel setting, and valid driving criteria. Valid driving criteria is defined as having the required hammer having a hammer set greater than 3 blows per inch and less than 10 blows per inch at the driving resistance for that pile. Submit the report electronically in PDF format and the electronic data files of the PDA analysis and CAPWAP to the Geotechnical Bureau and allow seven (7) calendar days for review and approval before proceeding with driving production piles.

523.4 Measurement

The Dynamic Pile Tests performed in accordance with these Specifications will be counted separately for payment. (Refer to plans summary sheet for the required amount of PDA testing.)

523.5 Payment

The Dynamic Pile Test completed and accepted will be paid for at the Contract unit Price. This payment will be full compensation for all costs of complying with this specification, including incidentals, additional work, and any delays incurred in conjunction therewith.

Payment will be made under:

Item No. 523. Dynamic Pile Test _____ Per Each

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
SPECIAL PROVISION**

**P.I. No: 0006934
Rockdale County**

**Section 627—Mechanically Stabilized Embankment Retaining Wall –
Contractor Design**

Delete Subsection 627.3.03.B.1 and substitute the following:

1. Provide one of the following wall systems:
 - ARES (Tensar Earth Technologies)
 - Reinforced Earth Wall (The Reinforced Earth Company)
 - Vist-A-Wall MSE Structural Wall (Contech Engineered Solutions)
 - Tricon Retained Soil Wall (Tricon Precast)

Delete Subsection 627.3.05 and substitute the following:

627.3.05 Construction

A. Prepare the Foundation

Before beginning construction, prepare the foundation as follows:

1. Grade the foundation for the mechanically stabilized embankment retaining wall level to a width equal to or exceeding the width of the reinforced volume and leveling pad. Use the top of the leveling pad as the grade elevation.
2. Before beginning the wall and leveling pad construction, compact the foundation to at least 95 percent of maximum laboratory dry density as determined by GDT 7.
3. Where walls are used as a bridge abutment, compact the foundation material as follows: a. When a portion of the wall is a bridge abutment, ensure that portions of the wall within 100 ft. (30 m) of the lateral limits of the bridge have foundation material compacted to at least 100 percent of maximum laboratory dry density as determined by GDT 7. b. When walls are used solely as bridge abutments, compact the foundation material for the entire wall to at least 100 percent of maximum laboratory dry density as determined by GDT 7. Place and compact the embankment beneath the wall according to Section 208.
4. If excavating below the leveling pad elevation, reconstruct the area as embankment.
5. Remove and replace foundation soils that are incapable of sustaining the required compaction as directed by the Office of Materials and Research.
6. At each panel foundation level, provide a non-reinforced concrete leveling pad as shown on the plans.
 - a. Place leveling pads so they are level within 1/8 in (3 mm) per pad or per 10 ft. (3 m), whichever length is greater.
 - b. Repair or replace leveling pads that do not meet this requirement as directed by the Engineer at the Contractor's expense.

- c. If using bearing pads on the leveling pad on the initial row of panels, also use them on all the leveling pads of that wall.
 - d. Fill the horizontal joint between the leveling pad and panels with 2 in. by 2 in. (50 mm by 50 mm) polyether foam strips and cover with filter cloth.
 - e. Use neoprene strips 3/16 in. (5 mm) thick as necessary to level panels. Do not use more than 3/8 in. (10 mm) of neoprene strips.
 - f. If more leveling is required, take other corrective action, such as replacing the leveling pad or replacing panels.
7. Embed the wall at least 5 ft (1.5 m) into an embankment, when shown on the plans. Construct the embankment before constructing the leveling pad and placing backfill for the wall. For step details on leveling pads, see plans and construction details.

B. Wall Erection

Place precast panels so that their final position at the completion of the wall is vertical.

1. Adjust the batter to allow for the effect of backfill type, equipment, and construction method on panel movement.
2. In general, batter the panels 1/2 in. (10 mm) in 4 ft (1 m) into the reinforced volume to allow the panel to move during backfill placement and compaction.
3. Place panels in successive horizontal lifts as backfill is placed.
 - a. When placing backfill behind a panel, maintain the panel in a vertical position by placing clamps and temporary wooden wedges in the joints at the junction of two adjacent panels on the external side of the wall.
 - b. Use external bracing for the initial lift. Keep the wedges in place until the fourth layer of panels is placed, then remove the bottom layer of wedges.
 - c. Remove each succeeding layer of wedges when placing the succeeding panel layers.
 - d. When the wall is completed, remove the wedges. Do not use the wedges to level the panels on leveling pads.
 - e. Remove the wedges placed below the groundline on the front face of the wall before backfilling this area.
4. Alignment and tolerance are as follows:
 - a. Ensure that the horizontal and vertical joint openings between panels are uniform. Ensure that the opening is 7/8 in \pm 3/8 in. (22 mm \pm 10 mm).
 - b. Ensure that the vertical tolerance (plumbness) and horizontal alignment tolerance as the wall is constructed does not exceed 3/4 in (20 mm) when measured along a 10 ft (3 m) straightedge.
 - c. Ensure that the overall vertical tolerance of the wall (plumbness from top to bottom) in its final position does not exceed 1/2 in per 10 ft (13 mm per 3 m) of wall height.
 - d. Place cast-in-place concrete on top of the wall panel as needed to bring the precast coping elements on top of the wall to proper grade. See the plans or construction details.
Before placing special backfill material on a soil-reinforcing device, complete the connections to the panels.

C. Joint Fillers

Treat joints between the panels as follows:

1. Bearing Pads

Ensure that horizontal joints between panels contain two 4 by 3 by 3/4 in (100 by 75 by 20 mm) ribbed bearing pads or elastomeric pads as specified on the Plans.

2. Filter Fabric

Cover all horizontal and vertical joints with 12 in. (300 mm) wide plastic filter fabric sheet glued securely to the backside of precast concrete panels. Overlap the filter fabric with the joint at least 4 in. (100 mm). When piecing the filter fabric together, overlap at least 4 in. (100 mm).

In flood plains or other intermittently inundated areas, cover the joints as follows:

- Use a woven plastic filter fabric sheet to cover the joint on the back side of the wall between panels from 3 ft (1 m) above the 100-year flood elevation to the bottom of the wall.

- Use a woven or nonwoven plastic filter fabric sheet to cover the joint on the back side of the wall between panels from 3 ft (1 m) above the 100-year flood elevation to the top of the wall.

D. MSE Wall Backfill

Place backfill shortly after erecting each lift panel. Follow these guidelines:

1. Place backfill lift to a uniform thickness and place it from the back face of the wall to 1 ft (300 mm) beyond the end of the soil-reinforcing devices.
2. At each soil-reinforcing device level, compact the backfill to the full length of reinforcing devices and slope it to drain away from the wall before placing and attaching the next layer of reinforcing devices.
3. Level the compacted backfill with the connecting device before connecting the reinforcing device.
4. Repair damaged soil reinforcing devices or panels before attaching and backfilling the reinforcing devices.
5. Place soil reinforcing devices at 90 degrees to the face of the wall, unless otherwise indicated on the Plans or by the Engineer.
6. Ensure that the maximum lift thickness is 8 in (200 mm) (loose) and closely follows panel erection. Decrease this lift thickness to obtain the specified density, if required.
7. Compact the embankment backfill material to at least 100 percent of maximum laboratory dry density as determined by GDT 7 or GDT 24a, GDT 24b Method A or B, for full depth of the material.
8. Compact the embankment backfill material without disturbing or displacing the reinforcing devices and panels.
9. Compact from the area nearest the wall face to the back of the reinforcing devices except for a strip 3 ft (1 m) wide adjacent to the backside of the wall.
After compacting the remainder of the layer, compact this 3 ft (1 m) strip with light mechanical tampers without causing the panels to move outward.
10. Whenever a compaction test fails on a special embankment backfill lift, do not place additional material over that area until the lift is re-compacted and obtains a passing compaction test.
11. Ensure that the stabilizing geogrid at any layer is held taut, by mechanical means, free of wrinkles, bends or undulations until the special backfill material has been placed and compacted above the restrained layer to the level of the next layer of stabilizing geogrid. Release the uppermost layer of stabilizing geogrid after the final layer of special backfill is placed and compacted.

E. Storm Drains

Provide precast panels that have the appropriate storm drain openings in panels at the elevation and locations indicated on drainage profiles.

Place catch basins so that pipes will enter perpendicular (plan view) to the panels or below the leveling pads as shown on the Plans. Coordinate the catch basin construction and the storm drain placement with the wall construction.

F. Dewatering

Furnish, install, operate, and maintain satisfactory dewatering systems to maintain the site in a dry and workable condition to permit grading, compacting the wall foundation, and erecting and backfilling the wall. Furnish dewatering system equipment and materials and continue the system as long as necessary.

G. Catch Basins and Longitudinal Pipes

When catch basins are located behind the wall and the Wall Plans do not indicate a specific construction method, use the method outlined in the construction details.

When longitudinal pipes are located behind the wall, follow this procedure if specific details are not shown on the Wall Plans:

1. Bend the soil-reinforcing device around the pipe without damaging the device, its coating, or its attachment to the precast panel. See the construction details.

2. If the pipe is too close to the wall to bend the soil-reinforcing device without damaging it, the Engineer will investigate relocating the pipe. The Engineer will contact the design office that designed the drainage system or the office responsible for the pipe and will investigate the pipe relocation.
3. If the pipe cannot be relocated or if the pipe is too large for relocation to be feasible, use the back-up panel procedure indicated on the construction details.

Use precast concrete or cast-in-place concrete for:

- Drainage structures that are within the special embankment backfill
- Drainage structures that are outside the special embankment backfill but that are within 5 ft (1.5 m) of the front face of the wall

OFFICE OF BRIDGES AND STRUCTURES

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

SPECIAL PROVISION

PROJECT: Courtesy Parkway Ext. From Flat Shoals Rd to Old Covington Hwy.

COUNTY: Rockdale

P.I.: # 0006934

Section 660—Sanitary Sewers

Delete Section 660 and substitute the following:

660.1 General Description

This Work consists of furnishing materials, labor, tools, equipment, and other items necessary for installing, removing, abandoning, relocating, and adjusting sanitary sewer and force main systems and appurtenances to the Plans and Specifications.

660.1.01 Definitions

- A. General Provisions 101 through 150
- B. The term “The Facility Owner” shall be understood to mean “Rockdale Water Resources”.
- C. The term “Project Manager” shall mean the authorized individual having the authority to give instructions pertaining to the work and to approve or reject the work. The “Project Manager” shall not however be authorized to revoke, alter, enlarge, relax, or release any requirements of the Contract, Plans, and Specifications, nor shall they act as an agent for the Contractor. All Contract items pertaining to the Utility Owner shall be coordinated with the Georgia Department of Transportation’s (GDOT) Project Coordinator and the Utility Owner.

660.1.02 Related References

A. Standard Specifications

- [Section 104—Scope of Work](#)
- [Section 107—Legal Regulations and Responsibility to the Public](#)
- [Section 108—Prosecution and Progress](#)
- [Section 205—Roadway Excavation](#)
- [Section 207—Excavation and Backfill for Minor Structures](#)
- [Section 400—Hot Mix Asphaltic Concrete Construction](#)
- [Section 444—Sawed Joints in Existing Pavements](#)
- [Section 500—Concrete Structures](#)
- [Section 600—Controlled Low Strength Flowable Fill](#)

[Section 615—Jack or Boring Pipe](#)

[Section 610—Removal of Miscellaneous Roadway Items](#)

[Section 611—Relaying, Reconstructing, or Adjusting to Grade of Miscellaneous Roadway Structures](#)

[Section 668—Miscellaneous Drainage Structures](#)

[Section 801—Fine Aggregate](#)

[Section 810—Roadway Materials](#)

B. Related Documents

1. General Provisions 101 through 150.
2. All products supplied and all work performed shall be in accordance with The Facility Owner's Standard Specifications, applicable standards from American Society for Testing and Material (ASTM), American Water Works Association (AWWA), American National Standards Institute (ANSI), GDOT Utility Accommodation Policy and Standards, and the Georgia Environmental Protection Division (EPD) Guidelines for Sewage Collection Systems. Latest revisions of all standards shall apply.

660.1.03 Submittals

- A. General Provisions 101 through 150.
- B. Refer to The Facility Owner's Standard Specifications, current published edition, for sanitary sewer utility submittal requirements. Copies of all submittals and documentation shall be submitted to GDOT, who shall distribute to the Utility Owner.

C. Shop Drawings / Product Data

1. Submit 6 copies of the following submittals to the GDOT Project Coordinator:
 - a. Product data, including size, dimension, capacity, pressure rating, accessories, and special features, installation instructions, and operating characteristics for all proposed materials to show compliance with the requirements of this Special Provision.
 - b. Test reports specified in the Quality Acceptance section of this Special Provision.
 - c. Pipe manufacturer certification of compliance with specifications.
 - d. Operation and maintenance literature, warranties, and other specified information.

D. Construction Record Documentation

1. The Contractor shall record on two set of utility as-built drawings that will record changes and deviations from the Contract Drawings in sizes, lines or grade. Record also the exact final horizontal and vertical locations of underground utilities and appurtenances to an accuracy of +/- 0.2ft, referenced to permanent surface improvements. Drawings shall utilize State Plane Coordinates and shall be legibly marked to record actual construction and submitted to the GDOT no later than 30 days after installation and prior to Final Acceptance of the Project. The Utility Owner shall determine if the utility record drawings are complete prior to Final Acceptance of the project.
2. Record Drawings shall be signed and sealed by a professional engineer or land surveyor registered in the State of Georgia.
3. Record Drawings shall also be submitted in cadd format in accordance with Rockdale County Water and Wastewater Standards and Specifications.
4. Except for standard bound materials, bind all 8.5"x11" (A4) documentation, including 11" x 17" (A3) drawings folded to 8.5"x11" (A4), in logical groupings in loose-leaf binders of either the 3-ring or plastic slide-ring type. Permanently and appropriately label each such bound grouping of documentation.

660.1.04 Quality Assurance

- A. The Contractor shall comply with applicable codes, ordinances, rules, regulations and laws of local, municipal, state or federal authorities having jurisdiction over the Project.
- B. Furnish manufactured items, pipe, fittings, valves, service components, and appurtenances from manufacturers having regularly produced such items as specified herein which have proven satisfactory in actual service, over at least a 2-year

period, or as approved by the GDOT and Utility Owner.

- C. Regardless of tolerances permitted by industry standards specified herein, GDOT Project Manager may reject pipe or appurtenances at the manufacturing plant or project site which have cracks, chips, blisters, rough interior or exterior surface, evidence of structural weakness, joint defects, or other imperfections that might in the opinion of the Project Coordinators contribute to reduced functional capability, accelerated deterioration or reduced structural strength.
- D. The Utility Owner and the Utility Owner's consultant shall have the right to visit and inspect the work at any time. The Utility Owner may also have an Inspector assigned to the project authorized to inspect portions or all of the utility work done and the preparation, fabrication, or manufacture of the materials to be used. The Utility Owner shall be able to advise GDOT Project Manager of any observed discrepancies or potential problems. The cost of these inspections shall be the responsibility of the Utility Owner.
- E. GDOT shall notify the Utility Owner before authorizing any changes or deviations which might affect the Utility Owner's facilities. Contractor shall notify GDOT and Utility Owner a minimum of 24 hours prior to beginning work on utilities.
- F. The Utility Owner shall be notified by GDOT Project Manager when all utility work is complete and ready for final inspection. The Utility Owner shall be invited to attend the final inspection and may provide a corrections list to GDOT Project Manager prior to the final inspection.
- G. The Contractor shall verify the actual location and depth of all utilities prior to construction. All utilities and structures shall be protected during construction. Any damaged facilities shall be repaired or replaced at the Contractor's expense.

660.2 Materials

- H. All materials provided shall be in conformance with the requirements and standards set forth in the The Facility Owner's specification document, current published edition.

660.2.01 Sanitary Sewer Piping Systems and Appurtenances

A. Ductile Iron Pipe and Fittings

Ductile iron pipe shall meet the latest edition of ANSI/AWWA C150/A21.50 and C151/A21.51 for the class and joint specified with a nominal laying length of 18 (5.5 m) to 20 feet (6 m). Joints for buried ductile iron pipe shall be mechanical or push-on joints. Unless specified otherwise in the Plans or The Facility Owner's Standard Specifications, ductile iron pipe diameters 12 inch (300 mm) or less shall be minimum Pressure Class 350, while pipe diameters greater than 12 inch (300 mm) shall be minimum Pressure Class 250.

1. Ductile iron pipe for the interior of structures and above ground installations shall be flanged. Flanges shall be ductile iron and shall be threaded-on flanges conforming to ANSI/AWWA C115/A21.15 or cast-on flanges conforming to ANSI/AWWA C110/A21.10. The minimum class thickness for ductile iron flanged pipe to be threaded is Class 53.
2. Interior surfaces of ductile iron pipe and fittings shall be ceramic epoxy lined. Epoxy lining shall be 40-mil nominal dry film thickness. The interior of the ductile iron pipe and fittings shall not have been lined with any substance prior to the application of the specified lining material and no coating shall have been applied to the first 6 inches (150 mm) of the exterior of the spigot ends. The lining shall be applied by a competent firm with a successful history of applying linings to the interior of ductile iron pipe and fittings. Surface preparation, lining of pipe, coating of bell sockets and spigot ends, number of coats, and touch up and repair shall be in accordance with the manufacturer's recommendations. The pipe or fitting manufacturer shall supply a certificate attesting that the applicator met the requirements of this specification; that the material used was as specified; that the linings have the nominal dry film thickness specified; and that the linings have no pinholes when tested with a nondestructive 2,500 volt test. Lined pipe and fittings shall be handled only from the outside of the pipe and fittings.
3. Ductile iron shall have an exterior asphaltic coating as specified in AWWA C151 for ductile iron pipe and AWWA C153/C110 for ductile iron fittings.
4. Buried ductile iron pipe and fittings shall be polyethylene encased at locations indicated on the Plans or as conditions warrant. Polyethylene encasement tubing shall be in accordance with ANSI/AWWA C105/A21.5 and ASTM A674 and shall have a minimum thickness of 8 mils. Polyethylene tubing shall be green in color to designate wastewater.

5. Fittings: Ductile iron fittings shall be epoxy coated and meet the requirements of ANSI/AWWA C153/A21.53 or ANSI/AWWA C110 A21.10 with a minimum pressure rating of 250 psi. Pressure pipe fittings shall be restrained mechanical joint.
6. Mechanical Joint Fittings: Mechanical joints consisting of bell, socket, gland, gasket, bolts, and nuts shall conform to ANSI/AWWA C111/A21.11.
7. Push-On Joints: Push-on joints shall be designed in accordance with ANSI/AWWA C111/A21.11. Joint lubrication shall be as furnished by the manufacturer.
8. Rubber gasket joints for push-on or mechanical joints shall conform to the requirements of ANSI/AWWA C111/A21.11.
9. Restrained Joints: Restrained joints shall be provided as shown on the Plans and where required for thrust restraint. Restrained joints shall not require field welding or grooves cut into the pipe barrel for restraint. The restraining joints for mechanical joint fittings shall conform to the requirements of ANSI/AWWA C111/A21.11 with assembly in conformance with AWWA C600 and manufacturer's recommendations. Restrained joints for pipe shall be mechanical joints with ductile iron retainer or push-on type joints and shall have a minimum rated working pressure of 250 psi.
10. Mechanical joint retainer glands may be used to restrain mechanical joint pipe and fittings to the plain end of ductile iron pipe and fittings. Restrainer glands shall be manufactured of ductile iron per ASTM A536.
11. Corrosion-resistant bolts used with ductile iron joints shall be high-strength, low-alloy steel as specified in ANSI/AWWA C111/A21.11.
12. Welded Outlets: Welded outlets in ductile iron pipe shall be provided where specified and indicated on the Plans. Outlets shall be fabricated by welding sections of ductile iron pipe manufactured in accordance with ANSI/AWWA C151/A21.51. Welded outlet pipe shall be fabricated only by the pipe manufacturer. The minimum ductile iron pipe thickness for fabrication of welded outlet pipe shall be Thickness Class 53 for 4 inch to 54 inch (100 mm to 1350 mm) diameter pipe. All joints on welded-on branch outlets shall be provided in accordance with the latest revision of ANSI/AWWA C111/A21.11 and/or ANSI/AWWA C115/A21.15 as applicable. After the outlets are welded together and prior to finishing, the assembly shall be subjected to a 15 psi air test for leakage. The maximum size and laying length of the welded-on branch outlet shall be recommended by the pipe manufacturer and acceptable to the Utility Owner for the field conditions and connecting pipe or valve.

B. Polyvinyl Chloride (PVC) Pipe

1. C900 PVC pipe diameters 4-inch (100 mm) through 12-inch (300 mm) shall meet ANSI/AWWA C900 requirements, and shall be a minimum pipe dimension ratio (DR) 18, Pressure Class 235 psi. C905 PVC pipe diameters 14-inch (350 mm) and greater shall meet ANSI/AWWA C905 requirements, shall be DR 18 minimum, Pressure Class 235 psi. Pipe shall have a bell with an integral wall section with a factory installed, solid cross section elastomeric ring in accordance with ASTM F477.
2. PVC solid wall gravity sewer pipe shall be integral bell and spigot joint pipe, and shall comply with ASTM D3034 for pipes 15-inch (380 mm) and smaller, with minimum standard dimension ratio (SDR) 26. Pipes larger than 15-inch shall comply with ASTM F679 with the minimum thickness as specified in the Plans or The Facility Owner's specification document. Joints shall be of the bell and spigot gasketed type in accordance with ASTM D3212 and ASTM F477.
3. All PVC pipe shall be formulated for sunlight exposure and shall be green in color to designate wastewater.
4. PVC pipe shall have the same outside diameter (OD) as ductile iron pipe and be compatible for use with ductile iron fittings.
5. Fittings for PVC pipe 4 inches (100 mm) and larger shall be ductile iron mechanical joint and comply with the requirements set forth in the specifications for Ductile Iron Pipe and Fittings.
6. Restrained Joints: Restrained joints shall be provided as shown on the Plans and where required for thrust restraint. Restrained joints shall comply with the requirements set forth in the specifications for Ductile Iron Pipe

and Fittings, with assembly in conformance with AWWA C600 and manufacturer's recommendations.

7. Unless specified otherwise in the Plans or The Facility Owner's specification document, 2-inch (50 mm) and 3-inch (80 mm) diameter PVC pipe shall conform to the requirements of ASTM D2241 Class 1120 or 1220 (SDR 21) with a working pressure rating of 200 psi with integral bell gasketed joints. Pipe is to be manufactured to IPS standard pipe equivalent outside diameters.
8. Schedule 80 PVC pipes smaller than 4-inch (100 mm) nominal diameter shall be in accordance with ASTM D1785. Schedule 80 pipe shall have threaded joints. Solvent cemented joints shall not be used. Threaded type fittings for Schedule 80 PVC pipe shall be in conformance with ASTM D2464. All threaded joints shall be watertight.
9. Flanges for Schedule 80 PVC pipe shall be rated for a 150 psi working pressure with ANSI B16.1 dimensions and bolting pattern. Flanges shall be connected to PVC piping with threaded joints in accordance with ASTM D2467 or ASTM 2464, respectively.

C. Fusible PVC Pipe

1. Fusible PVC pipe sizes 4-inch (100 mm) to 36-inch (900 mm) shall conform to AWWA C900/C905 as applicable and follow the dimension ratios (DR) set forth in the requirements listed for C900 PVC pipe.
2. Fusible PVC pipe shall be green in color to designate wastewater.
3. Fusible PVC pipe shall be extruded with plain ends. The ends shall be square to the pipe and free of any bevel or chamfer. There shall be no bell or gasket of any kind incorporated into the pipe.
4. Fusible PVC pipe shall be manufactured in a standard 40-foot nominal length or custom lengths as specified.
5. Joints shall be made by butt fusing sections of pipe with manufacturer-approved equipment.
6. Fittings shall be ductile iron mechanical joint and comply with the requirements set forth in the specifications for Ductile Iron Pipe and Fittings.

D. High Density Polyethylene (HDPE) Pipe

HDPE pipe sizes 4-inch (100 mm) and larger shall be a PE 4710/3408 high density, extra-high molecular weight polyethylene manufactured from first-quality high density polyethylene resin containing no additives, fillers, or extenders. The HDPE pipe shall have an ASTM D3350 cell classification of PE 445574C, and shall meet the requirements of AWWA C906, and shall be sized based upon the ductile iron pipe size (DIPS), outside diameter (OD) sizing system. HDPE shall be a minimum DR 11, pressure class 160 psi. For gravity sewer pipe, the DR of the pipe shall be as indicated in the Plans or The Facility Owner's Standard Specifications.

1. HDPE pipe shall be green or marked with a permanent green stripe to designate wastewater.
2. Joints shall be made by butt fusing sections of pipe with manufacturer-approved equipment.
3. Fittings shall be ductile iron mechanical joint meeting the requirements of ANSI/AWWA C110/A21.10 and ANSI/AWWA C111/A21.11.
4. The pipe shall have fusion welded restrainer ring, follower gland, and a 12-inch (300 mm) stainless steel insert for the mechanical joint connection.
5. HDPE sewer mains shall be properly sized utilizing the inside diameter of the nominal pipe diameter. If during construction HDPE is substituted for other pipe materials, the Contractor shall verify that the inside diameter of the HDPE is the same or larger than the inside diameter of the pipe originally specified.

E. Concrete Pipe

1. Concrete pipe for gravity sewers shall be epoxy lined, reinforced concrete bell and spigot pipe with type two cement and calcareous aggregate conforming to ASTM C76 for Wall C pipe. Pipe shall be supplied in lengths of at least eight feet (2.5 m).
2. Pipe shall have rubber gasket type joints with steel end rings conforming to ASTM C443. A rectangular groove shall be supplied in the spigot end to receive the rubber gasket, and it shall be so formed to a rectangular shape and confined on all four sides. Bell and spigot surfaces shall be accurately formed and smooth to provide a close sliding fit with a nominal clearance of 1/16-inch (1.5 mm).

3. Pipe shall not have cracks, blisters, imperfect surfaces, damaged ends, or damaged gasket grooves. Repaired or patched pipe or pipe with repaired or patched gasket grooves or shoulders shall not be used.
4. The testing of concrete pipe for crushing strength, absorption, hydrostatic requirements, and permeability shall be at the direction of the Utility Owner / GDOT Project Coordinators and shall be performed in accordance with ASTM C497.

F. Steel Casing Pipe

1. All materials, design, fabrication, handling, and testing of steel casing pipe shall conform to the requirements of ASTM A139, AWWA C200 and AWWA Manual M11 "Steel Pipe – A Guide for Design and Installation."
2. Steel casing pipe shall be new, smooth-wall, carbon steel pipe conforming to ASTM Specification A139, Grade B with minimum yield strength of 35,000 psi. Steel casings shall be used with the size, minimum thickness, length, and coating specified on the Plans or The Facility Owner's specification document.
3. Additional anti-corrosion measures, as specified by the manufacturer or indicated on the Plans, shall be provided at connectors, couplings, rollers, restraints, etc.
4. Unless specified otherwise in the Plans or The Facility Owner's specification document, casing pipe end seals shall consist of 1/8-inch (6 mm) thick flexible synthetic rubber boot with adjustable stainless steel banding straps. The annular space of the casing shall not be filled with concrete or grout.
5. Casing spacers shall consist of a stainless steel shell, PVC ribbed liner, and non-conducting separators to keep the carrier pipe from touching the casing pipe. Spacers shall be provided at a maximum of 10-foot intervals and within 2 feet (0.6 m) of the end of the casing pipe.

G. Cured-In-Place-Pipe (CIPP) Liners

1. CIPP liners shall be installed at the locations indicated on the Plans for the renovation of existing sanitary sewer pipes. The CIPP process shall consist of furnishing and inserting a resin-impregnated flexible tube within an existing sanitary sewer pipe and permanently forming the tube to the original conduit by curing with hot water under hydrostatic pressure or by a compressed air/stream combination.
2. CIPP pipeliner components shall be made from approved materials and manufactured in accordance with ASTM F1216, ASTM F1743, ASTM D5813, and ASTM D790.
3. CIPP tube shall meet the following criteria:
4. Made up of one or more layers of felt fabric
5. Meets or exceeds ASTM F1216 or ASTM F1743, Section 5
6. Withstands installation pressure and is strong enough to bridge missing pipe sections where necessary.
7. Stretches to fit irregular pipe sections
8. After wetout (impregnating of the tube with resin), shall maintain a uniform thickness meeting or exceeding the design thickness when compressed at installation pressures
9. Sewn to a size fitting tightly within the internal circumference and length of the original pipe when installed and shall provide required allowance for circumferential stretching during inversion
10. Does not utilize overlapping layers of felt in longitudinal seams causing lumps in the final product
11. Utilizes an impermeable, flexible membrane coated on the outside layer of the tube prior to wetout to contain the resin and facilitate monitoring of resin saturation during the wetout procedure
12. Is homogenous across the entire wall thickness and contains no intermediate or encapsulated elastomeric layers
13. Does not utilize material in the tube causing delamination in the CIPP pipeliner
14. Seams in the tube are stronger than the non-seamed felt
15. Outside of the tube is marked for distance at regular intervals along its length. Marking intervals do not exceed 5 feet (1.5 meters) and include the Manufacturer's name or identifying symbol.
16. CIPP resin system shall produce CIPP pipeliners which comply with the structural and chemical resistance requirements of this specification. Resin system shall be corrosion resistant, consist of a vinyl ester and catalyst system, and contain 5% or less resin filler. When properly cured within the tube composite, the resin shall meet or exceed the requirements of ASTM F1216 and ASTM F1743, the physical properties herein, and those which are to

be utilized in the design of the CIPP liner.

17. CIPP pipeliners shall meet the following criteria:
18. Requirements of ASTM F1216, Appendix XI.
19. No bonding to original pipe wall assumed
20. Utilizes a long-term, time dependent flexural modulus value obtained from long-term testing results for flexural creep of the CIPP material installed by the installer on previous projects consisting of the same work
21. Utilizes a percentage of the instantaneous flexural modulus value as measured by ASTM D790 testing in design calculation for external buckling. Does not use values in excess of 50% unless substantiated by qualified

independent testing laboratory data.

22. Produced using materials of equal quality or better than the materials used in the long-term test with respect to the initial flexural modulus used in design.
23. Utilizes an enhancement Factor “K” value of 7 for “partially deteriorated” design conditions. Does not use Enhancement (K) factors in excess of 7 unless substantiated by qualified independent testing laboratory data.
24. Produced with uniformly bonded layers. Any two layers cannot be cleanly separated with a probe or point of a knife blade or separated in a manner that allows the probe or knife to move freely between layers.
25. Produces with light, a reflective interior wall color to allow clear, detailed examination with closed circuit television inspection equipment.
26. Conforms to the structural properties listed in the following table:

MINIMUM STRUCTURAL PROPERTIES			
Property	Test Method	Cured Composite per ASTM F1216	Cured Composite (400k Resin)
Modulus of Elasticity	ASTM D790 (short term)	250,000 psi (1,722,500 kPa)	400,000 psi (2,756,000 kPa)
flexural Stress	ASTM D790	4,500 psi (31,000 kPa)	4,500 psi (31,000 kPa)

- a. Produced with a minimum wall thickness of ¼ in (6 mm) throughout the line. Wall thickness is based on the physical properties listed in the table above and the design equations in the appendix of ASTM F1216, using the design parameters listed in the following table:

DESIGN PARAMETERS	
Design Safety Factor	2.0
Retention Factor for Long-Term Flexural Modulus (determined by long-term testing described above)	1%-60%
Ovality	2%
Enhancement Factor, k	7

- b. Layers of the tube not saturated with resin prior to insertion into the existing pipe are not included in the

structural CIPP pipeliner wall thickness computation.

- c. Meets or exceeds chemical resistance requirements of ASTM F116, Appendix X2
- d. Contains no dry or saturated layers

H. Pipe Detection Wire

Unless otherwise specified in the Plans or The Facility Owner's Standard Specifications, open cut installations of non-metallic pipe shall include minimum #12 gauge tracing wire. Pipe installed by directional drill shall include two (2) insulated 8 gauge tracer wire. Wire shall be solid copper insulated with HDPE installed along pipe, wrapped around service line stub outs and stubbed into valve boxes for locating purposes. Wire shall be properly spliced to provide continuous conductivity.

I. Warning Tape

Sanitary sewer mains shall be installed with polyethylene film warning tape manufactured for marking and identifying underground wastewater utilities. Tape shall be a minimum of 2 inches (50 mm) wide and 4 mils thick, green in color, with continuously printed letters reading "CAUTION BURIED SEWER LINE BELOW".

J. Plug Valves

1. All plug valves shall be of the non-lubricated eccentric type with resilient faced plugs and shall comply with AWWA C517 requirements. The pipe connections shall be flanged or mechanical joint as required. Flanged valves shall be in accordance with ANSI B16.1, Class 125 and ANSI B16.5, Class 150. Mechanical joint valves shall be in accordance ANSI/AWWA C111/A21.11. Buried plug valves shall have mechanical joint ends. Valve and gearing shall be rated for a minimum of 150 psi pressure rating.
2. Valves shall be coated with an epoxy coating applied to both the exterior and the interior surfaces prior to assembly of the valves.
3. Unless specified otherwise in the Plans or The Facility Owner's Standard Specifications, the port area shall be 100% of standard full pipe area. The body of the valve shall be constructed of cast iron ASTM A126 Class B. Valves shall be furnished with permanently lubricated stainless steel or oil-impregnated bronze upper and lower plug stem bushings. These bearings shall comply with current AWWA Standards. Both nut and gear operated valves shall have a 2-inch (50 mm) square nut for operation.
4. Provide brass identification tag imprinted with "SEWER", valve size, valve type, and direction and number of turns to open. Provide a 1/4-inch (8 mm) hole in the brass tag and attach the tag to the end of the locate wire (twist wire around tag). Tag shall be 2-inch (50 mm) diameter and 1/8-inch (6 mm) thick brass with a 1/4-inch (8 mm) hole.

K. Check Valves

1. Swing check valves sizes 4-inch (100 mm) through 30-inch (750 mm) shall be constructed of a cast iron body with a bronze seat ring, and a noncorrosive shaft for attachment of weight and lever. Check valves shall comply with AWWA C508 requirements and have a 150 psi minimum pressure rating.
2. The valve disc shall swing completely clear of the waterway when valve is fully open, permitting full flow. The disc shall be cast iron, rubber faced.
3. Check valves shall be flanged in accordance with ANSI 16.1, Class 125, and installed inside a vault or pit.
4. Provide brass identification tag imprinted with "SEWER", valve size, valve type, and direction and number of turns to open. Provide a 1/4-inch (8 mm) hole in the brass tag and attach the tag to the end of the locate wire (twist wire around tag). Tag shall be 2-inch (50 mm) diameter and 1/8-inch (6 mm) thick brass with a 1/4-inch (8 mm) hole.

L. Tapping Sleeves and Valve Assembly

1. Tapping sleeves and valves sizes 4-inch (100 mm) and larger shall be stainless steel with wraparound gasket style, or ductile iron of the split-sleeve, mechanical joint type. Tapping sleeves shall be rated for a minimum 150 psi working pressure in accordance with ANSI/AWWA C110/A21.10.
2. When tapping an existing asbestos cement pipe, a stainless steel tapping sleeve which contains a full gasketed

surface within the sleeve body shall be used due to variances in the manufactured outside diameter of the asbestos cement pipe.

3. Tapping sleeve shall have an outlet flange per ANSI B16.1, Class 125 standard.
4. The Contractor shall determine the outside diameter of the existing main before ordering the sleeve.
5. Tapping valves shall be mechanical joint outlet, non-rising stem, resilient seated gate valves meeting the applicable requirements of ANSI/AWWA C509/C515 and C550 with a minimum design working pressure of 200 psi.
6. Tapping valves shall be specifically designed for pressure tapping with sufficient seat opening to allow full diameter taps to be made.
7. Tapping valves shall be manufactured with an integral tapping flange having a raised lip design.
8. Tapping valves shall be furnished with a combination flange and mechanical joint for connecting the branch to the main.

M. Valve Boxes

1. All valves shall be equipped with valve boxes. The valve boxes shall be heavy, roadway type boxes. The valve box cover shall be marked "SEWER VALVE" or "SEWER".
2. Valve box materials shall conform to the requirements and standards set forth in The Facility Owner's Standard Specifications.
3. The valve boxes shall be adjustable up or down from the nominal required cover over the pipe. Extensions shall be provided as necessary. A precast concrete ring shall be placed around the valve box opening when outside of paved areas.
4. Valves shall be furnished with extension stems as necessary to bring the operating nut to within 24 inches (600 mm) minimum of the top of the valve box.

N. Tapping Saddles

1. Tapping saddles shall have ductile iron or bronze body with stainless steel, double-tie straps and nuts with pressure rating not less than that of the pipe to which it is to be connected.
2. Saddles shall have a rubber gasket cemented to the body with compatible threading between the saddle and corporation stop. Saddles shall conform to ANSI/AWWA C800 standards.
3. The tapping saddle shall provide full support around the circumference of the pipe, providing a bearing area of sufficient width so that pipe will not distort when the saddle is tightened.

O. Concrete Vault

1. Concrete vaults shall conform to the requirements and standards set forth in The Facility Owner's Standard Specifications and standard details.

P. Air Release Valves

1. Air release, air/vacuum valves, and combination air valves shall be suitable for use with wastewater and manufactured in compliance with ANSI/AWWA C512.
2. Air release valves shall have a small venting orifice to vent the accumulation of air and other gases in the line or system under pressure.
3. Air/vacuum valves shall have a large venting orifice to permit the release of air as the line is filling or relieve the vacuum as the line is draining or is under negative pressure
4. Combination air valves shall have operating features of both the air/vacuum valve and air release valve.
5. Valves shall be suitable for pressures up to 250 psi.
6. Air release, air/vacuum valves, and combination air valves shall conform to the requirements and standards set forth in The Facility Owner's Standard Specifications and standard details.

Q. Thrust Collars and Thrust Blocks

1. Concrete used for thrust collars or thrust blocks on force mains shall meet the “Class A” requirements for concrete listed in Section 500.
2. Thrust collars shall include welded-on collars attached by the pipe manufacturer or retainer glands. Concrete shall be poured continuous around the pipe and bear against undisturbed earth.
3. Reinforcing steel shall meet the requirements set forth in the Plans or The Facility Owner’s Standard Specifications.
4. Mechanical joint restraints shall be utilized in lieu of thrust blocks with the approval of the Utility Owner.

R. Manholes

1. Manholes shall be precast concrete or as indicated in the Plans and per The Facility Owner’s Standard Specifications.
2. The minimum diameter for manholes shall be 48 inches (1200 mm). The minimum diameter for inside drop manholes shall be 60 inches (1500 mm). Manhole Types and Classes are described in Section 668.
3. Precast reinforced manholes shall be manufactured in accordance with ASTM C478 and shall have a minimum wall thickness of 5 inches (127 mm). All concrete shall have a minimum compressive strength of 4,000 psi when tested in accordance with ASTM C478.
4. The bases shall be monolithically cast and shall consist of a manhole bottom and a wall which shall extend a minimum of 6 inches (150 mm) above the top of the highest in-flowing sewer. The top of the base section shall be tongue and groove section.
5. There shall be a minimum distance of 6 inches (150 mm) between the invert of the lowest out flowing sewer and floor of the precast base to provide for the construction of a formed invert and bench wall within the manhole. There shall be a minimum 0.05-foot drop between the inlet and outlet inverts. Inverts shall be constructed of 4,000 psi plant mix concrete. Bench shape and discharge of force mains into manholes shall conform to the requirements of the Georgia EPD Guidelines for Sewage Collection Systems.
6. Joints between precast sections shall be sealed by means of rubber O-ring gaskets or flexible butyl rubber sealant.
7. Manholes shall have factory applied coatings on the interior and exterior. Surface preparation and coating application shall comply with the manufacturer's recommendations.
8. Manhole sections shall be rejected if abused during shipping or placement and if pipe openings are not properly aligned.
9. A protective coating or lining for corrosion protection shall be applied to all interior surfaces of manholes when called for in the Plans or The Facility Owner’s Standard Specifications.
10. Pipe entry holes shall be either precast or cored. Connections between reinforced concrete manhole structures and sewer pipe shall be flexible connectors conforming to ASTM C 923 latest revision.
11. Frame and covers shall be cast or ductile iron and set in a bed of mortar on the top of the manhole and flush with finished grade. Covers shall be marked as indicated in the Utility Owner standard details.
12. Watertight manhole rings and covers are to be used if the manhole is located within the 100-year floodplain boundary or may be flooded by street runoff.
13. Riser adjusting rings shall be a minimum of 3 inches (80 mm) on cone sections. Manhole adjustment rings shall be sealed with a flexible rubber seal.
14. Drop manhole: Inside or outside drop inlets shall be provided into sanitary sewer manholes for incoming lines having inverts 2 feet (0.6 m) or more above the inverts of the manhole outlet lines. Drop pipes shall be the same size as the sewer that they serve. Openings in walls of precast concrete manholes for outside drop connections shall not be made at joints. Outside drop piping materials and encasement/embedment shall be as indicated in the Plans. Concrete used to encase the outside drop piping shall be 4,000 psi plant mix concrete unless otherwise indicated on the Plans.

660.2.02 Delivery, Storage, and Handling

- A. Handle pipe, fittings, valves, and accessories carefully to prevent damage. Handle pipe by rolling on skids, forklift, or front end loader. Do not use material damaged in handling. Slings, hooks, or pipe tongs shall be padded and used in such a manner as to prevent damage to the exterior coatings or internal lining of the pipe. Do not use chains in handling pipe, fittings, and appurtenances.
- B. To unload pipe, carefully lift and lower it into position using approved padded slings, hooks, or clamps. Furnish equipment and facilities for unloading, handling, distributing, and storing pipe, fittings, valves, and accessories. Make equipment available at all times for use in unloading. Do not roll, drop or dump materials. Any materials dropped or dumped shall be subject to rejection without additional justification.
- C. Stored materials including salvaged materials shall be kept in suitable areas safe from damage. The interior of all pipe, fittings, and other appurtenances shall be kept free from dirt or foreign matter at all times. Store and support plastic pipe to prevent sagging and bending. Store plastic pipe and gaskets to prevent exposure to direct sunlight. Valves shall be stored and protected from damage by freezing.
- D. Pipe shall not be stacked higher than the limits recommended by the manufacturer. The bottom tier shall be kept off the ground on timbers, rails, or concrete.

660.3 Construction Requirements

660.3.01 Personnel

- A. General Provisions 101 through 150.
- B. Construction and installation of all wastewater utilities shall be performed by a Contractor prequalified/registered with GDOT.
- C. All work specified in this section shall be performed by a Contractor with a valid Utility Contractor's license issued by the State of Georgia. Sewer service line installation shall be performed by either a Utility Contractor licensed in the State of Georgia or by a Master Plumber licensed in the State of Georgia.

660.3.02 Equipment

- A. Ensure all equipment used is in conformance with the requirements and standards set forth in The Facility Owner's Standard Specifications.

660.3.03 Preparation

General Provisions 101 through 150.

660.3.04 Fabrication

General Provisions 101 through 150.

660.3.05 Construction

A. Finding Existing Underground Utilities and Obstructions

1. Comply with Subsection 107.13 and Subsection 107.21.
2. According to the best information available to GDOT, all known sewer lines, water lines, gas lines, telephone conduits, drainage structures, etc. are shown on the Plans. However, to find such installations, use an electronic pipe and cable finder for locating existing installations or obstructions to the work.
3. Obtain approval from GDOT Project Manager and the Utility Owner prior to disruption of wastewater services required for the installation of the facilities shown on the project Plans.

B. Jack and Bore

Comply with Section 615 for sewer main installations by jack and bore.

C. Directional Drilling

1. Install sewer mains and services by means of directional drilling at locations shown on the Plans or where approved by GDOT or Utility Owner. Provide submittals and follow all relevant procedures and requirements set forth in The Facility Owner's Standard Specifications.
2. The Contractor shall not initiate horizontal directional drilling until all submittals are received, reviewed, and

accepted by GDOT and the Utility Owner, and all required permits are obtained.

3. The Contractor shall select drilling additives and fluid mixture proportions to ensure continuous circulation, bore stability, reduce drag on the pipe, and completely fill the annular space between the bore and the pipe to ensure stability and control settlement.
4. The Contractor shall submit contingency plans for remediation of potential problems that may be encountered during the drilling operations. The contingency plans shall address the observations that would lead to the discovery of the problem and the methods that would be used to mitigate the problem. Potential problems that shall be addressed include:
 - a. Loss of returns/loss of circulation of drilling fluid.
 - b. Encountering obstruction during pilot bore or reaming/pullback.
 - c. Drill pipe or product pipe cannot be advanced.
 - d. Deviations from design line and grade exceed allowable tolerances.
 - e. Drill pipe or product pipe broken off in borehole.
 - f. Product pipe collapse or excessive deformation occurs
 - g. Utility strike.
 - h. Hydrolock occurs or is suspected.
 - i. Excessive ground settlement or heave of ground surface or existing utilities.
 - j. Inadvertent returns/hydrofracture or surface spills resulting in drilling fluids entering water or reaching the surface.
5. Pipe damaged in directional drilling operations shall be removed and replaced at no additional expense to GDOT or the Utility Owner.
6. Voids developed or encountered during the installation operation shall be pressure grouted with a grout mix approved by GDOT.
7. Installation shall include a locatable conduit system, with identification markers on each side of GDOT right-of-way where applicable. Two (2) insulated 8 gauge solid copper tracers wire shall be attached to the leading end of the pipe pulling head and shall extend the full length of the installed pipe.
8. The location and alignment of the pilot drill progress shall be continuously monitored for compliance with the proposed installation alignment and for verification of the depth of the bore. Monitoring shall be accomplished by computer generated bore logs which map the bore path based on x, y, z coordinate information provided by the locating/tracking system. Readings or plots shall be obtained on every drill rod, and shall be provided to the Inspector on a daily basis. Deviations between the recorded and design bore path shall be calculated and reported on the daily log. If the deviations exceed tolerances specified elsewhere, such occurrences shall be reported immediately to GDOT. The Contractor shall undertake all necessary measures to correct deviations and return to design line and grade.
9. Upon completion of the directional drill the Contractor shall furnish GDOT and the Utility Owner an as-built drawing along with a report of the monitoring of the drilling fluids during the pilot hole and back reamed hole.
10. Drilling fluid pressures, flow rates, viscosity, and density shall be monitored and recorded by the Contractor. The pressures shall be monitored at the pump. These measurements shall be included in daily logs submitted to GDOT. The Contractor shall document modifications to the drilling fluids, by noting the types and quantities of drilling fluid additives and the dates and times when introduced. The reason for the addition of drilling fluid additives or other modifications shall be documented and reported.
11. Management and disposal of drilling fluids shall be the Contractor's responsibility. Excess drilling fluids shall be contained at the entry and exit points until recycled or removed from the site. All drilling fluids shall be disposed of in a manner acceptable to the appropriate local, state and federal regulations. The Contractor's work will be immediately suspended by GDOT whenever drilling fluids seep to the surface other than in the boring entrance or exit pit, or when a paved surface is displaced.

12. Surfaces damaged by the work shall be restored to their preconstruction conditions at no additional cost to GDOT or Utility Owner, and with no increase in contract time.
13. The following items shall be as shown on the Plans, unless otherwise approved in writing by GDOT:
 - a. Entry / exit points
 - b. Drill entry / exit angles
 - c. Pilot bore path
 - 1) Radius of Curvature
 - 2) Entry / exit tolerances: Contractor shall be solely responsible for all work necessary to correct excessive deviations from line and grade, including re-drilling, redesigning connections, and acquiring additional easement, at no additional cost to GDOT or Utility Owner and without schedule extension.
14. The pilot bore shall be pre-reamed and reamed using equipment and methods submitted by the Contractor. The Contractor shall completely ream the bore to the final diameter prior to pullback.
15. Pullback: The pipe shall be installed by pulling it into the reamed bore path in a continuous operation, behind a final reaming tool selected by the Contractor. The pipe shall be isolated from excessive torsional and axial stresses by a swivel device with a pre-established breakaway tensile capacity that is lower than the allowable tensile strength of the pipe. The maximum pull (axial tension force) exerted on the pipelines shall be measured continuously and limited to the maximum allowed by the pipe manufacturer with an appropriate factor of safety so that the pipe or joints are not overstressed. The end of the pipe shall be closed during the pull back operation.
16. Pipelines shall be adequately supported during installation so as to prevent overstressing or buckling. The Contractor shall provide adequate support/rollers along the pipe layout area to support the required length of pipe for the bore. The pipe layout area shall be cleared of all large stones, construction debris, or other foreign objects that could damage the pipe during pullback. The Contractor shall monitor and inspect pipe rollers and method for suspending pipe at entry during the pullback operation to avoid damage to the pipe.
17. The end of the pipe shall be closed during the pull back operation.
18. Each length of pipe shall be inspected and cleaned as necessary to be free of debris immediately before joining.
19. The Contractor shall at all times handle the pipe in a manner that does not overstress or otherwise damage the pipe. Vertical and horizontal curves shall be limited so that wall stresses do not exceed 50% of yield stress for flexural bending of the pipe. If the pipe is buckled or otherwise damaged, the damaged section shall be removed and replaced by the Contractor at his expense. The Contractor shall take appropriate steps during pullback to ensure that the pipe and tracer wires will be installed without damage.
20. If necessary, the pipe shall have water added as it enters the bore to achieve neutral buoyancy and reduce pullback loads and to ensure that adequate internal pressure is maintained at all points to counter balance collapse pressures.
21. The Contractor shall cease pullback operations if the pipe is damaged and shall remove the pipe from the bore and repair the pipe using the manufacturer's recommended procedure or replace the damaged pipe before resuming installation.
22. Damage to the pipe resulting from manufacturer defects, installation, or grouting is the responsibility of the Contractor, including costs for replacement and labor and materials. To confirm no damage to the pipe, upon completion of pull back, the Contractor shall pull a sphere or pig through the entire length of the pipeline. The pig shall be one inch less in diameter than the internal diameter of the product pipe, capable of allowing water to pass through it, complete with a pulling cable on either side. If the pig or sphere cannot pass through the pipe, it shall be considered collapsed and damaged.
23. After the carrier pipe is completely pulled through the bore, a sufficient relaxation period as recommended by the pipe manufacturer shall be provided before the final pipe tie-in.
24. The Contractor shall conduct a final hydrostatic test of the installed pipeline. Final test shall be in accordance with these specifications. The Contractor shall repair any defects discovered during this test, and repeat until the pipe passes the test.

D. Excavating Trenches

1. The Contractor shall provide all necessary shoring and bracing materials as required to assure safe working conditions and to protect the excavations. The Contractor shall be required to fully comply with all applicable OSHA Excavation Safety Standards. No separate payment shall be made for any special procedure used in connection with the excavation.
2. Excavate trenches to the proper depth and width as follows:
 - a. Trench to Grade: Excavated trench bottoms shall be firm, free from boulders, and conform to the established grade. Limit open trench excavation to a maximum of three 300 feet (90 m) ahead of completed backfill.
 - b. Care shall be taken not to over excavate except where necessary to remove unstable material, irregularities, lumps, rock, and projections. Unnecessary over excavation shall be replaced at the Contractor's sole expense and in accordance with Subsection 660.3.05.
 - c. Excavation carried below the established grade lines shown or established by the Utility Owner shall be backfilled according to Section 207 and Subsection 660.3.05. Use Class I or Class II Soils (defined in Section 810) and firmly compact the soil.
 - d. Where the established grade of a trench is in rock, undercut the bottom of the trench by at least 6 inches (150 mm) beneath the pipe or conduit and the greater of 24 inches (600 mm) wider than the pipe/conduit (12 inches or 300 mm each side) or 42 inches (1050 mm) wide, then backfill and compact according to Subsection 660.3.05.
 - e. Open cut excavation in pavement and pavement patching shall be according to GA Standard No. 1401. Remove the pavement according to Section 444, except no separate payment shall be made for sawed joints.
 - f. Dewatering: Remove all water from excavations and maintain the excavations free of water while construction therein is in progress. Provide dewatering equipment as necessary to conform to this requirement. Dewatering procedures must meet all state and local regulatory requirements.
3. Minimum Trench Depth
 - a. Excavate trenches to provide at least 48 inches (1.2 m) cover depth directly above the pipe to the finished pavement surface, sidewalk, grass, etc. unless indicated otherwise on the Plans or by GDOT Project Manager and Utility Owner. In order to avoid existing utilities, it may be necessary for the pipe to be laid shallower or deeper than the minimum cover specified. At such time the Contractor shall not be allowed extra compensation for additional excavation necessary for deeper installations.
 - b. Side slopes of the trenches shall be as nearly vertical as practicable. Trenches in excess of 5 feet (1.5 m) deep shall either have the trench sides laid back to conform to OSHA requirements for trench safety, if such area is available within the limits of excavation, or, alternatively, trenches deeper than 5 feet (1.5 m) shall be excavated via trench box or shored and braced.
4. Trench Width: Excavate trenches to uniform widths, wide enough to allow proper installation of pipe, fittings, and other materials, a minimum of 6 inches (150 mm) and a maximum of 12 inches (300 mm) each side of the pipe or conduit.
5. Trench Bell Holes: Excavate bell holes deeply and widely enough to make joints and to allow the pipe barrel to rest firmly on the trench bottom.
6. Trench bottom: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduits. Shape subgrade to provide continuous support of bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits/pipes. Remove projecting stones, tree roots, debris, and sharp objects along trench subgrade. Abrupt changes in grade of the trench bottom shall be avoided. Unless otherwise indicated in the Plans or The Facility Owner's Standard Specifications, trenches for force mains shall be graded to avoid high and low points that necessitate air release valves.
7. Excavations may be excavated and refilled either by hand or by machinery. Hand tool excavation shall be conducted where necessary to protect existing utilities and structures.
8. In the event that unsuitable material is encountered at or below the excavation depth specified or shown on the Plans, GDOT Project Manager shall be notified immediately before proceeding with any additional work. Such

material shall be removed and replaced with suitable material in accordance with Section 205.

E. Connecting to Existing Mains

1. Connect to an existing main with the appropriate fittings according to the Plans or The Facility Owner's Standard Specifications and GDOT Project Manager. When making connections under pressure, furnish and use a tapping sleeve and valve assembly or line stop fittings as indicated. Coordinate with Utility Owner 72 hours in advance for wastewater service interruptions and temporary shut-offs. Evening or weekend work may be required to complete direct connections and tie-ins. Connect to existing mains as follows:
 - a. Before opening new pipeline trenches, locate the various points of connection to be made into existing pipelines. If necessary, uncover pipelines for the Utility Owner and GDOT Project Manager to prescribe the connections and fittings needed.
 - b. Connect to existing pipelines only to meet operating requirements. Cut existing lines only after obtaining the Utility Owner and GDOT Project Manager's permission.
 - c. Provide temporary line stops, associated fittings, and bypass pumping as indicated on the Plans and as necessary when cutting and plugging existing sewer mains to prevent service interruptions. Line stop and associated fittings shall be suitable for working pressures of 250 psi.
 - d. Connections to existing asbestos cement pipe shall be performed as indicated on the Plans or in The Facility Owner's Standard Specifications. Cutting, removing, handling, and disposing of asbestos cement pipe shall be in accordance with requirements established by EPA, OSHA, GDOT, NIOSH, and the State of Georgia Environmental Protection Division, and any other applicable laws and ordinances.

F. Laying Sewer Mains and Appurtenances

1. Preparing and Handling Pipes
 - a. Thoroughly clean the pipe and fittings before laying them. Keep them clean until accepted.
 - b. Use suitable tools and equipment. Do not damage the pipe, especially the lining inside the pipe.
 - c. Cut pipe in a manner to avoid damage to pipe or lining, leaving a smooth end at right angles to pipe axis. Smooth and bevel edges of cut pipe for push-on, gasket type joints.
 - d. Bedding shall be provided as specified by the Utility Owner or pipe manufacturer for the type of conditions encountered. Bedding typically consists of granular soil free of lumps, clods, cobbles, and frozen materials, and shall be graded to a firm-but-yielding surface without abrupt changes in bearing value. Unstable soils and rock ledges shall be undercut from the bedding zone and replaced with suitable material.
 - e. Bed pipe on coarse granular material in flat bottom trench with entire pipe barrel bearing uniformly on coarse granular material, except for an approximately 18-inch (450 mm) gap at pipe balance point for sling removal. Hand excavate and backfill as required to provide uniform and continuous bearing and support for the pipe. Do not support pipe on hubs or end bells. Consolidate coarse granular material under and around pipe up to pipe centerline by tamping.
 - f. Join pipe with bells facing direction in which laying operation is progressing. Lay pipe upgrade wherever line grade exceeds 10%.
 - g. Carefully examine pipe for cracks and other defects and do not lay defective pipe. If pipe or castings appear to be cracked, broken, or defective after laying, remove and replace those sections.
2. Alignment and Gradient
 - a. Ensure that pipe alignment and gradient are according to the lines and grades on the Plans. Pressure pipe alignment shall be either straight or deflected to closely follow true curves. Deflect pipe lines only where required, within allowable horizontal and vertical deflection angles according to the manufacturer.
 - b. Sewers shall be laid at least 10 feet (3 m) horizontally from any existing or proposed water main. The distance shall be measured edge-to-edge. When local conditions prevent a horizontal separation of 10 feet (3 m), the sewer may, on a case-by-case basis, be laid closer to a water main provided the water main is in a separate trench or on an undisturbed earth shelf located on one side of the sewer at such an elevation that the bottom of the water main is at least 18 inches (450 mm) above the top of the sewer.

- c. Maintain a vertical separation of at least 18 inches (450 mm) between the crown of sanitary sewers and the invert of existing or proposed water mains with the sewer main located below the water main.
 - d. Where a vertical separation of 18 inches (450 mm) cannot be provided, and the sewer main cannot be relocated to provide adequate clearance, the section of sewer main passing over or under water mains shall be constructed of materials and with joints that are equivalent to water main standards of construction and in accordance with Section 670, or the sewer line shall be encased in a watertight carrier pipe in accordance with Section 670, extending 10 feet (3 m) on both sides of the crossing measured perpendicular to the water main and shall be pressure tested to assure water-tightness to 150 psi prior to backfilling.
3. Special Requirements for Laying Sewer Mains
- a. Excavate, clean, lay, joint, and backfill progressively and uniformly according to these requirements:
 - 1) Never leave pipe in the trench overnight without completely jointing and capping.
 - 2) Do not leave completed pipeline exposed in the trench. Backfill and compact the trench as soon as possible after laying, jointing, and testing are complete.
 - 3) At the close of work each day and when laying pipe, close the exposed end of the pipeline in the trench with an approved wood or metal head or barrier.
 - 4) If necessary to cover the end of an incomplete pipeline with backfill, close the end of the pipe with a satisfactory cap or plug.

G. Installing Sewer Mains by Open Cut

- 1. Use the following flexible joints for connections inside the roadway shoulders or curbs and gutters:
 - a. Mechanical Joints
 - 1) When using mechanical joints, thoroughly wash bell sockets, spigots, gland, gasket, nuts, and bolts with soapy water before assembly. Keep these parts wet until the jointing operation is complete.
 - 2) Tighten nuts within the torque range recommended by the manufacturer. Check the tightening tolerance with a torque wrench.
 - 3) If effective sealing is not attained at the maximum recommended torque, disassemble, thoroughly clean, and then reassemble the joint.
 - 4) Do not overstress bolts to compensate for improper installation or defective parts.
 - b. Push-On Type Joints
 - 1) Use push-on joints made according to the manufacturer's recommendations.
 - 2) Install PVC pipe in accordance with AWWA C605.
 - 3) Install ductile iron pipe in accordance with AWWA C600.
- 2. Restraints for pipe joints and fittings shall be provided as specified and as shown on the Plans. Restraints shall be installed per manufacturer's recommendations.
- 3. Buried ductile iron pipe and fittings shall be polyethylene encased as specified and as indicated on the Plans. Polyethylene encasement tubing shall be secured with polyethylene tape and installed in accordance with ANSI/AWWA C105/A21.5.
- 4. Unless otherwise specified by The Facility Owner's Standard Specifications, provide pipe detection wire on all non-metallic pipe systems. Tape the tracer wire to the top center of the pipe at intervals which prevent wire displacement during backfilling operations. Stub tracer wire up 6 inches (150 mm) above finished grade at all valves. For splices, use direct bury kits. After backfilling is complete, test electrical continuity of each tracer wire segment and provide test results to Utility Owner and GDOT Project Manager.
- 5. Install continuous underground warning tape during backfilling of trench for underground water distribution piping. Install 12 inches (300 mm) below finished grade, or 6 inches (150 mm) below subgrade under pavements and walkways, and buried directly over piping.
- 6. Use pipe cutters when cutting pipe or special castings. Do not use a hammer, chisel, or a cutting torch.

7. Force mains that do not meet minimum depth of cover, vertical clearance requirements, or other installation requirements at special locations (e.g. creek crossings) shall include concrete encasement. Concrete encasement shall be installed per The Facility Owner's Standard Specifications.
8. If HDPE pipe is to be installed where high groundwater table or water surrounding the pipe is expected, precautions shall be taken to provide neutral buoyancy to prevent floatation or a change in alignment.
9. Valves on Sewer Mains: Install and joint gate, plug, and check valves in accordance with AWWA C600. Include the valve box and valve marker where required.
10. Air release valves shall be installed at high elevation points on the force main and at locations indicated on the Plans. Air release valves shall be installed in accordance with manufacturer's recommendations.
 - a. Unless specified otherwise in the Plans or The Facility Owner's Standard Specifications, air release valves shall be installed in a shallow manhole or vault. Automatic air relief valves shall not be used in areas where flooding of the manhole or vault may occur.
 - b. An isolation valve shall be installed between the air release assembly and the connection to the main.
 - c. The Contractor shall furnish and install at no additional cost to GDOT or Utility Owner all necessary fittings for the installation of air release valves at high points.
11. Thrust Collars and Thrust Blocks: If required, furnish materials and install thrust collars or concrete blocking along force mains as indicated in Subsection 660.2.01. Form and pour concrete thrust collars or blocks in accordance with the Plans and The Facility Owner's Standard Specifications. Blocking shall be poured against undisturbed earth and all forms shall be removed before backfilling.
12. Backfilling
 - a. Furnish equipment, labor, and when necessary, suitable material to conform with The Facility Owner's Standard Specifications required for backfilling the pipe line trenches according to Section 207, and as follows:
 - 1) When testing for leaks in open trenches, do not backfill until testing is complete and leaks are eliminated.
 - 2) When retaining pavement adjacent to trenches, replace removed pavement with the same or better material when approved in accordance with the appropriate Section for the pavement type replaced.
 - 3) Place backfill on subgrades free of mud, frost, snow, or ice.
 - 4) Place and compact bedding course on trench bottoms and where indicated. Shape the bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits/pipes.
 - 5) Backfill shall include Class I or Class II Soils as defined in Section 810 or suitable material that conforms with The Facility Owner's Standard Specifications.
 - 6) Backfill shall be placed in two stages: first, side fill to a height of 12 inches (300 mm) above the top of pipe; second, overfill to former surface grade. Side fill shall consist of granular material laid in 6-inch (150 mm) layers each consolidated by mechanical tamping and controlled addition of moisture, to a density of 95% as determined by the Standard Proctor test (AASHTO T-99 Method D) or GDT 67. Overfill shall be layered and consolidated to match the entrenched material in cohesion and compaction. The top 12 inches (300 mm) shall be compacted to 100% of specified density. Consolidation by saturation or ponding shall not be permitted.
 - 7) Soil Moisture Control: Uniformly moisten and aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 2% of optimum moisture content. Remove and replace, or scarify and air dry, otherwise satisfactory soil material that exceeds optimum moisture content by 2% and is too wet to compact to specified dry unit weight.
 - 8) Initial backfill shall be carefully compacted under pipe haunches and evenly up on both sides and along the full length of piping or conduit to avoid damage or displacement of piping or conduit. Place and compact fill and backfill of satisfactory soil to final subgrade elevation. Backfill voids with satisfactory soil while removing shoring and bracing and/or trench boxes.
 - 9) After backfilling, maintain temporary surface restoration per GA Standard No. 1401 until permanent repaving

is complete. No separate payment shall be made for replaced pavement.

H. Installation of Manholes

1. Each manhole location within the trench shall be over excavated to receive a minimum of 8 inches (200 mm) of No. 57 stone to establish a firm foundation for the manhole. Where the excavation reveals an unsuitable foundation, whether rock or muck, the Contractor shall remove unsuitable material and install No. 57 stone in 6-inch (150 mm) lifts to a maximum of 2 feet (0.6 m) as a foundation for the structure.
2. All manholes shall be installed plumb.
3. Horizontal joint sealant protruding into the manhole shall be cut smooth against the interior wall. Interior joints shall not be grouted unless otherwise directed.
4. Exterior wrap shall be installed centered over joints between manhole sections. Exterior manhole wall shall be clean prior to installing wrap.
5. Backfill adjacent to manholes shall be mechanically compacted in 12-inch (300 mm) lifts symmetrically around the perimeter of the manhole up to the frame and cover, and in accordance with Subsection 660.3.05.
6. Manholes shall be set flush with finished pavement grades where located beneath roadways, sidewalks, or other paved surfaces.
7. All lifting holes or equipment mounting holes shall be filled in completely and made watertight per manufacturer's recommendations.

I. Connections to Existing Manholes

1. Whenever new sewers are connected to existing manholes, pipe openings shall be core drilled with approved equipment to accommodate new pipe. Such connections to existing manholes shall be installed in accordance with manufacturer's recommendations for neoprene boot, link seal or equal. All cuts shall be coated with an appropriate protective coating.
2. The bottom of the manhole shall be reworked and shaped to accommodate the new connections.

J. Laying Sewer Laterals and Appurtenances

1. Except as modified in this Section, construct and install sewer laterals according to the Plans and the requirements for laying sewer mains. Install service lines at locations shown on the Plans or where designated by the Utility Owner and GDOT Project Coordinators.
2. Trench depth and backfill cover may be adjusted at the discretion of the Utility Owner and GDOT Project Coordinators to provide at least 18 inches (450 mm) of cover.
3. Install wyes or tees in the locations shown on the Plans for connection of existing or future service lines. Install laterals with proper grade and alignment to the property line shown on the Plans.
4. New laterals shall extend from the sewer main to the edge of the right-of-way (no more than 5 feet (1.5 m) from the edge of the right-of-way line) where they shall be plugged using a stopper of appropriate size. Sewer laterals shall be tapped into sewer trunk lines using the appropriate tapping machine.
5. Laterals shall be bedded and backfilled in accordance with bedding requirements shown on the Plans and specified herein.
6. Lateral connections shall not be made by knocking a hole in the main or manhole, inserting the lateral pipe, and sealing with grout.
7. Unless otherwise indicated in the Plans or The Facility Owner's Standard Specifications, sewer laterals shall be a minimum of 6 inches (150 mm) in diameter and shall extend from the main and terminate with a clean-out constructed at the edge of right-of-way.

K. Cutting and Capping Existing Sewer Mains

Disconnect by sawing or cutting and removing a segment of existing pipe where cutting and capping or plugging is shown on the Plans or directed by The Facility Owner's or GDOT Project Coordinators. Provide a watertight pipe cap or plug and restraint mechanism to seal off existing mains indicated to remain in service. If sewer main is to be abandoned or removed and not specified to be grout filled, seal ends with a pipe cap or plug or with a masonry plug and minimum 6-inch (150 mm)

cover of concrete on all sides around the end of the pipe.

1. The Contractor shall be responsible for uncovering and verifying the size and material of the existing main to be capped or plugged.
2. Abandoned manholes and sewer mains larger than 6 inches (150 mm) shall be removed or filled with flowable fill per Section 600 at the locations indicated on the Plans. Air release valves along abandoned pressure pipe shall be plugged prior to grouting. Prior to backfilling, the bottom of the manhole shall be broken up in such a manner that water will readily pass through and all pipes entering the manhole shall be plugged or grout filled. The top portion of the manhole structure shall be removed in order to establish a minimum of 3 feet cover from subgrade or finished grade when not under the pavement and filled with sand or suitable backfill. Openings in existing manhole where a connecting main was abandoned shall have the opening plugged and the flow channel / bench modified as required.
3. Sewer mains shall be cleaned prior to placement of flowable fill. Use concrete or grout pumps capable of continuous delivery at planned placement rate with sufficient pressure to overcome friction and fill the sewer main.

L. Cured-In-Place Pipe (CIPP) Liner Installation

1. Work shall only be performed by personnel trained, experienced, and skilled in the CIPP process.
2. Bypass Pumping: Provide bypass pumping for the flow of sewage around the section or sections of pipe designated for renovation. Accomplish bypass pumping by plugging the line at an existing upstream manhole and pumping the flow into a downstream manhole. Pump sizing shall be adequate to handle the flow. Provide bypass pumping during pre-installation and post-installation video inspections and during the CIPP liner installation.
3. Pre-Installation: Inspect pipelines for breaks, obstacles, and service connections by close circuit television (CCTV) and produce permanent video record (DVD). Camera used for inspection shall be equipped with rotating head that is capable of 90 degree rotation for horizontal and 360 degree rotation about its centerline and has a minimum resolution of 400 vertical lines and 460 horizontal lines. Camera shall be operative in 100% humidity. Utilize power winches, TV cable, and power rewinds to move camera through sewer line at a speed less than 30 feet (10 m) per minute. Provide voice over description on the video with stationing of services and areas for point repair indicated on the video. Inspect interior of pipeline to determine existing conditions that may prevent proper installation of the CIPP pipeliner. Designate areas for point repair by evaluating any obstructions that can't be removed by conventional sewer cleaning equipment such as a protruding service connection, dropped joint, or collapse. Confirm locations for all branch service connections. Transfer possession and property rights of the inspection video record to the Utility Owner.
4. Cleaning: Clear the line of all solids and roots. Remove all internal debris from the sewer line to prevent interference with the CIPP. Properly dispose of all debris removed from the sewer line.
5. Point Repair: Excavate and repair any protruding service connection, dropped joint, or collapsed pipe observed during the inspection process.
6. Customer sewer service shall be maintained throughout the duration of the project whenever possible. If maintaining customer sewer service is not possible, limit outage duration for sewer customers to a maximum of 8 hours. Each home or business being affected shall be contacted and informed of the work being conducted, when service will be unavailable, and the duration of the outage. Contact shall be made a minimum of 7 calendar days prior to service outage. Deliver a written notice to each affected home or business a minimum of one business day prior to beginning work informing them when service will be unavailable, the duration of the outage, and a local telephone number for customers to call and discuss any issues.
7. Install CIPP in accordance with ASTM F1216, Section 7, or ASTM F1743, Section 6 with the following modifications:
 - a. Quantity of resin used for tube impregnation is sufficient to fill the volume of air voids in the tube with additional allowances for polymerization shrinkage and the loss of resin through cracks and irregularities in the original pipe wall.
 - b. Thorough resin saturation is achieved throughout the length of the felt tube.

- c. Point of vacuum is not further than 25 feet from the point of initial resin introduction.
 - d. Vacuum point is no further 75 feet from the leading edge of the resin after a vacuum in the tube is established.
 - e. Leading edge of the resin slug is as near to perpendicular as possible.
8. Tube insertion: Position the wetout tube in the pipeline using either inversion or a pull-in method. If pulled into place, utilize power winching equipment suitable for intended purpose and ensure the tube is not damaged as a result of pull-in friction. The tube shall be pulled-in or inverted through an existing manhole or approved access point and shall extend fully to the next designated manhole or termination point.
 9. Temperature Monitoring: Place temperature gauges inside the tube at the invert level of each end and monitor the temperature during the CIPP cure cycle.
 10. Reopen service connections without excavation.
 11. Following installation and reinstatement of service connections, perform post-installation inspection utilizing CCTV requirements for pre-installation.
 12. Perform visual inspection of the CIPP pipeliner in accordance with ASTM F1743, Section 8.6.
 13. Prepare CIPP pipeliner samples and test physical properties in accordance with ASTM F1216 or ASTM F1743, Section 8, using either method proposed. Flexural properties shall meet or exceed the values listed in Table 1 of the applicable ASTM. Provide for testing of flexural properties and reporting of test data for each line segment by an independent testing laboratory accredited by AASHTO Accreditation Program.
 14. Obtain wall thickness samples for analysis from each line segment installed and at the end farthest from the cure source. Determine wall thickness of samples as described in paragraph 8.1.6 of ASTM F1743. The minimum wall thickness at any point shall not be less than 87.5% of the design thickness as specified in Subsection 660.2.01. Provide for testing of wall thickness samples and reporting of test data for each line segment by an independent testing laboratory accredited by AASHTO Accreditation Program.

M. Relocating, Adjusting, and Removing

1. Sewer Valves and Air Release Valves
 - a. Relocate, adjust to grade, or remove valves and valve boxes according to the Plans or as designated by the GDOT Project Manager and Utility Owner.
 - b. Protect items during removal and relocation. Contractor shall replace lost or damaged Items at no expense to GDOT.
 - c. Disconnect each joint before removing items from the trench.
 - d. Test for leakage, adjust, and retest until no leaks appear.
 - e. Backfill as specified in Subsection 660.3.05.
 - f. Consider valve boxes part of the valve assembly and remove them intact with the valve.
2. Existing Valve Boxes
 - a. Lower, raise, or relocate existing valve boxes to the location and grade established on the Plans or by the GDOT Project Manager and Utility Owner according to Section 611.
3. Lift Stations
 - a. Demolish and install new lift station as indicated on the Plans.
4. Manholes
 - a. Frames and covers shall be removed and manhole shall be adjusted to grade. Adjustment shall be made by adding or removing brickwork, concrete, riser rings, or other materials in accordance with the Plans and The Facility Owner's.
 - b. Within roadways, manholes shall be brought to final grade prior to paving. A minimum area of 12 inches (300 mm) wide (from edge of manhole ring) and a minimum of 12 inches deep shall be excavated around the adjusted frame and cover prior to final paving. The excavated area shall be brought to the grade of the roadway base material with a minimum of 3,000 psi concrete in preparation of final paving.

5. Utility related items identified on the Plans to be salvaged are the property of the Utility Owner. Contractor shall coordinate with Utility Owner on delivery of salvaged materials. Should the Utility Owner choose to not accept these materials they shall be removed from the project site as soon as practical.

N. Aerial Crossings

1. When the aerial crossing is accomplished by attachment to a bridge or drainage structure, the crossing shall meet all requirements of the agencies that own or have jurisdiction over such structures.
2. Support must be provided for all joints in pipes utilized for aerial crossings. The supports must be installed to prevent frost heave, overturning, and settlement. Precautions against freezing, such as insulation and increased slope, must be provided.
3. Expansion joints shall be provided between above ground and below ground sewers. Where buried sewers change to aerial sewers, construction shall minimize frost heaving.
4. Aerial installations shall avoid or minimize stream blockage during normal high water events.
5. For pressure pipe, underground valves shall be provided at both ends of the aerial crossing so that the section can be isolated for testing or repair. The valves shall be restrained, easily accessible, and not subject to flooding. An air release/vacuum relief valve shall be installed at all high points along the aerial crossing.
6. Appropriate guards shall be installed at both ends of the aerial crossing to prevent public access to the pipe.

660.3.06 Quality Acceptance

A. Materials Certification

For certain products, assemblies and materials, in lieu of normal sampling and testing procedures by the Contractor, the GDOT, and Utility Owner may accept from the Contractor the manufacturer's certification with respect to the product involved under the conditions set forth in the following paragraphs:

1. Material certifications shall be provided to GDOT, who shall distribute to the Utility Owner. Material certifications shall be approved by GDOT and the Utility Owner prior to construction. The certification shall state/specify that the named product conforms to these specifications and requirements of the Utility Owner and GDOT, and representative samples thereof have been sampled and tested as specified.
2. The certification shall either:
 - a. Be accompanied by a certified copy of the test results, or on GDOT QPL list, or
 - b. Certify such test results are on file with the manufacturer and will be furnished to the GDOT Project Manager and Utility Owner upon demand.
3. The certification shall state/specify the name and address of the manufacturer and the testing agency and the date of tests; and sets forth the means of identification which shall permit field determination of the product delivered to the project as being the product covered by the certification.
4. Submit certification with two copies of the covered product to the GDOT Project Manager, and Utility Owner.
5. GDOT or the Utility Owner will not be responsible for any costs of certification or for any costs of the sampling and testing of products in connection therewith.
6. GDOT and the Utility Owner reserve the right to require samples and test products for compliance with pertinent requirements irrespective of prior certification of the products by the manufacturer. Any materials that fail to meet specification requirements will be rejected.
7. In accordance with the BUY AMERICA requirements of the Federal regulations (23 U.S.C. 313 and 23 CFR 635.410) all manufacturing processes for steel and iron products or predominantly of steel or iron (at least 90% steel or iron content) furnished for permanent incorporation into the work on this project shall occur in the United States. The only exception to this requirement is the production of pig iron and the processing, pelletizing and reduction of iron ore, which may occur in another country. Other than these exceptions, all melting, rolling, extruding, machining, bending, grinding, drilling, coating, etc. must occur in the United States.

- a. Products of steel include, but are not limited to, such products as structural steel piles, reinforcing steel, structural plate, steel culverts, guardrail steel supports for signs, signals and luminaires. Products of iron include, but are not limited to, such products as cast iron frames and grates and ductile iron pipe. Coatings include, but are not limited to, the applications of epoxy, galvanizing and paint. The coating material is not limited to this clause, only the application process.
- b. Records to be provided by the Contractor for this certification shall include a signed mill test report and a signed certification by each supplier, distributor, fabricator, and manufacturer that has handled the steel or iron product affirming that every process, including the application of a coating, performed on the steel or iron product has been carried out in the United States of America, except as allowed by this Section. The lack of these certifications will be justification for rejection of the steel and/or iron product or nonpayment of the work.
- c. The requirements of said law and regulations do not prevent the use of miscellaneous steel or iron components, subcomponents and hardware necessary to encase, assemble and construct the above products, manufactured products that are not predominantly steel or iron or a minimal use of foreign steel and iron materials if the cost of such materials used does not exceed one-tenth of one percent (0.1%) of the total contract price or \$2,500.00, whichever is greater.

B. Hydrostatic Testing of Pressure Pipe

1. When the Utility Owner and GDOT Project Manager approve a section of pressure pipe for testing, the Contractor shall furnish the materials, equipment, and labor to conduct the pressure and leakage tests. Use a test pump, pressure gauge, and a means of measuring the water necessary to maintain the required pressure during the prescribed testing time. All pressure and leakage testing shall be done in the presence of the Utility Owner and GDOT Project Manager as a condition precedent to the approval and acceptance of the system. All pipes shall have been thoroughly flushed prior to testing. Simultaneous or separate pressure and leakage tests may be performed.
2. All water for testing and flushing shall be water provided by the Contractor, at no cost to the Utility Owner or GDOT, from an approved source. Flow velocity during line filling shall not exceed 2 feet (0.6 m) per second (fps).
3. Testing Requirements
 - a. Force main testing shall be done immediately after installation and backfilling has been completed.
 - b. Force mains shall be tested in accordance with the latest revision of AWWA C600 for ductile iron and C605 for PVC under an average hydrostatic pressure of the greater of 1.5 times the maximum working pressure or 150 psi as measured at the lowest point in the system for a minimum of 2 hours. Pressure shall be maintained until all sections under testing have been checked for evidence of leakage.
 - c. While the system is being filled with water, air shall be carefully and completely exhausted. If permanent air vents are not located at all high points, the Contractor shall install corporation stops or fittings and valves at such points at no additional expense to the Utility so the air can be expelled as the pipe system is slowly filled.
 - d. Makeup water shall be added, as required, to maintain the pressure within 5 psi of the test pressure. The quantity used shall be measured by pumping from a calibrated container. The maximum amount of makeup water allowed shall be determined by the following formula:

$$L = \frac{SD P^{0.5}}{148,000}$$

148,000

in which,

L = Allowable Leakage in gallons per hour

S = Length of pipe being tested in feet

D = Nominal pipe diameter in inches

P = Average test pressure during the test in psi gauge

- e. Visible leaks shall be corrected regardless of total leakage shown by test. All pipe fittings and other materials found to be defective under test shall be removed and replaced. Lines which fail to meet test requirements shall be repaired and retested as necessary until test requirements are met. No additional compensation shall be made for repairs or retesting.

C. Alignment Testing

1. Straight alignment of gravity sewers shall be checked by either using a laser beam or lamping. Each segment between manholes shall show at least 90% of the full pipe circle visible when looking from manhole to manhole.

D. CCTV Inspection

1. All new gravity sewers shall be inspected via closed-circuit televising (CCTV) in accordance with The Facility Owner's Standard Specifications. The Contractor shall thoroughly clean the entire sewer system by jetting or applicable methods prior to the TV inspection. If conditions indicate repairs are necessary, re-televising may be required. The initial inspection shall be scheduled with the Utility Owner and GDOT Project Manager when the Contractor advises that all sewer lines are ready for testing.

2. All TV inspections shall be performed by persons and/or firms qualified in such work.
3. The Contractor shall provide the TV inspection deliverables according to the format indicated in The Facility Owner's Standard Specifications.

E. Manhole Vacuum Testing

1. A vacuum test shall be performed on each manhole to assure water-tightness in accordance with ASTM C1244. The manholes shall be tested separately from sewer lines.
2. If the manhole fails the initial test, necessary repairs shall be made at the Contractor's expense and the manhole retested until a satisfactory test is obtained.

F. Deflection Testing

Utility Owner may require deflection tests utilizing a mandrel to be performed on flexible gravity sewer pipes. Deflection tests shall be conducted after the final backfill has been in place to permit stabilization of the soil-pipe system and follow the requirements of The Facility Owner's Standard Specifications. No mechanical pulling devices shall be used. All pipes not passing this mandrel shall be re-laid or replaced by the Contractor at no additional cost to GDOT or Utility Owner.

G. Leakage Testing

1. The Contractor shall conduct tests to determine the water-tightness of gravity sewers when completed. The Utility Owner shall observe the tests with the Contractor furnishing all required labor, equipment, and materials.
2. Sewers shall be tested in sections with each section extending between two adjacent manholes or from the end of the sewer to the nearest manhole. The Contractor shall utilize an infiltration test, an exfiltration test, or a low pressure air test at the direction of the Utility Owner and in accordance with The Facility Owner's Standard Specifications.
 - a. Infiltration: Each section shall be covered with no less than two feet (0.6 m) of water above the top of the pipe at the highest point. The infiltration will be measured by means of a weir located in the downstream manhole. The pressure head of 2 feet (0.6 m) shall be maintained for a period of not less than 24 hours before the weir measurements are made.
 - b. Exfiltration: The sewer at the upstream side of the lower manhole and the upstream side of upper manhole in each section shall be closed with a watertight bulkhead and the sewer filled with water until the water elevation in the upstream manhole is not less than two feet (0.6 m) above the top of the sewer pipe or two feet (0.6 m) above ground water elevation in the trench, whichever is higher. The exfiltration will be determined by measuring the amount of water required to maintain the above stated water elevation for a period of one hour from the start of the test. The entire length of section to be tested shall be filled and maintained full of water for a period of approximately 24 hours prior to the start of the test.
 - c. The amount of exfiltration or infiltration shall not exceed 50 gallons per inch of pipe diameter per 24 hours per mile of sewer in each and every section tested in accordance with the above.
 - d. In the event the allowable leakage rates are not met, the Contractor shall determine the location(s) where excess water is entering or leaving the sewer. The sewer and/or the manholes shall be repaired and retested until the leakage in the sewer is within the allowable limits.
3. Air test: Low pressure air testing shall be completed to detect leaks in sewers where hydrostatic testing is not practical. The Contractor shall perform the low pressure air test as specified in ASTM C924 for concrete and Uni-Bell UNI-B-6-98 for plastic pipe.

660.3.07 Contractor Warranty and Maintenance

General Provisions 101 through 150.

660.4 Measurement

Incidentals including excavation, rock removal, backfilling, flushing, testing, temporary water connections, pavement removal, pavement replacement, and other incidentals required for the installation of sanitary sewer items are not measured for separate payment and shall be included in the applicable Pay Items below. Gravity sewer mains, manholes, force mains, and laterals, and associated items of work in this Specification, complete, in place, and accepted, are measured for payment as follows:

A. Ductile Iron Sewer Main

Ductile iron sewer mains shall be measured in linear feet (meters) for each size and thickness class installed. Measurement shall be horizontally above the centerline of the pipe and shall include the length of valves and fittings.

B. Ductile Iron Sewer Force Main

Ductile iron sewer force mains shall be measured in linear feet (meters) for each size and thickness installed. Measurement shall be horizontally above the centerline of the pipe and shall include the length of valves and fittings.

C. PVC Sewer Gravity Main

PVC sewer mains shall be measured in linear feet (meters) for each size and thickness installed. Measurement shall be horizontally above the centerline of the pipe and shall include the length of valves and fittings.

D. Fusible PVC Sewer Main

Fusible PVC sewer mains shall be measured in linear feet (meters) for each size and type installed. Measurement shall be horizontally above the centerline of the pipe and shall include the length of valves and fittings.

E. HDPE Sewer Main

HDPE sewer mains shall be measured in linear feet (meters) for each size and type installed. Measurement shall be horizontally above the centerline of the pipe and shall include the length of valves and fittings.

F. Concrete Sewer Main

Concrete sewer mains shall be measured in linear feet (meters) for each size and type installed. Measurement shall be horizontally above the centerline of the pipe and shall include the length of valves and fittings.

G. Ductile Iron Fittings

Ductile iron fittings shall be included in the overall pipe measurements acceptably installed. This Item includes, but is not limited to, wyes, tees, bends, crosses, sleeves, plugs and caps, and reducers.

H. Restrained Joints

Joint restraints used with the installation of PVC or ductile iron pipe shall be included in the overall pipe measurements acceptably installed on the number of each size restraint device installed.

I. Manholes

Manholes shall be measured on an individual basis on the depth and type of manhole acceptably installed in accordance to Section 668.

I. Drop Manholes

Drop Manholes shall be measured on an individual basis on the depth and type of manhole acceptably installed in accordance to Section 668.

J. Connection to Existing Manholes

Connections to existing manholes shall be included in the Contract price for sewer line connection acceptably installed.

K. Gate Valves

Gate valves shall be measured on an individual basis for each size valve and box assembly acceptably installed.

L. Check Valves

Check valves shall be measured on an individual basis on the number of each size valve and box assembly acceptably installed.

M. Plug Valves

Plug valves shall be measured on an individual basis on the number of each size valve and box assembly acceptably installed.

N. Tapping Sleeve and Valve Assembly

Tapping sleeve and valve assemblies shall be measured on an individual basis on the number of each size tapping sleeve and valve assembly acceptably installed.

O. Sewer Laterals

Sewer laterals shall be measured on an individual basis on the size of lateral acceptably installed.

P. Cleanouts

Sewer laterals shall be measured on an individual basis on the number of each cleanout acceptably installed.

Q. Air Release Valve Assemblies

Air release valve assemblies shall be measured on an individual basis on the number of each size and type of air release valve assembly acceptably installed.

R. Steel Casing

Steel casing pipe of the wall thickness and diameter specified shall be measured by the linear foot for each size and thickness of steel casing pipe installed. Measurement shall be horizontally above the centerline of the casing.

S. Relocation of Existing Air Release Valves

Relocation of existing air release valves shall be measured on an individual basis on the number of each acceptably relocated.

T. Adjustment of Existing Valve Boxes to Grade

Adjustment of existing valve boxes adjusted to grade in their original locations shall be measured on an individual basis on the number of each valve box acceptably adjusted in accordance with section 611.

U. Removal of Air Release Valves

Removal of existing air release valves shall be measured on an individual basis on the number of each removed.

V. Removal of Manholes

Removal of existing manholes shall be measured on an individual basis on the number of each manhole removed in accordance to Section 610.

W. Adjustment of Manholes

Adjustment of existing manholes adjusted to grade in their original locations shall be measured on an individual basis on the number of each manhole acceptably adjusted in accordance to Section 611.

X. Reconstruct Manhole

Reconstruction of existing manholes to grade in their original locations shall be measured on an individual basis on the number of each acceptably reconstructed manhole in accordance to Section 611.

Y. Adjustment of Cleanout

Adjustment of cleanouts to grade shall be measured on an individual basis on the number of each cleanout acceptably adjusted in accordance to Section 611.

Z. Concrete Thrust Blocks

Concrete thrust blocking installed shall be measured as indicated in Section 500 per cubic yard of concrete acceptably installed. When Concrete Thrust Blocks is not shown as a pay item, include the cost of the work in the bid price for the sewer pipe.

AA. Concrete Thrust Collars

Thrust collars shall be measured on an individual basis on the number of each size thrust collar acceptably installed. When Concrete Thrust Collars is not shown as a pay item, include the cost of the work in the bid price for the sewer pipe.

BB. Cut and Plug Sewer Main

Cutting and plugging of sewer mains shall be measured on an individual basis per each instance of cutting and plugging existing mains as shown on the Plans.

CC. Removal of Sewer Mains

Removal of sewer mains shall be measured per linear foot for each size pipe actually removed in accordance to Section 610. Measurement shall be horizontally above the centerline of the pipe removed and shall include the length of valves and fittings.

DD. Line Stop

Line stops shall be measured on an individual basis on the number of each size line stop actually installed.

EE. Flowable Fill

Flowable fill shall be measured as indicted in Section 600 per cubic yard of flowable fill acceptably installed. When flowable fill is not shown as a pay item, include the cost of the work in the bid price for the appropriate item.

FF. Cured-In-Place-Pipe (CIPP) Liners

CIPP liners shall be measured per linear foot for each size CIPP installed. Measurement shall be horizontally above the centerline of the host pipe from center of manhole to center of manhole.

GG. Insertion Valve

Insertion valves shall be measured on an individual basis on the number of each size valve acceptably installed.

HH. Closed Circuit Television (CCTV) Inspection

CCTV inspection shall be measured per linear foot of CCTV inspection price to be included in the Contract price for sewer pipe acceptably performed.

II. Three-Dimensional (3D) Survey

Three-dimensional survey shall be measured as one lump sum for a complete and accepted survey price to be included in the Contract price for sewer pipe acceptably performed.

JJ. Temporary Bypass Pumping System Setup and Decommissioning

Each set-up and Decommissioning for 3"-6" pumps will be measured separately. Each "Set-Up and Decommissioning" pay item shall include all costs associated with providing of the pumping equipment and up to 400 feet of discharge main. If additional discharge main is required to reach the designated discharge point, this additional discharge main will be measured by the linear foot and be paid for at the appropriate pay item.

KK. Temporary Bypass Pumping

The operation of the pumps (3"-6") will be measured on the actual hourly time used.

660.4.01 Limits

General Provisions 101 through 150.

660.5 Payment

The Contract Unit Price for each Item, complete and accepted, shall include all costs incidental to the construction of the item according to the Plans and as specified in this Section. The unit prices bid shall include due allowance for the salvage value of all materials removed from existing or temporary lines and not installed in the completed work. All such surplus items shall become the property of the Contractor unless such surplus items are specified to be salvaged.

Payment for any item listed below is full compensation for the Item or Items complete in place.

A. Ductile Iron Sewer Mains

Ductile iron sewer mains shall be paid for at the unit price per linear foot for each diameter pipe installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of pipe, joints and jointing materials, anchoring, warning tape, polyethylene encasement, protection of existing utilities, connections to existing mains, flushing, backfilling, backfill materials, disposal of unsuitable backfill material, clean backfill, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to place the pipe into service.

B. PVC Force Main

PVC sewer mains shall be paid for at the unit price per linear foot for each diameter and thickness pipe installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of pipe, joints and jointing materials, anchoring, tracer wire, warning tape, protection of existing utilities, connections to existing mains, flushing, backfilling, backfill materials, disposal of unsuitable backfill material, clean backfill, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to place the pipe into service.

C. PVC Gravity Main

PVC sewer mains shall be paid for at the unit price per linear foot for each diameter and thickness pipe installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of pipe, joints and jointing materials, tracer wire, warning tape, protection of existing utilities, connections to existing mains, flushing, backfilling, backfill materials, disposal of unsuitable backfill material, clean backfill, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to place the pipe into service.

D. Fusible PVC Sewer Main

Fusible PVC sewer mains shall be paid for at the unit price per linear foot for each diameter pipe installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, entry/exit pits, installation of pipe, joints and jointing materials, tracer wire, warning tape, mechanical joint adapters, protection of existing utilities, connections to existing sewer mains, fusion process materials and equipment, directional drilling materials and equipment, tracking system, assembling, welding, supporting, stringing, pulling, pigging, cleaning, flushing, backfilling, backfill materials, disposal of unsuitable backfill material, clean backfill, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, and restoration, and all incidentals necessary to place the pipe into service except where such items are shown to be paid for under a separate Pay Item.

E. HDPE Sewer Main

HDPE sewer mains shall be paid for at the unit price per linear foot for each diameter pipe installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, entry/exit pits, installation of pipe, tracer wire, warning tape, mechanical joint adapters, protection of existing utilities, connections to existing mains, fusion process materials and equipment, directional drilling materials and equipment, tracking system, assembling, welding, supporting, stringing, pulling, pigging, cleaning, flushing, backfilling, disposal of unsuitable backfill material, clean backfill, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, and restoration,

and all incidentals necessary to place the pipe into service except where such items are shown to be paid for under a separate Pay Item.

F. Concrete Sewer Main

Concrete sewer mains shall be paid for at the unit price per linear foot for each diameter pipe installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of pipe, anchoring, tracer wire, warning tape, protection of existing utilities, connections to existing mains, flushing, backfilling, backfill materials, disposal of unsuitable backfill material, clean backfill, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to place the pipe into service.

G. Ductile Iron Fittings

Ductile iron fittings will not be paid for separately but shall be included in the overall pipe measurements acceptably installed each fitting as denoted in the manufacturers' catalogues and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of fittings, joints and jointing materials, anchoring, warning tape, polyethylene encasement, protection of existing utilities, flushing, backfilling, backfill materials, disposal of unsuitable backfill material, clean fill, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, all other related and necessary materials, work, and equipment required to install a complete and operable pipeline fitting. This Item includes, but is not limited to, wyes, tees, bends, crosses, sleeves, plugs and caps, couplings, and reducers.

H. Restrained Joints

Restrained joints not be paid for separately but shall be included in the overall pipe measurements acceptably installed each fitting as denoted and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting, shoring, installation of the restraint device, polyethylene encasement, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, clean fill, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to install the restrained joint.

I. Gate Valves

Gate valves shall be paid for at the unit price per each size gate valve and box assembly installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of the gate valves including valve box, concrete pad or collar, valve identification disc, valve marker, valve tag, polyethylene encasement, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, clean fill, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to install the gate valve and place it in service.

J. Plug Valves

Plug valves shall be paid for at the unit price per each size plug valve and box assembly installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of the butterfly valves (including valve box), concrete pad or collar, valve identification disc, valve marker, valve tag, polyethylene encasement, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, clean fill, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to install the plug valve and place it in service.

K. Check Valves

Check valves shall be paid for at the unit price per each size check valve and box assembly installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of the check valves, concrete vault or manhole, concrete pad or collar, valve identification disc, valve marker, valve tag, polyethylene encasement, protection of existing utilities, backfill material, disposal of unsuitable backfill materials, clean fill, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration and all work and materials necessary to install the check valve and place it in service.

L. Tapping Sleeve and Valve Assembly

Tapping sleeve and valve assemblies shall be paid for at the unit price per each size tapping sleeve and valve assembly installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of tapping sleeves and valve assemblies including valve box, concrete pad or collar, valve marker, polyethylene encasement, protection of existing utilities, tapping the force main, backfilling, backfill material, disposal of unsuitable backfill materials, clean fill, tamping, testing, densities utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and necessary hardware to install the tapping sleeve and valve assembly and place it in service.

M. Manholes

Sanitary sewer manholes shall be paid for at the unit price in accordance to Section 668 ,according to the depth and type of each manhole installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of manholes including ring and covers, inverts, coatings, protection of existing utilities, backfill material, disposal of unsuitable backfill materials, clean fill, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to install the manhole and place into service.

N. Drop Manholes

Sanitary sewer drop manholes shall be paid for at the unit price per each manhole installed in accordance to Section 668 and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of manholes including ring and covers, inverts, coatings, outside drop piping and fittings, concrete encasement, protection of existing utilities, backfill material, disposal of unsuitable backfill materials, clean fill, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to install the manhole and place into service.

O. Connections to Existing Manholes

Connections to existing manholes shall be paid for in the Contract Price for sewer pipe and shall cover the cost for all material, transportation, labor, equipment, excavation, sheeting and shoring, installation of manhole connection, rework of inverts, grout, coatings, protection of existing utilities, backfill material, disposal of unsuitable backfill materials, clean fill, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, bypass pumping (as required), restoration, and all work and materials necessary to acceptably install the manhole connection.

P. Sewer Laterals

Sewer laterals shall be paid for at the unit price per size of each size installed to the property line and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, piping, installation of sewer lateral including connection to existing pipe, cleanout, cleanout marker, fittings including wyes, bends, pipe, cap with screw plug, tracer wire, casting, concrete collar or pad, valve box and cover, bypass pumping (as required), protection of existing utilities, backfilling, backfill materials, disposal of unsuitable backfill material, clean fill, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to place the sewer lateral into service.

Q. Cleanouts

Sewer cleanouts shall be paid for at the unit price per each cleanout installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, piping, installation of cleanout including connection to existing pipe, fittings including wyes, bends, pipe, cap with screw plug, tracer wire, casting, concrete collar or pad, valve box and cover, bypass pumping (as required), protection of existing utilities, backfilling, backfill materials, disposal of unsuitable backfill material, clean fill, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to place the cleanout into service.

R. Air Release Valve Assembly

Air release valves shall be paid for at the unit price per each size and type of air release valve installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of the air release assembly, tapping saddle, isolation valve, reducers, piping, restraints, fittings, tracer wire, concrete manhole or vault, protection of existing utilities, backfilling, backfill materials, disposal of unsuitable backfill material, clean fill, tamping,

testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to place the air release assembly into service.

S. Steel Casing

Steel casing pipe shall be paid for at the unit price per linear foot according to the diameter and thickness of the steel casing installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, protection of existing utilities, steel casing pipe, skid, steel straps, coatings, casing spacers, end seals, boring and jacking pits, backfilling, backfill materials, disposal of unsuitable backfill material, clean fill, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to install the steel casing except where such items are shown to be paid for under a separate Item. The carrier pipe shall be paid for as a separate Pay Item.

T. Relocation of Existing Air Release Valves

Relocation of air release valves shall be paid for at the unit price per each air release valve assembly relocated and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheet and shoring, removal of existing air release valve assembly, installation at location indicated in Plans, piping, restraints, tracer wire, fittings, adjustment to final grade, polyethylene encasement, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, clean fill, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, and all work necessary to locate, remove, and relocate the air release valve except where such items are shown to be paid for under a separate Pay Item.

U. Adjustment of Existing Valve Boxes to Grade

Adjustment of existing valve boxes shall be paid for which shall be paid for in accordance with Section 611, at the unit price per each valve box adjusted to final grade and shall cover the cost of all materials, transportation, labor, equipment, excavation, sheeting and shoring, valve case and lid, trench adapter and operating nut extensions/reductions, tracer wire and splices, tracer wire riser and threaded plug, concrete pad, valve identification disc, backfilling, backfill material, disposal of unsuitable backfill materials, clean fill, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to adjust the valve box.

V. Adjustment of Existing Manhole to Grade

Manhole tops to be raised or lowered 2 feet (0.6 m) or less are considered adjustment of existing manholes, which shall be paid for in accordance with Section 611, at the unit price per each manhole adjusted to final grade and shall cover the cost of all materials, including new ring and covers for sanitary manholes, transportation, labor, equipment, plugs, riser sections, brick and mortar, adjustment rings, reconstruct flow channel, excavation, sheeting and shoring, backfilling, backfill material, disposal of unsuitable backfill materials, clean fill, tamping, testing, densities, dewatering, trench stabilization, clean-up, bypass pumping (as required), restoration, and all work and materials necessary to install the new ring and cover and adjust to final grade.

W. Reconstruct Existing Manhole

Manhole tops to be raised between 2 feet (0.6 m) and 6 feet (1.5 m), or tops to be lowered more than 2 feet (0.6 m) are considered the reconstruction of an existing manhole, which shall be paid for which shall be paid for in accordance with Section 611, at the unit price per each manhole adjusted to final grade and shall cover the cost of all materials, including new ring and covers for sanitary manholes, transportation, labor, equipment, plugs, riser sections, brick and mortar, excavation, sheeting and shoring, backfilling, backfill material, disposal of unsuitable backfill materials, clean fill, tamping, testing, densities, dewatering, trench stabilization, clean-up, bypass pumping (as required), restoration, and all work and materials necessary to reconstruct the manhole. Tapping a new pipeline into an existing manhole is not considered reconstruction.

X. Adjustment of Cleanout

Adjustment of cleanouts shall be paid for at the unit price per each cleanout adjusted to finished grade and shall cover the cost of all materials, including transportation, labor, equipment, excavation, sheeting and shoring, backfilling, backfill material, disposal of unsuitable backfill materials, clean fill, tamping, testing, densities, dewatering, trench stabilization, clean-up, bypass pumping (as required), restoration, and all work and materials necessary to adjust the cleanout to final

grade.

Y. Removal of Manhole

Removal of manholes shall be paid for which shall be paid for in accordance with Section 610, at the unit price per each manhole removed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheet and shoring, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, clean fill, tamping, testing, densities, dewatering, trench stabilization, clean-up, bypass pumping (as required), restoration, and all work necessary to remove and dispose of manholes including ring and covers.

Z. Removal of Air Release Valve

Removal of air release valves shall be paid for which shall be paid for in accordance with Section 610, at the unit price per each air release valve removed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, removal of air release valve assemblies, piping, manholes, concrete vaults and fabricated enclosures, backfilling, backfill materials, disposal of unsuitable backfill materials, clean fill, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, storage and delivery of air release valves identified to be salvaged, and all work necessary to remove the air release valve.

AA. Concrete Thrust Blocks

Concrete thrust blocks shall be paid for at the unit price per cubic yard of concrete complete in place as indicated in Section 500 and shall cover the cost of all materials, transportation, labor, equipment, excavation, sheeting and shoring, concrete, forming, reinforcement, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, clean fill, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to install a complete thrust block. Concrete Thrust Blocks is not shown as a pay item; include the cost of the work in the bid price for the sewer pipe.

BB. Concrete Thrust Collars

Concrete thrust collars shall be paid for at the unit price per each size of thrust collar and shall cover the cost of all materials, transportation, labor, equipment, excavation, sheeting and shoring, reinforced concrete thrust collars, retainer glands, reinforcement, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, clean fill, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to install a complete thrust collar. Concrete Thrust Collars is not shown as a pay item; include the cost of the work in the bid price for the sewer pipe.

CC. Removal of Sewer Mains

Removal of sewer mains shall be paid for which shall be paid for in accordance with Section 610, at the unit price per linear feet (meters) of the size of sewer main to be removed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, clean fill, tamping, testing, densities, dewatering, trench stabilization, clean-up, bypass pumping (as required), restoration, and all work and materials necessary to locate, remove and dispose of the pipe and associated appurtenances. Unless indicated for removal as a separate Pay Item, appurtenances to be removed shall include but not be limited to fittings, isolation valves, air release valves, valve boxes, steel casings, casing spacers, service laterals, thrust blocks, and concrete. All such surplus items shall become the property of the Contractor unless specified to be salvaged by the Utility Owner.

DD. Cut and Plug Existing Sewer Main

Cutting and plugging of existing sewer mains shall be paid for at the unit price per each installation and shall cover all materials, transportation, labor, equipment, excavation, sheeting and shoring, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, clean fill, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to cut and plug existing sewer mains except where such items are shown to be paid for under a separate Pay Item.

EE. Line Stops

Line stops shall be paid for at the unit price per each size line stop installed and shall cover the cost for all materials,

transportation, labor, equipment, excavation, sheeting and shoring, installation of the line stop assemblies, valves, valve boxes, fittings, restraints, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to install the gate valve and place it in service.

FF. Flowable Fill

Flowable fill shall be paid for at the unit price per cubic yard of flowable fill installed as indicated in Section 600 and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, flushing, plugging air release valves and service connections, plugging openings at manholes where abandoned main entered, installation of flowable fill, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, clean fill, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to complete the installation. When flowable fill is not shown as a pay item for the sewer items, include the cost of the work in the bid price for the appropriate item.

GG. Cured-In-Place-Pipe (CIPP) Liner

CIPP liners shall be paid for at the unit price per linear foot and diameter of liner acceptably installed and shall cover the cost for all materials, transportation, labor, equipment, bypass pumping, cleaning, root removal, flushing, coordination with and protection of existing utilities, distributing project notices, removal of protruding service connections, supplying and installing liner, reinstatement of service connections, inspection, testing, clean-up, restoration, and all work and materials necessary to complete the liner installation including incidentals and associated labor for which payment is not provided under a separate Pay Item. Point repairs shall be paid for under the unit price per linear foot of the diameter and material of pipe being replaced.

HH. Insertion Valve

Insertion valves shall be paid for at the unit price per each size valve inserted and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of the valve, valve boxes, fittings, restraints, concrete pad or collar, valve identification disc, valve marker, polyethylene encasement, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, clean fill, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to install the insertion valve and place it in service.

II. Closed Circuit Television (CCTV) Inspection

CCTV inspection shall be included in the Contract price for sewer pipe inspection acceptably performed and shall cover the costs for all materials, transportation, labor, equipment, excavation, sheeting, shoring, bypass pumping, protection of existing utilities, CCTV inspection, CDs / DVDs, inspection reports, clean-up, restoration, and all work and materials necessary to perform the CCTV inspection.

JJ. Three-Dimensional (3D) Survey

Three-dimensional survey shall be price to be included in the Contract price for sewer pipe, and shall cover the costs for all non-destructive methods of locating installed utilities and associated electronic deliverables per Utility Owner specifications.

KK. Temporary Bypass Pumping System Setup and Decommissioning

Payment shall be at the unit price for each location.

LL. Temporary Bypass Pumping

Payment for operation of pump (3"-6") shall be at the hourly unit bid price.

660.5.01 Adjustments

General Provisions 101 through 150.

APPENDIX

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

SPECIAL PROVISION

PROJECT: Courtesy Parkway Ext. From Flat Shoals Rd to Old Covington Hwy.

COUNTY: Rockdale

P.I.: # 231210-0013628

Section 670—Water Distribution System

Delete Section 670 and substitute the following:

670.1 General Description

This work consists of furnishing materials, labor, tools, equipment, and other items necessary for installing, removing, abandoning, relocating, and adjusting water distribution systems according to the Plans and Specifications.

670.1.01 Definitions

- A. General Provisions 101 through 150
- B. The term “The Facility Owner” shall be understood to mean “Rockdale Water Resources”.
- C. The term “Project Manager” shall mean the authorized individual having the authority to give instructions pertaining to the work and to approve or reject the work. The “Project Manager” shall not however be authorized to revoke, alter, enlarge, relax, or release any requirements of the Contract, Plans, and Specifications, nor shall they act as an agent for the Contractor. All Contract items pertaining to the Utility Owner shall be coordinated with the Georgia Department of Transportation’s (GDOT) Project Manager and the Utility Owner.

670.1.02 Related References

A. Standard Specifications

[Section 104—Scope of Work](#)

[Section 107—Legal Regulations and Responsibility to the Public](#)

[Section 108—Prosecution and Progress](#)

[Section 205—Roadway Excavation](#)

[Section 207—Excavation and Backfill for Minor Structures](#)

[Section 210—Grading Complete](#)

[Section 400—Hot Mix Asphaltic Concrete Construction](#)

[Section 444—Sawed Joints in Existing Pavements](#)

[Section 500—Concrete Structures](#)

[Section 600—Controlled Low Strength Flowable Fill](#)

[Section 611—Relaying, Reconstructing or Adjusting to Grade of Miscellaneous Roadway Structures](#)

[Section 615—Jacking or Boring Pipe](#)

[Section 810—Roadway Materials](#)

B. Related Documents

1. General Provisions 101 through 150.
2. All products supplied and all work performed shall be in accordance with The Facility Owner's Standard Specifications, applicable standards from American Society for Testing and Material (ASTM), American Water Works Association (AWWA), American National Standards Institute (ANSI), GDOT Utility Accommodation Policy and Standards, and the Georgia Environmental Protection Division (EPD) Minimum Standards for Public Water Systems. Latest revisions of all standards shall apply.

670.1.03 Submittals

A. General Provisions 101 through 150.

B. Refer to The Facility Owner's Standard Specifications, current published edition, for water utility submittal requirements. Copies of all submittals and documentation shall be submitted to GDOT, who shall distribute to the Utility Owner.

C. Shop Drawings / Product Data

1. Submit [6] copies of the following submittals to the GDOT Project Manager:
 - a. Product data, including size, dimension, capacity, pressure rating, accessories, and special features, installation instructions, and operating characteristics for all proposed materials to show compliance with the requirements of this Special Provision.
 - b. Test reports specified in the Quality Acceptance section of this Special Provision.
 - c. Pipe manufacturer certification of compliance with specifications.
 - d. Operation and maintenance literature, warranties, and other specified information.

D. Construction Record Documentation

1. The Contractor shall record on two sets of utility as-built drawings that will record changes and deviations from the Contract Drawings in sizes, lines or grade. Record also the exact final horizontal and vertical locations of underground utilities and appurtenances to an accuracy of +/- 0.2 ft, referenced to permanent surface improvements. Drawings shall utilize State Plane Coordinates and shall be legibly marked to record actual construction and submitted to GDOT no later than 30 days after installation and prior to Final Acceptance of the Project. The Utility Owner shall determine if the utility record drawings are complete prior to Final Acceptance of the project.
2. Record Drawings shall be signed and sealed by a professional engineer or land surveyor registered in the State of Georgia.
3. Record Drawings shall also be submitted in digital format as indicated in accordance with the Department's current Electronic Utility File Guidelines.
4. Except for standard bound materials, bind all 8.5"x11" (A4) documentation, including 11" x 17" (A3) drawings folded to 8.5"x11" (A4), in logical groupings in loose-leaf binders of either the 3-ring or plastic slide-ring type. Permanently and appropriately label each such bound grouping of documentation.

670.1.04 Quality Assurance

- A.** The Contractor shall comply with applicable codes, ordinances, rules, regulations and laws of local, municipal, state or federal authorities having jurisdiction over the Project.
- B.** Furnish manufactured items, pipe, fittings, valves, service components, and appurtenances from manufacturers having regularly produced such items as specified herein which have proven satisfactory in actual service, over at least a 2-year period, or as approved by the Utility Owner and GDOT.
- C.** Regardless of tolerances permitted by industry standards specified herein, the Utility Owner or the GDOT Project Manager may reject pipe or appurtenances at the manufacturing plant or project site which have cracks, chips, blisters, rough interior or exterior surface, evidence of structural weakness, joint defects, or other imperfections that might in the opinion of the Project Manager contribute to reduced functional capability, accelerated deterioration or reduced structural strength.
- D.** The Utility Owner and the Utility Owner's consultant shall have the right to visit and inspect the work at any time. The Utility Owner may also have an Inspector assigned to the project authorized to inspect portions or all of the utility work done and the preparation, fabrication, or manufacture of the materials to be used. The Utility Owner shall be able to advise GDOT Project Manager of any observed discrepancies or potential problems. The cost of these inspections shall be the responsibility of the Utility Owner.
- E.** GDOT shall notify the Utility Owner before authorizing any changes or deviations which might affect the Utility Owner's facilities. Contractor shall notify GDOT and Utility Owner a minimum of 24 hours prior to beginning work on utilities.
- F.** The Utility Owner shall be notified by GDOT Project Manager when all utility work is complete and ready for final inspection. The Utility Owner shall be invited to attend the final inspection and may provide a corrections list to GDOT Project Manager prior to the final inspection.
- G.** The Contractor shall verify the actual location and depth of all utilities prior to construction. All utilities and structures shall be protected during construction. Any damaged facilities shall be repaired or replaced at the Contractor's expense.

670.2 Materials

All materials provided shall be in conformance with the requirements and standards set forth in The Facility Owner's Standard Specifications, current published edition. All pipeline and appurtenance materials in contact with potable water shall be National Sanitation Foundation (NSF) 61 Certified and part of GDOT QPL list.

Pipes and appurtenances shall comply with Section 1417(a)(1) of the Safe Water Drinking Act as amended in 2011 which prohibits the use of any pipe, any pipe or plumbing fitting or fixture, and solder, or any flux, after June 1986, in the installation or repair of (i) any public water system; or (ii) any plumbing in a residential or non-residential facility providing water for human consumption, that is not lead free as defined in Section 1417(d).

670.2.01 Water Piping systems and Appurtenances

A. Ductile Iron Pipe and Fittings

- 1. Ductile iron pipe shall meet the latest edition of ANSI/AWWA C150/A21.50 and C151/A21.51 for the class and joint specified with a nominal laying length of 18 (5.5 m) to 20 feet (6 m). Joints for buried ductile iron pipe shall be mechanical or push-on joints. Unless specified otherwise in The Facility Owner's Standard Specifications, ductile iron pipe diameters 12 inch (300 mm) or less shall be minimum Pressure Class 350, while pipe diameters greater than 12 inch (300 mm) shall be minimum Pressure Class 250.
- 2. Ductile iron pipe for the interior of structures and above ground installations shall be flanged. Flanges shall be ductile iron and shall be threaded-on flanges conforming to ANSI/AWWA C115/A21.15 or cast-on flanges conforming to ANSI/AWWA C110/A21.10. The minimum class thickness for ductile iron flanged pipe to be threaded is Class 53.
- 3. Interior surfaces of ductile iron pipe and fittings shall be cement mortar lined in accordance with AWWA C104.

4. Ductile iron shall have an exterior coating as specified in AWWA C151 for ductile iron pipe and AWWA C153/C110 for ductile iron fittings.
5. Buried ductile iron pipe and fittings shall be polyethylene encased at locations indicated on the Plans or as conditions warrant. Polyethylene encasement tubing shall be in accordance with ANSI/AWWA C105/A21.5 and ASTM A674 and shall have a minimum thickness of 8 mils. Polyethylene encasement tubing shall be blue in color to designate potable water.
6. Fittings: Ductile iron fittings shall be epoxy coated and meet the requirements of ANSI/AWWA C153/A21.53 or ANSI/AWWA C110 A21.10 with a minimum pressure rating of 250 psi. Ends shall be restrained mechanical joint. All ductile iron fittings shall bear the NSF approval seal for potable water pipe.
7. Mechanical Joint Fittings: Mechanical joints consisting of bell, socket, gland, gasket, bolts, and nuts shall conform to ANSI/AWWA C111/A21.11.
8. Push-On Joints: Push-on joints shall be designed in accordance with ANSI/AWWA C111/A21.11. Joint lubrication shall be as furnished by the manufacturer.
9. Rubber gasket joints for push-on or mechanical joints shall conform to the requirements of ANSI/AWWA C111/A21.11.
10. Restrained Joints: Restrained joints shall be provided as shown on the Plans and where required for thrust restraint. Restrained joints shall not require field welding or grooves cut into the pipe barrel for restraint. The restraining joints for mechanical joint fittings shall conform to the requirements of ANSI/AWWA C111/A21.11 with assembly in conformance with AWWA C600 and manufacturer's recommendations. Restrained joints for pipe shall be mechanical joints with ductile iron retainer or push-on type joints and shall have a minimum rated working pressure of 250 psi.
11. Mechanical joint retainer glands may be used to restrain mechanical joint pipe and fittings to the plain end of ductile iron pipe and fittings. Restrainer glands shall be manufactured of ductile iron per ASTM A536.
12. Corrosion-resistant bolts used with ductile iron joints shall be high-strength, low-alloy steel as specified in ANSI/AWWA C111/A21.11.
13. Welded Outlets: Welded outlets in ductile iron pipe shall be provided where specified and indicated on the Plans. Outlets shall be fabricated by welding sections of ductile iron pipe manufactured in accordance with ANSI/AWWA C151/A21.51. Welded outlet pipe shall be fabricated only by the pipe manufacturer. The minimum ductile iron pipe thickness for fabrication of welded outlet pipe shall be Thickness Class 53 for 4-inch to 54-inch (100 to 1350 mm) diameter pipe. All joints on welded-on branch outlets shall be provided in accordance with the latest revision of ANSI/AWWA C111/A21.11 and/or ANSI/AWWA C115/A21.15, as applicable. After the outlets are welded together and prior to finishing, the assembly shall be subjected to a 15 psi air test for leakage. The maximum size and laying length of the welded-on branch outlet shall be recommended by the pipe manufacturer and acceptable to the Utility Owner for the field conditions and connecting pipe or valve.

B. Polyvinyl Chloride (PVC) Pipe

1. PVC pipe diameters 4-inch through 12-inch (100 mm to 300 mm) shall meet ANSI/AWWA C900 requirements, and shall be a minimum pipe dimension ratio (DR) 18, Pressure Class 235 psi. PVC pipe diameters 14-inch (350 mm) and greater shall meet ANSI/AWWA C905 requirements, shall be DR 18 minimum, Pressure Class 235 psi. Pipe shall have a bell with an integral wall section with a factory installed, solid cross section elastomeric ring in accordance with ASTM F477.
2. All PVC pipe shall be formulated for sunlight exposure, be blue in color to designate potable water, and bear the NSF approval seal.
3. Joints for 4-inch (100 mm) and larger PVC pipe shall meet the requirements of AWWA C900/C905, latest edition. The rubber gaskets used for the joints shall consist of flexible elastomeric material conforming to ASTM F477.

4. PVC pipe shall have the same outside diameter (OD) as ductile iron pipe and be compatible for use with ductile iron fittings.
5. Fittings for PVC pipe 4 inches (100 mm) and larger shall be ductile iron mechanical joint and comply with the requirements set forth in the specifications for Ductile Iron Pipe and Fittings.
6. Restrained Joints: Restrained joints shall be provided as shown on the Plans and where required for thrust restraint. Restrained joints shall comply with the requirements set forth in the specifications for Ductile Iron Pipe and Fittings.
7. Unless specified otherwise in the Plans or The Facility Owner's Standard Specifications, 2-inch (50 mm) and 3-inch (75 mm) diameter PVC pipe shall conform to the requirements of ASTM D2241 Class 1120 or 1220 (SDR 21) with a working pressure rating of 200 psi with integral bell gasketed joints. Pipe is to be manufactured to IPS standard pipe equivalent outside diameters.
8. Schedule 80 PVC pipes smaller than 4-inch (100 mm) nominal diameter shall be in accordance with ASTM D1785. Schedule 80 pipe shall have threaded joints. Solvent cemented joints are not allowed for buried pipes. Threaded type fittings for Schedule 80 PVC pipe shall be in conformance with ASTM D2464. All threaded joints shall be watertight.
9. Flanges for Schedule 80 PVC pipe shall be rated for a 150 psi working pressure with ANSI B16.1 dimensions and bolting pattern. Flanges shall be connected to PVC piping with threaded joints in accordance with ASTM D2467 or ASTM 2464, respectively.

C. Fusible PVC Pipe

1. Fusible PVC pipe sizes 4-inch (100 mm) to 36-inch (900 mm) shall conform to AWWA C900/C905 as applicable and follow the dimension ratios (DR) set forth in the requirements listed for PVC pipe.
2. Fusible PVC pipe shall be blue in color to designate potable water.
3. Fusible PVC pipe shall be extruded with plain ends. The ends shall be square to the pipe and free of any bevel or chamfer. There shall be no bell or gasket of any kind incorporated into the pipe.
4. Fusible PVC pipe shall be manufactured in a standard 40-foot nominal length-, or custom lengths as specified.
5. Joints shall be made by butt fusing sections of pipe with manufacturer-approved equipment.
6. Fittings shall be ductile iron mechanical joint and comply with the requirements set forth in the specifications for Ductile Iron Pipe and Fittings.

D. High Density Polyethylene (HDPE) Pipe

1. HDPE pipe sizes 4-inch (100 mm) and larger shall be a PE 4710/3408 high density, extra-high molecular weight polyethylene manufactured from first-quality high density polyethylene resin containing no additives, fillers, or extenders. The HDPE pipe shall have an ASTM D3350 cell classification of PE 445574C, shall meet the requirements of AWWA C906, and shall be sized based upon the ductile iron pipe size (DIPS), outside diameter (OD) sizing system.. The HDPE pipe shall be a minimum DR 11, pressure class 160 psi, and shall bear the NSF approval seal.
2. HDPE pipe shall be blue or marked with a permanent blue stripe to designate potable water.
3. Joints shall be made by butt fusing sections of pipe with manufacturer-approved equipment.
4. Fittings shall be ductile iron mechanical joint meeting the requirements of ANSI/AWWA C110/A21.10 and ANSI/AWWA C111/A21.11.
5. The pipe shall have fusion welded restrainer ring, follower gland, and a 12-inch (300 mm) stainless steel insert for the mechanical joint connection.
6. HDPE water mains shall be properly sized utilizing the inside diameter of the nominal pipe diameter. If during construction HDPE is substituted for other pipe materials, the Contractor shall verify that the inside diameter of the HDPE is the same or larger than the inside diameter of the pipe originally specified.

E. Steel Casing Pipe

1. All materials, design, fabrication, handling, and testing of steel casing pipe shall conform to the requirements of ASTM A139, AWWA C200 and AWWA Manual M11 "Steel Pipe – A Guide for Design and Installation."
2. Steel casing pipe shall be new, smooth-wall, carbon steel pipe conforming to ASTM Specification A139, Grade B with a minimum yield strength of 35,000 psi. Steel casings shall be used with the size, minimum thickness, length, and coating specified on the Plans or The Facility Owner's Standard Specifications.
3. Additional anti-corrosion measures, as specified by the manufacturer or indicated on the Plans, shall be provided at connectors, couplings, rollers, restraints, etc.
4. Unless specified otherwise in the Plans or The Facility Owner's Standard Specifications, casing pipe end seals shall consist of 1/8-inch (6 mm) thick flexible synthetic rubber boot with adjustable stainless steel banding straps. The annular space of the casing shall not be filled with concrete or grout.
5. Casing spacers shall consist of a stainless steel shell, PVC ribbed liner, and non-conducting separators to keep the carrier pipe from touching the casing pipe. Spacers shall be provided at a maximum of 10-foot intervals and within 2 feet (0.6 m) of the end of the casing pipe.

F. Pipe Detection Wire

1. Unless otherwise specified by the Plans or The Facility Owner's Standard Specifications, open cut installations of non-metallic pipe shall include minimum #12 gauge tracing wire. Pipe installed by directional drill shall include two (2) insulated 8 gauge tracer wire. Wire shall be solid copper insulated with HDPE installed along pipe, wrapped around service line stub outs and stubbed into valve boxes for locating purposes. Wire shall be properly spliced to provide continuous conductivity.

G. Warning Tape

1. Water mains shall be installed with polyethylene film warning tape manufactured for marking and identifying underground water utilities. Tape shall be a minimum of 2 inches (50 mm) wide and 4 mils thick, blue in color, with continuously printed letters reading "CAUTION BURIED WATER LINE BELOW".

H. Gate Valves

1. Gate valves 3 inches (80 mm) and larger shall be of the resilient seat type meeting the requirements of AWWA C509 or C515. Valves shall be iron body, bronze trimmed, with non-rising stems, and shall be fusion-bonded epoxy coated per ANSI/AWWA C550. Valves shall have a minimum design working pressure of 200 psi.
2. Valves shall be manually operated by nut and open counter-clockwise unless specified otherwise in the Plans or The Facility Owner's Standard Specifications.
3. The resilient seating arrangement shall provide zero leakage at the design working pressure when installed with line flow in either direction. All ferrous surfaces inside and outside shall have a fusion bonded epoxy coating. All valves shall be provided with O-ring seals. The design and machining of valves shall be such as to permit replacing the O-ring seals in the valves while in service without leakage.
4. All gate valves, when fully opened, shall have an unobstructed waterway diameter equal to or larger than the full nominal diameter of the valve.
5. In general, valves shall be designed for vertical installation. Valves installed in the horizontal position shall be provided with bevel gears, extended gear case, rollers, tracks, and scrapers.
6. Exposed or above-ground gate valves shall be outside screw and yoke (OS&Y) flanged joint type with an operating hand wheel. The face-to-face dimensions and drilling shall conform to ANSI B16.10 for Class 125 flanged joint end gate valves.
7. Valves shall include mechanical joints, bolts, glands, gaskets, and all other materials necessary to join to existing work.

8. Provide brass identification tag imprinted with “WATER”, valve size, valve type, and direction and number of turns to open. Provide a ¼-inch (8 mm) hole in the brass tag and attach the tag to the end of the locate wire (twist wire around tag). Tag shall be 2-inch (50 mm) diameter and ⅛-inch (6 mm) thick brass with a ¼-inch (8 mm) hole.

I. Insertion Valve

1. Insertion type valves shall be resilient wedge gate valves designed to be installed into an existing pressurized potable water main without interruption of flow through the pipe and no reduction of line pressure.
 - a. Valve shall be fusion-bonded epoxy coated in compliance with AWWA C550.
 - b. The construction of the resilient wedge shall comply with AWWA C509 requirements.
 - c. The resilient wedge shall be fully encapsulated with EPDM rubber and shall seat on the valve body and not the pipe. The resilient wedge shall be totally independent of the carrier pipe.
 - d. Valve shall be restrained to the pipe.
 - e. Valves shall be suitable for operating pressures up to 250 psi.

J. Butterfly Valves

1. Butterfly valves shall be of the tight-closing, rubber seated type, with rubber seat positively locking in place sealing against flow from either direction. Valves shall be hand operated with cast or ductile iron bodies. Valves shall conform to the requirements of AWWA C504, Class 150B, and shall be fusion-bonded epoxy coated per ANSI/AWWA C550.
2. Valves shall have a 2-inch (50 mm) square operating nut and shall be installed with extension stems to extend the operating nut in accordance with the project details. Valves shall open by turning the operating nut counter clockwise unless specified otherwise in the Plans or The Facility Owner’s Standard Specifications.
3. Valve shafts shall be of 304 or 316 stainless steel.
4. Buried butterfly valve end connections shall be installed using restrained mechanical joints.
5. Flanged valves shall be fully faced and drilled in accordance with ANSI Standard B16.1, Class 125.
6. Provide brass identification tag imprinted with “WATER”, valve size, valve type, and direction and number of turns to open. Provide a ¼-inch (8 mm) hole in the brass tag and attach the tag to the end of the locate wire (twist wire around tag). Tag shall be 2-inch (50 mm) diameter and ⅛-inch (6 mm) thick brass with a ¼-inch (8 mm) hole.

K. Ball Valves

1. Ball valves 2-inch (50 mm) and smaller shall be designed for a working pressure of not less than 175 psi. End connection shall be threaded. The body and all parts shall be made in accordance with AWWA C800 and ASTM B62 latest revision.

L. Tapping Sleeves and Valve Assembly

1. Tapping sleeves and valves sizes 4-inches (100 mm) and larger shall be stainless steel with wraparound gasket style, or ductile iron of the split-sleeve, mechanical joint type. Tapping sleeves shall be rated for a minimum 150 psi working pressure in accordance with ANSI/AWWA C110/A21.10.
2. When tapping an existing asbestos cement pipe, a stainless steel tapping sleeve which contains a full gasketed surface within the sleeve body shall be used due to variances in the manufactured outside diameter of the asbestos cement pipe.
3. Tapping sleeve shall have an outlet flange per ANSI B16.1, Class 125 standard.
4. The Contractor shall determine the outside diameter of the existing main before ordering the sleeve.
5. Tapping valves shall be mechanical joint outlet, non-rising stem, resilient seated gate valves meeting the applicable requirements of ANSI/AWWA C509/C515 and C550 with a minimum design working pressure of 200 psi.
6. Tapping valves shall be specifically designed for pressure tapping with sufficient seat opening to allow full diameter taps to be made.
7. Tapping valves shall be manufactured with an integral tapping flange having a raised lip design.

8. Tapping valves shall be furnished with a combination flange and mechanical joint for connecting the branch to the main.

M. Valve Boxes

1. All valves shall be equipped with valve boxes. The valve boxes shall be heavy, roadway type boxes. The valve box cover shall be marked “WATER VALVE” or “WATER”.
2. Valve box materials shall conform to the requirements and standards set forth in the The Facility Owner’s Standard Specifications, current published edition.
3. The valve boxes shall be adjustable up or down from the nominal required cover over the pipe. Extensions shall be provided as necessary. A precast concrete ring shall be placed around the valve box opening when outside of paved areas.
4. Valves shall be furnished with extension stems as necessary to bring the operating nut to within 24 inches (600 mm) minimum of the top of the valve box.

N. Service Connection Assemblies

1. Water service connections and plumbing should conform to the standards set forth in The Facility Owner’s Standard Specifications and relevant local and/or state plumbing codes or to the Standard Plumbing Code as applicable within the jurisdiction in which the system is located.
2. Service connection assemblies shall be provided for all new service line connections to existing meters. Existing service lines indicated for replacement shall be replaced with new materials from the water main to the existing or new water meter.
3. Service connection assemblies shall include:
 - a. Service saddle
 - b. Corporation stop
 - c. Service line
 - d. Fittings
 - e. Curb stop
 - f. Water meter box
 - g. Water meter (separate Pay Item for new service connections)
 - h. Backflow preventer (separate Pay Item for new service connections)

O. Service Saddles

1. Service saddles shall have ductile iron or bronze body with stainless steel epoxy coated double tie straps and nuts with pressure rating not less than that of the pipe to which it is to be connected.
2. Saddles shall have a rubber gasket cemented to the body, with compatible threading between the saddle and corporation stop. Saddles shall conform to ANSI/AWWA C800 standards.
3. The service saddle shall provide full support around the circumference of the pipe, providing a bearing area of sufficient width so that pipe will not distort when the saddle is tightened.

P. Water Service Pipe

1. Polyethylene (PE) pipe for water service lines shall conform to AWWA C901 and ASTM D-2737 and shall be 200 psi pipe, SDR 9 for copper tube size (CTS). Polyethylene extrusion compound from which the polyethylene pipe is extruded shall comply with applicable requirements for PE 3408 ultra-high molecular weight polyethylene plastic material as specified in AWWA C901.
2. Marking on the PE service pipe shall include the nominal pipe or tubing size, the type of plastic material, the standard thermoplastic pipe dimension ratio or the pressure rating in psi, the ASTM designation with which the pipe complies, and manufacturer's name or trade mark and code. It shall also include the NSF seal of approval for use with potable water.

3. Copper tubing for water service lines shall be seamless and shall conform to ANSI/AWWA C800 and ASTM B88, Type K soft, suitable for potable water use with a working pressure of 150 psi.
4. Water service line fittings shall be as indicated in The Facility Owner's Standard Specifications.

Q. Corporation and Curb Stops

1. Corporation stops, curb stops, and other appurtenances for plastic or copper service lines shall meet the requirements of ASTM B62 and AWWA C800.
2. Service line taps shall be equipped with corporation stops. Corporation stops in sizes 1-inch (25 mm) through 2-inch (50 mm) shall be manufactured from cast bronze with machined fitting surfaces. The corporation shall be pressure rated to no less than 150 psi.
3. Curb stops shall be ball valve type and made of bronze. Pipe connections shall be suitable for the type of service pipe used and shall be pressure rated for no less than 150 psi.

R. Water Meters

1. Water meters shall conform to the requirements and standards set forth in The Facility Owner's Standard Specifications.

S. Meter Boxes

1. Water meter boxes shall be high density reinforced plastic body with one piece cast iron lid with lettering "WATER METER" on cover unless otherwise indicated on the Plans. Recessed hole shall be included in lid, if required by Utility Owner for electronic reading capability. Provide box of size and height appropriate to installation of meter and accessories required. Meter and curb stop shall be fully encased by the meter box.

T. Concrete Vault

1. Concrete vaults shall conform to the requirements and standards set forth in The Facility Owner's Standard Specifications and standard details.

U. Air Release Valve Assembly

1. Air release, air/vacuum valves, and combination air valves shall be suitable for use with potable water systems and manufactured in compliance with ANSI/AWWA C512.
2. Air release valves shall have a small venting orifice to vent the accumulation of air and other gases in the line or system under pressure.
3. Air/vacuum valves shall have a large venting orifice to permit the release of air as the line is filling or relieve the vacuum as the line is draining or is under negative pressure.
4. Combination air valves shall have operating features of both the air/vacuum valve and air release valve.
5. Valves shall be suitable for pressures up to 250 psi.
6. Air release, air/vacuum valves, and combination air valves shall conform to the requirements set forth in The Facility Owner's Standard Specifications and standard details.

V. Fire Hydrant

1. Fire hydrants shall be the compressive, post style, dry barrel type, and shall conform to the requirements of ANSI/AWWA C502 and local code requirements. The valve opening shall not be less than 4½-inch (115 mm). All hydrants shall be complete including joint assemblies.
2. Hydrants shall be suitable for working pressure of 150 psi and shall be hydrostatically factory tested to 300 psi.
3. All working parts, including the seat ring, shall be removable through the top without excavating or disturbing the barrel of the hydrant.
4. Hydrants shall be constructed with a lubricant chamber which encloses the operating threads and which provides automatic lubrication of the threads and bearing surfaces each time the hydrant is operated. This assembly shall be

comprised of a top O-ring serving as a dirt and moisture barrier and a lower O-ring which will serve as a pressure seal.

5. Hydrants shall include two 2½-inch (65 mm) hose nozzles and one 4½-inch (115 mm) pumper connection with National Standard Fire Hose Threads unless specified otherwise in the Plans or The Facility Owner's Standard Specifications. Hydrant threads shall comply with the specifications of the local agency providing fire service.
6. Hydrant nozzle shall be constructed to face in any direction at any time by removing the safety flange bolts and revolving the head without digging or shutting off water.
7. Hydrants shall have pentagon operating nut measuring 1½-inch (40 mm) point to flat and shall open by turning counter-clockwise.
8. Hydrant shall have a safety-type vertical barrel with a minimum 3½-foot bury and be designed with safety flange and/or bolts to protect the barrel and stem from damage, eliminate flooding, and allow rapid replacement if hydrant is struck. All risers necessary for deeper bury applications shall be provided by the hydrant manufacturer.
9. Hydrants shall include positive, automatic drain valves which shall be fully closed when the main valve is open.
10. Bottom inlet of hydrant shall be provided with mechanical joint connection complete with accessories as specified and shall be 6-inch (150 mm) nominal diameter.
11. Fire hydrant shall be painted above ground with rust inhibiting enamel paint in accordance with The Facility Owners Standard Specifications.
12. Hydrant assemblies shall be restrained from the hydrant to the tee at the main.

W. Backflow Prevention Devices

1. Backflow prevention devices shall be installed where indicated on the Plans and shall meet all applicable AWWA, State, and local code/ordinance requirements.
2. Backflow preventer materials shall conform to the requirements and standards set forth in The Facility Owner's Standard Specifications.

X. Thrust Collars and Thrust Blocks

1. Concrete used for thrust collars or thrust blocks shall meet the "Class A" requirements for concrete listed in Section 500.
2. Thrust collars shall include welded-on collars attached by the pipe manufacturer or retainer glands. Concrete shall be poured continuous around the pipe and bear against undisturbed earth.
3. Reinforcing steel shall meet the requirements set forth in the Plans or The Facility Owner's Standard Specification].
4. Mechanical joint restraints shall be utilized in lieu of thrust blocks with the approval of Utility Owner.

Y. Manholes

1. Precast reinforced manholes shall be manufactured in accordance with ASTM C478 and shall have a minimum wall thickness of 5 inches (127 mm). All concrete shall have a minimum compressive strength of 4,000 psi when tested in accordance with ASTM C478.
2. Joints between precast sections shall be sealed by means of rubber O-ring gaskets or flexible butyl rubber sealant.
3. Non-shrinking grout or a flexible seal shall be used to seal the pipe penetrations and prevent water from entering the manhole.
4. Manhole rings and cover shall be per The Facility Owner's Standard Specifications and standard details.

670.2.02 Delivery, Storage, and Handling

- A. Handle pipe, fittings, valves, and accessories carefully to prevent damage. Handle pipe by rolling on skids, forklift, or front end loader. Do not use material damaged in handling. Slings, hooks, or pipe tongs shall be padded and used in such a manner as to prevent damage to the exterior coatings or internal lining of the pipe. Do not use chains in handling pipe, fittings, or appurtenances.

- B. To unload pipe, carefully lift and lower it into position using approved padded slings, hooks, or clamps. Furnish equipment and facilities for unloading, handling, distributing, and storing pipe, fittings, valves, and accessories. Make equipment available at all times for use in unloading. Do not roll, drop or dump materials. Any materials dropped or dumped shall be subject to rejection without additional justification.
- C. Stored materials including salvaged materials shall be kept in suitable areas safe from damage. The interior of all pipe, fittings, and other appurtenances shall be kept free from dirt or foreign matter at all times. Store and support plastic pipe to prevent sagging and bending. Store plastic pipe and gaskets to prevent exposure to direct sunlight. Valves and hydrants shall be stored and protected from damage by freezing.
- D. Pipe shall not be stacked higher than the limits recommended by the manufacturer. The bottom tier shall be kept off the ground on timbers, rails, or concrete.

670.3 Construction Requirements

670.3.01 Personnel

- A. General Provisions 101 through 150.
- B. Construction and installation of all water utilities shall be performed by a Contractor prequalified/registered with GDOT.
- C. All work specified in this section, except for water system service line installation shall be performed by a Contractor with a valid Utility Contractor's license issued by the State of Georgia. Water service line installation shall be performed by either a Utility Contractor licensed in the State of Georgia or by a Master Plumber licensed in the State of Georgia.

670.3.02 Equipment

- A. Ensure all equipment used is in conformance with the requirements and standards set forth in The Facility Owner's Standard Specifications, current published edition.

670.3.03 Preparation

General Provisions 101 through 150.

670.3.04 Fabrication

General Provisions 101 through 150.

670.3.05 Construction

A. Finding Existing Underground Utilities and Obstructions

1. Comply with Subsection 107.13 and Subsection 107.21.
2. According to the best information available to GDOT, all known water lines, sewer lines, gas lines, telephone conduits, drainage structures, etc. are shown on the Plans. However, to find such installations, use an electronic pipe and cable finder in locating existing installations or obstructions to the work.
3. When unforeseen conflicts require Plan changes, perform the work as altered according to Subsection 104.03 and Subsection 104.04.
4. Follow all Utility Owner customer notification requirements and obtain approval from the Utility Owner and GDOT Project Manager prior to disrupting any existing water services as required to install the water facilities shown on the Plans.

B. Jack and Bore

Comply with Section 615 for water main installations by jack and bore.

C. Directional Drilling

1. Install water mains and services by means of directional drilling at locations shown on the Plans or where approved by GDOT or Utility Owner. Provide submittals and follow all relevant procedures and requirements set forth in The Facility Owner's Standard Specifications.
2. The Contractor shall not initiate horizontal directional drilling until all submittals are received, reviewed, and accepted by GDOT and the Utility Owner, and all required permits are obtained.

3. The Contractor shall select drilling additives and fluid mixture proportions to ensure continuous circulation, bore stability, reduce drag on the pipe, and completely fill the annular space between the bore and the pipe to ensure stability and control settlement.
4. The Contractor shall submit contingency plans for remediation of potential problems that may be encountered during the drilling operations. The contingency plans shall address the observations that would lead to the discovery of the problem and the methods that would be used to mitigate the problem. Potential problems that shall be addressed include:
 - a. Loss of returns/loss of circulation of drilling fluid.
 - b. Encountering obstruction during pilot bore or reaming/pullback.
 - c. Drill pipe or product pipe cannot be advanced.
 - d. Deviations from design line and grade exceed allowable tolerances.
 - e. Drill pipe or product pipe broken off in borehole.
 - f. Product pipe collapse or excessive deformation occurs
 - g. Utility strike.
 - h. Hydrolock occurs or is suspected.
 - i. Excessive ground settlement or heave of ground surface or existing utilities.
 - j. Inadvertent returns / hydrofracture or surface spills resulting in drilling fluids entering water or reaching the surface.
5. Pipe damaged in directional drilling operations shall be removed and replaced at no additional expense to GDOT or the Utility Owner.
6. Voids developed or encountered during the installation operation shall be pressure grouted with a grout mix approved by GDOT.
7. Installation shall include a locatable conduit system, with identification markers on each side of GDOT right-of-way where applicable. Two (2) insulated 8 gauge solid copper tracers wire shall be attached to the leading end of the pipe pulling head and shall extend the full length of the installed pipe.
8. The location and alignment of the pilot drill progress shall be continuously monitored for compliance with the proposed installation alignment and for verification of the depth of the bore. Monitoring shall be accomplished by computer generated bore logs which map the bore path based on x, y, z coordinate information provided by the locating/tracking system. Readings or plots shall be obtained on every drill rod, and shall be provided to the Inspector on a daily basis. Deviations between the recorded and design bore path shall be calculated and reported on the daily log. If the deviations exceed tolerances specified elsewhere, such occurrences shall be reported immediately to GDOT. The Contractor shall undertake all necessary measures to correct deviations and return to design line and grade.
9. Upon completion of the directional drill the Contractor shall furnish GDOT and the Utility Owner an as-built drawing along with a report of the monitoring of the drilling fluids during the pilot hole and back reamed hole.
10. Drilling fluid pressures, flow rates, viscosity, and density shall be monitored and recorded by the Contractor. The pressures shall be monitored at the pump. These measurements shall be included in daily logs submitted to GDOT. The Contractor shall document modifications to the drilling fluids, by noting the types and quantities of drilling fluid additives and the dates and times when introduced. The reason for the addition of drilling fluid additives or other modifications shall be documented and reported.
11. Management and disposal of drilling fluids shall be the Contractor's responsibility. Excess drilling fluids shall be contained at the entry and exit points until recycled or removed from the site. All drilling fluids shall be disposed of in a manner acceptable to the appropriate local, state and federal regulations. The Contractor's work will be immediately suspended by GDOT whenever drilling fluids seep to the surface other than in the boring entrance or exit pit, or when a paved surface is displaced.

12. Surfaces damaged by the work shall be restored to their preconstruction conditions at no additional cost to GDOT or Utility Owner, and with no increase in contract time.
13. The following items shall be as shown on the Plans, unless otherwise approved in writing by GDOT:
 - a. Entry / exit points
 - b. Drill entry / exit angles
 - c. Pilot bore path
 - 1) Radius of Curvature
 - 2) Entry / exit tolerances: Contractor shall be solely responsible for all work necessary to correct excessive deviations from line and grade, including re-drilling, redesigning connections, and acquiring additional easement, at no additional cost to GDOT or Utility Owner and without schedule extension.
14. The pilot bore shall be pre-reamed and reamed using equipment and methods submitted by the Contractor. The Contractor shall completely ream the bore to the final diameter prior to pullback.
15. Pullback: The pipe shall be installed by pulling it into the reamed bore path in a continuous operation, behind a final reaming tool selected by the Contractor. The pipe shall be isolated from excessive torsional and axial stresses by a swivel device with a pre-established breakaway tensile capacity that is lower than the allowable tensile strength of the pipe. The maximum pull (axial tension force) exerted on the pipelines shall be measured continuously and limited to the maximum allowed by the pipe manufacturer with an appropriate factor of safety so that the pipe or joints are not overstressed. The end of the pipe shall be closed during the pull back operation.
16. Pipelines shall be adequately supported during installation so as to prevent overstressing or buckling. The Contractor shall provide adequate support/rollers along the pipe layout area to support the required length of pipe for the bore. The pipe layout area shall be cleared of all large stones, construction debris, or other foreign objects that could damage the pipe during pullback. The Contractor shall monitor and inspect pipe rollers and method for suspending pipe at entry during the pullback operation to avoid damage to the pipe.
17. The end of the pipe shall be closed during the pull back operation.
18. Each length of pipe shall be inspected and cleaned as necessary to be free of debris immediately before joining.
19. The Contractor shall at all times handle the pipe in a manner that does not overstress or otherwise damage the pipe. Vertical and horizontal curves shall be limited so that wall stresses do not exceed 50% of yield stress for flexural bending of the pipe. If the pipe is buckled or otherwise damaged, the damaged section shall be removed and replaced by the Contractor at his expense. The Contractor shall take appropriate steps during pullback to ensure that the pipe and tracer wires will be installed without damage.
20. If necessary, the pipe shall have water added as it enters the bore to achieve neutral buoyancy and reduce pullback loads and to ensure that adequate internal pressure is maintained at all points to counter balance collapse pressures.
21. The Contractor shall cease pullback operations if the pipe is damaged and shall remove the pipe from the bore and repair the pipe using the manufacturer's recommended procedure or replace the damaged pipe before resuming installation.
22. Damage to the pipe resulting from manufacturer defects, installation, or grouting is the responsibility of the Contractor, including costs for replacement and labor and materials. To confirm no damage to the pipe, upon completion of pull back, the Contractor shall pull a sphere or pig through the entire length of the pipeline. The pig shall be one inch less in diameter than the internal diameter of the product pipe, capable of allowing water to pass through it, complete with a pulling cable on either side. If the pig or sphere cannot pass through the pipe, it shall be considered collapsed and damaged.
23. After the carrier pipe is completely pulled through the bore, a sufficient relaxation period as recommended by the pipe manufacturer shall be provided before the final pipe tie-in.
24. The Contractor shall conduct a final hydrostatic test of the installed pipeline. Final test shall be in accordance with these specifications. The Contractor shall repair any defects discovered during this test, and repeat until the pipe passes the test.

D. Excavating Trenches

1. The Contractor shall provide all necessary shoring and bracing materials as required to assure safe working conditions and to protect the excavations. The Contractor shall be required to fully comply with all applicable OSHA Excavation Safety Standards. No separate payment shall be made for any special procedure used in connection with the excavation.
2. Excavate trenches to the proper depth and width as follows:
 - a. Trench to Grade: Excavated trench bottoms shall be firm, free from boulders, and conform to the established grade. Limit open trench excavation to a maximum of three 300 feet (90 m) ahead of completed backfill.
 - b. Care shall be taken not to over excavate except where necessary to remove unstable material, irregularities, lumps, rock, and projections. Unnecessary over excavation shall be replaced at the Contractor's sole expense and in accordance with Subsection 670.3.05.
 - c. Excavation carried below the established grade lines shown or established by the Utility Owner shall be backfilled according to Section 207 and Subsection 670.3.05. Use Class I or Class II Soils (defined in Section 810) and firmly compact the soil.
 - d. Where the established grade of a trench is in rock, undercut the bottom of the trench by at least 6 inches (150 mm) beneath the pipe or conduit and the greater of 24 inches (600 mm) wider than the pipe/conduit (12 inches or 300 mm each side) or 42 inches (1050 mm) wide, then backfill and compact according to Subsection 670.3.05.
 - e. Excavation in pavement and pavement patching shall be according to GA Standard No. 1401. Remove the pavement according to Section 444, except no separate payment shall be made for sawed joints.
 - f. Dewatering: Remove all water from excavations and maintain the excavations free of water while construction therein is in progress. Provide dewatering equipment as necessary to conform to this requirement. Dewatering procedures must meet all state and local regulatory requirements.
3. Minimum Trench Depth
 - a. Excavate trenches to provide at least 48 inches (1.2 m) cover depth directly above the pipe to the finished pavement surface, sidewalk, grass, etc. unless indicated otherwise on the Plans or by the Utility Owner and GDOT Project Manager. In order to avoid existing utilities, it may be necessary for the pipe to be laid shallower or deeper than the minimum cover specified. At such time the Contractor shall not be allowed extra compensation for additional excavation necessary for deeper installations.
 - b. Side slopes of the trenches shall be as nearly vertical as practicable. Trenches in excess of 5 feet (1.5 m) deep shall either have the trench sides laid back to conform to OSHA requirements for trench safety, if such area is available within the limits of excavation, or, alternatively, trenches deeper than 5 feet (1.5 m) shall be excavated via trench box or shored and braced.
 - c. If any part of a water main is to be placed in or under a new embankment, finish the embankment to at least a 2-foot plane above the outermost portion of the pipe barrel before excavating the trench.
4. Trench Width: Excavate trenches to uniform widths wide enough to allow proper installation of pipe, fittings, and other materials, a minimum of 6 inches (150 mm) and a maximum of 12 inches (300 mm) each side of the pipe or conduit.
5. Trench Bell Holes: Excavate bell holes deeply and widely enough to make joints and to allow the pipe barrel to rest firmly on the trench bottom.
6. Trench bottom: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduits. Shape subgrade to provide continuous support of bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits/pipes. Remove projecting stones, tree roots, debris, and sharp objects along trench subgrade. Abrupt changes in grade of the trench bottom shall be avoided. Unless otherwise indicated in the Plans or The Facility Owner's Standard Specifications, trenches for water mains shall be graded as much as possible to avoid high and low points that necessitate air release valves.

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7. Excavations may be completed and refilled either by hand or by machinery. Hand tool excavation shall be conducted where necessary to protect existing utilities and structures.
8. In the event that unsuitable material is encountered at or below the excavation depth specified or shown on the Plans, the Utility Owner and GDOT Project Manager shall be notified. Such material shall be removed and replaced with suitable material in accordance with Section 205 by the written request of the GDOT Manager.

E. Connecting to Existing Mains

1. Connect to an existing main with the appropriate fittings according to the Plans or the Utility Owner and GDOT Project Manager. When making connections under pressure, (i.e. when normal water service must be maintained), furnish and use a tapping sleeve and valve assembly or line stop fittings as indicated. Coordinate with Utility Owner 72 hours in advance for water service interruptions and temporary shut-offs. Evening or weekend work may be required to complete direct connections and tie-ins. Connect to existing mains as follows:
 - a. Before opening new pipeline trenches, locate the various points of connection to be made into existing pipelines. If necessary, uncover pipelines for the Utility Owner and GDOT Project Coordinators to prescribe the connections and fittings needed.
 - b. Connect to existing pipelines only to meet operating requirements. Cut existing lines only after obtaining the Utility Owner and GDOT Project Manager' permission.
 - c. Provide temporary line stops, associated fittings, and bypass pumping as indicated on the Plans and as necessary when cutting and plugging existing water mains to prevent service interruptions. Line stop and associated fittings shall be suitable for working pressures of 250 psi.
 - d. Connections to existing asbestos cement pipe shall be installed as indicated on the Plans or in The Facility Owner's Standard Specifications. Cutting, removing, handling, and disposing of asbestos cement pipe shall be in accordance with requirements established by EPA, OSHA, GDOT, NIOSH, and the State of Georgia Environmental Protection Division, and any other applicable laws and ordinances.

F. Laying Water Mains and Appurtenances

1. Preparing and Handling Pipes
 - a. Thoroughly clean the pipe and fittings before laying them. Keep them clean until accepted.
 - b. Use suitable tools and equipment. Do not damage the pipe, especially the cement lining inside the pipe.
 - c. Cut pipe in a manner to avoid damage to pipe or lining, leaving a smooth end at right angles to pipe axis. Smooth and bevel edges of cut pipe for push-on, gasket type joints.
 - d. Bedding shall be provided as specified by the Utility Owner or pipe manufacturer for the type of conditions encountered. Bedding typically consists of granular soil free of lumps, clods, cobbles, and frozen materials, and shall be graded to a firm-but-yielding surface without abrupt changes in bearing value. Unstable soils and rock ledges shall be undercut from the bedding zone and replaced with suitable material.
 - e. Bed pipe on coarse granular material in flat bottom trench with entire pipe barrel bearing uniformly on coarse granular material, except for an approximately 18-inch (450 mm) gap at pipe balance point for sling removal. Hand excavate and backfill as required to provide uniform and continuous bearing and support for the pipe. Do not support pipe on hubs or end bells. Consolidate coarse granular material under and around pipe up to pipe centerline by tamping.
 - f. Join pipe with bells facing direction in which laying operation is progressing. Lay pipe upgrade wherever line grade exceeds 10%.
 - g. Carefully examine pipe for cracks and other defects and do not lay defective pipe. If pipe or castings appear to be cracked, broken, or defective after laying, remove and replace those sections.
2. Alignment and Gradient

- a. Pipe alignment and gradient shall conform to the Plans. Deflect pipe lines only where indicated on the Plans, within allowable horizontal and vertical deflection angles according to the manufacturer.
 - b. Water mains shall be laid at least 10 feet (3 m) horizontally from any existing or proposed sanitary sewer, storm sewer or sewer manhole. The distance shall be measured edge-to-edge. When local conditions prevent a horizontal separation of 10 feet (3 m), the water main may, on a case-by-case basis, be laid closer to a sewer provided the water main is laid in a separate trench or on an undisturbed earth shelf located on one side of the sewer at such an elevation that the bottom of the water main is at least 18 inches (450 mm) above the top of the sewer.
 - c. Maintain a vertical separation of at least 18 inches (450 mm) between the crown of sanitary sewers and the invert of existing or proposed water mains with the sewer located below the water main. Where a vertical separation of 18 inches (450 mm) cannot be provided, and the water main cannot be relocated to provide adequate clearance, center one full length of water main over the sewer so that both joints of the water main will be as far from the sewer as possible.
3. Special Requirements for Laying Water Mains
- a. Excavate, clean, lay, joint, and backfill progressively and uniformly according to these requirements:
 - 1) Never leave pipe in the trench overnight without completely jointing and capping.
 - 2) Do not leave completed pipeline exposed in the trench. Backfill and compact the trench as soon as possible after laying, jointing, and testing are complete.
 - 3) At the close of work each day and when laying pipe, close the exposed end of the pipeline in the trench with an approved wood or metal head or barrier.
 - 4) If necessary to cover the end of an incomplete pipeline with backfill, close the end of the pipe with a satisfactory cap or plug.

G. Installing Water Mains by Open Cut

1. Use the following flexible joints for connections inside the roadway shoulders or curbs and gutters:
 - a. Mechanical Joints:
 - 1) When using mechanical joints, thoroughly wash bell sockets, spigots, gland, gasket, nuts, and bolts with soapy water before assembly. Keep these parts wet until the jointing operation is complete.
 - 2) Tighten nuts within the torque range recommended by the manufacturer. Check the tightening tolerance with a torque wrench.
 - 3) If effective sealing is not attained at the maximum recommended torque, disassemble, thoroughly clean, then reassemble the joint.
 - 4) Do not overstress bolts to compensate for improper installation or defective parts.
 - b. Push-On Type Joints
 - 1) Use push-on joints made according to the manufacturer's recommendations.
 - 2) Install PVC pipe in accordance with AWWA C605.
 - 3) Install ductile iron pipe in accordance with AWWA C600.
2. Restraints for pipe joints and fittings shall be provided as specified and as shown on the Plans. Restraints shall be installed per manufacturer's recommendations.
3. Buried ductile iron pipe and fittings shall be polyethylene encased as specified and as indicated on the Plans. Polyethylene encasement tubing shall be secured with polyethylene tape and installed in accordance with ANSI/AWWA C105/A21.5.
4. Unless otherwise specified by The Facility Owner's Standard Specifications, provide pipe detection wire on all non-metallic pipe systems. Tape the tracer wire to the top center of the pipe at intervals which prevent wire displacement during backfilling operations. Stub tracer wire up 6 inches (150 mm) above finished grade at all valves

- and fire hydrants. For splices, use direct bury kits. After backfilling is complete, test electrical continuity of each tracer wire segment and provide test results to Utility Owner and GDOT Project Manager.
5. Install continuous underground warning tape during backfilling of trench for underground water distribution piping. Install 12 inches (300 mm) below finished grade, or 6 inches (150 mm) below subgrade under pavements and walkways, and buried directly over piping.
 6. Use pipe cutters when cutting pipe or special castings. Do not use a hammer, chisel, or a cutting torch.
 7. Locations where water mains do not meet minimum depth of cover requirements shall include a steel casing or concrete encasement installed per The Facility Owner's Standard Specifications.
 8. If HDPE pipe is to be installed where high groundwater table or water surrounding the pipe is expected, precautions shall be taken to provide neutral buoyancy to prevent floatation or a change in alignment.
 9. Isolation Valves on Water Mains: Install and joint gate and butterfly valves as specified in Subsection 670.2.01 in accordance with AWWA C600. Include the valve box and valve marker where required.
 10. Air release valves shall be located at high elevation points on the pipeline. Air release valves shall be installed at locations indicated in the Plans and in accordance with manufacturer's recommendations.
 - a. Air release valves shall be installed in a shallow manhole or vault as indicated in the Plans and The Facility Owner's Standard Specifications. Automatic air relief valves shall not be used in areas where flooding of the manhole or vault may occur.
 - b. An isolation valve shall be installed between the air release assembly and the connection to the main.
 - c. The Contractor shall furnish and install at no additional cost to GDOT or Utility Owner all necessary fittings for the installation of air release valves at high points.
 11. Pressure reducing/sustaining valves of the size and type indicated shall be installed as shown on the Plans per manufacturer's recommendations and The Facility Owner's Standard Specifications.
 12. Fire Hydrants: Install and joint hydrants as specified in Subsection 670.2.01 and in accordance with AWWA C600. Include required vertical extension sections. Also, include pipe strap installation, restraints, crushed stone drain, and backfill according to the Plans and this Section. Spacing of fire hydrants shall be as indicated in The Facility Owner's Standard Specifications.
 13. Concrete Thrust Collars and Thrust Blocks: If required, furnish materials and install thrust collars or concrete blocking according to Subsection 670.2.01. Form and pour concrete thrust collars or blocks in accordance with the Plans and The Facility Owner's Standard Specifications. Blocking shall be poured against undisturbed earth and all forms shall be removed before backfilling.
 14. Backfilling
 - a. Furnish equipment, labor, and when necessary material required for backfilling the pipe line trenches according to Section 207, and as follows:
 - 1) When testing for visual leaks in open trenches, do not backfill until testing is complete and leaks are eliminated.
 - 2) When retaining pavement adjacent to trenches, replace removed pavement with the same or better material when approved in accordance with the appropriate Section for the pavement type replaced.
 - 3) Place backfill on subgrades free of mud, frost, snow, or ice.
 - 4) Place and compact bedding course on trench bottoms and where indicated. Shape the bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits/pipes.
 - 5) Backfill shall include Class I or Class II Soils as defined in Section 810 or suitable material that conforms with The Facility Owner's Standard Specifications.
 - 6) Backfill shall be placed in two stages: first, side fill to a height of 12 inches (300 mm) above the top of pipe; second, overfill to former surface grade. Side fill shall consist of granular material laid in 6-inch (150

mm) layers each consolidated by mechanical tamping and controlled addition of moisture, to a density of 95% as determined by as determined by the Standard Proctor test (AASHTO T-99 Method D) or GDT 67. Overfill shall be layered and consolidated to match the entrenched material in cohesion and compaction. The top 12 inches (300 mm) shall be compacted to 100% of specified density. Consolidation by saturation or ponding shall not be permitted.

- 7) Soil Moisture Control: Uniformly moisten and aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 2% of optimum moisture content. Remove and replace, or scarify and air dry, otherwise satisfactory soil material that exceeds optimum moisture content by 2% and is too wet to compact to specified dry unit weight.
- 8) Initial backfill shall be carefully compacted under pipe haunches and evenly up on both sides and along the full length of piping or conduit to avoid damage or displacement of piping or conduit. Place and compact fill and backfill of satisfactory soil to final subgrade elevation. Backfill voids with satisfactory soil while removing shoring and bracing and/or trench boxes.
- 9) After backfilling, maintain temporary surface restoration per GA Standard No. 1401 until permanent repaving is complete. No separate payment shall be made for replaced pavement.

15. Disinfection of Water Mains

- a. New and existing pipelines and appurtenances shall be disinfected before placing into service. Disinfection can be conducted in conjunction with the pressure test.
- b. Before the main is chlorinated, it shall be filled to eliminate air pockets and shall be flushed to remove particulates.
- c. During disinfection of the water mains, an appropriate cross-connection control device, consistent with the degree of hazard, shall be provided for backflow protection of the active distribution system.
- d. Chlorination: Sterilize using only potable water with calcium hypochlorite (HTH), 1% chlorine solution, or other products acceptable to the Utility Owner and GDOT Project Manager and Department of Public Health. Comply with AWWA C651 including Section 9 procedures on final connections to existing mains.
 - 1) The chlorine solution used for disinfection of water mains shall have a free chlorine residual concentration not less than 25 mg/L or in accordance with The Facility Owner's Standard Specifications.
 - 2) Add enough disinfectant to provide a chlorine residual of not less than 10 parts per million (ppm) in 24 hours or as required in The Facility Owner's Standard Specifications. All valves and hydrants shall be operated to ensure disinfection of the appurtenances.
 - 3) At the end of 24 hours, check the chlorine residual. If it is less than 10 ppm, add additional chlorine and check the line again after 24 hours.
- e. After the applicable retention period, the chlorinated water must not be disposed in a manner that will harm the environment. Neutralizing chemicals, such as Sulfur Dioxide, Sodium Bisulfite, Sodium Sulfite or Sodium Thiosulfate can be used to neutralize the chlorine residual remaining in the water to be wasted.
- f. After sterilization, flush the line with potable water until the chlorine residual is equal to the existing system.
 - 1) After final flushing and before the water main is placed into service, water samples shall be collected from the main and tested for microbiological quality in accordance with the Georgia Rules for Safe Drinking Water. Samples shall be taken in the presence of the Utility Owner and GDOT Project Manager.
 - 2) When test results are not satisfactory, the pipeline shall be flushed and disinfected again as necessary without additional compensation until satisfactory results are obtained.

H. Laying Service Lines and Appurtenances

1. Except as modified in this Section, construct and install service connection assemblies and lines according to the Plans and the requirements for laying water mains. Install service lines at locations shown on the Plans or where designated by the Utility Owner and GDOT Project Manager.

2. Install new pipe from the water main to the final location of the meter or to points designated by the Utility Owner and GDOT Project Manager to connect with existing or future service lines on abutting property.
3. No water service connections shall be performed until the main is tested and disinfected. Water service lines shall be tested and disinfected prior to connection to the main.
4. If required, install water service line inside casing pipe according to the Plans or The Facility Owner's specification document.
5. At roads, paved drives, retaining walls, and other paved areas, install service tubing or casing pipe by pushing, pulling, or augering techniques. At all other locations, install service tubing by trenching and backfilling unless directed otherwise by GDOT.
6. Service line installation includes all connections using saddles, unions, valves, fittings, corporation stops, curb stops, casing, and any and all appurtenant work required to provide a complete water service connection.
7. Excavate for service lines as specified in Subsection 670.3.05 with the following exceptions:
 - a. Ensure that trenches under pavements and across driveways are deep enough to provide at least 48 in (1.2 m) of cover, unless otherwise specified by The Facility Owner's Standard Specifications or directed by the Utility Owner and GDOT Project Manager.
 - b. At other areas, trench depth and backfill cover may be adjusted at the discretion of the Utility Owner and GDOT Project Manager to provide at least 18 in (450 mm) of cover.
8. Backfill service lines as specified in Subsection 670.3.05.
9. All service lines, fittings, and appurtenances necessary for the water service connections shall be installed and backfilled in accordance with the manufacturer's recommendations and as per The Facility Owner's Standard Specifications and standard details.

I. Cutting and Capping Existing Water Mains

1. Disconnect by sawing or cutting and removing a segment of existing pipe where cutting and capping or plugging is shown on the Plans or directed by the Utility Owner or GDOT Project Manager. Provide a watertight pipe cap or plug and restraint mechanism to seal off existing mains indicated to remain in service. If water main is to be abandoned or removed and not specified to be grout filled, seal ends with a pipe cap or plug or with a masonry plug and minimum 6-inch (150 mm) cover of concrete on all sides around the end of the pipe.
2. The Contractor shall be responsible for uncovering and verifying the size and material of the existing main to be capped or plugged.
3. Abandoned manholes and water mains greater than 6-inch (150 mm) shall be filled with flowable fill per Section 600 at the locations indicated on the Plans. Air release valves and water service connections along the abandoned main shall be plugged prior to grouting. Prior to backfilling, the bottom of the manhole shall be broken up in such a manner that water will readily pass through. The top portion of the manhole structure shall be removed in order to establish a minimum of 3 feet cover from subgrade or finished grade when not under the pavement and filled with sand or suitable backfill.
4. Water mains shall be flushed prior to placement of flowable fill. Use concrete or grout pumps capable of continuous delivery at planned placement rate with sufficient pressure to overcome friction and fill the sewer main.

J. Relocating, Adjusting, and Removing

1. Fire Hydrant Assemblies
 - a. Relocate, adjust to grade, or remove fire hydrant assemblies including valve and valve boxes according to the Plans or as designated by the Utility Owner and GDOT Project Manager.
 - b. Protect items during removal and relocation. Replace lost or damaged Items at no expense to GDOT or the Utility Owner.
 - c. Disconnect each joint before removing items from the trench.

- d. Install relocated fire hydrant assemblies with tapping sleeve, and as specified herein for new fire hydrant assemblies.
 - e. Test for leakage, adjust, and retest until no leaks appear.
 - f. Backfill as specified in Subsection 670.3.05.
 - g. Consider valve boxes part of the valve assembly and remove them intact with the valve.
2. Water Valves and Boxes
- a. Adjust or remove water valves and valve boxes according to the Plans or as designated by the Utility Owner and GDOT Project Manager.
 - b. Protect items during adjustment or removal. Replace lost or damaged Items at no expense to GDOT or the Utility Owner.
 - c. Disconnect each joint before removing items from the trench.
 - d. Test for leakage, adjust, and retest until no leaks appear.
 - e. Backfill as specified in Subsection 670.3.05.
 - f. Consider valve boxes part of the valve assembly and remove them intact with the valve.
3. Existing Water Meters and Boxes
- a. Relocate existing water meters and boxes according to the Plans or the Utility Owner and GDOT Project Manager.
 - b. To relocate water meters, remove the existing meter, associated backflow preventer, and box and replace with a short section of pipe.
 - c. Inspect along with the Utility Owner and GDOT Project Manager each meter and backflow preventer before removal to determine the condition of each.
 - d. Unless specified otherwise in the Plans or The Facility Owner's Standard Specifications, new water meters and backflow preventers shall be furnished by the Contractor as necessary if these devices are deemed unsuitable for reuse. Contractor shall provide new water meter boxes if deemed unsuitable for reuse. The Contractor shall coordinate delivery of the water meters and backflow preventers to correspond to construction operations to minimize service interruptions.
 - e. Relocation of water meters and boxes shall include without additional compensation, required pipe, unions and appurtenances, adapter fittings, necessary storage protection, and installation of meter, backflow preventer, meter box, and curb stop in the existing service line.
4. Existing Water Service Lines
- a. Water lines shall be adjusted to grade by excavating the existing lines, lowering or raising the lines, and backfilling according to the Plans or the Utility Owner and GDOT Project Manager.
 - b. Furnish new materials or fittings required for the adjustment without additional compensation.
 - c. Change connections at the main that result from this work.
 - d. Repair leaks and damage caused by the operations at no expense to GDOT.
 - e. When retaining a water meter where an existing service line is to be adjusted, adjust the existing meter and box to the proper grade without additional compensation.
5. Other Water Appurtenances
- a. Relocate, adjust to grade, or remove water main appurtenances including but not limited to air release valves, backflow preventers, pressure reducing/sustaining valves according to the Plans or as designated by the Utility Owner and GDOT Project Manager.
6. Utility related items identified on the Plans to be salvaged are the property of the Utility Owner. Contractor shall coordinate with Utility Owner on delivery of salvaged materials. Should the Utility Owner choose to not accept these materials they shall be removed from the project site as soon as practical.

K. Aerial Crossings

- 1. Support must be provided for all joints in pipes utilized for aerial crossings. The supports must be installed to prevent frost heave, overturning, and settlement. Precautions against freezing, such as insulation, shall be provided.

2. When the aerial crossing is accomplished by attachment to a bridge or drainage structure, the crossing shall meet all requirements of the agencies that own or have jurisdiction over such structures.
3. Aerial installations shall be installed to avoid or minimize stream blockage during normal high water events.
4. Underground valves shall be provided at both ends of the aerial crossing so that the section can be isolated for testing or repair. The valves shall be restrained, easily accessible, and not subject to flooding. An air release/vacuum relief valve shall be installed at all high points along the aerial crossing.
5. Appropriate guards shall be installed at both ends of the aerial crossing to prevent public access to the pipe.

670.3.06 Quality Acceptance

A. Materials Certification

For certain products, assemblies and materials, not on GDOT QPL List, and in lieu of normal sampling and testing procedures by the Contractor, the Utility Owner, and GDOT may accept from the Contractor the manufacturer's certification with respect to the product involved under the conditions set forth in the following paragraphs:

1. Material certifications shall be provided to GDOT, who shall distribute to the Utility Owner. Material certifications shall be approved by GDOT and the Utility Owner prior to construction. The certification shall state/specify that the named product conforms to these specifications and requirements of the Utility Owner and GDOT, and representative samples thereof have been sampled and tested as specified.
2. The certification shall either:
 - a. Be accompanied by a certified copy of the test results, or
 - b. Certify such test results are on file with the manufacturer and will be furnished to the Utility Owner and GDOT Project Coordinators upon demand.
3. The certification shall state/specify the name and address of the manufacturer and the testing agency and the date of tests; and sets forth the means of identification which shall permit field determination of the product delivered to the project as being the product covered by the certification.
4. Submit certification in triplicate with two copies of the covered product to the GDOT Project Coordinator, and one copy sent to GDOT's State Materials and Research Engineer at 15 Kennedy Drive, Forest Park, Georgia. The certification shall specify the project number and contract ID number. No certificate shall be required for Portland cement when furnished from a manufacturer approved by GDOT.
5. GDOT or the Utility Owner will not be responsible for any costs of certification or for any costs of the sampling and testing of products in connection therewith.
6. GDOT and the Utility Owner reserve the right to require samples and test products for compliance with pertinent requirements irrespective of prior certification of the products by the manufacturer. Any materials that fail to meet specification requirements will be rejected.
7. In accordance with the BUY AMERICA requirements of the Federal regulations (23 U.S.C. 313 and 23 CFR 635.410) all manufacturing processes for steel and iron products or predominantly of steel or iron (at least 90% steel or iron content) furnished for permanent incorporation into the work on this project shall occur in the United States. The only exception to this requirement is the production of pig iron and the processing, pelletizing and reduction of iron ore, which may occur in another country. Other than these exceptions, all melting, rolling, extruding, machining, bending, grinding, drilling, coating, etc. must occur in the United States.
 - a. Products of steel include, but are not limited to, such products as structural steel piles, reinforcing steel, structural plate, steel culverts, guardrail steel supports for signs, signals and luminaires. Products of iron include, but are not limited to, such products as cast iron frames and grates and ductile iron pipe. Coatings include, but are not limited to, the applications of epoxy, galvanizing and paint. The coating material is not limited to this clause, only the application process.

- b. Records to be provided by the Contractor for this certification shall include a signed mill test report and a signed certification by each supplier, distributor, fabricator, and manufacturer that has handled the steel or iron product affirming that every process, including the application of a coating, performed on the steel or iron product has been carried out in the United States of America, except as allowed by this Section. The lack of these certifications will be justification for rejection of the steel and/or iron product or nonpayment of the work.
- c. The requirements of said law and regulations do not prevent the use of miscellaneous steel or iron components, subcomponents and hardware necessary to encase, assemble and construct the above products, manufactured products that are not predominantly steel or iron or a minimal use of foreign steel and iron materials if the cost of such materials used does not exceed one-tenth of one percent (0.1%) of the total contract price or \$2,500.00, whichever is greater.

B. Flushing

- 1. Prior to testing, water mains shall be cleaned and flushed to remove all sand and foreign matter. Water used for filling and cleaning shall be from an approved potable water source. Sufficient flushing water shall be introduced into the mains to produce a scouring velocity of not less than 3.5 feet per second to resuspend the solids, and this rate of flow shall be continued until the discharge is clear and no evidence of silt or foreign matter is visible. The Contractor shall dispose of all water used for flushing without causing a nuisance or property damage.
- 2. In the event that the Contractor cannot obtain the flushing velocity, a poly-pig swab may be used to clean the pipeline. The Contractor shall submit pigging plan to the Utility Owner and GDOT for review. The plan shall include type of pig material, water flow rate, discharge points, poly-pig detector and retrieval options.

C. Hydrostatic Testing of Water Mains

- 1. When the Utility Owner and GDOT Project Manager approve a section of pipe for testing, the Contractor shall furnish the materials, equipment, and labor to conduct the pressure and leakage tests. Use a test pump, pressure gauge, and a means of measuring the water necessary to maintain the required pressure during the prescribed testing time. All pressure and leakage testing shall be done in the presence of the Utility Owner and GDOT Project Coordinators as a condition precedent to the approval and acceptance of the system. All pipes shall have been thoroughly flushed prior to testing. Simultaneous or separate pressure and leakage tests may be performed.
- 2. All water for testing and flushing shall be potable water provided by the Contractor, at no cost to the Utility Owner or GDOT, from an approved source. Flow velocity during line filling shall not exceed 2 feet (0.6 m) per second (fps).
- 3. Testing Requirements
 - a. Water mains shall be tested in sections between valves, thereby, testing each valve for secure closure. Testing shall be done immediately after installation and backfilling has been completed.
 - b. The mains shall be tested in accordance with the latest revision of AWWA C600 for ductile iron and C605 for PVC under an average hydrostatic pressure of the greater of 1.5 times the maximum working pressure or 150 psi as measured at the lowest point in the system for a minimum of 2 hours. Pressure shall be maintained until all sections under testing have been checked for evidence of leakage.
 - c. While the system is being filled with water, air shall be carefully and completely exhausted. If permanent air vents are not located at all high points, the Contractor shall install corporation stops or fittings and valves at such points at no additional expense to the Utility so the air can be expelled as the pipe system is slowly filled.
 - d. Makeup water shall be added, as required, to maintain the pressure within 5 psi of the test pressure. The quantity used shall be measured by pumping from a calibrated container. The maximum amount of makeup water allowed shall be determined by the following formula:

$$L = \frac{SD P^{0.5}}{148,000}$$

in which,

L = Allowable Leakage in gallons per hour

S = Length of pipe being tested in feet

D = Nominal pipe diameter in inches

P = Average test pressure during the test in psi gauge

- e. Visible leaks shall be corrected regardless of total leakage shown by test. All pipe fittings and other materials found to be defective under test shall be removed and replaced. Lines which fail to meet test requirements shall be repaired and retested as necessary until test requirements are met. No additional compensation shall be made for repairs or retesting.

670.3.07 Contractor Warranty and Maintenance

General Provisions 101 through 150.

670.4 Measurement

Incidentals including excavation, rock removal, backfilling, disinfection, testing, temporary water connections, pavement removal, pavement replacement, and other incidentals required for the installation of water distribution items are not measured for separate payment and shall be included in the applicable Pay Items below. Water mains, service lines, and other associated Items of work in this Specification, complete, in place, and accepted, are measured for payment as follows:

A. Ductile Iron Water Mains

Ductile iron water mains shall be measured in linear feet (meters) for each size, thickness class, and type (restrained, non-restrained) installed. Measurement shall be horizontally above the centerline of the pipe and shall include the length of valves and fittings.

B. PVC Water Main

PVC water mains shall be measured in linear feet (meters) for each size and type (restrained, non-restrained) installed. Measurement shall be horizontally above the centerline of the pipe and shall include the length of valves and fittings.

C. Fusible PVC Water Main

Fusible PVC water mains shall be measured in linear feet (meters) for each size and type installed. Measurement shall be horizontally above the centerline of the pipe and shall include the length of valves and fittings.

D. HDPE Water Main

HDPE water mains shall be measured in linear feet (meters) for each size and type installed. Measurement shall be horizontally above the centerline of the pipe and shall include the length of valves and fittings.

E. Ductile Iron Fittings

Ductile iron fittings are considered subsidiary to the water line in which they are used and are not measured for separate payment. This Item includes, but is not limited to, wyes, tees, bends, crosses, sleeves, plugs and caps, and reducers.

F. Restrained Joints

Joint restraints used with the installation of PVC or ductile iron pipe are considered subsidiary to the water line in which they are used and are not measured for separate payment.

G. Gate Valves

Gate valves shall be measured on an individual basis for each size valve and box assembly acceptably installed.

H. Butterfly Valves

Butterfly valves shall be measured on an individual basis on the number of each size valve and box assembly acceptably installed.

I. Tapping Sleeve and Valve Assembly

Tapping sleeve and valve assemblies shall be measured on an individual basis on the number of each size tapping sleeve and valve assembly acceptably installed.

J. Double Strap Saddle

Double strap saddles shall be measured on an individual basis on the number of each size double strap saddle acceptably installed.

K. Fire Hydrant

Fire hydrant shall be measured on an individual basis on the number of hydrants acceptably installed.

L. Water Service Lines

Service lines shall be measured in linear feet (meters) for each size of service pipe installed. Measurements are made from end to end and from center of lines to ends of branches and include tapping saddle, sleeve, valves, service connection assemblies, sleeves, adapters, and fittings.

M. Air Release Valve Assembly

Air release valve assemblies shall be measured on an individual basis on the number of each size and type of air release valve assembly acceptably installed.

N. Pressure Reducing / Sustaining Valve

Pressure reducing/sustaining valve shall be measured on an individual basis on the number of each pressure reducing/sustaining valves acceptably installed.

O. Blow-Off Assemblies

Blow-off assemblies shall be measured on an individual basis on the number of each blow-off assembly acceptably installed.

P. Backflow Prevention Assembly

Backflow prevention assemblies shall be measured on an individual basis on the number of each size and type backflow preventer acceptably installed.

Q. Water Meter

Water meters shall be measured on an individual basis on the number of each size meter acceptably installed.

R. Steel Casing

Steel casing pipe of the wall thickness and diameter specified shall be measured by the linear foot for each size and thickness of steel casing pipe installed. Measurement shall be horizontally above the centerline of the casing.

S. Relocation of Existing Fire Hydrant , Air Release Valves, Water Meters, Water Backflow Preventers, Pressure Reducing or Sustaining Valves, Water Valves and Water Meter including Bypass and Vault

Relocation of existing fire hydrant air release valves, water meters, backflow preventers, pressure reducing or sustaining valves, water valves, and water meter including bypass and vault shall be measured on an individual basis on the number of each acceptably relocated including relocation and final adjustment of boxes.

T. Adjustment of Existing Meter Boxes and Valve Boxes to Grade

Adjustment of existing meter boxes and valve boxes adjusted to grade in their original locations shall be measured on an individual basis on the number of each acceptably adjusted in accordance with Section 611.

U. Adjustment of Blow-Off Assembly

Adjustment of blow-off assembly to grade in their original locations shall be measured on an individual basis on the number of each acceptably adjusted.

V. Adjustment of Existing Fire Hydrant

Adjustment of existing fire hydrant to grade in their original locations shall be measured on an individual basis on the number of each acceptably adjusted.

W. Adjustment of Existing Backflow Preventers

Adjustment of existing backflow preventers to grade in their original locations shall be measured on an individual basis on the number of each acceptably adjusted.

X. Removal of Water Meters, Fire Hydrant Assemblies, Backflow Preventers, Water Valves, and Air Release Valves

Removal of existing water meters and boxes, fire hydrants, backflow preventers, water valves, and air release valves, shall be measured on an individual basis on the number of each removed.

Y. Adjustment of Water Service Lines

Adjustment of water service lines shall be measured in linear feet (meters) of service line pipe lowered or raised, and shall include the length of valves, fittings, meters, boxes, and other appurtenances. Measurements are made from end to end of actual adjustments.

Z. Concrete Thrust Blocks

Concrete thrust blocking installed shall be measured as indicated in Section 500 per cubic yard of concrete acceptably installed. When Concrete Thrust Blocks is not shown as a pay item, include the cost of the work in the bid price for the appropriate item.

AA. Concrete Thrust Collars

Concrete thrust collars shall be measured on an individual basis on the number of each size thrust collar acceptably installed. When Concrete Thrust Collars is not shown as a pay item, include the cost of the work in the bid price for the appropriate item

BB. Cut and Plug Existing Water Main

Cutting and plugging of existing water mains shall be measured on an individual basis per each instance of cutting and plugging existing mains as shown on the Plans.

CC. Removal of Water Mains

Unless specified removal of water mains shall be removed in accordance with Section 210. If specified removal of water mains shall be measured per linear foot for each size pipe actually removed in accordance with Section 610. Measurement shall be horizontally above the centerline of the pipe removed and shall include the length of valves and fittings.

DD. Line Stop

Line stops shall be measured on an individual basis on the number of each size line stop actually installed.

EE. Flowable Fill

Flowable fill shall be measured as indicted in Section 600 per cubic yard of flowable fill acceptably installed. When flowable fill is not shown as a pay item, include the cost of the work in the bid price for the appropriate item.

FF. Insertion Valve

Insertion valves shall be measured on an individual basis on the number of each size valve acceptably installed.

GG. Water Telemetry Manhole

This shall be measured as one lump sum for a complete work.

670.4.01 Limits

General Provisions 101 through 150.

670.5 Payment

The Contract Unit Price for each Item, complete and accepted, shall include all costs incidental to the construction of the Item according to the Plans and as specified in this Section. The unit prices bid shall include due allowance for the salvage value of all materials removed from existing or temporary lines and not installed in the completed work. All such surplus items shall become the property of the Contractor unless such surplus items are specified to be salvaged. Payment for any Item listed below is full compensation for the Item or Items complete in place.

A. Ductile Iron Water Mains

Ductile iron mains shall be paid for at the unit price per linear foot for each diameter pipe installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of pipe, joints and jointing materials, fittings, tees (such as for fire hydrant leads), joint restraint anchoring, warning tape, polyethylene encasement, protection of existing utilities, connections to existing water mains, sampling taps, temporary blow-offs, flushing, cleaning, pigging, chlorine for disinfection, disinfection, backfilling, backfill materials, disposal of unsuitable backfill material, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration and all work and materials necessary to place the pipe into service.

B. PVC Water Main

PVC water mains shall be paid for at the unit price per linear foot for each diameter pipe installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of pipe, anchoring, tracer wire, warning tape, protection of existing utilities, connections to existing water mains, sampling taps, temporary blow-offs, flushing, cleaning, pigging, chlorine for disinfection, disinfection, backfilling, backfill materials, disposal of unsuitable backfill material, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to place the pipe into service.

C. Fusible PVC Water Main

Fusible PVC water mains shall be paid for at the unit price per linear foot for each diameter pipe installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, entry/exit pits, installation of pipe, joints and jointing materials, tracer wire, warning tape, mechanical joint adapters, protection of existing utilities, connections to existing water mains, fusion process materials and equipment, directional drilling materials and equipment, tracking system, assembling, welding, supporting, stringing, pulling, pigging, cleaning, sampling taps, temporary blow-offs, flushing, chlorine for disinfection, disinfection, backfilling, backfill materials, disposal of unsuitable backfill material, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, and restoration, and all incidentals necessary to place the pipe into service except where such items are shown to be paid for under a separate Pay Item.

D. HDPE Water Main

HDPE water mains shall be paid for at the unit price per linear foot for each diameter pipe installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, entry/exit pits, installation of pipe, tracer wire, warning tape, mechanical joint adapters, protection of existing utilities, connections to existing water mains, fusion process materials and equipment, directional drilling materials and equipment, tracking system, assembling, welding, supporting, stringing, pulling, pigging, cleaning, sampling taps, temporary blow-offs, flushing,

chlorine for disinfection, disinfection, backfilling, backfill materials, disposal of unsuitable backfill material, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, and restoration, and all incidentals necessary to place the pipe into service except where such items are shown to be paid for under a separate Pay Item.

E. Ductile Iron Fittings

Ductile iron fittings are considered subsidiary to the water line in which they are used and are not measured for separate payment as outlined in the manufacturers' catalogues and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of fittings, joints and jointing materials, anchoring, warning tape, polyethylene encasement, protection of existing utilities, flushing, chlorine for disinfection, disinfection, backfilling, backfill materials, disposal of unsuitable backfill material, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, all other related and necessary materials, work and equipment required to install a complete and operable pipeline fitting. This Item includes, but is not limited to, wyes, tees, bends, crosses, sleeves, plugs and caps, couplings, and reducers.

F. Restrained Joints

Restrained joints are considered subsidiary to the water line in which they are used and are not measured for separate payment as outlined in the manufacturers' catalogues and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting, shoring, installation of the restraint device, polyethylene encasement, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to install the restrained joint.

G. Gate Valves

Gate valves shall be paid for at the unit price per each size gate valve and box assembly installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of the gate valves (including valve box), concrete pad or collar, valve identification disc, valve marker, valve tag, polyethylene encasement, protection of existing utilities, chlorine for disinfection, disinfection, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to install the gate valve and place it in service.

H. Butterfly Valves

Butterfly valves shall be paid for at the unit price per each size butterfly valve and box assembly installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of the butterfly valves including valve box, concrete pad or collar, valve identification disc, valve marker, valve tag, polyethylene encasement, protection of existing utilities, chlorine for disinfection, disinfection, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration and all work and materials necessary to install the butterfly valve and place it in service.

I. Tapping Sleeve and Valve Assembly

Tapping sleeve and valves assemblies shall be paid for at the unit price per each size tapping sleeve and valve assembly installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of tapping sleeves and valve assemblies including valve box, concrete pad or collar, valve marker, valve tag, polyethylene encasement, protection of existing utilities, tapping the potable water main, chlorine for disinfection, disinfection, sampling points, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and necessary hardware to install the tapping sleeve assembly and valve and place it in service.

J. Tapping Sleeve

Tapping sleeves shall be paid for at the unit price per each size tapping sleeve installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of tapping sleeves, concrete pad or collar, valve marker, valve tag, polyethylene encasement, protection of existing utilities, tapping the potable water main, chlorine for disinfection, disinfection, sampling points, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and necessary hardware to install the tapping sleeve and place it in service.

K. Double Strap Saddle

Double strap saddles shall be paid for at the unit price per each size double strap saddle installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of double strap saddles, concrete pad or collar, valve marker, valve tag, polyethylene encasement, protection of existing utilities, tapping the potable water main, chlorine for disinfection, disinfection, sampling points, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and necessary hardware to install the double strap saddle.

L. Fire Hydrant

Fire hydrant shall be paid for at the unit price per each hydrant installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of the fire hydrant (all configurations), vertical extensions, tapping sleeve, hydrant lead piping, joint connections, fittings, tees, restraints, crushed stone drain, polyethylene encasement, protection of existing utilities, concrete pad or collar, chlorine for disinfection, disinfection, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to install the fire hydrant and place it in service. Note that the 6" gate valve and 6" water main are paid for in separate pay item.

M. Water Service Line

Water service lines shall be paid for at the unit price per linear feet (meters) of the size service line installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of water service line, tracer wire, tapping saddle, sleeve, corporation stops, fittings, curb stops, casing pipe, plugging abandoned water service connection, removal of abandoned water service line, protection of existing utilities, locating and connection to existing or new water main, chlorine for disinfection, disinfection, sampling points, backfilling, backfill materials, disposal of unsuitable backfill material, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to place the water service line into service. Water meter and box shall be paid for under a separate Pay Item.

N. Water Meter and Box

Water meters shall be paid for at the unit price per each size water meter installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of the meter and box, adjustment to final grade, fittings, protection of existing utilities, chlorine for disinfection, disinfection, backfilling, backfill materials, disposal of unsuitable backfill material, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to place the meter into service except where such items are to be paid for under a separate Pay Item.

O. Backflow Prevention Assembly

Back flow prevention assemblies shall be paid for at the unit price per each type backflow preventer installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of the backflow preventer, concrete vault, adjustment to final grade, testing and certification, fittings, tees, restraints, protection of existing utilities, chlorine for disinfection, disinfection, backfilling, backfill materials, disposal of unsuitable backfill material, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to place the meter into service except where such items are to be paid for under a separate Pay Item.

P. Air Release Valve Assembly

Air release valve assemblies shall be paid for at the unit price per each size and type of air release valve assembly installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of the air release assembly, tapping saddle, isolation valve, reducers, piping, restraints, fittings, tracer wire, concrete manhole or vault, ring and cover, protection of existing utilities, chlorine for disinfection, disinfection, backfilling, backfill materials, disposal of unsuitable backfill material, tamping, testing, densities, utility crossings,

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dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to place the air release assembly into service.

Q. Pressure Reducing / Sustaining Valve

Pressure reducing / sustaining valve shall be paid for at the unit price per each size and type of pressure reducing / sustaining valve installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of the pressure reducing / sustaining valve, reducers, piping, restraints, fittings, tracer wire, concrete manhole or vault, ring and cover, tracer wire, protection of existing utilities, chlorine for disinfection, disinfection, backfilling, backfill materials, disposal of unsuitable backfill material, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to place the pressure reducing / sustaining valve into service.

R. Blow-Off Assembly

Blow-off assemblies shall be paid for at the unit price per each blow-off assembly installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of the blow-off assembly, valves, valve boxes, concrete pad or collar, piping, restraints, fittings, tracer wire, protection of existing utilities, chlorine for disinfection, disinfection, backfilling, backfill materials, disposal of unsuitable backfill material, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to place the blow-off assembly into service.

S. Steel Casing

Steel casing pipe shall be paid for at the unit price per linear foot according to the diameter and thickness of the steel casing installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, protection of existing utilities, steel casing pipe, skid, steel straps, coatings, casing spacers, end seals, boring and jacking pits, backfilling, backfill materials, disposal of unsuitable backfill material, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to install the steel casing except where such items are shown to be paid for under a separate Item. The carrier pipe shall be paid from other applicable Pay Item.

T. Relocation of Existing Air Release Valve

Relocation of air release valves shall be paid for at the unit price per each air release valve assembly relocated and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheet and shoring, removal of existing air release valve assembly, installation at another location, piping, restraints, tracer wire, fittings, adjustment to final grade, polyethylene encasement, protection of existing utilities, chlorine for disinfection, disinfection backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration and all work necessary to locate, remove and relocate the air release valve except where such items are shown to be paid for under a separate Pay Item.

U. Relocation of Existing Fire Hydrant Assembly

Relocation of fire hydrants shall be paid for at the unit price per each hydrant assembly relocated and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheet and shoring, removal of existing fire hydrant assembly, installation at another location, vertical extensions, hydrant lead piping, joint connections, fittings, tees,

restraints, crushed stone drain, polyethylene encasement, valve box, concrete pad or collar, valve identification disc, valve marker, adjustment to final grade, protection of existing utilities, chlorine for disinfection, disinfection, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, and all work necessary to locate, remove and relocate the hydrant.

V. Relocation of Existing Backflow Prevention Devices

Relocation of backflow prevention devices shall be paid for at the unit price per each backflow preventer relocated and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheet and shoring, removal of existing backflow preventer, installation at another location, adjustment to final grade, testing and certification, fittings, tees, restraints, protection of existing utilities, chlorine for disinfection, disinfection, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, and all work necessary to locate, remove and relocate the backflow prevention device. The service line from the main to the relocated backflow preventer shall be paid for under a separate Pay Item.

W. Relocation of Water Meter and Box

Relocation of existing water meter and boxes shall be paid for at the unit price of each water meter and box relocated and shall cover the cost of all materials, transportation, labor, equipment, excavation, sheeting and shoring, removal of existing water meter and box, installation at another location, adjustment to final grade, protection of existing utilities, chlorine for disinfection, disinfection, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to relocate the water meter and box except where such items are shown to be paid for under a separate Item. The new service line from the main to the relocated meter shall be paid for under a separate Pay Item.

X. Relocation of Water Meter, including Bypass and Vault

Relocation of existing water meter including bypass and vault shall be paid for at the unit price of each water meter including bypass and vault relocated and shall cover the cost of all materials, transportation, labor, equipment, excavation, sheeting and shoring, removal of existing water meter, bypass and vault, installation at another location, adjustment to final grade, protection of existing utilities, chlorine for disinfection, disinfection, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to relocate the water meter including bypass and vault except where such items are shown to be paid for under a separate Item. The new service line from the main to the relocated meter, bypass and vault shall be paid for under a separate Pay Item.

Y. Relocation of Pressure Reducing/Sustaining Valve

Relocation of pressure reducing/sustaining valve shall be paid for at the unit price of each pressure reducing/sustaining valve relocated and shall cover the cost of all materials, transportation, labor, equipment, excavation, sheeting and shoring, removal of existing water meter and box, installation at another location, adjustment to final grade, protection of existing utilities, chlorine for disinfection, disinfection, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to relocate the water meter and box except where such items are shown to be paid for under a separate Item. The new service line from the main to the relocated pressure reducing/sustaining valve shall be paid for under a separate Pay Item.

Z. Relocation of Water Valve and Box

Relocation of existing water valves and boxes shall be paid for at the unit price of each water valve and box relocated and shall cover the cost of all materials, transportation, labor, equipment, excavation, sheeting and shoring, removal of existing water meter and box, installation at another location, adjustment to final grade, protection of existing utilities, chlorine for disinfection, disinfection, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials

necessary to relocate the water meter and box except where such items are shown to be paid for under a separate Item. The new service line from the main to the relocated valve shall be paid for under a separate Pay Item.

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AA. Adjustment of Existing Water Service Line

Adjustment of existing water service lines shall be paid in accordance with Section 611, for at the unit price per linear foot of service line adjusted and shall cover the cost of all materials, transportation, labor, equipment, excavation, sheeting and shoring, adjustment of service line, tracer wire and splices, chlorine for disinfection, disinfection, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to adjust the service line except where such items are shown to be paid for under a separate Pay Item.

BB. Adjustment of Existing Water Valve Boxes to Grade

Adjustment of existing valve boxes shall be paid for in accordance with Section 611, at the unit price per each valve box adjusted to final grade and shall cover the cost of all materials, transportation, labor, equipment, excavation, sheeting and shoring, valve case and lid, trench adapter and operating nut extensions/reductions, tracer wire and splices, tracer wire riser and threaded plug, concrete pad, valve identification disc, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to adjust the valve box.

CC. Adjustment of Blow-off Assembly

Adjustment of existing blow-off assemblies shall be paid for at the unit price per each blow-off adjusted to final grade and shall cover the cost of all materials, transportation, labor, equipment, excavation, sheeting and shoring, valve case and lid, trench adapter and operating nut extensions/reductions, tracer wire and splices, tracer wire riser and threaded plug, piping, concrete pad or collar, valve identification disc, chlorine for disinfection, disinfection, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to adjust the blow-off assembly.

DD. Adjustment of Existing Water Meter Boxes to Grade

Adjustment of existing meter boxes shall be paid for at the unit price per each meter box adjusted to finished grade and shall cover the cost of all materials, transportation, labor, equipment, excavation, sheeting and shoring, adjustment of water meter box to final grade, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to adjust the water meter box.

EE. Adjustment of Backflow Preventer

Adjustment of existing backflow preventers shall be paid for at the unit price per each backflow preventer adjusted to finished grade and shall cover the cost of all materials, transportation, labor, equipment, excavation, sheeting and shoring, adjustment of backflow preventer to final grade, adjustment of backflow preventer vault to final grade, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to adjust the water meter box.

FF. Adjustment of Existing Fire Hydrant Assembly to Grade

Adjustment of existing fire hydrants shall be paid for at the unit price per each hydrant adjusted to finished grade and shall cover the cost of all materials, transportation, labor, equipment, excavation, sheeting and shoring, adjustment of hydrant, protection of existing utilities, chlorine for disinfection, disinfection, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to adjust the hydrant.

GG. Removal of Water Valve and Box

Removal of water valves shall be paid for at the unit price per each valve removed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheet and shoring, removal of existing water valve and box.

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protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, storage and delivery of removed valves identified to be salvaged, and all work necessary to remove the valve and box.

HH. Removal of Water Meter and Box

Removal of water meters shall be paid for at the unit price per each meter removed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheet and shoring, removal of existing water meter and box, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, storage and delivery of removed meters and boxes identified to be salvaged, and all work necessary to remove the meter.

II. Removal of Fire Hydrant

Removal of fire hydrant shall be paid for at the unit price per each hydrant removed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheet and shoring, removal of existing fire hydrant, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, storage and delivery of removed hydrants identified to be salvaged, and all work necessary to remove the hydrant.

JJ. Removal of Air Release Valve

Removal of air release valves shall be paid for at the unit price per each air release valve removed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, removal of air release valve assemblies, piping, concrete manholes or vaults, and fabricated enclosures, backfilling, backfill materials, disposal of unsuitable backfill materials, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, storage and delivery of air release valves identified to be salvaged, and all work necessary to remove the air release valve.

KK. Removal of Backflow Prevention Devices

Removal of backflow prevention devices shall be paid for at the unit price per each backflow preventer removed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheet and shoring, removal of existing backflow preventer and vault, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, storage and delivery of removed backflow preventers identified to be salvaged, and all work necessary to remove the backflow preventers.

LL. Concrete Thrust Blocks

Concrete thrust blocks shall be paid for at the unit price per cubic yard of concrete complete in place as indicated in Section 500 and shall cover the cost of all materials, transportation, labor, equipment, excavation, sheeting and shoring, concrete, forming, reinforcement, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to install a complete thrust block. When Concrete Thrust Blocks is not shown as a pay item, include the cost of the work in the bid price for the appropriate item

MM. Concrete Thrust Collars

Concrete thrust collars shall be paid for at the unit price per each size of thrust collar and shall cover the cost of all materials, transportation, labor, equipment, excavation, sheeting and shoring, reinforced concrete thrust collars, retainer glands, reinforcement, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to install a complete thrust collar. When Concrete Thrust Collar is not shown as a pay item, include the cost of the work in the bid price for the appropriate item.

NN. Removal of Water Main

Removal of water mains shall be paid for at the unit price per linear foot of the size of water main to be removed in accordance with Section 610 and shall cover the cost for all materials, transportation, labor, equipment, excavation,

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sheeting and shoring, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, dewatering, trench stabilization, clean-up, bypass pumping (as required), restoration, and all work and materials necessary to locate, remove and dispose of the pipe and associated appurtenances. Unless indicated for removal in a separate Pay Item, appurtenances to be removed shall include but not be limited to fittings, isolation valves, air release valves, valve boxes, blow-offs, steel casings, casing spacers, fire hydrant assemblies, water service lines, water meter boxes, thrust blocks, and concrete. All such surplus items shall become the property of the Contractor unless specified to be salvaged by the Utility Owner.

OO. Cut and Plug Existing Water Main

Cutting and plugging of existing water mains shall be paid for at the unit price per each installation and shall cover all materials, transportation, labor, equipment, excavation, sheeting and shoring, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to cut and plug existing water mains, except where such items are shown to be paid for under a separate Pay Item.

PP. Line Stops

Line stops shall be paid for at the unit price per each size line stop installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of the line stop assemblies, valves, valve boxes, fittings, restraints, protection of existing utilities, chlorine for disinfection, disinfection, sampling points, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to install the gate valve and place it in service.

QQ. Flowable Fill

Flowable fill shall be paid for at the unit price per cubic yard of flowable fill complete in place as indicated in Section 600 and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, flushing, plugging air release valves and service connections, installation of flowable fill, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to install the gate valve and place it in service. When flowable fill is not shown as a pay item, include the cost of the work in the bid price for the appropriate item

RR. Insertion Valve

Insertion valves shall be paid for at the unit price per each size valve inserted and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of the valve, valve boxes, fittings, restraints, concrete pad or collar, valve identification disc, valve marker, polyethylene encasement, protection of existing utilities, chlorine for disinfection, disinfection, sampling points, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to install the insertion valve and place it in service.

SS. GG. Water Telemetry Manhole

This shall be paid for the complete work. This work shall include a new 4' diameter doghouse manhole approximately 8' deep. This will include a 1" water tap and 1" conduit to the telemetry pole. Contractor shall coordinate with RWR Water Plant Personnel. Call Hugh Panell at 770-278-7470.

670.5.01 Adjustments

General Provisions 101 through 150.

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

SPECIAL PROVISION

**Courtesy Pkwy Extension From Flat Shoals Rd to Old Covington Hwy
PI No. 0006934, Rockdale County**

Section 809— GEOGRID MATERIALS

Delete Subsection 809.2.A.1 and add the following:

1. Geogrid for Reinforced Slopes

Use geogrid materials for reinforced slope construction that consist of the following:

- Either a biaxial or uniaxial grid of polymer tensile elements manufactured into a regular network with apertures of sufficient size to allow for soil interlock.
 - A commercially prepared material of high tenacity polyester, high density polyethylene (HDPE) or polypropylene that is formed by stretching, heat welding, chemical welding, knitting, weaving or combinations of these methods.
- a. Determine the long-term design strengths listed in Sub-Section 809.03 that are required for the Project using reduction factors noted herein to reduce the ultimate strength of the geogrid to account for creep, site damage and durability. Calculate the long-term design strength using the following formula:

$$T_{al} = \frac{T_{ULT}}{RF_D * RF_{ID} * RF_{CR}}$$

where T_{al} = Long-Term strength

T_{ULT} = Geogrid ultimate tensile strength
 RF_{CR} = Creep Reduction Factor
 RF_{ID} = Installation Damage Reduction Factor
 RF_D = Durability Reduction Factor

- b. Determine T_{ULT} using wide strip tensile testing as noted in Sub-Section 809.04.
- c. Determine the reduction factors by the methods described in paragraphs 1 - 4 as follows:
1. Creep: Provide evidence from the manufacturer that the geogrid has been tested in laboratory creep tests conducted for a minimum duration of 10,000 hours for a range of load levels, including loads that the geogrid will be subject to on this Project. Conduct these tests as specified in Sub-Section 809.04. Extrapolate the results to a minimum design life of 75 years. Determine the tension level at which the total strain of the geogrid will not exceed 10% within the design life of 75 years (designated T_w), and calculate the creep reduction factor as follows:

$$RF_{CR} = \frac{T_{ULT}}{\text{Creep limit Strength}}$$

In the absence of such test data, use the following creep reduction factors for the geogrid type used on the Project:

<u>Geogrid Type</u>	<u>Creep Reduction Factor</u>
Polyester	2.5
Polypropylene	5.0
Polyethylene	5.0

2. Installation Damage: Provide evidence from the manufacturer that the geogrid has been subjected to full scale construction damage tests using fill materials and construction procedures that are representative of those on the Project. Provide evidence the grid has been excavated and tested according to Sub-Section 809.04.

Use a minimum value of RF_{ID} of 1.1, and if no damage installation testing has been conducted use a value for RF_{ID} of 3.0.

3. Product Durability: Provide evidence from the manufacturer that the geogrid has been subjected to a series of durability tests to examine the effects of chemical and biological exposure on the grid, as described in the FHWA NHI-00-043 MSE and RSS Design and Construction guidelines.

Include the effect on short-term and long-term mechanical properties as well as change to the reinforcement microstructure, dimensional changes, changes in mass, oxidation, environmental stress cracking, hydrolysis, temperature, plasticization, and changes in surface micrology together with any variation in the infrared spectrum analysis in the durability studies. Investigate the synergetic effects of different environments, particularly temperature, and subject the geogrid to a working stress during the environmental test.

Perform the environmental testing protocol outlined in FHWA RD-97-144, which include but are not limited to the following:

- a) Thermo-Oxidation Resistance - ENV ISO 13438: 1999
- b) UV Oxidation Resistance – ASTM D-4355
- c) Hydrolysis – GSI Test Method – GG7

Test the geogrids that have been subjected to these conditions according to Sub-Section 809.04.

In the absence of such test data, use the following durability reduction factors for the geogrid type that meet the requirements of Table 3-12 of FHWA GEC 11, used on the Project:

<u>Geogrid Type</u>	<u>Durability Reduction Factor</u>
Polypropylene	1.1
Polyethylene	1.1
Polyester with:	
- Installation environment pH between 4.99 and 8	1.15
- Installation environment pH between 3 and 4.98 or 8.01 and 9	1.3

4. Pullout Resistance: Provide evidence from the manufacturer that the geogrid has been subjected to full scale pullout tests using backfill materials representative of those on the Project, as described in the FHWA NHI-00-043 MSE and RSS Design and Construction guidelines.

Calculate pullout resistance for design based on a maximum elongation of the embedded geogrid of 3/4-inch (19 mm) as measured at the leading edge of the compressive zone within the soil mass and not the ultimate pullout capacity. For geogrids where insufficient data exists to evaluate pullout resistance as a function of soil type, perform pullout tests on a specific basis until such time that the engineering behavior of the soil-reinforcement system is clearly defined.

Perform the pullout tests using vertical stress variations (σ_v') and geogrid element configurations simulating actual project conditions.

Perform the pullout tests in accordance with Section 809.04 on samples with a minimum embedded length of 2 feet (610 mm). Perform the tests on samples with a minimum width of 1 foot (305 mm), or a width equal to a 4-longitudinal grid element, whichever is greater. Conduct these tests at $70^\circ\text{F} \pm 4^\circ\text{F}$ ($21^\circ\text{C} \pm 2^\circ\text{C}$) at constant strain rates of 0.5mm per minute.

Evaluate the pullout resistance by the following relation:

$$P_r = F^* \alpha \sigma_v' L_c C$$

where

P_r = pullout capacity of tensile reinforcement

$L_c C$ = the total surface area per unit width of the reinforcement in the resistive zone behind the failure surface

L_c = the embedment or adherence length in the resisting zone behind the failure surface

C = the reinforcement effective unit perimeter

F^* = the pullout resistance (or friction-bearing-interaction) factor

α = a scale effect correction factor to account for a non linear stress reduction over the embedded length of highly extensible reinforcements, based on laboratory data

σ_v' = the effective vertical stress at the soil- reinforcement interfaces

Ensure that the pullout resistance, P_r , meets the following minimum strength requirement:

$P_r = \text{FPO} \times T_{al}$ with a displacement less than or equal to 3/4-inch (19 mm), where:

FPO = Factor of safety against pullout, equal to 1.5

T_{al} = Long-term design load

Delete Subsection 809.2.C and add the following:

C. Acceptance

Test geogrid according to the following:

Test Property	Test Method
Reinforced Slopes	
Tensile Strength—Wide Width	ASTM D 4595
Tensile Strength—Single Rib Strand	ASTM D 6637
Tensile Creep Testing	ASTM D 5262
Geogrid Pullout	ASTM D 6706
Installation Damage Testing	ASTM D-5818
Interface Friction Coefficient	ASTM D-5321

MSE Wall Backfill Stabilizing Geogrid	
Melt Index	ASTM D 1238
Density	ASTM D 1505
Tensile Strength	ASTM D 638
Ultimate Elongation	ASTM D 638
Vicat Softening Point	ASTM D 1525
Brittleness	ASTM D 746

Supply a certification from the manufacturer showing the physical properties of the material used and conformance with the Specifications as directed by Sub-Section 106.05 of the Specifications. In addition, provide evidence from the manufacturer that the geogrid has been used successfully in installations with similar environmental and project conditions. Submit certifications and test results to the Engineer for review and approval at least 45 days prior to intended use. Do not begin placement of geogrids until the test results have been reviewed and approved by the Engineer.

Add the following:

809.3 Design Properties

Ensure the geogrids meet the following minimum long-term design strengths (T_{al}) in the machine direction:

<u>Geogrid Type</u>	<u>Minimum Long-Term Design Strength, T_{al}</u>
Type C	3500 lb/ft

Provide the ultimate tensile strengths of the grids (T_{ULT}) to the Engineer in writing to verify the calculation in obtaining the long-term design loads (T_{al}).

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

SPECIAL PROVISION

**P.I. No: 0006934
Rockdale County**

Section 865—Manufacture of Prestressed Concrete Bridge Members

Delete Subsection 865.1 and substitute the following:

This section includes the following requirements for precast-prestressed concrete bridge members and piling using High Performance Portland cement concrete as shown in the Plans:

- Manufacturing
- Inspecting
- Testing
- Marking
- Painting
- Rubbing as specified
- Plant handling
- Storing
- Shipping

The term “precast-prestressed concrete” is referred to as “prestressed concrete” in the rest of this Section.

Add the following to Subsection 865.2:

Material	Section
Concrete, Class AAA HPC	500

Add the following to the end of Subsection 865.2.01.B.7.a.6:

Optional Method of Curing for Release Strengths with HPC: Temperature match curing (“Sure Cure” or equivalent methods) is allowed for specimens used to determine when stress may be transferred to the concrete for High Performance Concrete Units.

GEORGIA DEPARTMENT OF TRANSPORTATION**STATE OF GEORGIA****SPECIAL PROVISION****CSSTP-0006-009(34), Rockdale County****P.I. NO. 0006934****Section 881- Fabrics***Add the following to Subsection 881.2.08:***881.2.08 Filter Fabric for Embankment Stabilization****A. Requirements**

1. Use woven filter fabric for embankment stabilization.
2. Sew fabric with a lock stitch using high strength polypropylene or nylon thread.
3. Obtain approval of the stitch and sewing method from the Engineer prior to use.
4. Use fabric that meets the following minimum tensile strength requirements:

Fabric Type	Tensile Strengths in lbs/in (kN/m) width			
	Warp Direction		Fill Direction	
	5% Strain	Ultimate	5% Strain	Ultimate
Polyester	100 (17.5 kN/m)	250 (43.8 kN/m)	100 (17.5 kN/m)	250 (43.8 kN/m)
Polypropylene	100 (17.5 kN/m)	400 (70 kN/m)	100 (17.5 kN/m)	400 (70 kN/m)

Minimum Seam Strength = lbs/in (kN/m) width

- a. Tensile strengths at 5% strain are based on reduction factors from the ultimate strengths of 0.4 for polyester and 0.25 for polypropylene fabrics.
 - b. Use of reduction factors other than those shown are allowed only if verified by laboratory tests acceptable to the Department.
5. Submit a certification from the manufacturer that shows the physical properties of the material used and how it meets this Specification. Submit the certificate according to Subsection 106.05, "Materials Certification."

B. Fabrication

General Provisions 101 through 150.

C. Acceptance

Test according to the following:

Test	Method
Tensile strength, elongation	ASTM D 4595 Wide Strip Test
Seam Strength	ASTM D 4884 Wide Strip Test

1. Run the tests at a strain rate of 10% per minute.
2. Use a pre tensioning load of 10 lbs/in (1.75 kN/m) or 3%, whichever is less.

D. Materials Warranty

General Provisions 101 through 150.