CITY OF FAIRBURN

CONTRACT DOCUMENTS
FOR

BID NO. IFB# 27-001
CITY OF FAIRBURN
CITYWIDE GUARDRAIL INSTALLATION AND REPAIR

City of Fairburn
City Administration Building,
314 NW Broad Street,
Fairburn, Georgia 30213

SECTION I

BID

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SPECIAL NOTICE 1

120 CALENDAR DAYS ARE ALLOWED FOR CONSTRUCTION ON CITY OF FAIRBURN – CITYWIDE GUARDRAIL INSTALLATION AND REPAIR PROJECT. CONTRACTOR WILL BE ASSESSED LIQUIDATED DAMAGES IN THE AMOUNT OF $750.00 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 CITY 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 CITY AND THE CONTRACTOR DUE THE UNCERTAINTY AND IMPOSSIBILITY OF MAKING A DETERMINATION AS TO THE ACTUAL AND CONSEQUENTIAL DAMAGES WHICH ARE INCURRED BY THE CITY, 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 2

ALL GUARDRAIL AND ANCHOR MATERIALS AND INSTALLATION MUST COMPLY WITH THE CURRENT GEORGIA DEPARTMENT OF TRANSPORTATION (GDOT) SPECIFICATION, STANDARDS AND DETAILS.

COST FOR REMOVAL OF EXISTING GUARDRAIL, AND MISCELLANEOUS ITEMS TO BE INCLUDED IN THE GRADING COMPLETE ITEM.

THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL COORDINATION WITH ANY UTILITY OWNERS WITHIN THE LIMITS OF THE PROJECT BY USING GEORGIA 811-BEFORE YOU DIG NUMBER.

NO WORK SHALL TAKE PLACE OUTSIDE OF THE EXISTING RIGHT OF WAY.

NO EQUIPMENT OR MATERIALS SHALL BE LEFT ON THE EXISTING RIGHT OF WAY OVERNIGHT WITHOUT PRIOR APPROVAL FROM THE CITY OF FAIRBURN.

ALL DEBRIS FROM CONSTRUCTION WILL BE REMOVED FROM THE SITE ONCE CONSTRUCTION IS COMPLETE TO THE SATISFACTION OF THE CITY OF FAIRBURN.

SECTION I

CITY OF FAIRBURN
INVITATION FOR BID
IFB # 27-001 – CITYWIDE GUARDRAIL INSTALLATION AND REPAIR PROJECT
Date: October 28, 2026

The City of Fairburn will accept sealed bids from qualified Contractors for furnishing all labor, equipment, and materials necessary to complete the **CITYWIDE GUARDRAIL INSTALLATION AND REPAIR PROJECT CONTRACT #27-001.** This project consists of Guardrail Installation and Repair at multiple locations throughout the City of Fairburn. All work must be completed within one hundred twenty (120) calendar days of the Notice to Proceed with Construction (NTP).

Bids will be received at the City of Fairburn City Administration Building, 314 NW Broad Street, Fairburn, Georgia 30213 (phone: 770-964-2244) until **1:30 PM, December 7, 2026**, at which time the bids will be opened and read aloud. Bids received after the stated time will not be accepted.

However, the bid opening will not be in person, it will be via teleconference. The call-in number is: +1 (605) 475-4022. The Access Code is: 507-837. No bid may be modified, withdrawn, or canceled for a period of 60 days after the time designated for receipt of bids or until notified by Owner, whichever is sooner. The City reserves the right to reject any and all bids and to waive irregularities, technicalities, and informalities.

Questions of a technical nature should be submitted in writing to the City of Fairburn via electronic mail, to the procurement inbox: purchasing@fairburn.com. The last day that questions can be submitted is November 20, 2026, at 4:00pm. All questions MUST be in writing (e-mail), no questions will be answered verbally.

The Bid should be submitted in duplicate and include:

1. Completed Bid Form
2. Bid Bond, Certified Check or Cashier's Check
3. Contractor Affidavit and Agreement
4. Subcontractor Affidavit and Agreement
5. Prime Contractor Certification of Non-Segregated Facilities
6. Subcontractor Certification of Non-Segregated Facilities
7. References
8. List of Subcontractors
9. Schedule of Items

City of Fairburn does not discriminate on the basis of disability in the admission or access to its programs or activities. Any requests for reasonable accommodations required by individuals to fully participate in any open meeting, program or activity of City of Fairburn Government should be directed to Deannia Ray, City Clerk, City Administration Building, 314 NW Broad Street, Fairburn, Georgia 30213, 770-964-2244.

All suppliers 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 percent (100%) performance bond and a one hundred percent (100%) 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.**

Individuals, firms and businesses seeking an award of a City of Fairburn contract may not initiate or continue any verbal or written communications regarding a solicitation with any City of Fairburn officer, elected official, employee or other City of Fairburn representative without permission of the City Administrator named in the solicitation between the date of the issuance of the solicitation and the date of the final contract award by the Fairburn City Council. Violations will be reviewed by the City Administrator. 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.

Award will be made to the lowest responsible and responsive bidder. City of Fairburn reserves the right to reject any or all bids, to waive technicalities, and to make an award as deemed in its best interest. Where City of Fairburn 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 City of Fairburn will apply the deduct as it deems appropriate.

Award notification will be posted after award on the City of Fairburn website, https://www.fairburn.com/bids-and-proposals

The Bidding Documents consist of the following, including all addenda issued therewith and forms referenced therein:

Section I - Bid
Section II - Contract Documents

BID FORM

To: CITY OF FAIRBURN
314 NW BROAD STREET
FAIRBURN, GEORGIA 30213

To Whom It May Concern:

In compliance with your Notice to Contractors, the undersigned, hereinafter termed the Bidder, proposes to enter into a Contract with City of Fairburn, 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:

CITY OF FAIRBURN
CITYWIDE GUARDRAIL INSTALLATION AND REPAIR

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 City of Fairburn 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.

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.

The Bidder further proposes and agrees hereby to promptly commence the Work with adequate forces and equipment within ten (10) calendar days from receipt of Notice to Proceed, and to complete the work on the Citywide Guardrail Installation and Repair project in 120 calendar days.

If said work is not completed within the time stated, the Contractor shall be liable and hereby agrees to pay the City of Fairburn as liquidated damages and not as a penalty, (1) $750 per

calendar day for failure to complete the work in 120 calendar days on the Citywide Guardrail Installation and Repair project, all as liquidation of the extra expense incurred by the City of Fairburn and liquidated damages to the City of Fairburn. Liquidated damages will continue until the contract is complete.

If this bid shall be accepted by the City of Fairburn and the undersigned shall fail to execute a satisfactory contract in the form of said proposed Contract, and give satisfactory Performance and Payment Bonds, or furnish satisfactory proof of carriage of the insurance required, within ten days from the date of Notice of Award of the Contract, then the City of Fairburn may at its option, determine that the undersigned abandoned the Contract and thereupon this bid shall be null and void, and the sum stipulated in the attached Bid Bond or certified check shall be forfeited to the City of Fairburn as liquidated damages.

Bidder acknowledges receipt of the following addenda:

Addendum No.	Date Received
_____	_____
_____	_____
_____	_____

bidder further declares that the full name and resident address of all persons and parties interested in the foregoing bid as principals, are as follows:

_____

_____

_____

Signed, sealed, and dated this _____ Day of _____,

Bidder: _____ (Seal)
Company Name

Bidder Mailing Address:

_____

_____

By: _____

Title: _____

City of Fairburn, Georgia

BID BOND

KNOW ALL MEN BY THESE PRESENTS: that

_____
(Name of Contractor)

_____
(Address of Contractor)
a _____
(Corporation, Partnership or Individual)

hereinafter called Principal, and

_____
(Name of Surety)

_____
(Address of Surety)

a Corporation of the State of _____, and a surety authorized by law to do business in the State of Georgia, hereinafter called Surety, are held and firmly bound unto

City of Fairburn
(Name of Obligee)

314 NW Broad Street, Fairburn, Georgia 30213
(Address of Obligee)

Thereinafter referred to as Obligee: in the penal sum of _____
_____ Dollars

($ _____) in lawful money of the United States, for the payment of which sum will and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

WHEREAS, the Principal is about to submit, or has submitted, to City of Fairburn, Georgia, a proposal for furnishing materials, labor and equipment for:

The Citywide Guardrail Installation and Repair Project

WHEREAS, the Principal desires to file this Bond in accordance with law in lieu of a certified Bidder's check otherwise required to accompany this Bid.

NOW, THEREFORE, the conditions of this obligation are such that if the bid be accepted, the Principal shall within ten days after receipt of notification of the acceptance, execute a Contract in accordance with the Bid and upon the terms, conditions, and prices set forth in the form and manner required by City of Fairburn, Georgia, and execute a sufficient and satisfactory Performance Bond and Payment Bond payable to City of Fairburn, Georgia, each in an amount of 100% of the total Contract Price, in form and with security satisfactory to said City of Fairburn, Georgia, and 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 City of Fairburn, 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.

PROVIDED, FURTHER, that Principal and Surety agree and represent that this bond is executed pursuant to and in accordance with the applicable provisions of the Official Code of Georgia Annotated, as Amended, including, but not limited to, O.C.G.A. § 36-91-1 et seq. , and is intended to be and shall be constructed as a bond in compliance with the requirements thereof.

Signed, sealed, and dated this _____ day of _____A.D., 20_____.

ATTEST:

_____
(Principal)

_____
(Principal Secretary)

BY: _____

(SEAL)

_____
(Address)

_____
(Witness as to Principal)

_____

_____
(Address)

_____

_____
(Surety)

ATTEST:

By: _____
(Attorney-in-Fact)

_____
Resident or Nonresident Agent

(SEAL)

_____
(Address)

_____
(Witness as to Surety)

_____

_____
(Address)

_____

NOTE: If Contractor is Partnership, all partners should execute Bond. 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.

Principal Secretary, Principal and Witness as to Principal signature lines must be signed by three different individuals. Additionally, Resident or Nonresident Agent, Witness as to Surety, and Attorney-in-fact must be signed by three different individuals.

Certification Regarding Debarment and Suspension

Certification A: Certification Regarding Debarment, Suspension, and Other Responsibility Matters - Primary Covered Transactions

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

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

b. 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;

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

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

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

Instructions for Certification (A)

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

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

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

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

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

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

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

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

9. 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 a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

10. Except for transactions authorized under paragraph (6) 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 of default.

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

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

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

Instructions for Certification (B)

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

2. 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.

3. 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 when submitted or has become erroneous by reason of changed circumstances.

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

5. 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.

6. 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.

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

8. 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 a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

9. Except for transactions authorized under paragraph (5) of these instructions, if a participant in a lower 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.

Applicant	**Date**
Signature of Authorized Certifying Official	**Title**

GEORGIA SECURITY AND IMMIGRATION COMPLIANCE ACT AFFIDAVITS

The City of Fairburn, Georgia and Contractor agree that compliance with the requirements of O.C.G.A. § 13-10-91, as amended, and Rule 300-10-1-.02 of the Rules of the Georgia Department of Labor are conditions of this Agreement for the physical performance of services.

The Contractor further agrees that its compliance with the requirements of O.C.G.A. § 13-10-91, as amended, and DOL Rule 300-10-1-.02 is attested to on the executed Contractor Affidavit and Agreement attached hereto.

If employing or contracting with any subcontractor(s) in connection with this Agreement, Contractor further agrees:

1. To secure from the subcontractor(s) an affidavit attesting to the subcontractor's compliance with O.C.G.A. § 13-10-91, as amended, and DOL Rule 300-10-1-.02; such affidavit being in the form attached hereto; and

2. To submit such subcontractor affidavit(s) to the City when the subcontractor(s) is retained, but in any event, prior to the commencement of work by the subcontractor(s).

The failure of Contractor to supply the affidavit of compliance at the time of execution of this Agreement and/or the failure of Contractor to continue to satisfy the obligations of O.C.G.A. § 13-10-91, as amended, and DOL Rule 300-10-1-.02 as set forth in this Agreement throughout the contract period shall constitute a material breach of the contract. Upon notice of such breach, Contractor shall be entitled to cure the breach within ten days, upon providing satisfactory evidence of compliance with the terms of this Agreement and State law. Should the breach not be cured, City of Fairburn shall be entitled to all available remedies, including termination of the contract and damages.

Required Affidavits are included on the following pages.

CONTRACTOR AFFIDAVIT & AGREEMENT

By executing this affidavit, the undersigned contractor verifies its compliance with O.C.G.A. § 13-10-91, as amended, stating affirmatively that the individual, firm or corporation which is contracting with City of Fairburn, Georgia, has registered and is participating in a federal work authorization program* [an electronic verification of work authorization program operated by the U.S. Department of Homeland Security or any equivalent federal work authorization program operated by the U.S. Department of Homeland Security to verify information of newly hired employees, pursuant to the Immigration Reform and Control Act of 1986 (IRCA), P.L. 99-603], in accordance with the provisions established in O.C.G.A. § 13-10-91, as amended.

The undersigned further agrees that should it employ any new employees or contract with any subcontractor(s) for the physical performance of services pursuant to the contract with City of Fairburn, Georgia, the Contractor will secure from the subcontractor(s) verification of compliance with O.C.G.A. § 13-10-91, as amended, on the attached Subcontractor Affidavit. The undersigned contractor further agrees to use the federal work authorization program throughout the contract period and to maintain records of such compliance and to provide a copy of each such verification to City of Fairburn, Georgia, at the time the subcontractor(s) is retained to perform such services.

_____ _____

EEV / Basic Pilot Program* User Identification Number
https://e-verify.uscis.gov/enroll/

Date of Authorization

_____ _____

By: Authorized Officer or Agent

Date of Execution Affidavit

_____

Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME ON THIS THE

_____DAY OF_____, 20____

_____Notary Public

My Commission Expires:_____

Note: As of the effective date of O.C.G.A. § 13-10-91, the applicable federal work authorization program is the "EEV / Basic Pilot Program" operated by the U.S. Citizenship and Immigration Services Bureau (USCIS) of the U.S. Department of Homeland Security, in conjunction with the Social Security Administration (SSA).

SUBCONTRACTOR AFFIDAVIT & AGREEMENT

By executing this affidavit, the undersigned subcontractor verifies its compliance with O.C.G.A. § 13-10-91, as amended, stating affirmatively that the individual, firm or corporation which is contracting with City of Fairburn, Georgia, has registered and is participating in a federal work authorization program* [an electronic verification of work authorization program operated by the U.S. Department of Homeland Security or any equivalent federal work authorization program operated by the U.S. Department of Homeland Security to verify information of newly hired employees, pursuant to the Immigration Reform and Control Act of 1986 (IRCA), P.L. 99-603], in accordance with the provisions established in O.C.G.A. § 13-10-91, as amended.

_____ _____

EEV / Basic Pilot Program* User Identification Number
https://e-verify.uscis.gov/enroll/

Date of Authorization

_____ _____

By: Authorized Officer or Agent

Date of Execution Affidavit

_____

Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME ON THIS THE

_____DAY OF_____, 20____

_____Notary Public

My Commission Expires:_____

Note: As of the effective date of O.C.G.A. § 13-10-91, the applicable federal work authorization program is the "EEV / Basic Pilot Program" operated by the U.S. Citizenship and Immigration Services Bureau (USCIS) of the U.S. Department of Homeland Security, in conjunction with the Social Security Administration (SSA).

PRIME CONTRACTOR CERTIFICATION OF NONSEGREGATED FACILITIES

The undersigned hereby certifies that:

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

Name of Prime Contractor: _____

Project Name: The Citywide Guardrail Installation and Repair Project

Project Number (if applicable): _____

Name and Title of Signer (Print or Type): _____

Signature : _____

Date : _____

SUBCONTRACTOR CERTIFICATION OF NONSEGREGATED FACILITIES

The undersigned hereby certifies that:

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

Name of Subcontractor: _____

Project Name: The Citywide Guardrail Installation and Repair Project

Project Number (if applicable): _____

Name and Title of Signer (Print or Type): _____

Signature: _____

Date: _____

REFERENCES

City of Fairburn requires a minimum of three, (3) references where work of a **similar size and scope** has been completed, **in the last (3) three years**.

1. Company Name _____

   Brief Description of Project _____

   Completion Date _____

   Contact Person _____

   Telephone _____ Facsimile _____

   E-Mail Address _____

2. Company Name _____

   Brief Description of Project _____

   Completion Date _____

   Contact Person _____

   Telephone _____ Facsimile _____

   E-Mail Address _____

3. Company Name _____

   Brief Description of Project _____

   Completion Date _____

   Contact Person _____

   Telephone _____ Facsimile _____

   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. DO NOT submit a project list in lieu of this form.

LIST OF SUBCONTRACTORS

I do _____, do not _____, propose to subcontract some of the work on this project. I propose to Subcontract work to the following subcontractors:

NAME AND ADDRESS	TYPE OF WORK
	Guardrail & Anchorage
	Traffic Control
	Grading Complete

Company Name:_____

CITY OF FAIRBURN, GEORGIA	
PROJECT:	CITY OF FAIRBURN CITYWIDE GUARDRAIL INSTALLATION & REPAIR
BID NUMBER:	IFB# 27-001

BID SCHEDULE

Item #	GDOT #	Description	Units	Est. Bid Quantity	Unit Price Bid	Total Price Bid
001	150-1000	TRAFFIC CONTROL	LS	1		
002	161-1000	EROSION CONTROL	LS	1		
003	210-0100	GRADING COMPLETE	LS	1		
004	641-1100	GUARDRAIL, TP T	LF	1,715		
005	641-1200	GUARDRAIL, TP W	LF	7,829		
006	641-5001	GUARDRAIL ANCHORAGE, TP 1	EA	11		
007	641-5015	GUARDRAIL TERMINAL, TP 12A, 31 IN, TANGENT, ENERGY ABSORBING	EA	10		
008	700-02006	GRASSING COMPLETE	LS	1		

BID TOTAL: _____

CERTIFICATION OF NONCOLLUSION IN BID PREPARATION_____
(Signature) (Date)

The City requires that all who enter into a contract for the physical performance of services with the City 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 Mayor & Council Member within sixty (60) 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 FULTON COUNTY? YES ☐ NO ☐

REPRESENTATIVE SIGNATURE: _____

PRINT AUTHORIZED REPRESENTATIVE'S NAME: _____

TELEPHONE NUMBER: _____ FAX: _____

E-MAIL ADDRESS_____

COMPANY NAME: _____

SECTION II

CONTRACT DOCUMENTS

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SECTION II

SERVICE PROVIDER CONTRACT
CITY OF FAIRBURN
CITYWIDE GUARDRAIL INSTALLATION AND REPAIR PROJECT

This **AGREEMENT** made and entered into this _____ by and between City of Fairburn, Georgia (Party of the First Part, hereinafter called the "Owner"), and _____ (Party of the Second Part, hereinafter called the "Service Provider").

NOW THEREFORE, for and in consideration of the mutual promises and obligations contained herein and under the conditions hereinafter set forth, the parties do hereby agree as follows:

1. **TERM:**
This contract shall commence upon Notice to Proceed. All work must be completed within one hundred twenty (120) calendar days of the Notice to Proceed with Construction (NTP).

2. **ATTACHMENTS:**
Copies of the Service Provider's proposal, including all drawings, specifications, price lists, Instructions to Bidders, General Conditions, Special Provisions, and Detailed Specifications submitted to the Owner during the Bid process (hereinafter collectively referred to as the "Bid ") are attached hereto and are specifically incorporated herein by reference. In the event of a conflict between the Owner's contract documents and the Bid, the Owner's contract documents shall control.

3. **PERFORMANCE:**
Service Provider agrees to furnish all skill and labor of every description necessary to carry out and complete in good, firm and substantial, workmanlike manner, the work specified, in strict conformity with the Bid.

4. **PRICE:**
As full compensation for the performance of this Contract, the Owner shall pay the Service Provider for the actual quantity of work performed. Bid amount shown on Exhibit A is the total obligation of the City pursuant to OCGA section 36-60-13 (a) (3). The fees for the work to be performed under this agreement shall be charged to the Owner in accordance with the rate schedule referenced in the Bid. The Owner agrees to pay the Service Provider following receipt by the Owner of a detailed invoice, reflecting the actual work performed by the Service Provider.

5. **INDEMNIFICATION AND HOLD HARMLESS:**
Service Provider agrees to protect, defend, indemnify, and hold harmless the City, its commissioners, officers, agents and employees from and against any and all liability, damages, claims, suits, liens, and judgments, for whatever nature, including claims for contribution and/or indemnification, for injuries to or death of any person or persons, or damage to the property or other rights of any person or persons to the extent arising out of and attributed to the negligent errors, acts, or omissions of the Service Provider. Service Provider's obligation to protect, defend, indemnify, and hold harmless, as set forth hereinabove shall include any matter arising out of any patent, trademark, copyright, or service mark, or any actual or alleged unfair competition disparagement of product or service, or other business tort of any type whatsoever, or any actual or alleged violation of trade regulations.

Service Provider further agrees to protect, defend, indemnify, and hold harmless the City, its commissioners, officers, agents, and employees from and against any and all claims or liability for compensation under the Worker's Compensation Act arising out of injuries sustained by any employee of the Service Provider.

6. **TERMINATION FOR CAUSE:** The City may terminate this agreement for cause upon ten (10) days prior written notice to the Service Provider of the Service Provider's default in the performance of any term of this Agreement. Such termination shall be without prejudice to any of the City's rights or remedies provided by law.

7. **TERMINATION FOR CONVENIENCE:**
The City may terminate this Agreement for its convenience at any time upon 30 days written notice to the Service Provider. In the event of the City's termination of this Agreement for convenience, the Service Provider will be paid for those services actually performed. Partially completed performance of the Agreement will be compensated based upon a signed statement of completion to be submitted by the Service Provider who shall itemize each element of performance.

8. **AGREEMENT NOT TO DISCRIMINATE:**
During the performance of this Contract, the Service Provider will not discriminate against any employee or applicant for employment because of race, creed, color, sex, national origin, age, or disability which does not preclude the applicant or employee from performing the essential functions of the position. The Service Provider will also, in all solicitations or advertisements for employees placed by qualified applicants, consider the same without regard to race, creed, color, sex, national origin, age, or disability which does not preclude the applicant from performing the essential functions of the job. The Service Provider will cause the foregoing provisions to be inserted in all subcontracts for any work covered by this Contract so that such provision will be binding upon each subservice provider, providing that the foregoing provisions shall not apply to contracts or subservice providers for standard commercial supplies of raw materials.

9. **ASSIGNMENT:**
The Service Provider shall not sublet, assign, transfer, pledge, convey, sell or otherwise dispose of the whole or any part of this Contract or their right, title, or interest therein to any person, firm, or corporation without the previous consent of the Owner in writing.

10. **WAIVER:**
A waiver by either party of any breach of any provision, term, covenant, or condition of this agreement shall not be deemed a waiver of any subsequent breach of the same or any other provision, term, covenant, or condition.

11. **SEVERABILITY:**
The parties agree that each of the provisions included in this agreement is separate, distinct and severable from the other and remaining provisions of this agreement, and that the invalidity of any agreement provision shall not affect the validity of any other provision or provisions of this agreement.

12. **GOVERNING LAW:**
The parties agree that this agreement shall be governed and construed in accordance with the laws of the State of Georgia. This agreement has been signed in City of Fairburn, Georgia.

13. **MERGER CLAUSE:**
The parties agree that the terms of this agreement include the entire agreement between the parties, and as such, shall exclusively bind the parties. No other representations, either oral or written, may be used to contradict the terms of this agreement.

(Signatures Next Page)

IN WITNESS WHEREOF, the parties hereto, acting through their duly authorized agents, have caused this **AGREEMENT** to be signed, sealed and delivered.

CITY OF FAIRBURN, GEORGIA

By: _____
Hattie Portis-Jones, Mayor
City of Fairburn

ATTEST:

_____
Signature

_____
Print Name
Deannia Ray, City Clerk
City of Fairburn

APPROVED AS TO FORM:

_____
Signature
Rory K. Starkey, City Attorney
City of Fairburn

Service Provider:_____

BY:_____
Signature

_____
Print Name

_____
Title

ATTEST:

_____
Signature

_____
Print Name
Corporate Secretary
(Seal)

CITY OF FAIRBURN, GEORGIA

BOND #_____

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: that

_____
(Name of Contractor)

_____
(Address of Contractor)

a _____
(Corporation, Partnership or Individual)

hereinafter called Principal, and

_____
(Name of Surety)

_____
(Address of Surety)

a Corporation of the State of _____, and a surety authorized by law to do business in the State of Georgia, hereinafter called Surety, are held and firmly bound unto

City of Fairburn
(Name of Obligee)

314 NW Broad Street Fairburn, Georgia 30213
(Address of Obligee)

hereinafter referred to as Obligee, are held and firmly bound unto said Obligee and all persons doing work or furnishing skill, tools, machinery, supplies, or material under or for the purpose of the Contract hereinafter referred to, in the penal sum of _____

_____ Dollars

($_____) in lawful money of the United States, for the payment of which sum will and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

The condition of this obligation is such, as whereas the Principal entered into a certain contract, hereto attached, with the Obligee.

NOW, THEREFORE THE CONDITION OF THIS OBLIGATION IS SUCH, that if the Principal shall well, truly, fully and faithfully perform said contract according to its terms, covenants, conditions, and agreements of said contract during the original term of said contract and any extensions thereof that may be granted by the Obligee, with or without notice to the Surety, and during the life of any guaranty required under the contract, and shall also well and truly perform and fulfill all the undertakings, covenants, terms, conditions and agreement of any and all duly authorized modifications of said contract that may hereafter be made, then this obligation shall be void, otherwise to remain in full force and effect.

PROVIDED FURTHER, that said Surety to this Bond, for value received, hereby stipulates and agrees that no change, extension of time, alterations, or additions to the terms of the Contract or to the Work to be performed thereunder shall in any way affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alterations, or additions to the terms of the Contract or to the work to be performed thereunder.

PROVIDED, FURTHER, that Principal and Surety agree and represent that this bond is executed pursuant to and in accordance with the applicable provisions of the Official Code of Georgia Annotated, as Amended, including, but not limited to, O.C.G.A. § 36-91-1 et seq., and is intended to be and shall be construed as a bond in compliance with the requirements thereof.

(Signatures Next Page)

CITY OF FAIRBURN, GEORGIA

ATTEST:

_____
(Principal Secretary)

(SEAL)

_____
(Witness as to Principal)

_____
(Address)

_____

_____
(Principal)

By: _____

_____
(Address)

_____
(Surety)

ATTEST:

By: _____
(Attorney-in-Fact)

_____
Resident or Nonresident Agent

(SEAL)

_____
(Witness as to Surety)

_____
(Address)

_____

_____
(Address)

_____

BONDING AGENT CONTACT INFO

Print Name_____

Company Name_____

E-Mail_____

Phone_____

NOTE: If Contractor is Partnership, all partners should execute Bond. 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.

BOND #_____

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: that

_____
(Name of Contractor)

_____
(Address of Contractor)
a _____
(Corporation, Partnership or Individual)

hereinafter called Principal, and

_____
(Name of Surety)

_____
(Address of Surety)

a Corporation of the State of _____, and a surety authorized by law to do business in the State of Georgia, hereinafter called Surety, are held and firmly bound unto

City of Fairburn
(Name of Obligee)

314 NW Broad Street, Fairburn, Georgia 30213
(Address of Obligee)

hereinafter called Obligee;

for the use and protection of all subcontractors and all persons supplying labor, services, skill, tools, machinery, materials and/or equipment in the prosecution of the work provided for in the contract hereinafter referred to in the full and just sum of _____

_____Dollars

($_____) in lawful money of the United States, for the payment of which sum, will and truly to be made, the Principal and Surety bind themselves, their, and each of their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

The condition of this obligation is such, as whereas the Principal entered into a certain contract, hereto attached, with the Obligee.

NOW, THEREFORE THE CONDITION OF THIS OBLIGATION IS SUCH, that if the Principal shall well, truly, and faithfully perform said Contract according to its terms, covenants, and conditions, and shall promptly pay all persons furnishing labor, materials services, skill, tools, machinery and/or equipment for use in the performance of said Contract, then this obligation shall be void; otherwise it shall remain in full force and effect.

ALL persons who have furnished labor, materials, services, skill, tools, machinery and/or equipment for use in the performance of said Contract shall have a direct right of action on this Bond, provided payment has not been made in full within ninety (90) days after the last day on which labor was performed, materials, services, skill, tools, machinery, and equipment furnished or the subcontract completed.

PROVIDED FURTHER, that said Surety to this Bond, for value received, hereby stipulates and agrees that no change, extension of time, alterations, or additions to the terms of the Contract or to the Work to be performed thereunder shall in any way affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alterations, or additions to the terms of the Contract or to the work to be performed thereunder.

PROVIDED, HOWEVER, that no suit or action shall be commenced hereunder by any person furnishing labor, materials, services, skill, tools, machinery, and/or equipment having a direct contractual relationship with a subcontractor, but no contractual relationship express or implied with the Principal:

Unless such person shall have given notice to the Principal within ninety (90) days after such person did, or performed the last of the work or labor, or furnished the last of the materials, services, skill, tools, machinery and/or equipment for which claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials, services, skill, tools, machinery and/or equipment were furnished, or for whom the work or labor was done or performed. Such a notice shall be served by mailing the same by registered mail, postage prepaid, in an envelope addressed to the Principal, at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the State in which the aforesaid project is located, save that such service need not be made by a public officer, and a copy of such notice shall be delivered to the Obligee, to the person and at the address provided for in the Contract, within five (5) days of the mailing of the notice to the Principal.

PROVIDED, FURTHER, that any suit under this bond must be instituted before the expiration of one (1) year after the acceptance of the public works covered by the Contract by the proper authorities.

PROVIDED, FURTHER, that Principal and Surety agree and represent that this bond is executed pursuant to and in accordance with the applicable provisions of the Official Code of Georgia Annotated, as Amended, including, but not limited to, O.C.G.A. § 36-91-1 et seq., and is intended to be and shall be construed as a bond in compliance with the requirements thereof.

[Signatures Next Page]

CITY OF FAIRBURN, GEORGIA

ATTEST:

_____
(Principal)

_____
(Principal Secretary)

By: _____

(SEAL)

_____
(Address)

_____
(Witness as to Principal)

_____
(Address)

_____

_____
(Surety)

ATTEST: By: _____
(Attorney-in-Fact)

_____
Resident or Nonresident Agent

(SEAL)

_____ (Address) _____

(Witness as to Surety) _____

_____
(Address)

_____

BONDING AGENT CONTACT INFO

Print Name_____

Company Name_____

E-Mail_____

Phone_____

NOTE: If Contractor is Partnership, all partners should execute Bond. 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.

Fairburn
Situated to Succeed

Standard Insurance Limits for Goods and Ancillary Services

1. Workers Compensation (WC): Statutory Limits – required in all contracts including sole proprietor, individual consultants, or small businesses.

-$100,000 Bodily injury by Accident – Each Accident
-$100,000 Bodily injury by Disease – Each Employee
-$500,000 Bodily Injury by Disease – Policy Limit

2. Commercial General Liability (CGL): - required for all contracts

-$1,000,000 Each Occurrence Limit
-$1,000,000 Personal & Advertising Injury Limit
-$2,000,000 General Aggregate Limit
-$2,000,000 Products/Completed Ops. Aggregate Limit
-$ 500,000 Damages to Premises/Fire Legal
-$ 5,000 Medical Payments

**Contracts involving any youths or children under the age of 18 should also be required to provide proof of coverage for sexual abuse & molestation coverage that is clearly not excluded by the general liability policy or purchased as a stand-alone policy. (Please see below for coverage limitations.)

3. Automobile Liability: - required on all contracts except for products or services that are remote only or are delivered by a professional delivery service.

-$1,000,000 Combined Single Limit

4. **Umbrella Liability**: - **required for all contracts**

-$1,000,000 Per Occurrence
-$5,000,000 Per Occurrence for contracts over $1,000,000 or involved in special risks activities
-$5,000,000 Automobile coverage for any transportation contracts involving seniors, special needs, transit services, students or youths.

5. Professional Liability: - required for all professional service contracts including consultants, medical, legal, technical, insurance agents or other professionals that require proper licenses.

-$1,000,000 Project Specific for City of Fairburn project
-$1,000,000 Per Occurrence Limit
-$2,000,000 General Aggregate Limit

**Insurance must be maintained for two years after completion of work and/or project.

Felicia Jones – Safety & Risk Manager
314 NW Broad Street, Fairburn, GA 30213-1341 | (770)964-2244 ext. 137 |
riskmanagement@fairburn.com

Fairburn
Situated to Succeed

6. Cyber Insurance: - required for all software, computer hardware installation, data access, data integrations, data usage, cloud storage, SaaS, and/or technology related contracts.

-$1,000,000 Each Claim/Wrongful Act
-$2,000,000 Annual Aggregate
-$1,000,000 Business Interruption
-$1,000,000 Data Recovery
-$ 500,000 Cyber Extortion Expenses
-$ 50,000 Cyber Extortion/Ransom Payments
-Coverage should include at a minimum:
a. Information Security & Privacy Liability
b. Regulatory Fines and Penalties
c. Payment Card Industry (PCI)
d. Ransomware

**Insurance must be maintained for two years after completion of work and/or project.

7. Sexual Abuse & Molestation Liability: – required for all contracts and services involving youths, children, special needs, or senior citizens.

-$1,000,000 Each Claim/Wrongful Act
-$2,000,000 General Aggregate

**Insurance must be maintained for two years after completion of work and/or project.

8. Builders Risk: – recommended for most construction projects

a. Public Entity should consider purchasing builders risk coverage on a direct basis or have the contractor provide the coverage for projects under $5,000,000 in value.
b. For projects over $5,000,000 in value, the [Public Entity] should obtain builders risk coverage on a direct basis to ensure coverage consistency and additional protections are made for the [Public Entity].

9. The City of Fairburn must be added and shown as an Additional Insurer for General Liability, Auto Liability and Umbrella Liability policies. This endorsement should be affirmed with a copy of the endorsement showing proof of coverage.

10. The Certificate Holder must be listed as:
City of Fairburn
314 NW Broad St.
Fairburn, GA 30213

Felicia Jones – Safety & Risk Manager
314 NW Broad Street, Fairburn, GA 30213-1341 | (770)964-2244 ext. 137 |
riskmanagement@fairburn.com

GENERAL CONDITIONS

Unless otherwise directed, all work performed under this contract 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, Supplemental thereto (Published and Not Published) and Special Provisions modifying them, except as noted below.

Modification of Standard Specifications

SECTION 101	**DEFINITION AND TERMS**
Section 101.14 COMMISSIONER	Delete in its entirety
Section 101.22 DEPARTMENT	Delete as written and substitute the following: THE CITY OF FAIRBURN PUBLIC WORKS
Section 101.24 ENGINEER	The City Engineer of the City of Fairburn, acting directly or through their duly authorized representative.
Section 101.26 EXTENSION AGREEMENT	Delete in its entirety
Section 101.28 FORCE ACCOUNT	Delete in its entirety
ADD Section 101.83 CITY OF FAIRBURN	THE CITY OF FAIRBURN CITY COUNCIL
ADD Section 101.84 ATLAS	ATLAS TECHNICAL CONSULTANTS, LLC

SECTION 102 BIDDING REQUIREMENTS AND CONDITIONS

Section 102.01 PREQUALIFICATION OF BIDDERS
Delete in its entirety and substitute the following:

Bidders submitting a bid in excess of $2,000,000, shall be 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, Certificate must be current at time of the bid opening. Bidders submitting bids of $2,000,000 or less shall be registered with the Georgia Department of Transportation and received a Certificate of Registration, Certificate must be current at the time of the bid opening. In addition, the aggregate total amount a Bidder may have under contract shall not exceed the Current Capacity of the Bidder.

Bidders intending to consistently submit Proposals shall prequalify at least once every two years. However, qualifications may be changed during that period upon the submission of additional favorable reports or upon unsatisfactory performance. In addition, the Georgia Department of Transportation reserves the right at any time to require the Contractor to furnish a current financial and experience statement.

Bidders may be required to submit additional evidence setting forth qualifications which entitle him to considerations as a responsible Contractor. This may include:

- A complete listing of all work currently under contract and its current status
- A full listing of all work to be self-performed and to be completed by subcontractors on this project
- A listing of available equipment for use on this work, including the type, size and location of equipment
- A listing of available personnel, both supervisors and operators, for use on this project including the current projects that these personnel are assigned.

Section 102.05 EXAMINATION OF PLANS, SPECIFICATIONS, SPECIAL PROVISIONS, AND SITE OF THE WORK
Add the following paragraph:

"The City of Fairburn will not be responsible for Bidders' errors or misjudgment, nor for any information on local conditions or general laws and regulations."

Section 102.07 REJECTION OF PROPOSALS
Add the following subparagraphs:

"I. The City of Fairburn reserves the right to reject any and all bids, to waive technicalities, and to make an award as deemed in its best interest. It is understood that all bids are made subject to this Agreement, that the City of Fairburn reserves the right to award the bid to the lowest responsive and responsible Bidder, and in arriving at this decision, full consideration will be given to the reputation of the Bidder, his financial responsibility, and work of this type successfully completed.

J. The City of Fairburn also reserves the right to reject any and all bids from any person, firm, or corporation who is in arrears in any debt or obligation to the City of Fairburn, Georgia."

Section 102.08 PROPOSAL GUARANTY
Substitute the following for the first sentence:

"No bid will be considered unless it is accompanied by a certified check or acceptable bid bond in an amount not less than five percent (5%) of the amount bid and made payable to the City Council of City of Fairburn. Such Bid Bond shall be on the forms provided by the City of Fairburn."

Section 102.09 DELIVERY OF PROPOSALS
Delete in its entirety and substitute the following:

"Bids should be submitted in duplicate in a sealed envelope of sufficient size with the following clearly typed or printed on the outside:

City of Fairburn
Bid Number
Date and Hour of Bid Opening
Company Name

Bid shall be submitted on the Bid Form provided by the City of Fairburn.

The bid package as described in Notice to Contractors, Page I-1, should be submitted with the bid. Failure to do so may result in the rejection of the bid."

ADD Section 102.19 ADDENDA AND INTERPRETATION

"No interpretation of the meaning of the Contract Documents will be made orally to any Bidder. Questions of a technical nature should be submitted in writing to the City of Fairburn via electronic mail, to the procurement inbox: purchasing@fairburn.com Any request not received in time to accomplish such interpretation and distribution may not be accepted."

SECTION 103 AWARD AND EXECUTION OF CONTRACT

Section 103.02 AWARD OF CONTRACT
Delete in its entirety and substitute the following:

"The contract, if awarded, shall be awarded to the lowest responsive and responsible bidder. City of Fairburn reserves the right to exercise exclusive discretion as to the responsibility of any bidder.

The contract shall be executed on the forms attached, will be subject to all requirements of the Contract Document, and shall form a binding Contract between the contracting parties.

The Contract will be awarded by the City of Fairburn, if at all, within 60 calendar days after the opening of the Bids, unless the successful Bidder agrees in writing to a longer period for the Award.

Single as well as multiple bids for the Project will be opened and read. If only one bid is received on the Project and the amount of that bid is equal to or less than the City of Fairburn's cost estimate for the Project, that bid may be used.

If only one bid is received and the amount of that bid exceeds the City of Fairburn's cost estimate for the Project, the City of Fairburn may, at its option, award the contract, or reject the bid and readvertise, perform the work itself, or abandon the Project.

The successful Bidder will be notified by letter to the address shown on his Bid that his Bid has been accepted and that he has been awarded the Contract."

103.04 RETURN OF PROPOSAL GUARANTY:
Delete in its entirety and substitute the following:

"All Bid Guaranties may be retained until the Contract and Contract Bond have been signed and approved. Early release of Bid Guaranties, only from unsuccessful bidders, will be considered if a request is made in writing."

SECTION 103.06 EXECUTION AND APPROVAL OF CONTRACT:
Delete in its entirety and substitute the following:

"The Contract shall be signed by the successful Bidder and returned within 15 calendar days after the date of the letter transmitting the Contract to the Bidder. No Contract shall be considered as effective until it has been fully executed by all of the parties."

Section 103.07 FAILURE TO EXECUTE CONTRACT
Delete in its entirety and substitute the following:

"Failure to execute the Contract, Contract Performance and Payment Bond, or furnish satisfactory proof of carriage of the insurance required within 15 days after the date of Notice of Award of the Contract may be just cause for the annulment of the award and for the forfeiture of the bid guaranty to City of Fairburn, not as a penalty, but as liquidation of damages sustained. At the discretion of the City of Fairburn, the award may then be made to the next lowest responsible Bidder, or the Work may be re-advertised or constructed by City of Fairburn forces. The Contract and Contract bonds shall be executed in duplicate."

SECTION 104 - SCOPE OF WORK

SECTION 104.03.A - AUTHORITY TO MAKE CHANGES:
Delete the second paragraph and substitute the following:

“Whenever an alteration in character of work involves a substantial change in the nature of the design or in the type of construction or materially increases or decreases the cost of performance, a Supplemental Agreement acceptable to both parties shall be executed before work is started on such alternation, except that in the absence of a Supplemental Agreement acceptable to both parties, the Engineer may direct that the work be done either by Force Account or at existing Contract prices subject to the provisions of Sub-Section 105.13. Any Force Account Agreement must be in writing, specifying the terms of payment, signed by the City of Fairburn and agreed to in writing by the Contractor.

All work shall be performed as directed and in accordance with the Specifications.”

SECTION 105 - CONTROL OF WORK

105.13 CLAIMS FOR ADJUSTMENTS AND DISPUTES:
Retain as written and add the following to Sub-Section 105.13.B.7:

“Stand-By Rate will be 50 percent of the operating rate.”

SECTION 107 LEGAL REGULATIONS AND RESPONSIBILITY TO THE PUBLIC

Section 107.15 RESPONSIBILITY FOR DAMAGE CLAIMS
Delete the paragraph and substitute the following:

“The Contractor shall indemnify and save harmless the City of Fairburn, the engineer, and their agents and employees, from all suits, actions, or claims of any character brought because of any injuries or damage received or sustained by any person, persons, or property on account of the operations of the said Contractor; or on account of or in consequence of any neglect in safe-guarding The Work; or through use of unacceptable materials in constructing The Work; or because of any act of omission, neglect or misconduct of said Contractor; or because of any claims or amounts recovered from any infringements of patent, trademark, or copyright; or from any claims or amounts arising or recovered under the Workmen’s Compensation Act, or any other law, ordinance, order, or decree; and so much of the money due the said Contractor under

and by virtue of his Contract as may be considered necessary by the City of Fairburn for such purpose may be withheld for the use of the City of Fairburn or, in case no money is due, his surety may be held until such suit or suits, action or actions, claim or claims for injuries or damages as aforesaid shall have been settled and suitable evidence to that effect furnished to the City of Fairburn; except that money due the Contractor will not be withheld when the Contractor produces satisfactory evidence that he is adequately protected by public liability and property damage insurance."

Section 107.18 ACQUISITION OF RIGHT OF WAY
Add the following paragraph:

"The Contractor shall inspect all easements and rights-of-way to insure that the City of Fairburn has obtained all land and rights-of-way necessary for completion of the Work to be performed pursuant to the Contract Documents. The Contractor shall comply with all stipulations contained in easements acquired by the Department."

Section 107.21 CONTRACTORS RESPONSIBILITY FOR UTILITY PROPERTY AND SERVICE
Add the following sentence to Paragraph A:

"The Contractor is responsible for the location of above and below ground utilities and structures which may be affected by the Work."

SECTION 108 - PROSECUTION AND PROGRESS

108.01 SUBLETTING OF CONTRACT
Retain this Section as written and add the following:

"In accordance with the provisions stated above, the following items are designated Specialty Items whenever they appear in the Contract:

All Grassing Items
All Fencing Items
All Highway Lighting Items
All Highway Sign Items
All Guardrail Items (Except Bridge Handrail)
All Utility Items
All Comfort and Convenience Facilities in Rest Areas
All Landscaping Items
All Pressure Grouting, Slab Removal and Replacement
All Permanent Traffic Markings
All Signal Systems
All Railroad Trackwork above Sub-ballast
Construction Layout

The cost of the above items will be subtracted from the original Contract Amount and the subsequent balance used to determine the percent limitation mentioned above.
If the Contractor elects to sublet a Specialty Item, no work on any such Specialty Items shall be begun without prior approval of the necessary Subcontract.

The Contractor's cost for Construction Layout shall be fully documented prior to deduction from the original Contract amount.

Contractor providing utility work must have a current valid Utility Contractors License."

108.02 NOTICE TO PROCEED:
Retain as written except as follows:
Delete the second paragraph which begins "Within 10 calendar days .... " and substitute the following:

"Within 10 calendar days after the Notice to Proceed has been issued, the Contractor shall begin the work. Contract Time charges for Available Day and Calendar Day projects will begin on the date the Contractor starts to work, or 10 days after the Notice to Proceed, whichever comes first. For Completion Date Projects Contract Time charges shall begin on the day after the Notice to Proceed.

The Engineer has the authority to suspend the Work wholly or in part, for as long as he may deem necessary, because of unsuitable weather, or other conditions considered unfavorable for continuing the Work, or for as long as he may deem necessary by reason of failure of the Contractor to carry out orders given, or to comply with any provision of the Contract. If the performance of all or any portion of the Work is suspended or delayed by the Engineer, in writing, for an unreasonable period of time (not originally anticipated, customary, or inherent to the construction industry) and the Contractor believes that additional compensation and/or contract time is due as a result of such suspension or delay, the Contractor shall submit to the Engineer, in writing, a request for adjustment within 7 calendar days of receipt of the notice to resume work. The request shall set forth the reasons and support for such adjustment.

Upon receipt, the Engineer will evaluate the Contractor's request. If the Engineer agrees that the cost and/or time required for the performance of the Contract has increased as a result of such suspension and the suspension was caused by conditions beyond the control of, and not the fault of, the Contractor, its suppliers, or subcontractors at any approved tier, and not caused by weather, the Engineer will make an adjustment (excluding profit) and modify the Contract in writing accordingly. The Engineer will notify the Contractor of his/her determination whether or not an adjustment of the Contract is warranted.

No contract adjustment will be allowed unless the Contractor has submitted the request for adjustment within the time prescribed.

No contract adjustment will be allowed under this clause to the extent that performance would have been suspended or delayed by any other cause, or for which an adjustment is provided for or excluded under any other term or condition of this Contract."

SECTION 109 MEASUREMENT AND PAYMENT

Section 109.07 PARTIAL PAYMENTS
Delete the second Paragraph under "A. General"

ADD the following to "A. General"
"1. The Department shall retain 5% of the gross value of the completed work as indicated by the current estimate certified by the Engineer for payment.

2. There will be no consideration for reduction of retainage until Final Payment as defined in 109.08."

Section 109.08 FINAL PAYMENT
Delete in its entirety and substitute the following:

"Final Payment: Upon completion by the Contractor of the work, including the receipt of any final written submission of the Contractor and the approval thereof by the Department, the City of Fairburn will pay the Contractor a sum equal to 100 percent (100%) of the compensation set forth herein, less the total of all previous partial payments, paid or in the process of payment.

The Contractor agrees that acceptance of this final payment shall be in full and final settlement of all claims arising against the City of Fairburn for work done, materials furnished, costs incurred, or otherwise arising out of this Agreement and shall release the City of Fairburn from any and all further claims of whatever nature, whether known or unknown for and on account of said Agreement, and for any and all work done, and labor and materials furnished, in connection with same."

A. INTEREST: In the event the Contractor fails to execute the Final Supplemental Agreement as prepared by the City of Fairburn because he disputes the amount of the final payment as stated therein, the amount due the Contractor shall be deemed by the Contractor and the Department to be an unliquidated sum and no interest shall accrue or be payable on the sum finally determined to be due to the Contractor for any period prior to final determination of such sum, whether such determination be by agreement of the Contractor and the Department or by final judgment of the proper court in the event of litigation between the Department and the Contractor. The Contractor specifically waives and renounces any and all rights it may have under Section 13-6-13 of the Official Code of Georgia and agrees that in the event suit is brought by the Contractor against the Department for any sum claimed by the Contractor under the Contract, for delay damages resulting from a breach of contract, for any breach of contract or for any extra or additional work, no interest shall be awarded on any sum found to be due from the Department to the Contractor in the final judgment entered in such suit. All final judgments shall draw interest at the legal rate, as specified by law. Also, the Contractor agrees that notwithstanding any provision or provisions of Chapter 11 of Title 13 of the Official Code of Georgia that the provisions of this contract control as to when and how the Contractor shall be paid for The Work. Further, the Contractor waives and renounces any and all rights it may have under Chapter 11 of Title 13 of the Official Code of Georgia."

SECTION 149 - CONSTRUCTION LAYOUT

SECTION 149.3.01 CONSTRUCTION REQUIREMENT – PERSONNEL
Delete this section and ADD:

"The Contractor will be required to furnish sufficient control points from which the centerline can be re-established by the Contractor.

After the Contractor has established the necessary control log, the control points are to be referenced and a permanent written record of the location will be provided to the Engineer, which will become the property of City of Fairburn.

The Contractor shall read and record original centerline ground elevations before excavation begins. A permanent written record shall be maintained and provided to the Engineer, which will become the property of City of Fairburn.

The Contractor shall establish existing and final contours of any lakes or ponds affected by construction of the project as provided in Section 166, Restoration or Alteration of Lakes and Ponds, when applicable."

SECTION 700 - GRASSING

SECTION 700.1 Description

Retain as written and add the following:

"Type of grass or sod used on this project will be required to match any type of grass or sod which may be planted and growing on the adjacent lawn (i.e., Bermuda sod for Bermuda sod, Zoysia for Zoysia, etc.). Costs to be included in price bid for grassing - lump sum."

SECTION 700.3.05.B GRASSING – CONSTRUCTION REQUIREMENTS- CONSTRUCTION-GRASSING ADJACENT TO EXISTING LAWNS

Delete in entirety and add the following:

B. GRASSING ADJACENT TO EXISTING LAWNS: Where grassing is required in areas adjacent to any residential or commercial lawn, the ground will be prepared as required in this Sub-Section and will include uniformity with the adjacent landscaped or improved area. Ground preparation will include the hand raking or other acceptable methods for removal of rocks, clods, roots or any other undesirable object or objects which would interfere with normal maintenance or mowing with residential type equipment. No modification of the Contract Unit Price will be made for this provision. Bituminous treated mulch may be deleted in these areas and substituted by 1680 Kg/ha of wood fiber mulch with tackifier if, in the judgment of the Engineer, bituminous treated mulch would be detrimental to other portions of the work. White Dutch and/or Crimson Clovers will be deleted from the seed mixture used in residential and commercial or other landscaped areas as directed by the Engineer.

SECTION 700.3.07 – CONTRACTOR WARRANTY AND MAINTENANCE

Delete A.3 and add the following

3. "Mowing

   Mow seeded areas of median, shoulders, and front slopes at least every 2 months. Avoid damaging desirable vegetation.

   In addition, mow as necessary to prevent tall grasses from obstructing signs, delineation, traffic movements, sight distance, or otherwise becoming a hazard to motorists.

   Do not mow lespedezas or tall fescue until after the plants have gone to seed."

SEQUENCE OF OPERATIONS

I. GENERAL:

A. The purpose of this Special Provision is to provide for a sequence of Construction procedures for the construction of the above noted Project, and for coordination of a Sequence of Operations between this project and existing roads that cross and/or pass through certain portions of the Project.

B. This Special Provision is a supplement to the Standard Specifications setting forth specific procedures, and does not relieve the Contractor of any responsibilities placed upon him by the Standard Specifications.

C. Article 104.05 Maintenance During Construction:

A. Detours outside of Right of Way: Retain and expand as follows:

1. Where the proposed work has made the use of bypasses or detours necessary, the Contractor shall schedule the work to reduce their use to an absolute minimum time. Minimum time is defined as that time needed to effectively and continuously prosecute the work, within the provisions of the Specifications, to such point that traffic may safely use the permanent facility.

2. Where traffic is permitted through The Work as staged, the Contractor may choose to construct, at his own expense, temporary bypasses or detours in order to expedite The Work. Plans for such temporary bypasses or detours must be approved by The Engineer prior to construction. Such bypasses or detours shall be removed promptly when they are, in the opinion of the Engineer, no longer necessary for the satisfactory progress of the work.

D. During the life of this contract other, including but not limited to, Department contractors and utility owners, will be working on this project or related projects in this area. The Contractor's attention is directed to the requirements of Standard Specifications Section 105 - Control of Work, with particular attention to sub-section 105.07 - Cooperation Between Contractors.

E. Delays to Traffic:

When construction necessitates temporary suspension of an existing traffic signal operation, the Contractor shall furnish an off-duty police officer to regulate and maintain traffic control at the site.
The Contractor will, pursuant to the 'INSURANCE REQUIREMENTS' of this contract, provide full liability and workers compensation coverage for persons performing this function and agrees that such persons are included and incorporated into the basic agreement between the parties wherein the Contractor assumes the entire responsibility and liability for any and all injury to or death of

any and all persons, including the Contractor's agents, servants and employees, and in addition thereto, for any and all damages to property caused by or resulting

from or arising out of any act or omission in connection with this contract or the prosecution of work hereunder.

F. 107.07 - Public Convenience and Safety, is expanded or modified as follows:

Traffic whose origin or destination is within the limits of the Project shall be provided ingress and egress at all times unless otherwise stipulated in Part VI below. The ingress and egress is to include entrance and exit via driveways at the various properties and access to intersecting roads, streets, and interchange ramps. The Contractor shall maintain sufficient personnel and equipment on the Project at all times, particularly during inclement weather, to insure that ingress and egress are provided when and where needed.

No resident or business shall be denied vehicular access to their property for any length of time other than that which is absolutely necessary, and as determined the Engineer.

II. ORDER OF WORK:

A. The Contractor shall plan and prosecute the work such that disruption to personal property and business is held to a practical minimum.

All construction areas abutting lawns and yards of residential or commercial property shall be restored promptly. Backfilling of each drainage structure or section of curb and gutter, sidewalk, or driveway shall be accomplished as soon as adequate strength is obtained. Finishing, dressing and grassing shall be accomplished immediately thereafter as a continuous operation within each area being constructed with emphasis placed on completing each individual yard or business frontage. Care shall be taken to provide positive drainage to avoid ponding or concentration runoff.

B. Specific reference is made to Article 104.05 of the Standard Specifications - Maintenance During Construction, which is expanded or modified as follows:
All outfall ditches, channel relocations, detention basins, critical storm drainage structures, etc., shall be constructed prior to the beginning of grading operations so that the best possible drainage will be in effect during construction of the Project.

C. Grading, grassing, and erosion control shall be a continuous operation to the extent that no embankment or backslope will be left unmulched and/or ungrassed, and/or unprotected, so as to cause siltation beyond the right of way of the Project.

D. Rock, boulders or debris removed during construction shall not be left on the project in any area where they may be subject to a vehicle running off the road and striking them.

E. Specific reference is made to Sub-Section 107.09 -Barricades, Danger, Warning and Detour Signs, which is expanded or modified as follows:

Work causing constriction of traffic flow shall not be performed at two different locations on the same side of the roadway within 1/2 mile section in rural areas or within a 500-foot section on urban construction.

Work shall be performed on only one side of the existing roadway at any time within any 1/2 mile section.

When not in use, all striped barrels, signs, or other traffic control devices shall be either masked or removed and faced so as not to confuse the traveling public.

F. When all or portions of a project are to be constructed under traffic the following requirements will apply:

1. Contractor's Vehicles: The Contractor's vehicles will be required to travel with the normal traffic flow.

2. In order to provide the greatest possible convenience to the public in accordance with the Sub-Section 107.07, the Contractor shall remove all lane closure markings and devices immediately when lane closure work is completed or temporarily suspended for any length of time.

3. Painted Traffic Stripe, Section 652, Thermoplastic Traffic Stripe, Section 653, and Raised Pavement Markers, Section 654: The installation work on these items shall be scheduled as early as possible in the Sequence of Operations. Reference is made to Section 150 for Temporary Striping.

4. Cleaning Up and Finishing: At the end of work each day the Contractor will be required to remove all debris, stockpiled materials, equipment, tools and any other hazards on the pavement to a safe location as far as practical from the travel lane, so as not to block sight distance at any intersecting road or driveway. It may be necessary for the Contractor to provide additional protection for these areas in the form of additional barrels, barricades, temporary barrier or any other means necessary to protect the safety of the traveling public along the project limits. No separate payment will be made for any additional safety measures. This work to be included in price bid for Traffic Control.

   a. All areas within the limits of the Project, which are determined by the Engineer to be unnecessarily damaged, due either directly or indirectly to the process of construction, shall be cleaned up, redressed and grassed. All surplus materials shall be removed and disposed of as required. This is not a payment item and shall be done without additional compensation.

G. As an alternate to the sequence described above the Contractor may submit for approval his own Sequence of Work plan. Sufficient lead time for the Department's review shall be given this submission so that a decision on its acceptability may be given at the Preconstruction Conference. Insufficient lead time or no submission by the Contractor shall be construed as his acceptance of the procedures outlined below and his willingness to execute same.

The City of Fairburn will not pay, or in any way reimburse the Contractor for claims to the Contractor's inability to perform his work in accordance with the Sequence provided in this Special Provision.

III. EQUIPMENT NOISE:

All equipment used on the Work shall come equipped with factory installed mufflers or manufacturer's recommended equivalent in good condition. These mufflers shall be maintained in good condition throughout the life of the Contract. In areas of existing subdivisions, equipment will not operate between the hours of 10:00 pm and 7:00 am, seven days a week.

IV. SPECIAL CONDITIONS:

A. The Contractor may be responsible for removal of any existing highway signs and guardrail, bridge timber decking, and stockpiling them in a safe place until they are picked up by City of Fairburn Maintenance Department. Material to be stockpiled will be determined by the engineer.

B. Phase Construction will be as indicated on the Plan and Cross Section Sheets and in this document. The Contractor may propose an alternate to the Sequence of Work shown in the plans, provided that he complete the project on or before the Calendar Days as provided in the Contract, and at no increase in cost to the City of Fairburn. Any alternate Sequence of Work plan shall be subject to the approval of the Engineer.

C. Any traffic pattern changes from the normal existing flow will require the approval of the City Engineer, City of Fairburn. Two (2) weeks prior notice will be required. The Contractor will coordinate the contact with the City of Fairburn through the Project Inspector assigned to the Project.

D. In accordance with Section 105.07 of the Georgia Department of Transportation Standard Specifications and all current Supplemental Specifications, cooperation between contractors and coordination of construction will be required.

E. Prior to placement of temporary or permanent pavement markings, pre-lining of all areas must be approved by the City Engineer, City of Fairburn, and will be coordinated by the Contractor through the Project Inspector assigned to the Project. The Contractor will provide all necessary temporary traffic control and lane closures to allow for prelining to be accomplished as directed by the engineer. A 48-hour notice will be required. All projects constructed under the City of Fairburn Community Development Program will require the placement of temporary raised pavement markers on all traffic shifts. A traffic shift is defined as the rerouting of traffic to a new location and temporary raised pavement markers will be used to delineate the centerline through the transitions and includes the tangents and curves. It is the intent of this Specification to provide raised pavement markers from the first move of traffic through the final location of the traffic lanes after the surface mix and permanent raised pavement markers has been placed. The cost of the temporary raised pavement markers will be included in the Lump Sum Bid for Traffic Control.

F. Section 107.13.F, Mailboxes, of the 2013 Standard Specifications is deleted in its entirety and the following is to be substituted:

The Contractor shall have the responsibility for removing and relocating all mailboxes to an area outside of the construction limits but still accessible for mail deliveries and convenient to the mail carrier and the patron. It may be necessary for the Contractor to confer with the Post Office serving the area.

As soon as construction has progressed to the stage that the mailbox may be erected in its permanent position, the Contractor shall coordinate the erection with the patron and the Post Office serving the area. Any damages to the posts or mailboxes due to the removal and/or relocations by the Contractor will remain the responsibility of the Contractor, all damaged posts and/or mailboxes shall be replaced and installed by the Contractor at his expense, excluding mailbox enclosures of masonry construction. The Contractor will provide a new mailbox for any existing mailboxes, which cannot be relocated.

Any cost or costs to the Contractor for removing, relocating or installations of mailboxes as stated above shall be included in the overall bid price.

G. The Contractor shall provide off road parking areas within the construction zone and away from the intersecting streets or roads. The unauthorized parking of employees' vehicles and/or equipment will not be permitted along the shoulders or adjacent to the active traffic on any road or street in City of Fairburn. It will be the Contractor's responsibility to prevent the violation of this provision. Failure to comply with the terms of this provision will result in the suspension of the work.

H. Access to the Project, including parking and work areas, is to be provided by the Contractor and will be constructed from the City of Fairburn roads and not through any subdivision streets or other areas not constructed for major traffic and will be subject to the approval of the Engineer.

I. Use of subdivision streets, as a haul route will not be permitted unless special permission is granted by the City of Fairburn City Engineer.

V. ENFORCEMENT:

In the event that compliance with the objectives stated herein are not achieved, the Engineer in charge of the work will close down all operations being performed, except erosion control and traffic control. The Engineer may also withhold any payments due, when necessary, until all requirements herein have been met.

VI. MEASUREMENT AND PAYMENT:

There will be no separate measurement or payment for the work described herein, and all costs, direct or indirect, of complying with the requirements of this Special Provision shall be included in the overall bid submitted or as "Traffic Control - Lump Sum".

VII. STAGE CONSTRUCTION:

In order to follow good construction procedures and minimize inconvenience to the traveling public, it will be necessary to maintain traffic through the construction areas where practical. This will be accomplished by utilizing existing roadways and staging construction.

1. The Contractor is responsible for erecting and maintaining all barricades and signs in accordance with MUTCD. Costs to be included in price bid for traffic control.

2. The Contractor will notify the City of Fairburn two (2) weeks in advance of any lane closings so a public announcement can be made.

3. Access is to be provided to the adjacent areas along the project at all times.

4. Lane closures will not be allowed before 9:00 AM or after 4:00 PM daily.

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.

It will be the Contractor's responsibility to conform with 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. The Contractor's attention is directed to the requirements of Section 107, Legal Regulations and Responsibility to the Public, with particular attention to Article 107.21.

It shall be the responsibility of the Contractor to coordinate his 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 without undue delay. Where stage construction is required it shall be the Contractor's responsibility to 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 shown on the plans.

It shall be the responsibility of the Contractor to determine the estimated time for relocation and adjustment of facilities of all utility companies and to consider in his bid all such relocations and adjustments.

In accordance with Article 105.06 of the Specifications, the Department shall not be liable for payment of any costs 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. Delays by utilities will continue to be considered by the Department in charging Contract Time in accordance with Article 107.21G

The Contractor will not be paid for any delays or extra expense caused by utility facilities, obstructions, or any other items not being removed or relocated to clear construction in advance of his work.

It shall be the responsibility of the Contractor to coordinate his 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 without undue delay.

The Contractor will be required to locate and reference all water meters and water valves within the construction limits. The reference points are to be located so that the references will not be disturbed and the location of the meters and valves can be re-established. A permanent written record of the reference points will be made and a copy will be furnished to the Engineer. Access to fire hydrants will be maintained at all times. All water valves that are to remain in the areas of construction are to be checked after asphaltic concrete has been placed to ensure access at all times.

Georgia law requires that a telephone call or adequate notice must be given 3 days before work is to begin. The notice will remain in effect for 10 working days from the date the Utilities Protection Center is notified. In the Atlanta Area, the Contractor is to call 811 and throughout Georgia the Contractor is to call 1-800-282-7411.

The contractor's attention is directed to the plan set for the name of the utility owners and the type of facilities involved.

*****ATTENTION*****

FAILURE TO RETURN THE FOLLOWING DOCUMENTS MAY RESULT IN BID BEING DEEMED NON-RESPONSIVE AND AUTOMATIC REJECTION:

1. **FAILURE TO USE CITY OF FAIRBURN BID SCHEDULE.**

2. **FAILURE TO RETURN APPLICABLE COMPLIANCE SHEETS/SPECIFICATION SHEETS.**

3. **FAILURE TO RETURN APPLICABLE ADDENDA.**

4. **FAILURE TO PROVIDE INFORMATION ON ALTERNATES OR EQUIVALENTS.**

5. **THE CITY OF FAIRBURN SHALL BE THE SOLE DETERMINANT OF TECHNICALITY VS. NON-RESPONSIVE BID.**

6. **FAILURE TO PROVIDE BID BOND, <u>WHEN REQUIRED</u>, WILL RESULT IN BID BEING DEEMED NON-RESPONSIVE AND AUTOMATIC REJECTION. <u>BID BONDS ARE NOT REQUIRED ON ALL BIDS</u>. BOND REQUIREMENTS ARE CLEARLY STATED ON THE INVITATION TO BID. IF YOU NEED CLARIFICATION, CONTACT THE PURCHASING ASSOCIATE.**

SECTION 00840 - GENERAL CONDITIONS

1. DEFINED TERMS:

Wherever used in the Contract Documents, the following terms shall have the meanings indicated which shall be applicable to both the singular and plural thereof:

A. Addenda: Written or graphic instruments issued prior to the execution of the Agreement, which modify or interpret the Contract Documents by additions, deletions, clarifications or corrections.

B. Agreement: The written agreement between the Owner and the Contractor covering the Work to be performed; other Contract Documents are made a part of the Agreement.

C. Bid: The offer or proposal of the Bidder submitted on the prescribed form setting forth the price(s) for the Work to be performed.

D. Bidder: Any person, firm or corporation submitting a Bid for the Work.

E. Bonds: Bid, Performance, and Payment Bonds and other instruments of security, furnished by the Contractor and Contractor's surety in accordance with the Contract Documents.

F. Change Order: A written order to the Contractor authorizing an addition, deletion or revision in the Work within the general scope of the Contract Documents or authorizing an adjustment in the Contract Price or Contract Time.

G. Contract Documents: The contract, including Advertisement for Bids, Information for Bidders, Bid, Bid Bond, Agreement, Payment Bond, Performance Bond, Notice Of Award, Notice to Proceed, Change Order(s), General Conditions, Supplementary Conditions, General Requirements, Drawings, Specifications, and Addenda.

H. Contract Price: The total monies payable to the Contractor under the terms and conditions of the Contract Documents.

I. Contract Time: The number of calendar days stated in the Contract Documents for the completion of the Work.

J. Contractor: The person, firm or corporation with whom the Owner has executed the Agreement.

K. Day: A calendar day of 24 hours measured from midnight to the next midnight.

L. Drawings: The part of the Contract Documents which show largely through graphical presentation the characteristics and scope of the Work to be performed, and which have been prepared or approved by the Engineer.

M. Engineer: The person, firm or corporation named as such in the Contract Documents.

N. Field Order: A written order affecting a change in the Work not involving an adjustment in the Contract Price or an extension of the Contract Time, issued by the Engineer to the Contractor during construction.

O. Inspector: The authorized representative of the Owner who is assigned to the Project site or any part thereof.

P. Notice of Award: The written notice of the acceptance of the Bid from the Owner to the successful Bidder.

Q. Notice To Proceed: Written communication issued by the Owner to the Contractor authorizing the Contractor to proceed with the Work and establishing the date of commencement of the Work.

R. Owner: A public or quasi - public body or authority, corporation, association, partnership, or an individual for whom the Work is to be performed.

S. Project: The undertaking to be performed as provided in the Contract Documents.

T. Shop Drawings: All drawings, diagrams, illustrations, brochures, schedules, and other data which are prepared by the Contractor, a Subcontractor, manufacturer, Supplier or distributor, which illustrate how specific portions of the Work shall be fabricated or installed.

U. Specifications: A part of the Contract Documents consisting of written descriptions of a technical nature of materials, equipment, construction systems, standards and workmanship.

V. Subcontractor: An individual, firm or corporation having a direct contract with the Contractor or with any other Subcontractor for the performance of a part of the Work at the site.

W. Substantial Completion: That date certified by the Engineer when the construction of the Project or an expressly stipulated part thereof is sufficiently completed, in accordance with the Contract Documents, so that the Project or stipulated part can be fully utilized for the purposes for which it is intended.

X. Supplementary Conditions: A part of the Contract Documents consisting of modifications to the General Conditions.

Y. Suppliers: Any person, supplier or organization who furnishes materials or equipment for the Work, including that fabricated to a special design, but who does not perform labor at the site.

Z. Work: All labor necessary to produce the construction required by the Contract Documents, and all materials and equipment incorporated or to be incorporated in the Project.

AA. Written Notice: Any notice to any party of the Agreement relative to any part of this Agreement which is in writing and which is considered delivered and the service thereof completed, when posted by certified or registered mail to the said party at their last given address, or delivered in person to said party or their authorized representative on the Work.

2. REFERENCED STANDARDS:

A. All material and workmanship specified by number, symbol, or title of referenced standard shall comply with the latest edition or revisions thereof and all amendments and supplements thereto in effect on the date of the Invitation for Bids, except where a particular issue is indicated. In case of a conflict between the Specifications and the referenced standard, the Specifications shall govern.

3. SCHEDULES, REPORTS AND RECORDS:

A. The Contractor shall submit to the Owner such schedule of quantities and costs, progress schedules, reports, estimates, records and other data, where applicable, as are required by the Contract Documents for the Work performed or to be performed.

B. Prior to the first partial payment estimate the Contractor shall submit construction progress schedules showing the order in which the Contractor proposes to carry on the Work, including dates at which the various parts of the Work will be started, estimated date of completion of each part; and, as applicable, the dates at which special detail Drawings will be required, and respective dates for submission of Shop Drawings, the beginning of manufacture, the testing and the installation of materials, supplies and equipment.

C. The Contractor shall also submit a schedule of payments that the Contractor anticipates will be earned during the course of the Work.

4. DRAWINGS AND SPECIFICATIONS:

A. The intent of the Drawings and Specifications is that the Contractor shall furnish all labor, materials, tools, equipment, and transportation necessary for the proper execution of the Work in accordance with the Contract Documents and all incidental work necessary to complete the Project in an acceptable manner, ready for use, occupancy or operation by the Owner.

B. Any discrepancies found between the Drawings and Specifications and site conditions or any inconsistencies or ambiguities in the Drawings or Specifications shall be immediately reported to the Engineer, in writing, who shall promptly correct such inconsistencies or ambiguities in writing. Work done by the Contractor after discovery of such discrepancies, inconsistencies or ambiguities shall be done at the Contractor's risk.

5. SHOP DRAWINGS:

A. The Contractor shall provide Shop Drawings as may be necessary for the prosecution of the Work as required by the Contract Documents. The Engineer shall with reasonable promptness review all Shop Drawings. The Engineer's approval of any Shop Drawing shall not release the Contractor from responsibility for deviations from the Contract Documents.

B. Portions of the Work requiring a Shop Drawing or sample submission shall not begin until the Shop Drawing or submission has been reviewed and approved in writing by the Engineer.

6. MATERIALS, SERVICES AND FACILITIES:

A. It is understood that, except as otherwise specifically stated in the Contract Documents, the Contractor shall provide and pay for all materials, labor, tools, equipment, water, light, power, transportation, supervision, temporary construction of any nature, and all other services and facilities of any nature whatsoever necessary to execute, complete, and deliver the Work within the specified time.

B. Materials and equipment, whether supplied by the Contractor or Owner, shall be so stored and handled as to insure the preservation of their quality and fitness for the

Work. Stored materials and equipment to be incorporated in the Work shall be located so as to facilitate prompt inspection. Do not incorporate into the Work any product which has in any way become unfit for the intended purpose.

C. Manufactured articles, materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned as directed by the manufacturer.

D. Materials, supplies and equipment to be incorporated into the Work shall be new and unused unless otherwise specifically stated in the Contract Documents. The source of supply for all such products shall be submitted to the Engineer together with detailed descriptions thereof in the form of samples, Shop Drawings, tests or other means necessary to adequately describe the items proposed.

7. INSPECTION AND TESTING:

A. All materials and equipment used in the construction of the Project shall be subject to adequate inspection and testing in accordance with generally accepted standards as required and defined in the Contract Documents. The Contractor shall provide at the Contractor's expense the necessary testing and inspection services required by the Contract Documents unless otherwise provided. The Owner shall provide any other inspection and testing services not required by the Contract Documents.

B. If the Contract Documents, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any Work to specifically be inspected, tested, or approved by someone other than the Contractor, the Contractor will give the Engineer timely notice of readiness. The Contractor will then furnish the Engineer satisfactory evidence in the form of certificates or letters that such inspection, testing or approval has been performed.

C. Neither observations by the Engineer or the Engineer's representative(s), Inspector, the Owner, nor inspections, tests or approvals by others shall relieve the Contractor from the obligations to perform the Work in accordance with the requirements of the Contract Documents.

D. The Engineer and the Engineer's representatives will at all times have access to the Work. In addition, authorized representatives and agents of the Owner shall be permitted to inspect all work, materials, invoices of materials, and other relevant data and records. The Contractor will provide proper facilities for such access and observation of the Work and also for any inspection or testing thereof. Inspections may also be made at the factory or fabrication plant of the source of material or equipment supply.

E. If any Work is covered contrary to the written request of the Engineer or to the Contract Documents, such work must, if requested by the Engineer, be uncovered for the Engineer's observation and replaced at the Contractor's expense. If any Work has been covered for which neither a specific request by the Engineer nor provision of the Contract Documents required observation by the Engineer prior to covering such work, or if the Engineer considers it necessary or advisable that covered Work be inspected or tested by others, the Contractor at the Engineer's request, will uncover, expose or otherwise make available for observation, inspection or testing as the Engineer may require, that portion of the Work in question, furnishing all necessary labor, materials, tools, and equipment. If it is found that such Work is defective, the Contractor will bear all the expenses of such uncovering, exposure, observation,

inspection and testing and of satisfactory reconstruction. If, however, such Work is not found to be defective, the Contractor will be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction and an appropriate Change Order shall be issued.

8. SUBSTITUTIONS:

A. Whenever a material, article or piece of equipment is identified on the Drawings or Specifications by reference to brand name or catalog number, it shall be understood that this is referenced for the purpose of defining the performance or other salient requirements and that other products of equal capacities, quality and function shall be considered. The Contractor may recommend the substitution of a material, article, or piece of equipment of equal substance and function for those referred to in the Contract Documents by reference to brand name or catalog number, and if, in the opinion of the Engineer, such material, article, or piece of equipment is of equal substance and function to that specified, the Engineer may approve its substitution and use by the Contractor. Any cost differential shall be deductible from the Contract Price and the Contract Documents shall be appropriately modified by Change Order. The Contractor warrants that if substitutes are approved, no major changes in the function or general design of the Project will result. Incidental changes or extra component parts required to accommodate the substitute will be made by the Contractor without a change in the Contract Price or Contract Time.

9. SURVEYS, PERMITS, REGULATIONS:

A. The Owner shall furnish all land surveys and establish all base lines for locating the principal component parts of the Work together with a suitable number of benchmarks adjacent to the Work as shown in the Contract Documents. From the information provided by the Owner, unless otherwise specified in the Contract Documents, the Contractor shall develop and make all detail surveys needed for construction such as slope stakes, batter boards, stakes for pipe locations and other working points, lines, elevations and cut sheets. The Contractor shall carefully preserve bench marks, reference points and stakes and, in case of willful or careless destruction, shall be charged with the resulting expense and shall be responsible for any mistakes that may be caused by their unnecessary loss or disturbance.

B. Permits and licenses of a temporary nature necessary for the prosecution of the Work shall be secured and paid for by the Contractor. Permits, licenses and easements for permanent facilities or permanent changes in existing facilities shall be secured and paid for by the Owner, unless otherwise specified. The Contractor shall give all notices and comply with all laws, ordinances, rules and regulations bearing on the conduct of the Work as drawn and specified. If the Contractor observes that the Contract Documents are at variance therewith, the Contractor shall promptly notify the Engineer in writing, and any necessary changes shall be adjusted as provided for in the CHANGES IN THE WORK topic of these General Conditions. The Contractor is presumed familiar with public agency, railway, and utility company requirements, and their special construction regulations shall, when applicable, be followed as if herein set forth.

10. PROTECTION OF WORK, PROPERTY AND PERSONS:

A. The Contractor will be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. The Contractor will take all necessary precautions for the safety of, and will 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 materials or equipment 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, lakes, drainage ways, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

B. Prior to beginning construction, the Contractor will prepare a pre-construction video record and photographic records of the project site and provide a digital copy of the video and hard copies of photographs to the Owner.

C. The Contractor will comply with all applicable laws, ordinances, rules, regulations and orders of any public body having jurisdiction. The Contractor will erect and maintain, as required by the conditions and progress of the Work, all necessary safeguards for safety and protection. The Contractor will notify owners of adjacent utilities when prosecution of the Work may affect them. The Contractor will remedy all damage, injury or loss to any property caused, directly or indirectly, in whole or in part, by the Contractor, any Subcontractor or anyone directly or indirectly employed by any of them or anyone for whose acts any of them be liable, except damage or loss attributable solely to the fault of the Contract Documents or solely to the acts or omissions of the Owner, the Engineer or anyone employed by either of them or anyone for whose acts either of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of the Contractor.

D. If existing utilities or structures are indicated by the Contract Documents, no warranty is made as to the accuracy or completeness of such indication. The Contractor shall, prior to commencing other on-site work, accurately locate above and below ground utilities and structures which may be affected by the Work, using whatever means may be appropriate. The Contractor shall mark the location of existing utilities and structures, not otherwise readily visible, with flagging, stakes, barricades, or other suitable means, and shall preserve and protect all utilities and structures not designated for removal, relocation or replacement in the course of construction. The Contractor shall notify the Engineer promptly on discovery of any conflict between the Contract Documents and any existing facility.

E. 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 Engineer or Owner, shall act to prevent threatened damage, injury or loss. The Contractor will give the Engineer prompt Written Notice of any significant changes in the Work or deviations from the Contract Documents caused thereby. Any claim for compensation by the Contractor due to such extra work shall be promptly submitted to the Engineer for review. The amount of reimbursement claimed by the Contractor and approved by the Engineer on account of any emergency action shall be determined in the manner prescribed for Changes In The Work, and a Change Order shall thereupon be issued covering such claim.

11. SUPERVISION BY CONTRACTOR:

A. The Contractor will supervise and direct the Work. The Contractor will be solely responsible for the means, methods, techniques, sequences and procedures of construction. The Contractor will employ and maintain on the Work a qualified supervisor or superintendent who shall have been designated in writing by the Contractor as the Contractor's representative at the site. The supervisor shall have full authority to act on behalf of the Contractor and all communications given to the supervisor shall be as binding as if given to the Contractor. The supervisor shall be present on the site at all times as required to perform adequate supervision and coordination of the Work.

12. CHANGES IN THE WORK:

A. The Owner may at any time, as the need arises, order changes within the scope of the Work without invalidating the 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 shall be authorized by Change Order.

B. The Engineer, also, may at any time, by issuing a Field Order, make changes in the details of the Work. The Contractor shall proceed with the performance of any changes in the Work so ordered by the Engineer unless the Contractor believes that such Field Order entitles the Contractor to a change in Contract Price or Time, or both, in which event the Contractor shall give the Engineer Written Notice thereof within fifteen days after the receipt of the ordered change. Thereafter the Contractor shall document the basis for the change in Contract Price or Time within seven days. The Contractor shall not execute such changes pending the receipt of an executed Change Order or further instruction from the Owner.

13. CHANGES IN CONTRACT PRICE:

A. The Contract Price may be changed only by a Change Order. The value of any Work covered by a Change Order or of any claim for increase or decrease in the Contract Price shall be determined by one or more of the following methods in the order of precedence listed below:

   a. Unit prices previously approved.

   b. An agreed lump sum.

14. TIME FOR COMPLETION AND LIQUIDATED DAMAGES:

A. The date of beginning and the time for completion of the Work are essential conditions of the Contract Documents and the Work embraced shall be commenced on a date specified in the Notice To Proceed. The Contractor will proceed with the Work at such rate of progress to insure full completion within the Contract Time. It is expressly understood and agreed, by and between the Contractor and the Owner, that the Contract Time for the completion of the Work described herein is a reasonable time, taking into consideration the average climatic and economic conditions and other factors prevailing in the locality of the Work.

B. If the Contractor shall fail to complete the Work within the Contract Time, or extension of time granted by the Owner, then the Contractor will pay to the Owner the amount

for liquidated damages as specified in the Bid for each calendar day that the Contractor shall be in default after the time stipulated in the Contract Documents.

C. The Contractor shall not be charged with liquidated damages or any excess cost when the delay in completion of the Work is due to the following, and the Contractor has promptly given Written Notice of such delay to the Owner or Engineer:

a. To any preference, priority or allocation order duly issued in writing by the Owner; or

b. To unforeseeable causes beyond the control and without the fault or negligence of the Contractor, including but not restricted to, acts of God, or of the public enemy, acts of the Owner, acts of another Contractor in the performance of a contract with the Owner, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and abnormal and unforeseeable weather; and to any delays of Subcontractors occasioned by any of the causes specified in this or the preceding paragraph.

15. CORRECTION OF WORK:

A. The Contractor shall promptly remove from the premises all Work rejected by the Engineer for failure to comply with the Contract Documents, whether incorporated in the construction or not, and the Contractor shall promptly replace and re-execute the Work in accordance with the Contract Documents and without expense to the Owner and shall bear the expense of making good all Work of other Contractors and the property of any other party destroyed or damaged by such removal or replacement.

B. All removal and replacement Work shall be done at the Contractor's expense. If the Contractor does not take effective action to remove such rejected Work within ten days after receipt of Written Notice, the Owner may remove such Work and store the materials at the expense of the Contractor.

16. CONDITIONS FOUND DIFFERENT:

A. The Contractor shall promptly, and before such conditions are disturbed, except in the event of an emergency, notify the Owner by Written Notice of:

a. Subsurface or latent physical conditions at the site differing materially from those indicated in the Contract Documents; or

b. Unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in Work of the character provided for in the Contract Documents; or

B. The Owner shall promptly investigate the conditions, and if it is found that such conditions do so materially differ and cause an increase or decrease in the cost of, or in the time required for, performance of the Work, an equitable adjustment shall be made and the Contract Documents shall be modified by a Change Order. Any claim of the Contractor for adjustment hereunder shall not be allowed unless the required Written Notice has been given; provided that the Owner may, if the Owner determines the facts so justify, consider and adjust any such claims asserted before the date of final payment.

17. SUSPENSION OF WORK, TERMINATION AND DELAY:

A. The Owner may, at any time and without cause, suspend the Work or any portion thereof for a period of not more than ninety days or such further time as agreed upon by the Contractor, by Written Notice to the Contractor and the Engineer which shall fix the date on which Work shall be resumed. The Contractor will resume that Work on the date so fixed. The Contractor will be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to any suspension.

B. If the Contractor is bankrupt or insolvent, or makes a general assignment for the benefit of its creditors, or if a trustee or receiver is appointed for the Contractor or for any of its property, or if the Contractor files a petition to take advantage of any debtor's act, or to reorganize under the bankruptcy or applicable laws, or repeatedly fails to supply sufficient skilled workers or suitable materials or equipment, or repeatedly fails to make prompt payments to Subcontractors or for labor, materials or equipment or disregards laws, ordinances, rules, regulations or orders of any public body having jurisdiction of the Work or disregards the authority of the Engineer, or otherwise violates any provision of the Contract Documents, then the Owner may, without prejudice to any other right or remedy and after giving the Contractor and its surety a minimum of ten days from delivery of a Written Notice, terminate the services of the Contractor and take possession of the Project and of all materials, equipment, tools, construction equipment and machinery thereon owned by the Contractor, and finish the Work by whatever method the Owner may deem expedient. In such case the Contractor shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds the direct and indirect costs of completing the Project, including compensation for additional professional services, such excess shall be paid to the Contractor. If such costs exceed such unpaid balance, the Contractor will pay the difference to the Owner. Such costs incurred by the Owner will be determined by the Engineer and incorporated in a Change Order.

C. Where the Contractor's services have been so terminated by the Owner, said termination shall not affect any right of the Owner against the Contractor then existing or which may thereafter accrue. Any retention or payment of monies by the Owner due the Contractor will not release the Contractor from compliance with the Contract Documents.

D. After ten days from delivery of a Written Notice to the Contractor and the Engineer, the Owner may, without cause and without prejudice to any other right or remedy, elect to abandon the Project and terminate the contract. In such case, the Contractor shall be paid for all Work executed and any expense sustained plus reasonable profit.

E. If, through no act or fault of the Contractor, the Work is suspended for a period of more than ninety days by the Owner or under an order of court or other public authority, or the Owner fails to pay the Contractor substantially the sum approved by the Engineer within thirty days after its approval and presentation, then the Contractor may, after fifteen days from delivery of a Written Notice to the Owner and the Engineer and provided such condition still exists, terminate the contract and recover from the Owner payment for all Work executed and all other expenses sustained. In addition and in lieu of terminating the contract, if the Owner does not make any payment as aforesaid, the Contractor may upon fifteen days Written Notice to the Owner and the Engineer stop the Work if such non-payment condition still exists, until paid all amounts then due, in which event and upon resumption of the Work, Change Orders shall be issued

for adjusting the Contract Price or extending the Contract Time, or both, to compensate for the costs and delays attributable to the stoppage of the Work.

F. When a suspension, delay or interruption of the Work might be necessary due to failure of the Owner or Engineer to act within the time specified in the Contract Documents, or if no time is specified, within a reasonable time, the Contractor shall give Written Notice to the Owner or Engineer a minimum of fifteen days in advance of the time after which continued failure of the Owner or Engineer to act would result in unavoidable suspension, delay or interruption of the Work. If the Owner or Engineer fails to act within such advance notice period, an adjustment in the Contract Price or an extension of the Contract Time, or both, shall be made by Change Order to compensate the Contractor for the costs and delays unavoidably incurred and directly attributable to failure of the Owner or Engineer to act.

18. PAYMENTS TO CONTRACTOR:

A. At least ten days before each progress payment falls due (but not more often than once a month), the Contractor will submit to the Engineer a partial payment estimate filled out and signed by the Contractor covering the Work performed during the period covered by the partial payment estimate and supported by such data as the Engineer may reasonably require. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at or near the site, the partial payment estimate shall also be accompanied by such supporting data, satisfactory to the Owner, as will establish the Owner's title to the material and equipment and protect the Owner's interest therein, including applicable insurance. The Engineer will, within fifteen days after receipt of each partial payment estimate, either indicate in writing approval of payment and present the partial payment estimate to the Owner, indicate modification in writing to the Owner and Contractor necessary to make the partial payment estimate acceptable and present the approved modified partial payment estimate to the Owner, or return the partial payment estimate to the Contractor indicating in writing reasons for refusing to approve payment. In the latter case, the Contractor may make the necessary corrections and resubmit the partial payment estimate. The Owner will, within fifteen days of presentation of an approved partial payment estimate, pay the Contractor a progress payment on the basis of the approved partial payment estimate less the retainage. The retainage shall be an amount equal to 10 percent of said estimate until 50 percent of the work has been completed. At 50 percent completion, further partial payments shall be made in full to the Contractor and no additional amounts may be retained unless the Engineer certifies that the Work is not proceeding satisfactorily, but amounts previously retained shall not be paid to the Contractor. At 50 percent completion or any time thereafter when the progress of the Work is not satisfactory, additional amounts may be retained but in no event shall the total retainage be more than 10 percent of the value of the work completed. Upon substantial completion of the work, any amount retained may be paid to the Contractor. When the Work has been substantially completed except for Work which cannot be completed because of weather conditions, lack of materials or other reasons which in the judgment of the Owner are valid reasons for non-completion, the Owner may make additional payments, retaining at all times an amount sufficient to cover twice the estimated cost of the Work still to be completed.

B. The request for payment may also include an allowance for the cost of any major materials and equipment, which are suitably stored either at or near the site.

C. All Work covered by partial payment made shall thereupon become the sole property of the Owner, but this provision shall not be construed as relieving the Contractor of the sole responsibility for the care and protection of the Work upon which payments have been made or the restoration of any damaged Work, or as a waiver of the right of the Owner to require the fulfillment of all terms of the Contract Documents.

D. Upon completion and acceptance of the Work, the Engineer shall issue a certificate attached to the final payment request that the Work has been accepted under the conditions of the Contract Documents. The entire balance found to be due the Contractor, including the retained percentages, but except such sums as may be lawfully retained by the Owner, shall be paid to the Contractor within thirty days of completion and acceptance of the Work.

E. The Contractor will indemnify and hold the Owner or the Owner's agents harmless from all claims growing out of the lawful demands of Subcontractors, laborers, workers, mechanics, materialmen, and furnishers of machinery and parts thereof, equipment, tools, and all supplies, incurred in the furtherance of the performance of the Work. The Contractor shall, at the Owner's request, furnish satisfactory evidence that all obligations of the nature designated above have been paid, discharged, or waived. If the Contractor fails to do so the Owner may, after having notified the Contractor, either pay unpaid bills or withhold from the Contractor's unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to the Contractor shall be resumed, in accordance with the terms of the Contract Documents, but in no event shall the provisions of this sentence be construed to impose any obligations upon the Owner to either the Contractor, the Contractor's surety, or any third party. In paying any unpaid bills of the Contractor, any payment so made by the Owner shall be considered as a payment made under the Contract Documents by the Owner to the Contractor and the Owner shall not be liable to the Contractor for any such payments made in good faith.

F. If the Owner fails to make payment within thirty days after approval by the Engineer, in addition to other remedies available to the Contractor, there shall be added to such payment interest at the maximum legal rate commencing on the thirty-first day after said payment is approved and continuing until the payment is received by the Contractor.

19. ACCEPTANCE OF FINAL PAYMENT AS RELEASE:

A. The acceptance by the Contractor of final payment shall be and shall operate as a release to the Owner of all claims and all liability to the Contractor, other than claims attached to the final payment request by the Contractor, for all things done or furnished in connection with the Work and for every act and neglect of the Owner, Engineer and others relating to or arising out of the Work. Any payment, however, final or otherwise, shall not release the Contractor or its sureties from any obligations under the Contract Documents or the Performance Bond and Payment Bond.

20. INSURANCE:

A. The Contractor shall purchase and maintain such insurance as will protect it from claims set forth below which may arise out of or result from the Contractor's execution of the Work, whether such execution be by the Contractor, any Subcontractor, or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

a. Claims under workmen's compensation, disability benefit and other similar employee benefit acts; and

b. Claims for damages because of bodily injury, occupational sickness or disease, or death of employees; and

c. Claims for damages because of bodily injury, sickness or disease, or death of any person other than employees; and

d. Claims for damages insured by usual personal injury liability coverage which are sustained either by any person as a result of an offense directly or indirectly related to the employment of such person by the Contractor, or by any other person; and

e. Claims for damages because of injury to or destruction of tangible property, including loss of use resulting therefrom.

B. Insurance shall include provision or endorsement stating that such insurance, subject to all of its other terms and conditions, applies to the liability assumed by Contractor pursuant to the paragraph of these General Conditions entitled "Indemnification".

C. Certificates of insurance acceptable to the Owner and Engineer shall be filed with the Owner and Engineer prior to commencement of the Work. These certificates shall contain a provision that coverage afforded under the policies will not be cancelled unless at least thirty days prior Written Notice has been given to the Owner.

D. The Contractor shall procure and maintain during the Contract Time, liability insurance as specified in the Supplementary Conditions:

21. CONTRACT SECURITY:

A. The Contractor shall within fifteen days after the receipt of the Notice Of Award furnish the Owner with a Performance Bond and a Payment Bond in penal sums equal to the amount of the Contract Price, conditioned upon the performance by the Contractor of all undertakings, covenants, terms, conditions and agreements of the Contract Documents, and upon the prompt payment by the Contractor to all persons supplying labor and materials in the prosecution of the Work provided by the Contract Documents. Such Bonds shall be executed by the Contractor and a corporate bonding company licensed to transact such business in the state in which the Work is to be performed and named on the current list of "Surety Companies Acceptable on Federal Bonds" as published in the Treasury Department Circular Number 570. The expense of these Bonds shall be borne by the Contractor. If at any time a surety on any such Bond is declared a bankrupt or loses its right to do business in the state in which the Work is to be performed or is removed from the list of surety companies accepted on Federal Bonds, the Contractor shall within ten days after notice from the Owner to do so, substitute an acceptable Bond (or Bonds) in such form and sum and signed by such other surety or sureties as may be satisfactory to the Owner. The cost

for such Bond shall be paid by the Contractor. No further payments by the Owner to the Contractor shall be deemed due nor shall be made until the new surety or sureties shall have furnished an acceptable Bond to the Owner.

22. ASSIGNMENTS:

A. Neither the Contractor nor the Owner shall sell, transfer, assign or otherwise dispose of this contract or any portion thereof, or of any right, title or interest therein, or any obligations thereunder, without written consent of the other party.

23. INDEMNIFICATION:

A. The Contractor will indemnify and hold harmless the Owner and the Engineer and their agents and employees from and against all claims, damages, losses and expenses including attorneys' fees arising out of or resulting from the performance of the Work, provided that any such claims, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property, including the loss of use resulting therefrom; and is caused in whole or in part, directly or indirectly, by any negligent or willful act or omission of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable.

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

C. Insurance required of the Contractor shall include the specified indemnification and contractual obligation, by endorsement and/or additional insurance to that specified, designating the Owner, the Engineer, and their agents or representatives.

24. SEPARATE CONTRACTS:

A. The Owner reserves the right to let other contracts in connection with this Project. The Contractor shall afford other Contractors reasonable opportunity for the introduction and storage of their materials and the execution of their work, and shall properly correct and coordinate the Work with theirs. If the proper execution or results of any part of the Contractor's Work depends upon the work of any other contractor, the Contractor shall inspect and promptly report to the Engineer any defects in such work that render it unsuitable for such proper execution and results.

B. The Owner may perform additional work related to the Project or the Owner may let other contracts containing provisions similar to these. The Contractor will afford the other contractors who are parties to such contracts (or the Owner, if he is performing the additional work), reasonable opportunity for the introduction and storage of materials and equipment and the execution of work, and shall properly connect and coordinate Work with theirs.

C. If the performance of additional work by the other contractors or the Owner is not noted in the Contract Documents prior to the execution of the Agreement, Written Notice

thereof shall be given to the Contractor prior to starting any such additional work. If the Contractor demonstrates that the performance of such additional work by the Owner or others involves the Contractor in additional expense or delays affecting Project completion, the Contractor may make a claim therefore as provided herein by article entitled "Changes In The Work".

25. SUBCONTRACTING:

A. The Contractor may utilize the services of specialty Subcontractors on those parts of the Work which under normal contracting practices, are performed by specialty Subcontractors. The Contractor shall not award Work to Subcontractor(s), in excess of fifty percent of the Contract Price, without prior written approval of the Owner.

B. The Contractor shall be fully responsible to the Owner for the acts and omissions of its Subcontractors, and of persons either directly or indirectly employed by them, as the Contractor is for the acts and omissions of persons directly employed by the Contractor.

C. The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the Work to bind Subcontractors to the Contractor by the terms of the Contract Documents insofar as applicable to the Work of Subcontractors and to give the Contractor the same power as regards terminating any subcontract that the Owner may exercise over the Contractor under any provision of the Contract Documents.

D. Nothing contained in this contract shall create any contractual relation between any Subcontractor and the Owner.

26. ENGINEER'S AUTHORITY:

A. The Engineer shall act as the Owner's representative during the construction period, shall decide questions which may arise as to the quality and acceptability of materials furnished and Work performed, and shall interpret the intent of the Contract Documents in a fair and unbiased manner.

B. The Contractor will be held strictly to the intent of the Contract Documents in regard to the quality of materials, function and dependability of equipment, workmanship and execution of the Work. Inspections may be made at the factory or fabrication plant of the source of material supply.

C. The Engineer will not be responsible for the construction means, controls, techniques, sequences, procedures, or construction safety.

D. The Engineer shall promptly make decisions relative to interpretation of the Contract Documents.

27. LAND AND RIGHTS-OF-WAY:

A. Prior to issuance of Notice To Proceed, the Owner shall obtain all land and rights-of-way necessary for carrying out and for the completion of the Work to be performed pursuant to the Contract Documents, unless otherwise mutually agreed.

B. Prior to entering on any land or right-of-way, the Contractor shall ascertain the requirements of applicable permits or easements obtained by the Owner, and shall conduct the Work in accordance with requirements thereof including the giving of notice. The Contractor shall be fully responsible for performing Work to the requirements of any permit or easement granting entity even though such requirements may exceed or be more stringent than that otherwise required by the Contract Documents, and shall compensate the Owner fully for any loss or expense arising from failure of the Contractor to perform as required by such entity.

C. The Owner shall provide to the Contractor information which delineates and describes the lands owned and rights-of-way and easements acquired.

D. The Contractor shall provide at its own expense and without liability to the Owner any additional land and access thereto that the Contractor may desire for temporary construction facilities, or for storage of materials.

28. TAXES:

A. The Contractor will pay all sales, consumer, use and other similar taxes required by the laws of the place where the Work is performed.

29. STATED ALLOWANCES:

A. The Contractor shall include in its Bid the cash allowances, if any, stated elsewhere in the Contract Documents. The Contractor shall purchase "allowed materials" as directed by the Owner on the basis of the lowest and best bid of at least three competitive sources unless otherwise requested by the Owner. If the actual price for purchasing allowed materials is more or less than the stated allowance, the Contract Price shall be adjusted accordingly. The adjustment in Contract Price shall be made on the basis of the purchase cost including applicable sales taxes, but exclusive of additional charges for overhead, profit, insurance, or any other incidental expenses. Cost of installation of allowed materials shall be included in the Bid.

30. USE OF PREMISES AND REMOVAL OF DEBRIS:

A. The Contractor expressly undertakes at its own expense:

a. To store apparatus, materials, supplies and equipment in such orderly fashion at the site of the Work as will not unduly interfere with the progress of the Work or the work of any other contractor; and

b. To place upon the Work or any part thereof only such loads as are consistent with the safety of that portion of the Work; and

c. To clean up frequently all refuse, rubbish, scrap materials, and debris caused by the Contractor's operations, to the end that the site at all times shall present a neat, orderly and workmanlike appearance; and

d. Before final payment to remove all surplus material, false-work, temporary structures, including foundation thereof, construction plant of any description and debris of every nature resulting from his operations, and to put the site in a neat, clean and orderly condition.

31. ESTIMATED QUANTITIES:

A. Estimated quantities, if any, shown on the Bid form are given for use in comparing Bids, and the right is expressly reserved by the Owner to increase or decrease quantities as may be necessary to satisfactorily complete the Project. An appropriate Change Order shall be issued to adjust the Contract Price and Contract Time resulting from such increases or decreases in the Work.

B. Estimated quantities other than those shown on the Bid form, if any, have been prepared by the Engineer for the Engineer's use, and the Bidder and Contractor shall make and be responsible for their own estimates regarding work affected thereby. No change in Contract Price or Time shall be made due to variance from such estimates.

32. GUARANTY:

A. The Contractor shall guarantee all materials and equipment and Work furnished and performed for a period of one year from the date of Substantial Completion unless a longer period is specified elsewhere. Neither the final certificate of payment nor any provision of the Contract Documents, nor partial or entire occupancy or use of the Project by the Owner, shall constitute an acceptance of any part of the Work not done in accordance with the Contract Documents, or relieve the Contractor of liability for incomplete or faulty, materials or workmanship. The Contractor shall promptly remedy any omission or defect in the Work, and pay for any damage to other improvements or facilities resulting from such omission or defect which shall appear within a period of one year from the date of Substantial Completion, unless a longer period is elsewhere specified. The Owner will give notice of observed defects with reasonable promptness. In the event that the Contractor should fail to make such repairs, adjustments, or other remedy that may be made necessary by such defects, the Owner may do so and charge the Contractor the cost thereby incurred. The Performance Bond shall remain in full force and effect through the guarantee period.

33. FINAL ACCEPTANCE:

A. When the Contractor considers the Project to be complete, the Contractor shall notify the Owner, whereupon the Owner in company with the Engineer shall make a formal inspection of the Project. Should the entire Work appear to be complete and in conformance with the Contract Documents, the Engineer shall issue a certificate that the Work has been accepted, provided all other applicable terms of the contract have been satisfied. If the Work does not entirely meet requirements of the Contract Documents at the time of inspection, the Engineer shall in writing notify the Contractor of those items that require completion or correction. After completing or correcting deficiencies noted by the Engineer together with any additional deficiencies, which appear, the Contractor shall again notify the Owner. The inspection and completion or correction process shall then be repeated until the entire Project at the time of inspection shall appear to be in conformance with the Contract Documents. In the event that any Work is damaged or discovered to be deficient after an initial inspection but prior to final acceptance, such work shall have been completed or corrected at the time of final acceptance, but this requirement shall not extend to repair of Work damaged by the Owner.

END SECTION 00840

SECTION 00900 SUPPLEMENTARY CONDITIONS

1. Intent:

A. In case of unresolved conflict between items of the Contract Documents, the following order of precedence shall govern, with the higher item taking precedence over a lower item:

Contract (including Supplemental Agreements and Change Orders thereto)
Addenda
Instructions to Bidders
Bid
Supplemental General Conditions
General Conditions
Specifications
Federal Provisions and Regulations
Governing Standard Specifications
Schedules on Drawings
Notes on Drawings
Details on Drawings
Large Scale Drawings
Small Scale Drawings
Dimensions Given in Figures
Scaled Dimensions
Additional Instructions and Detail Drawings
Shop Drawings

2. Availability of Lands:

A. The OWNER has endeavored to obtain all lands, rights-of-way and easements as indicated in the Contract Documents; however, delays obtaining such lands may occur. If the OWNER is unable to obtain lands as indicated in the Contract Documents, the OWNER will notify the CONTRACTOR of those lands which are differing from those indicated in the Contract Documents, and will inform the CONTRACTOR of those areas where lands are available.

3. Labor; Working Hours:

A. All work shall be performed during working hours specified in City of Fairburn, GA Code of Ordinances.

4. Subcontractors

A. Contractor shall not award work to a subcontractor in excess of 50% of total contract amount.

5. Normal Weather Conditions and Contract Time:

A. Completion time will not be extended for normal weather conditions. The time for completion as stated in the Contract Documents includes due allowance for calendar days on which work cannot be performed. For the purpose of this Contract, the Contractor agrees that he may expect to lose calendar days due to weather in accordance with the following table:

Jan. 10 days	May 8 days	Sep. 7 days
Feb. 9 days	June 8 days	Oct. 6 days
Mar. 9 days	July 11 days	Nov. 7 days
Apr. 8 days	Aug. 9 days	Dec. 8 days

B. Also, the Contractor agrees that the measure of extreme weather during the period covered by this Contract shall be the number of days in excess of those shown for each month in the table above, in which precipitation exceeded 0.10 inch at the project site and the average temperature failed to exceed 40 degrees F. If the total accumulated number of calendar days lost to weather, from the start of work until the completion of project exceeds that total accumulated number to be expected for the same period from the table above, time for completion will be extended by the number of calendar days needed to include the excess number of calendar days lost. Request for extension in contract time shall be done as specified in change order request procedures.

C. No change in Contract Sum will be authorized because of adjustments of Contract Time due to Owner's acceptance of Contract Claims for adjustments to Time due to abnormal weather conditions.

END OF SECTION 00900

SPECIAL PROVISIONS AND ADDITIONS

__√__ **LOCATION MAPS / DESCRIPTIONS**

1) OAKLEY INDUSTRIAL BLVD AT FAYETTEVILLE ROAD (3 locations)
2) OAKLEY INDUSTRIAL BLVD (1575 -1595) (1 location)
3) GULLATT RD AT I-85 BRIDGE & GULLATT ROAD AT CLECKLER RD (5 locations)
4) MCLARIN RD (NEAR RAILROAD TRACK) ACROSS FROM BOHANNON RD) (1 location)
5) FAYETTVILLE RD AT GOODSON ROAD (4 locations)
6) W. CAMPBELLTON STREET AT ELDER STREET (1 location)
7) BOHANNON RD (MEADOW GLEN WAY EXTENDING APPROX 500 FT NORTH) (1 location)

__√__ SECTION 150 – TRAFFIC CONTROL

__√__ SECTION 150.6 – TRAFFIC CONTROL

__√__ SECTION 161 – CONTROL OF SOIL EROSION AND SEDIMENTATION

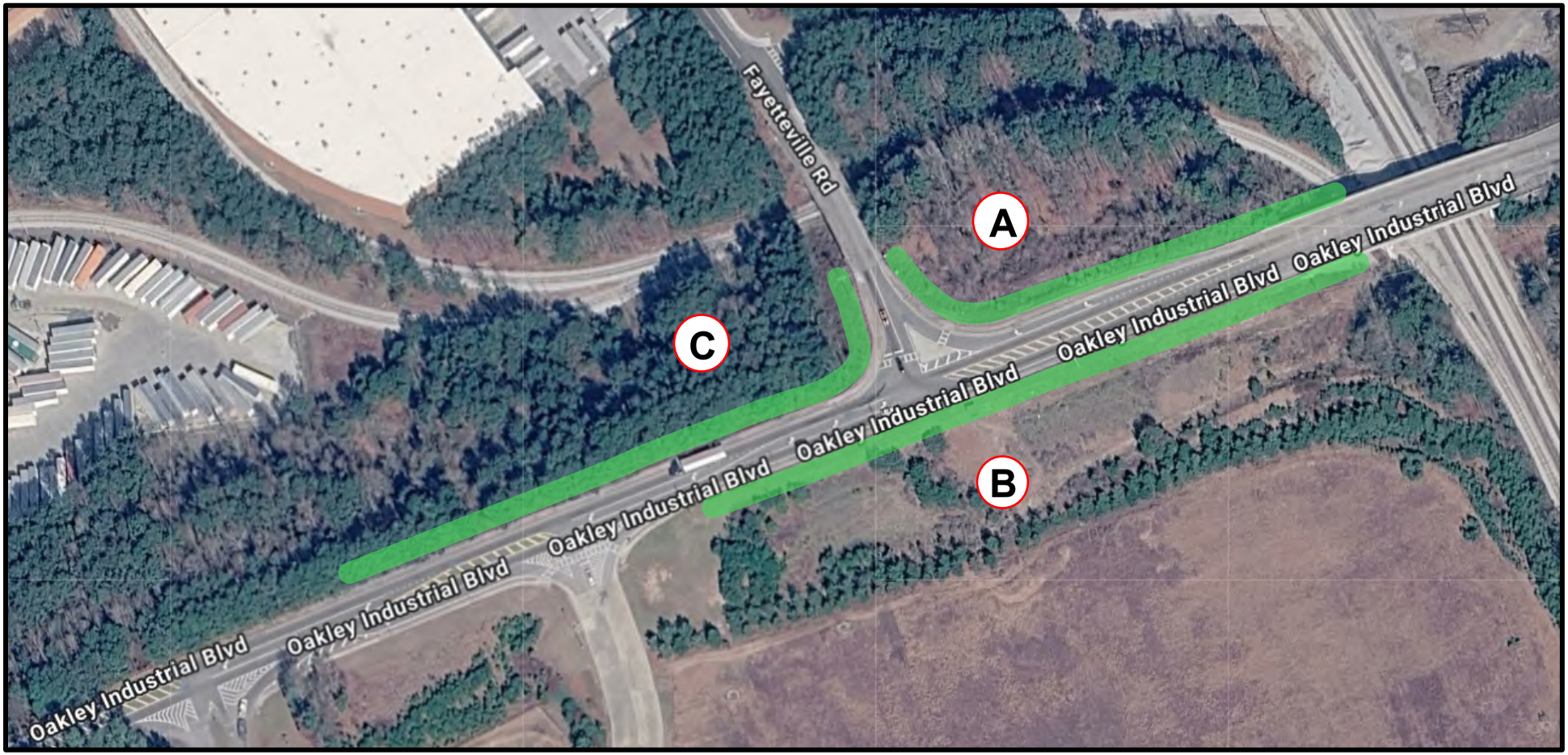
GDOT STANDARDS: 4000W, 4360, 4380, 4382, 4383, 4384, 4385, 4388, 4391

Oakley Industrial Blvd at Fayetteville Road

A. *Northside of Oakley Industrial Blvd, replace guardrail & anchorage starting at Railroad Bridge and extending onto Fayetteville Road and ending at bridge approach slab.*
   a. *146 LF - T Beam (At Bridge Connections – 125 ft at RR Bridge on Oakley Ind. Blvd & 21 Ft on Fayetteville Rd Bridge)*
   b. *369 LF – W Beam section*

B. *On the south side of Oakley industrial Blvd, replace guardrail & anchorage starting at 4955 Oakley Industrial Blvd and extending eastward toward bridge approach slab over railroad).*
   a. *82 LF – T Beam (at RR Bridge Connection on Oakley Industrial Blvd)*
   b. *1118 LF – W Beam section*
   c. *1 EA – Type I Anchor*

C. *On the north side of Oakley Industrial Blvd, replace guardrail & anchorage starting at bridge on Fayetteville Road and ending at current location of current guardrail section on Oakley Industrial Blvd.*
   a. *21 LF – T Beam (at Bridge Connection at Fayetteville Rd Bridge)*
   b. *1200 LF – W Beam Section*
   c. *1 EA – Type I Anchor*



Oakley Industrial Blvd

- *Replace guardrail & anchorage at current guardrail location (between 1575 Oakley Industrial Blvd – 1595 Oakley Industrial Blvd)*
    a. *1118 LF - W Beam Section*
    b. *1 EA - Guardrail Terminal, TP 12A, 31 In, Tangent, Energy Absorbing*
    c. *1 EA - Type I Anchor*



Gullatt Road at the I-85 Bridge & Gullatt Road at Cleckler Road

A. Gullatt Rd SW of I-85 Bridge (approx. 580 LF)
   a. *21 LF – T Beam (at Bridge for connection to Bridge @ I-85)*
   b. *560 LF - W Beam Section*
   c. *1 EA - Type I Anchor*

B. Gullatt Rd (between Chastain Rd to Cleckler Rd) (approx. 375 LF)
   a. *375 LF - W Beam Section*
   b. *1 EA - Guardrail Terminal, TP 12A, 31 In, Tangent, Energy Absorbing*
   c. *1 EA - Type I Anchor*

C. Gullatt Rd (from Cleckler Rd) to I-85 bridge abutment) (approx. 45 LF)
   a. *21 LF – T Beam (at Bridge for connection to Bridge @ I-85)*
   b. *24 LF - W Beam Section*
   c. *1 EA - Guardrail Terminal, TP 12A, 31 In, Tangent, Energy Absorbing*

D. Gullatt Rd (from I-85 bridge to Cleckler Rd) North of I-85 bridge (approx. 250 LF)
   a. *21 LF – T Beam (at Bridge for connection to Bridge @ I-85)*
   b. *540 LF - W Beam Section*
   c. *1 EA - Guardrail Terminal, TP 12A, 31 In, Tangent, Energy Absorbing*

E. Gullatt Rd (from I-85 bridge to Cleckler Rd) North of I-85 bridge (approx. 345 LF)
   a. *21 LF – T Beam (at Bridge for connection to Bridge @ I-85)*
   b. *320 LF - W Beam Section*
   c. *1 EA - Type I Anchor*



- **<u>McLarin Road (near railroad track) across from Bohannon Road</u>**

  Replace guardrail and anchorage along McLarin Road

  a. *1 EA - Guardrail Terminal, TP 12A, 31 In, Tangent, Energy Absorbing*
  b. *1340 LF – T Beam (along McLarin Rd)*



Fayetteville Road at Goodson Road

Bridge on Fayetteville Rd at I-85 (built in1965 and does not have guardrail attachments in the side barrier.)

A. *SW corner on Fayetteville Rd at I-85 Bridge (approx.175 LF)*
   a. *21 LF – T Beam (at Bridge Connection at Fayetteville Rd Bridge)*
   b. *1 EA - Guardrail Terminal, TP 12A, 31 In, Tangent, Energy Absorbing*
   c. *100 LF – W Beam Section*

B. *SW corner on Fayetteville Rd, west of Goodson Rd. (approx. 675 LF)*
   a. *1 EA - Guardrail Terminal, TP 12A, 31 In, Tangent, Energy Absorbing*
   b. *625 LF – W Beam Section*
   c. *1 EA Guardrail Anchorage, TP 1*

C. *NE corner of Fayetteville Rd, between Goodson Rd and Bridge at I-85 (approx. 60 LF)*
   a. *21 LF – T Beam (at I-85 Bridge Connection at Fayetteville Rd Bridge)*
   b. *40 LF – W Beam Section*
   c. *1 EA Guardrail Anchorage, TP 1*

D. *NW corner on Fayetteville Rd, westside of Goodson Rd. (approx. 850 LF)*
   a. *1 EA - Guardrail Terminal, TP 12A, 31 In, Tangent, Energy Absorbing (on Goodson Rd)*
   b. *790 LF – W Beam Section*
   c. *1 EA Guardrail Anchorage, TP 1 (Fayetteville Rd)*



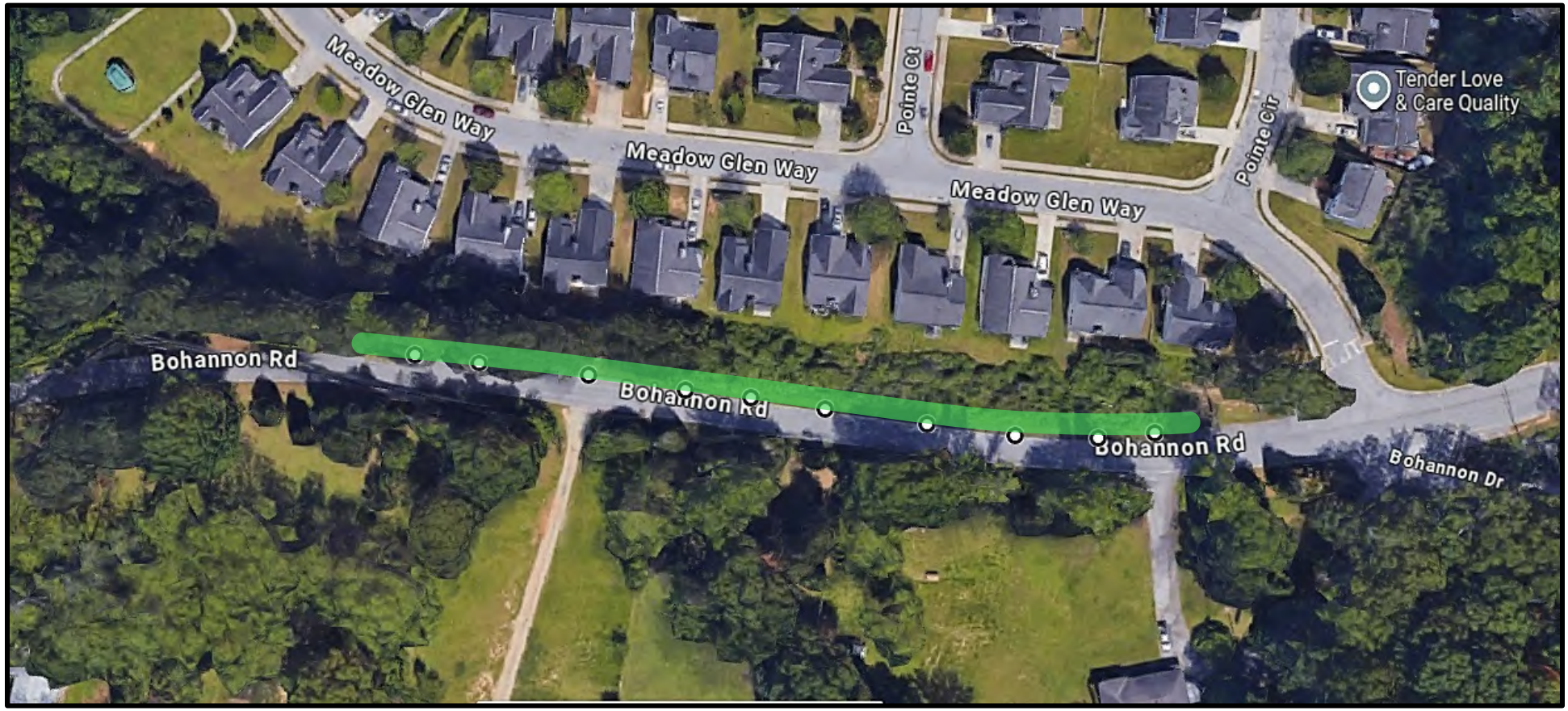
W. Campbellton Street at Elder St.

- *Replace guardrail & anchorage on W. Campbellton Street at Elder Street (Approx. 200 ft)*
    a. *1 EA - Guardrail Terminal, TP 12A, 31 In, Tangent, Energy Absorbing*
    b. *150 LF – W Beam Section*
    c. *1 EA Guardrail Anchorage, TP 1*



Bohannon Road

- *Along the east side of Bohannon Road, beginning at the acceleration lane at Meadow Glen Way, and extending approximately 500 feet north.*
    a. *500 LF - W Beam Section*
    b. *1 EA - Guardrail Terminal, TP 12A, 31 In, Tangent, Energy Absorbing*
    c. *1 EA - Type I Anchor*

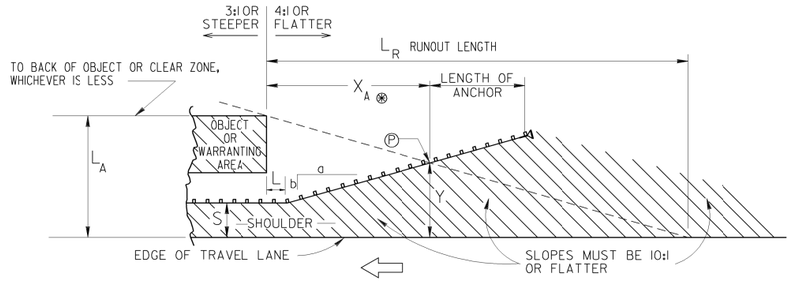


1/27/2016 12:54:30 PM \\GDOT-DSNI\GOPLOT\OCF\OGC.gcf bquaries P:\Policy&Lighting\Standards\GA_Standards\4000W\Revision_2015-12-16\4000W_Revised_2016-1-29.prf

LENGTH OF GUARDRAIL ADVANCEMENT AT FIXED OBJECTS OR AT WARRANTING FILL SLOPES (TYPICAL)

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			

FLARED

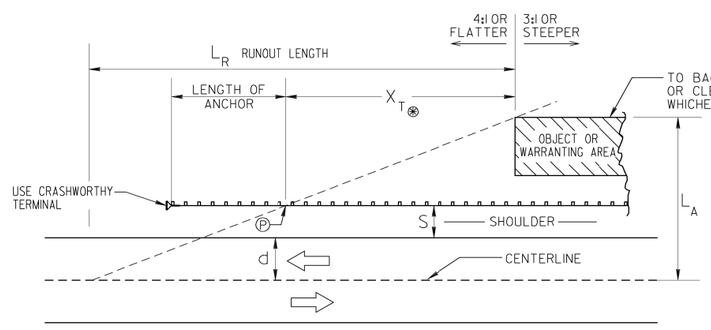


FLARE RATE			
DESIGN SPEED (mph)	SHY-LINE OFFSET (ft)	(a/b) BARRIER INSIDE SHY-LINE	(a/b) BARRIER AT OR BEYOND SHY-LINE
70	9	30	5
60	8	26	4
55	7	24	2
50	6.5	21	11
45	6	18	10
40	5	16	8
30	4	13	7

WHERE 'S' IS LESS THAN THE SHY-LINE OFFSET, USE FLATTER RATES GIVEN IN TABLE.

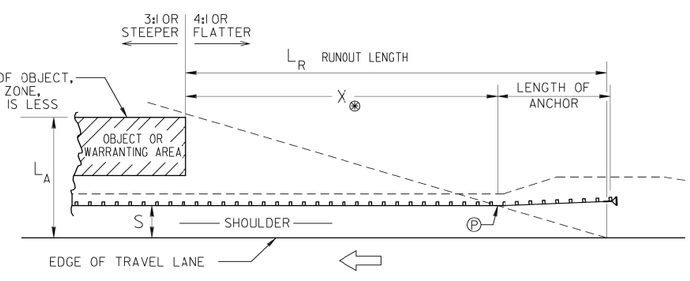
$$Y = L_A - \frac{L_A}{L_R}(X_A) \qquad X_A = \frac{L_A + (b/a)L - S}{b/a + (L_A/-_R)}$$

STANDARD



$$X_T = L_R \times \frac{L_A - (S+d)}{L_A}$$

(TRAILING END)



$$X = L_R \times \frac{L_A - S}{L_A}$$

(APPROACH END)

DESIGN SPEED (MPH)	L_R Runout Length in feet OVER 10000 (A.D.T.)	5000-10000 (A.D.T.)	1000-5000 (A.D.T.)	UNDER 1000 (A.D.T.)
80	470	430	380	330
70	360	330	290	250
60	300	250	210	200
50	230	190	160	150
40	160	130	110	100
30	110	90	80	70

S = NORMAL WIDTH OF USUABLE SHOULDER PLUS 2 FT (TYP.)

Ⓟ = BEGINNING OF TERMINAL (TYP.)

⊛ X_A, X_T, AND X MEASURED TO THE END OF W-BEAM, WHERE TERMINAL BEGINS

CLEAR ZONE DISTANCES

CLEAR ZONE DISTANCES (FT) CHART

DESIGN SPEED	DESIGN ADT	FORESLOPES 1V:6H OR FLATTER	FORESLOPES 1V:5H TO 1V:4H	FORESLOPES 1V:3H	BACKSLOPES 1V:3H	BACKSLOPES 1V:5H TO 1V:4H	BACKSLOPES 1V:6H OR FLATTER
40 M.P.H. OR LESS	UNDER 750	7-10	7-10	**	7-10	7-10	7-10
	750-1500	10-12	12-14	**	12-14	12-14	12-14
	1500-6000	12-14	14-16	**	14-16	14-16	14-16
	OVER 6000	14-16	16-18	**	16-18	16-18	16-18
45-50 M.P.H.	UNDER 750	10-12	12-14	**	8-10	8-10	10-12
	750-1500	14-16	16-20	**	10-12	12-14	14-16
	1500-6000	16-18	20-26	**	12-14	14-16	16-18
	OVER 6000	20-22	24-28	**	14-16	18-20	20-22
55 M.P.H.	UNDER 750	12-14	14-18	**	8-10	10-12	10-12
	750-1500	16-18	20-24	**	10-12	14-16	16-18
	1500-6000	20-22	24-30	**	14-16	16-18	20-22
	OVER 6000	22-24	26-32*	**	16-18	20-22	22-24
60 M.P.H.	UNDER 750	16-18	20-24	**	10-12	12-14	14-16
	750-1500	20-24	26-32*	**	12-14	16-18	20-22
	1500-6000	26-30	32-40*	**	14-18	18-22	24-26
	OVER 6000	30-32*	36-44*	**	20-22	24-26	26-28
65-70 M.P.H.	UNDER 750	18-20	20-26	**	10-12	14-16	14-16
	750-1500	24-26	28-36*	**	12-16	18-20	20-22
	1500-6000	28-32*	34-42*	**	16-20	22-24	26-28
	OVER 6000	30-34*	38-46*	**	22-24	26-30	28-30

* WHEN A SITE-SPECIFIC INVESTIGATION INDICATES A HIGH PROBABILITY OF CONTINUING CRASHES OR WHEN SUCH OCCURRENCES ARE INDICATED BY CRASH HISTORY, THE DESIGNER MAY PROVIDE CLEAR-ZONE DISTANCES GREATER THAN THE CLEAR ZONE SHOWN ABOVE. CLEAR ZONES MAY BE LIMITED TO 30 FT. FOR PRACTICALITY AND TO PROVIDE A CONSISTENT ROADWAY TEMPLATE IF PREVIOUS EXPERIENCE WITH SIMILAR PROJECTS OR DESIGNS INDICATES SATISFACTORY PERFORMANCE.

** BECAUSE RECOVERY IS LESS LIKELY ON THE UNSHIELDED, TRAVERSABLE 1V:3H FILL SLOPES, FIXED OBJECTS SHOULD NOT BE PRESENT IN THE VICINITY OF THE TOE OF THESE SLOPES. RECOVERY OF HIGH-SPEED VEHICLES THAT ENCROACH BEYOND THE EDGE OF THE SHOULDER MAY BE EXPECTED TO OCCUR BEYOND THE TOE OF SLOPE. DETERMINATION OF THE WIDTH OF THE RECOVERY AREA AT THE TOE OF SLOPE SHOULD CONSIDER RIGHT-OF-WAY AVAILABILITY, ENVIRONMENTAL CONCERNS, ECONOMIC FACTORS, SAFETY NEEDS, AND CRASH HISTORIES. ALSO, THE DISTANCE BETWEEN THE EDGE OF THE THROUGH TRAVELED LAND AND THE BEGINNING OF THE 1V:3H SLOPE SHOULD INFLUENCE THE RECOVERY AREA PROVIDED AT THE TOE OF SLOPE. A 10-FT RECOVERY AREA AT THE TOE OF SLOPE SHOULD BE PROVIDED FOR ALL TRAVERSABLE, NON RECOVERABLE FILL SLOPES.

HORIZONTAL CURVE ADJUSTMENTS

RADIUS (FEET)	K_{CZ} (CURVE CORRECTION FACTOR) DESIGN SPEED (MPH) 40	45	50	55	65	70
2950	1.1	1.1	1.1	1.2	1.2	1.2
2300	1.1	1.1	1.2	1.2	1.2	1.3
1970	1.1	1.2	1.2	1.2	1.3	1.4
1640	1.1	1.2	1.2	1.3	1.3	1.4
1475	1.2	1.2	1.3	1.3	1.4	1.5
1315	1.2	1.2	1.3	1.3	1.4	
1150	1.2	1.2	1.3	1.4	1.5	
985	1.2	1.3	1.4	1.5	1.5	
820	1.3	1.3	1.4	1.5		
660	1.3	1.4	1.5			
495	1.4	1.5				
330	1.5					

$CZ_C = (L_C)(K_{CZ})$

Where:

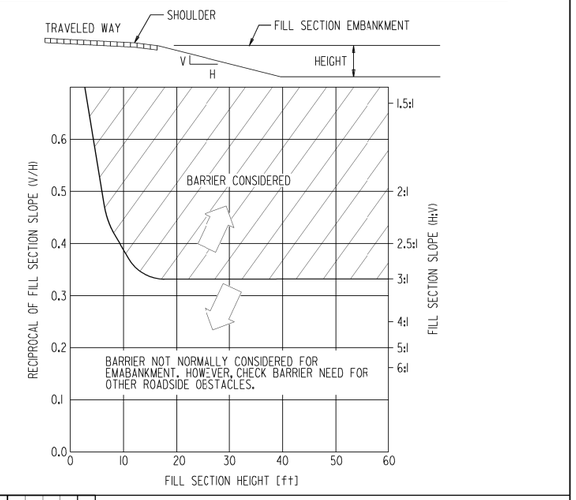
CZ_C = CLEAR ZONE ON OUTSIDE OF CURVATURE, FEET

L_C = CLEAR ZONES DISTANCE, FEET (SEE CHART AT LEFT)

K_{CZ} = CURVE CORRECTION FACTOR

NOTE:
THE CURVE CORRECTION FACTOR IS APPLIED TO THE OUTSIDE OF CURVES ONLY. CORRECTIONS ARE TYPICALLY MADE ONLY TO CURVES LESS THAN 2,950-FT RADIUS.

COMPARATIVE BARRIER CONSIDERATION FOR EMBANKMENTS



BY	REVISION	DATE
F.B.F.	REV. ANCH. LOC.; UPDATED FLARE TBL; ADDED CHART	1-29-16
B.J.G.	REVISED TO 2011 ROG	4-16-15
G.L.O.	REMOVED SLOPE WARRENTS REVISED GUARDRAIL AND CLEAR ZONE	9-4-07

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

STANDARD
GUARDRAIL WARRANT GUIDES
LENGTHS OF ADVANCEMENT
CLEAR ZONE DISTANCES
FILL HEIGHT EMBANKMENTS

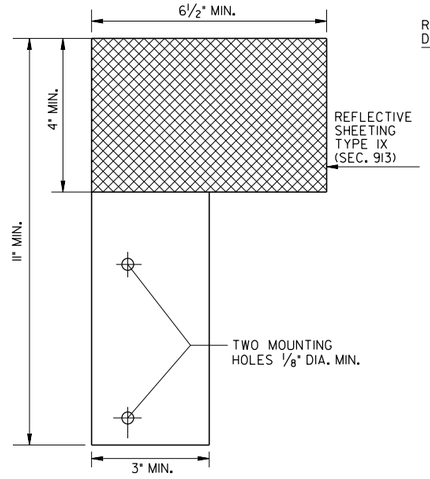
NOT TO SCALE — DEC., 1999

DES. ____ (SUBMITTED) STATE DESIGN POLICY ENGINEER
DRW. ____
TRA. ____
CHK. ____ (APPROVED) Margaret B Pirkle CHIEF ENGINEER

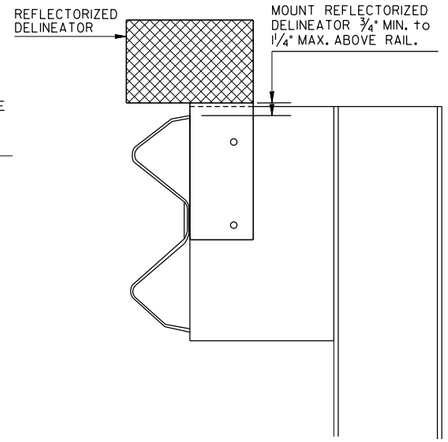
NUMBER 4000W

GDOT Georgia Department of Transportation | P. I. No.

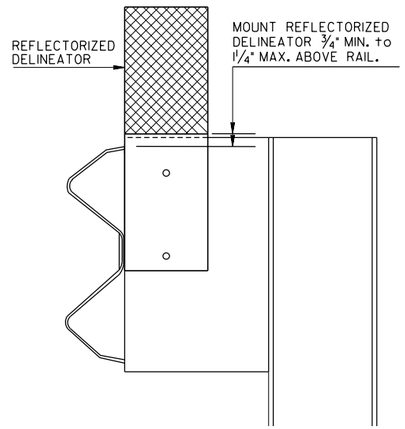
REFLECTORIZED DELINEATOR



REFLECTORIZED DELINEATOR LOCATION DETAIL

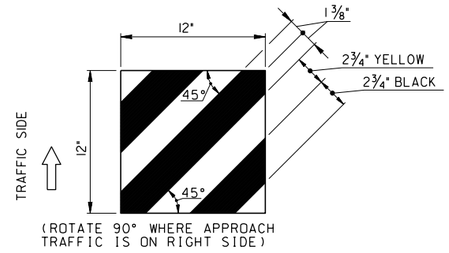


ALTERNATE DELINEATOR DETAIL



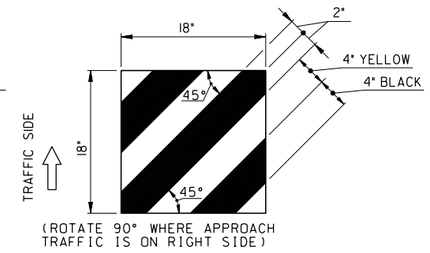
NOSE STRIPING DETAILS

(REQUIRED FOR ANCHORAGE WITH ROUNDED NOSE)



(ROTATE 90° WHERE APPROACH TRAFFIC IS ON RIGHT SIDE)

(REQUIRED WITH ANCHORAGE WITH EXTRUDER OR IMPACT HEADS)

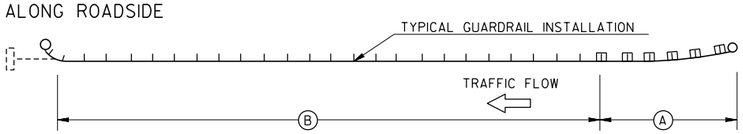


(ROTATE 90° WHERE APPROACH TRAFFIC IS ON RIGHT SIDE)

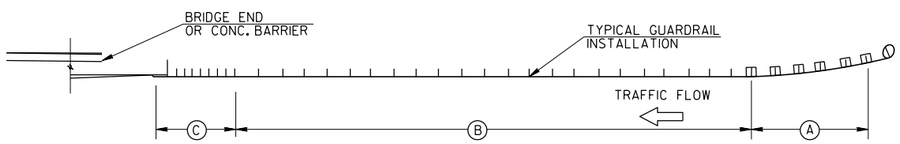
BLACK GLOSS DURABLE INK PRINTED ON TYPE IX REFLECTIVE SHEETING (SEE CURRENT SEC. 913 AND 917)

REFLECTIVE GUARDRAIL DELINEATORS:
1. DELINEATOR SHALL HAVE A MINIMUM THICKNESS OF 0.125 INCHES.
2. THE DELINEATOR SHALL BE BLACK, HIGH-DENSITY POLYETHYLENE PANEL THAT IS STABILIZED AGAINST ULTRAVIOLET DEGRADATION.
3. DELINEATOR SHALL HAVE A MINIMUM REFLECTIVE AREA OF 26 SQUARE INCHES FOR RIGHT AND LEFT DELINEATOR AND WILL USE TYPE IX REFLECTIVE SHEETING.
4. DELINEATOR SHALL MEET THE FOLLOWING COLOR REQUIREMENTS: YELLOW IN THE MEDAIN, WHITE OF THE OUTSIDE SHOULDER AND RED ON THE REVERSE SIDE OF THE DELINEATOR AT RAMP LOCATIONS.
5. DELINEATOR SHALL HAVE PREDRILLED HOLES IN THE PANEL TO ALLOW THE DELINEATOR TO BE ATTACHED TO WOOD, PLASTIC OR STEEL GUARDRAIL OFFSET BLOCKS WITH SCREWS, NAILS, EPOXY ADHESIVE OR AS PER MANUFACTURER'S RECOMMENDATIONS.

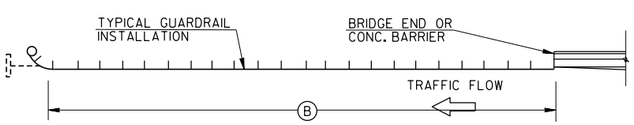
ALONG ROADSIDE



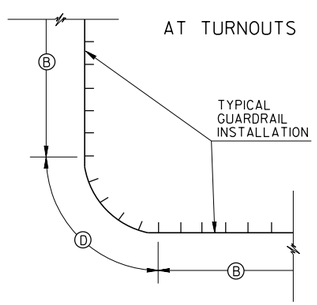
APPROACH END-BRIDGE OR CONCRETE BARRIER



TRAILING END-BRIDGE OR CONCRETE BARRIER



AT TURNOUTS



SPACING OF REFLECTORIZED WASHERS AND DELINEATORS

(A) AT ANCHORAGES:
-TWO (2) REFLECTORIZES WASHERS ARE REQUIRED ON THE RAIL UNDER SPLICE BOLTS AS DIRECT BY THE ENGINEER FOR ELLIPTICALLY FLARED ANCHORAGES WITH ROUNDED END PIECES.
-NO REFLECTORIZED WASHERS OR DELINEATOR WILL BE USED FOR TANGENTIALLY ALIGNED OR STRAIGHT TAPERED ANCHORAGE WITH EXTRUDER OR IMPACT HEADS;

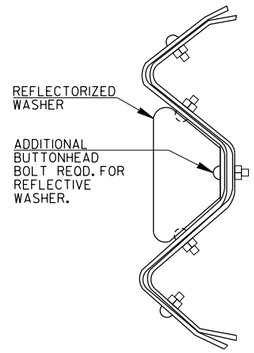
(B) AT 75 FT. SPACINGS FOR INTERMEDIATE SECTIONS;

(C) THREE WASHERS AT 6'-3" SPACING AT CONNECTIONS TO CONCRETE FACE ON THE APPROACH END;

(D) AT 12'-6" SPACINGS AROUND RADII TURNS.

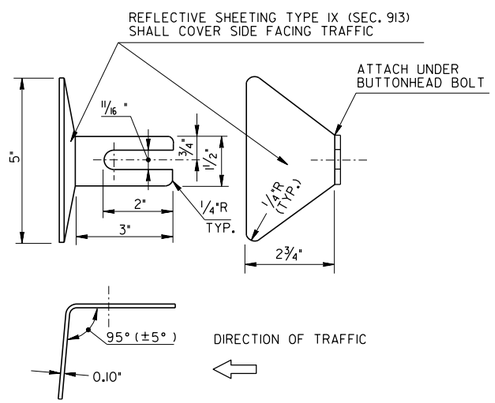
NOTE: THE SPACING WILL BE USED TO INSTALL THE DELINEATOR ON NEW GUARDRAIL, EXISTING GUARDRAIL WITH EXISTING GUARDRAIL WASHERS AND EXISTING GUARDRAIL WITHOUT EXISTING GUARDRAIL WASHERS.

REFLECTORIZED WASHER LOCATION DETAILS (AT SPLICE LOCATIONS - NOT ON POST/OFFSET BLOCK LOCATION)



NOTES:
REFLECTORIZED WASHERS SHALL BE INSTALLED AT MID-SPAN SPLICE LOCATIONS ONLY.
REFLECTIVE WASHERS SHALL NOT BE INSTALLED AT POST LOCATIONS.
FOR 'T'-BEAM GUARDRAIL, REFLECTORIZED WASHER IS PLACED IN THE TOP INDENTION.

REFLECTORIZED WASHER DETAILS



MATERIALS: ALUMINUM (ASTM B209 ALLOY 5052-H32), 12 GUAGE GALVANIZED STEEL (ASTM A653/A653M), OR ACRYLONITRILE-BUTADIENE-STYRENE (ABS) (ASTM D4673-16) WITH REFLECTIVE SHEETING, AS APPROVED BY THE OFFICE OF MATERIALS AND TESTING.

COLORS: YELLOW IN MEDIANS AND WHITE ON OUTSIDE SHOULDERS

GENERAL NOTES:

1. SPECIFICATIONS: GEORGIA STANDARD, CURRENT EDITION, & SUPPLEMENTS THERETO.
2. SEE SEPARATE STANDARDS FOR DETAILS OF GUARDRAIL INSTALLATIONS, CONNECTING HARDWARE, AND ANCHORAGES.
3. PAYMENT FOR REFLECTORIZED WASHERS, DELINEATORS AND NOSE STRIPING WILL BE INCLUDED IN THE PAVEMENT FOR GUARDRAIL AND ANCHORS IF INDIVIDUALS PAY ITEMS ARE NOT SHOWN IN THE CONTRACT.
4. ADJUSTMENTS OF SPACINGS AND/OR REQUIREMENTS FOR REFLECTIVE WASHERS AND DELINEATORS MAY BE DIRECTED BY THE ENGINEER TO SUIT INDIVIDUAL LOCATIONS.
5. WHERE DOUBLE FACED GUARDRAIL IS LOCATED ON THE INSIDE SHOULDER OF MEDIANS, REFLECTORIZED WASHERS AND DELINEATORS SHALL BE REQUIRED ONLY ON THE SIDE WHICH IS NEAREST TO TRAFFIC, UNLESS SPECIFIED OTHERWISE.
6. WHEN DOUBLE FACED GUARDRAIL IS LOCATED IN THE CENTER OF THE MEDIAN, REFLECTORIZED WASHER AND DELINEATORS SHALL BE REQUIRED ON BOTH SIDES.

BY	REVISION	DATE
JAHR	REV. REFL. WASHER MATLS.	07-01-23
	REV. REFL. WASHER LOCAT.	
	REV. REFL. WASHER ANGLE	10-22-14
BJO	ADDED G'RAIL DELINEATOR AND REVISED GEN. NOTE.	4-10-06
GLO	REV. REFLECTIVE. SH. TYPE. REFLEC. SH. SPEC.	2-1-01
RMU	ADD NOSE STRIPING	6-1-99
RMU		

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

STANDARD

REFLECTORIZED GUARDRAIL WASHERS, DELINEATOR AND ANCHORAGE NOSE STRIPING

NO SCALE — REV. & REDR. APRIL, 1999

DES. ____ DRWN. ____ CHK. ____

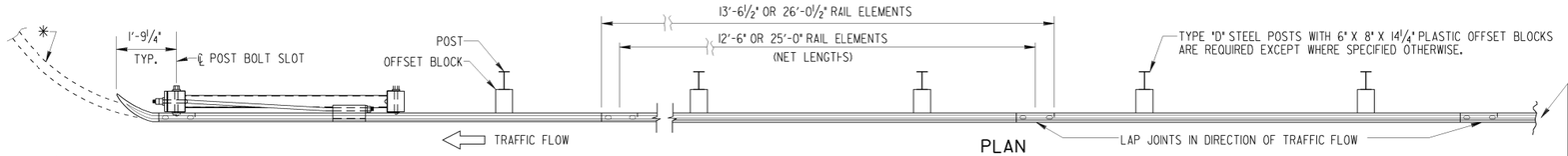
(SUBMITTED) STATE DESIGN POLICY ENGINEER

(APPROVED) CHIEF ENGINEER

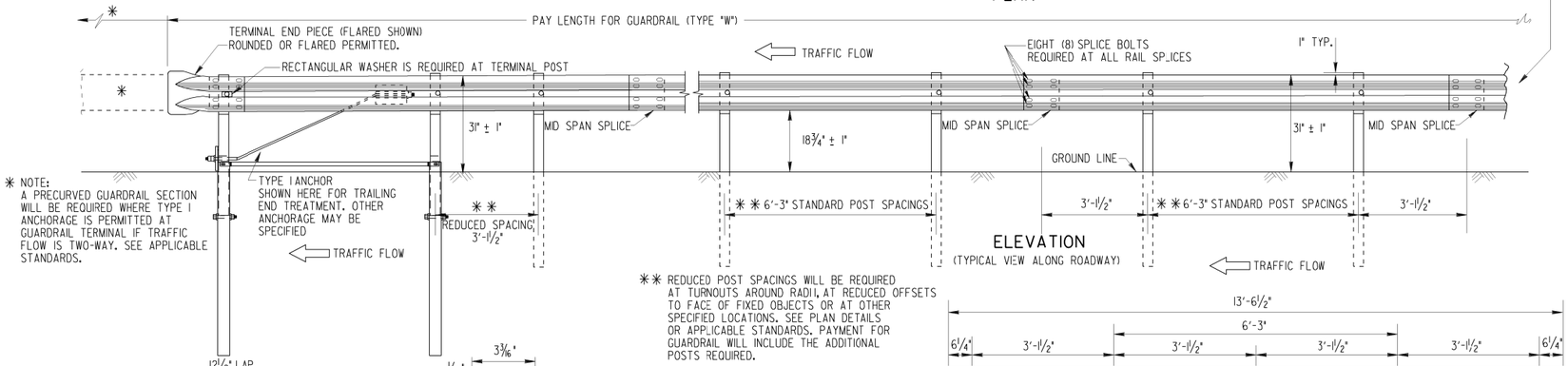
NUMBER 4360

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STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			



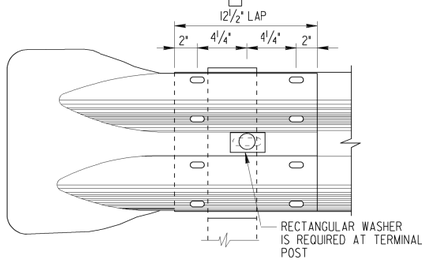
PLAN



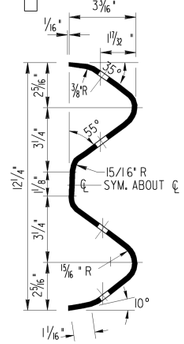
ELEVATION
(TYPICAL VIEW ALONG ROADWAY)

* NOTE:
A PRECURVED GUARDRAIL SECTION WILL BE REQUIRED WHERE TYPE I ANCHORAGE IS PERMITTED AT GUARDRAIL TERMINAL IF TRAFFIC FLOW IS TWO-WAY. SEE APPLICABLE STANDARDS.

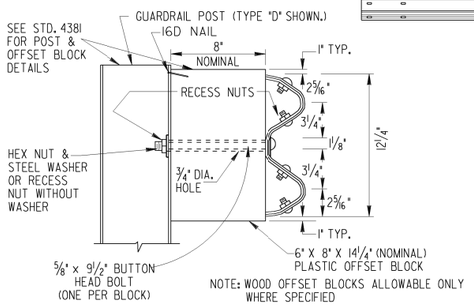
** REDUCED POST SPACINGS WILL BE REQUIRED AT TURNOUTS AROUND RADII, AT REDUCED OFFSETS TO FACE OF FIXED OBJECTS OR AT OTHER SPECIFIED LOCATIONS. SEE PLAN DETAILS OR APPLICABLE STANDARDS. PAYMENT FOR GUARDRAIL WILL INCLUDE THE ADDITIONAL POSTS REQUIRED.



TERMINAL END PIECE (FLARED)



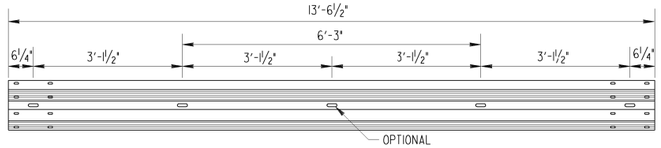
SECTION THROUGH RAIL ELEMENT



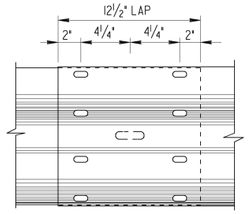
NOTE: WOOD OFFSET BLOCKS ALLOWABLE ONLY WHERE SPECIFIED

"W" BEAM OFFSET BLOCK DETAIL

NOTE: OFFSET BLOCKS FOR "W" BEAM GUARDRAIL WILL BE PLASTIC EXCEPT WHERE SPECIFIED OTHERWISE.

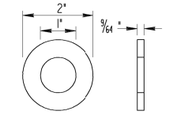


12'-6" W-BEAM SECTION



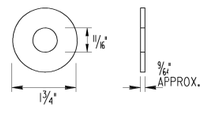
"W" BEAM SPLICE MID SPAN

NOTE:
EIGHT (8) SPLICE BOLTS REQUIRED AT ALL RAIL SPLICES



TYPE A WASHER (GALV.)

IF SLOTS IN SPECIAL END SHOE ARE 3" LONG TP. A WASHERS ARE REQ'D UNDER SPLICE BOLT HEADS & UNDER NUTS WITH 2" LONG SPLICE BOLTS. IF END SHOE SLOTS ARE 1⅛" LONG, USE NORMAL SPLICE CONNECTIONS

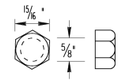


STEEL WASHER (GALV.)

(REQ'D. UNDER ⅝" HEX NUTS AND AS SPECIFIED)

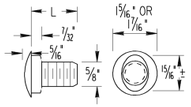
SPECIAL NOTE:
ALL GUARDRAIL SPLICES WILL BE PROPERLY SECURED WITH EIGHT SPLICE BOLT CONNECTIONS. ALL NUTS WILL BE TIGHTENED. LOOSE NUTS, OMITTED BOLTS, OR OMITTED NUTS WILL BE CAUSE FOR REJECTION.

GUARDRAIL NOT ERECTED AT A 31" TOP OF RAIL HEIGHT MAY BE CAUSE FOR REJECTION.



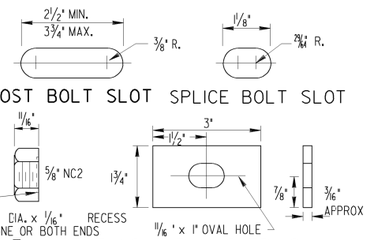
⅝" DIA. HEX NUT

L	THREAD LENGTH
1¼"	FULL LENGTH
2"	1½" MIN.
9½"	13¾" MIN.



BUTTON HEAD (OR SPLICE) BOLT

(8 REQ'D PER SPLICE)



POST BOLT SLOT SPLICE BOLT SLOT

RECESS NUT RECTANGULAR WASHER (GALV.)

(FOR USE AT TERMINAL POST OR WHERE SPECIFIED)

GENERAL NOTES:

1. SPECIFICATIONS: GEORGIA STANDARD CURRENT EDITION, AND SUPPLEMENTS THERETO.

2. NUTS, BOLTS, WASHERS, RAIL, TERMINAL SECTIONS, END SHOES, BACK-UP PLATES, END SECTIONS AND OTHER GUARDRAIL HARDWARE ARE IN ACCORDANCE WITH THE CURRENT ARTBA TECHNICAL BULLETIN NO. 268 -- UNLESS SPECIFIED OTHERWISE. DIMENSIONS FOR POSTS AND OFFSET BLOCKS WILL BE ACCORDING TO GA. STANDARD 438I.

3. FOR DETAILS OF GUARDRAIL ANCHORAGES, SEE APPLICABLE STANDARDS AND/OR CONSTRUCTION DETAILS.

4. FOR LOCATICN OF GUARDRAIL SEE APPLICABLE LOCATION STANDARDS.

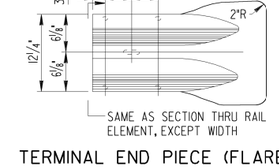
5. ALL STEEL HARDWARE COMPONENTS WILL BE GALVANIZED AFTER FABRICATION. GALVANIZING REPAIR COMPOUND (SEC. 645) WILL BE FIELD APPLIED TO ANY COATINGS DAMAGED.

6. WHEN GUARDRAIL IS REQUIRED ON CURVES WITH RADII LESS THAN 150', PRECURVED RAIL WILL BE REQUIRED.

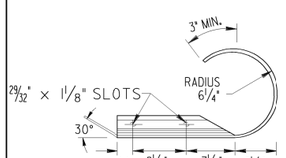
7. PAYMENT FOR GUARDRAIL (Type "W") TO INCLUDE OFFSET BLOCKS, POST, BACK-UP PLATES WHERE REQUIRED, BOLTS, NUTS, WASHERS, TERMINAL SECTIONS, ADDITIONAL POST WHERE REQUIRED, LEAVE-OUTS INCLUDING GROUT WHERE REQUIRED, & REMOVAL AND REPLACEMENT OF PORTIONS OF MEDIAN PAVING, SPILLWAYS, OR CATCH BASINS WHERE NECESSARY.

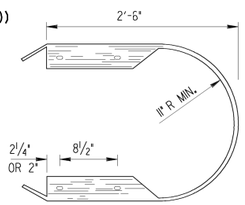
8. ALL DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES.

9. STANDARD NET LENGTH OF RAIL ELEMENTS MAY BE EITHER 12'-6" OR 25'-0". THESE LENGTHS SHALL BE ARRANGED TO PROVIDE AS NEARLY AS POSSIBLE THE REQUIRED LENGTH FOR EACH INSTALLATION.



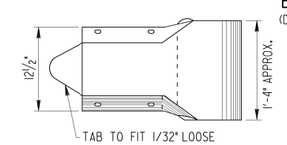
TERMINAL END PIECE (FLARED)





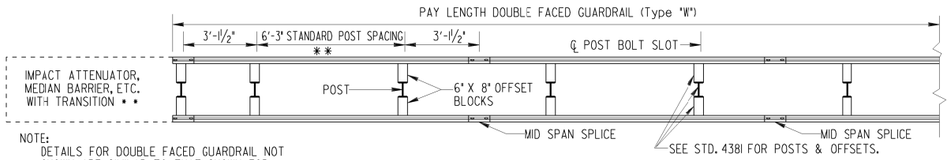
BUFFER END SECTION

(DETAILS NOT SHOWN ARE SIMILAR TO ROUNDED TERMINAL END PIECE.)



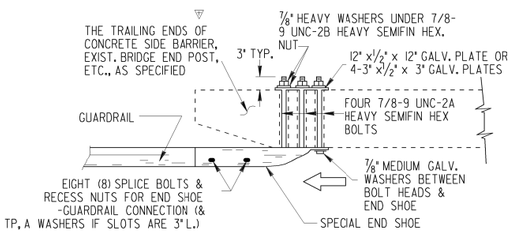
TERMINAL END PIECE (ROUNDED)

NOTE:
UNLESS SPECIFIED OTHERWISE, ALL REFERENCES TO GUARDRAIL ON STANDARDS AND/OR CONSTRUCTION DETAILS WILL MEAN "W" BEAM GUARDRAIL AS SHOWN ON THIS STANDARD.



NOTE:
DETAILS FOR DOUBLE FACED GUARDRAIL NOT SHOWN ARE SIMILAR TO THAT SHOWN FOR SINGLE FACED RAIL.

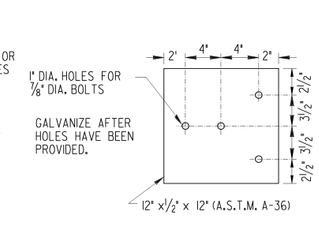
DOUBLE FACED GUARDRAIL (Type "W")



TYPICAL END SHOE CONNECTION

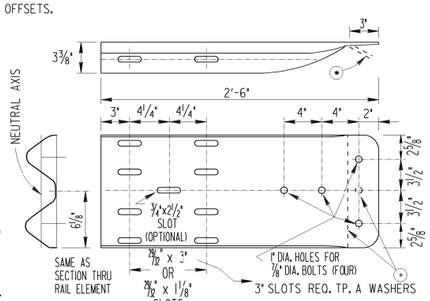
NOTE: THE "W" BEAM RAIL ELEMENT/END SHOE SPLICE SHALL BE LAPPED IN THE DIRECTION OF THE NEAREST TRAFFIC.

▽ "W" BEAM END CONNECTIONS ARE NOT PERMITTED AT APPROACHES TO CONCRETE STRUCTURES. SEE SEPARATE STANDARDS FOR REQUIRED "T" BEAM CONNECTIONS.



1/2" GALVANIZED STEEL PLATE

(TO BE USED WITH SPECIAL END SHOE CONNECTION UNDER NUTS & WASHERS ON BACK OF BRIDGE END POST OR BACK OF CONCRETE SIDE BARRIER) (FOUR 3" x½" x 3" GALV. PLATES WITH 1" DIA. HOLE CENTERED, MAY BE USED AS AN ALTERNATE)



SPECIAL END SHOE DETAIL

(FOR USE IN CONNECTING GUARDRAIL TO BRIDGE END POST, CONCRETE BARRIERS, ETC.)

SPECIAL END SHOE WILL BE 10 GAUGE STEEL GALVANIZED ACCORDING TO A.A.S.H.T.O. M-111

⊙ APPLIES ONLY TO END SHOE WITH BUFFERED END ASSEMBLY OF ANCHORAGE.

BY	REVISION	DATE
FBF	REV. W-BM BLOCK TO 8" DEPTH	1-29-16

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

STANDARD
"W" BEAM GUARDRAIL
31 INCH GUARDRAIL HEIGHT

NO SCALE AUGUST 2011

DES.	G.L.O.	(SUBMITTED)	STATE DESIGN POLICY ENGINEER
DRW.	G.L.O.		
CHK.	B.R.E.	(APPROVED)	Margaret B Pickle
REVIEW	B.A.S.		CHIEF ENGINEER

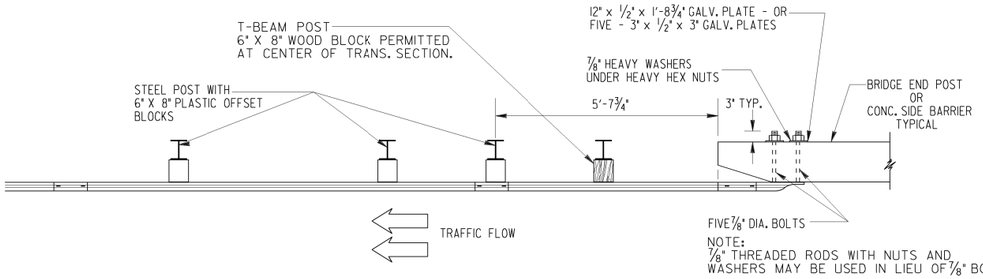
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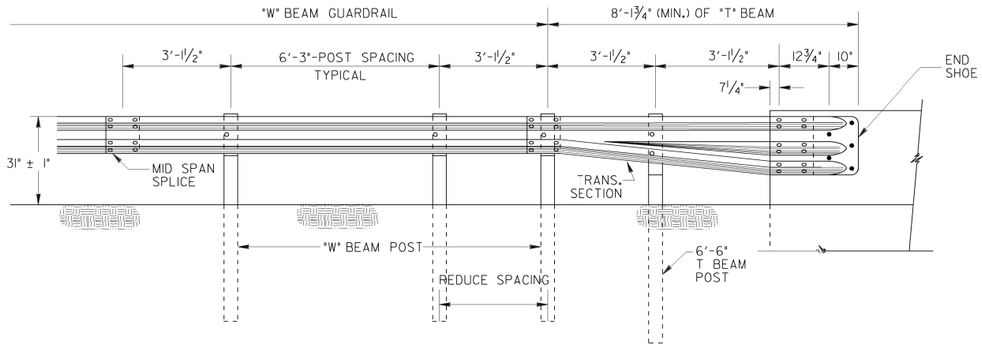
STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			

31 INCH HEIGH GUARDRAIL CONNECTION AT TRAILING ENDS

(SEE NOTE AT BOTTOM LEFT)



PLAN



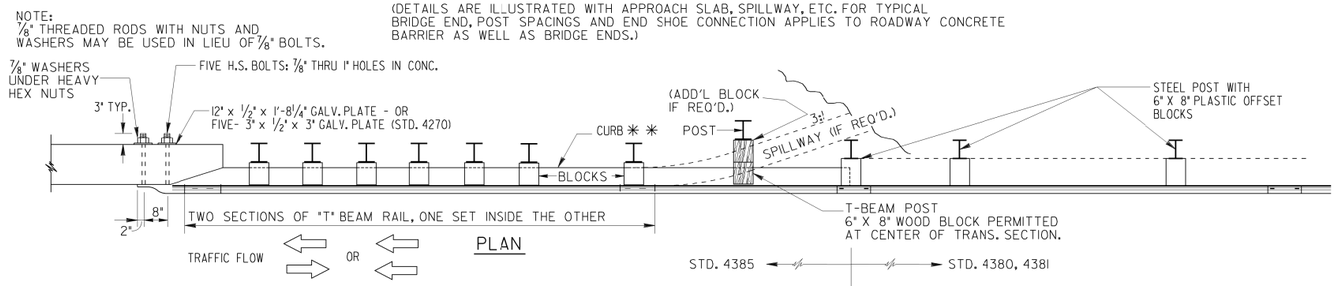
ELEVATION

NOTE:
DETAILS AT TOP LEFT ARE APPLICABLE FOR CONNECTIONS AT THE TRAILING ENDS OF ONE-WAY TRAFFIC OR AT THE TRAILING END OF MULTI-LANE (4 OR MORE) FACILITIES.

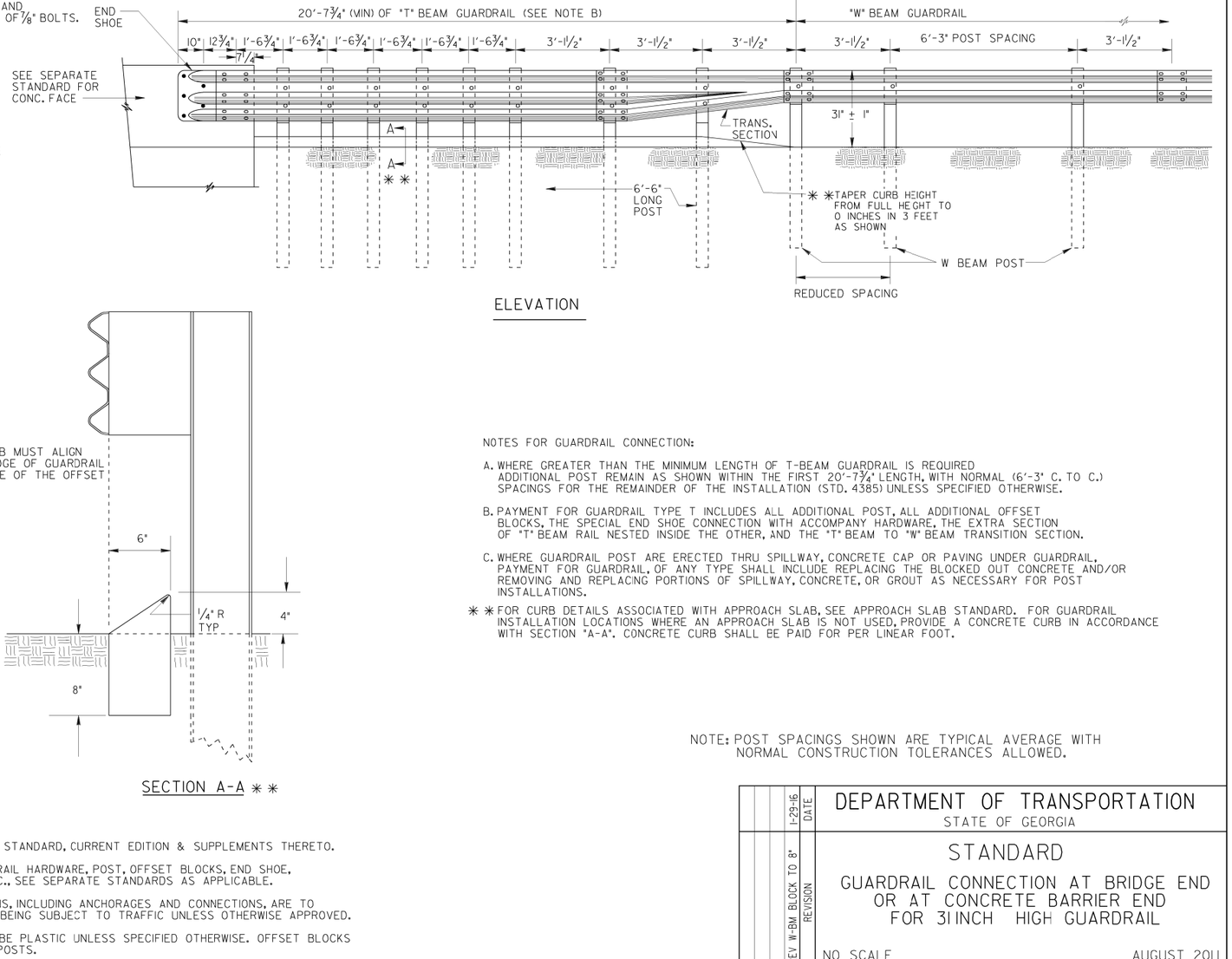
NOTE:
DETAILS AT TOP RIGHT ARE APPLICABLE FOR CONNECTIONS AT THE APPROACH ENDS OF BRIDGES OR CONCRETE SIDE BARRIERS OR AT ALL FOUR ENDS FOR TWO-LANE, TWO WAY TRAFFIC.

GUARDRAIL CONNECTION AT BRIDGE END (OR CONCRETE BARRIER)

(DETAILS ARE ILLUSTRATED WITH APPROACH SLAB, SPILLWAY, ETC. FOR TYPICAL BRIDGE END, POST SPACINGS AND END SHOE CONNECTION APPLIES TO ROADWAY CONCRETE BARRIER AS WELL AS BRIDGE ENDS.)



PLAN



ELEVATION

SECTION A-A * *

NOTES FOR GUARDRAIL CONNECTION:

A. WHERE GREATER THAN THE MINIMUM LENGTH OF T-BEAM GUARDRAIL IS REQUIRED ADDITIONAL POST REMAIN AS SHOWN WITHIN THE FIRST 20'-7 3/4" LENGTH, WITH NORMAL (6'-3" C. TO C.) SPACINGS FOR THE REMAINDER OF THE INSTALLATION (STD. 4385) UNLESS SPECIFIED OTHERWISE.

B. PAYMENT FOR GUARDRAIL TYPE T INCLUDES ALL ADDITIONAL POST, ALL ADDITIONAL OFFSET BLOCKS, THE SPECIAL END SHOE CONNECTION WITH ACCOMPANY HARDWARE, THE EXTRA SECTION OF "T" BEAM RAIL NESTED INSIDE THE OTHER, AND THE "T" BEAM TO "W" BEAM TRANSITION SECTION.

C. WHERE GUARDRAIL POST ARE ERECTED THRU SPILLWAY, CONCRETE CAP OR PAVING UNDER GUARDRAIL, PAYMENT FOR GUARDRAIL, OF ANY TYPE SHALL INCLUDE REPLACING THE BLOCKED OUT CONCRETE AND/OR REMOVING AND REPLACING PORTIONS OF SPILLWAY, CONCRETE, OR GROUT AS NECESSARY FOR POST INSTALLATIONS.

* * FOR CURB DETAILS ASSOCIATED WITH APPROACH SLAB, SEE APPROACH SLAB STANDARD. FOR GUARDRAIL INSTALLATION LOCATIONS WHERE AN APPROACH SLAB IS NOT USED, PROVIDE A CONCRETE CURB IN ACCORDANCE WITH SECTION "A-A". CONCRETE CURB SHALL BE PAID FOR PER LINEAR FOOT.

NOTE: POST SPACINGS SHOWN ARE TYPICAL AVERAGE WITH NORMAL CONSTRUCTION TOLERANCES ALLOWED.

GENERAL NOTES:

1. SPECIFICATIONS: GEORGIA STANDARD, CURRENT EDITION & SUPPLEMENTS THERETO.
2. FOR DETAILS OF GUARDRAIL HARDWARE, POST, OFFSET BLOCKS, END SHOE, TRANSITION SECTION, ETC., SEE SEPARATE STANDARDS AS APPLICABLE.
3. GUARDRAIL INSTALLATIONS, INCLUDING ANCHORAGES AND CONNECTIONS, ARE TO BE COMPLETED BEFORE BEING SUBJECT TO TRAFFIC UNLESS OTHERWISE APPROVED.
4. OFFSET BLOCKS SHALL BE PLASTIC UNLESS SPECIFIED OTHERWISE. OFFSET BLOCKS ARE REQUIRED AT ALL POSTS.
5. THE COST FOR DRILLING HOLES FOR THE END SHOE CONNECTION SHALL BE INCLUDED IN THE UNIT BID PRICE FOR THE GUARDRAIL.

DATE	REVISION	BY
1-29-16	REV W-BM BLOCK TO 8"	FBF

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

STANDARD

GUARDRAIL CONNECTION AT BRIDGE END OR AT CONCRETE BARRIER END FOR 31 INCH HIGH GUARDRAIL

NO SCALE — AUGUST 2011

DES. G.L.O. (SUBMITTED) STATE DESIGN POLICY ENGINEER
DRW. G.L.O.
CHK. B.R.E.
REVIEW B.A.S. (APPROVED) Margaret B Pinkle CHIEF ENGINEER

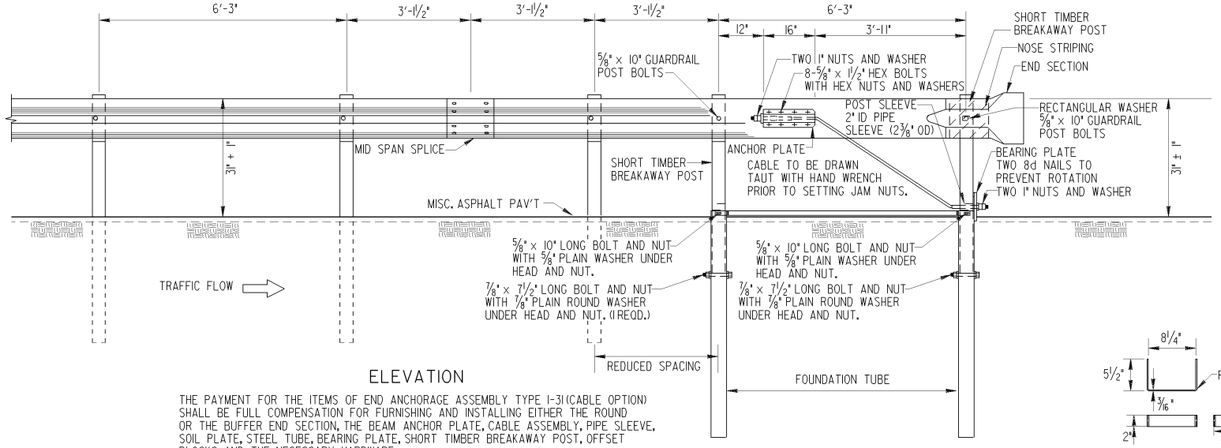
NUMBER 4382

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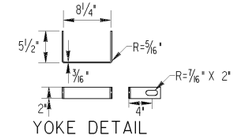
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STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			

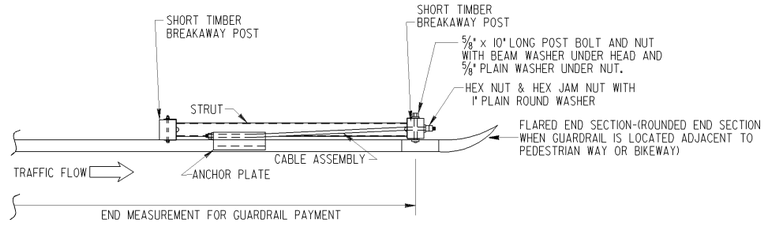


ELEVATION

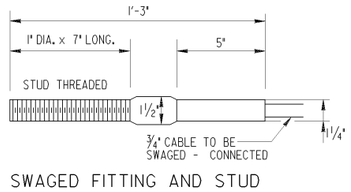
THE PAYMENT FOR THE ITEMS OF END ANCHORAGE ASSEMBLY TYPE 1-31 (CABLE OPTION) SHALL BE FULL COMPENSATION FOR FURNISHING AND INSTALLING EITHER THE ROUND OR THE BUFFER END SECTION, THE BEAM ANCHOR PLATE, CABLE ASSEMBLY, PIPE SLEEVE, SOIL PLATE, STEEL TUBE, BEARING PLATE, SHORT TIMBER BREAKAWAY POST, OFFSET BLOCKS AND THE NECESSARY HARDWARE.



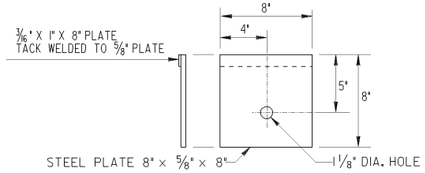
YOKE DETAIL



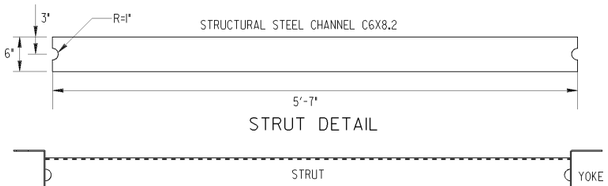
CABLE ANCHOR



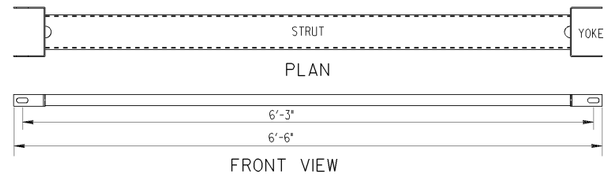
SWAGED FITTING AND STUD



BEARING PLATE



STRUT DETAIL

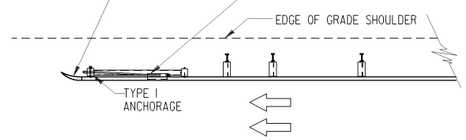


PLAN

FRONT VIEW

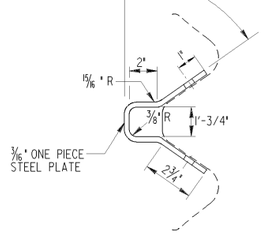
* PRECURVED SECTION SHALL UTILIZE POST OF THE SAME LENGTH AS REQUIRED FOR THE ADJOINING STRAIGHT SECTIONS, REGARDLESS OF DISTANCE TO GRADED SHOULDER EDGE.

AT TRAILING END OF TWO-WAY TRAFFIC (WHICH FALLS OUTSIDE CLEAR ZONE OF OPPOSING TRAFFIC)

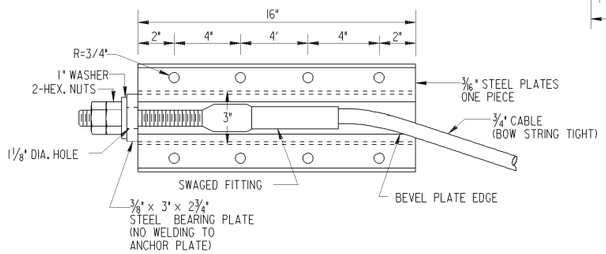


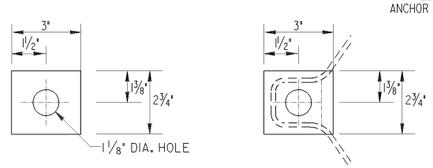
AT TRAILING END OF ONE-WAY TRAFFIC

NOTE:
SEE STD. 4388 OR OTHER APPLICABLE DETAILS FOR REQUIREMENT FOR TYPE 12 ANCHORAGE ON THE TRAILING END.



ANCHOR PLATE DETAIL

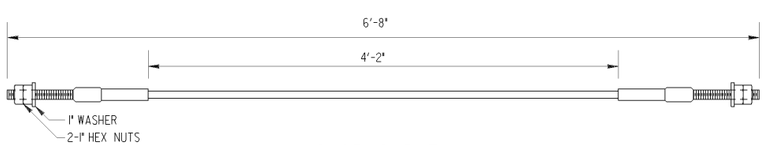




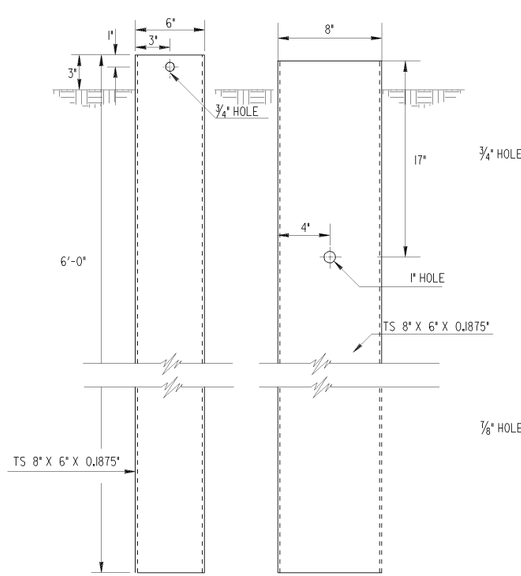
ANCHOR PLATE BEARING PLATE DETAIL

NOTE: ANCHOR PLATES SHOWN HERE WITH GUARDRAIL (TYPE "W") ATTACHMENT TO GUARDRAIL (TYPE "T") WILL BE THE SAME EXCEPT THAT THE ANCHOR PLATE WILL BE LOCATED BETWEEN THE BOTTOM AND MIDDLE CORRUGATIONS.

STANDARD ANCHOR PLATE DETAILS

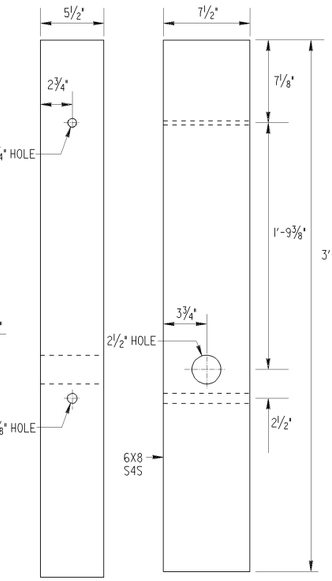


ANCHOR CABLE



FRONT VIEW SIDE VIEW FOUNDATION TUBE

NOTE: SEE STANDARD 4382 FOR GUARDRAIL CONNECTION TO CONCRETE FACE.



FRONT VIEW SIDE VIEW SHORT TIMBER BREAKAWAY POST

GENERAL NOTES:

1. SPECIFICATIONS: GEORGIA STANDARD, CURRENT EDITION & SUPPLEMENTS THERE TO.
2. FOR DETAILS OF GUARDRAIL HARDWARE, POST, OTHER TYPE ANCHORAGE, LOCATION, ETC. SEE SEPARATE STANDARDS AS APPLICABLE.
3. GUARDRAIL INSTALLATIONS, INCLUDING ANCHORAGES AND CONNECTIONS, ARE TO BE COMPLETED BEFORE BEING SUBJECT TO TRAFFIC UNLESS OTHERWISE APPROVED.
4. PAYMENT FOR ANCHORAGE INCLUDES ANCHOR PLATE; ¾" CABLE; BREAKAWAY POSTS; FOUNDATION TUBES; STRUT AND ALL ACCOMPANYING HARDWARE.

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

STANDARD

GUARDRAIL ANCHORAGE TYPE I 31 INCH GUARDRAIL HEIGHT

NO SCALE — AUGUST 2011

DATE	REVISION	BY

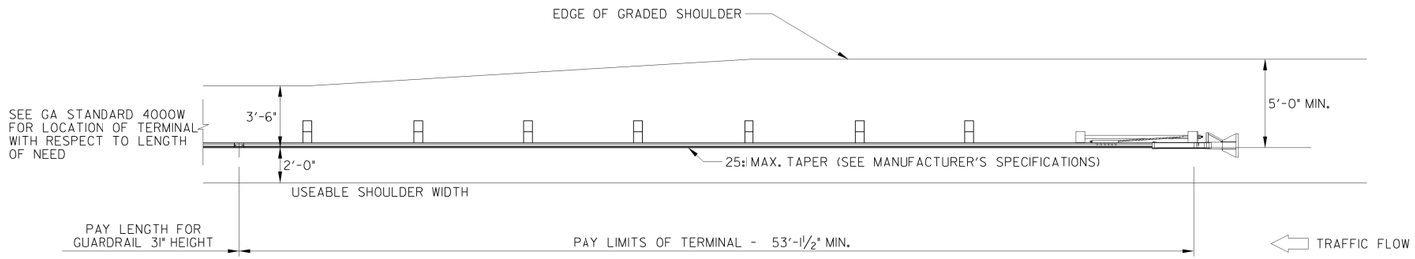
DES. G.L.O. (SUBMITTED) STATE DESIGN POLICY ENGINEER
DRW. G.L.O.
CHK. B.R.E.
REVIEW B.A.S. (APPROVED) CHIEF ENGINEER

NUMBER 4383

12/7/2011 8:05:15 AM \\GDOT-DSN1\GOPLOT\GCF\GO_K1p8000.gcf tcox C:\tpc\31inch guardrail\new 31 inch guardrail files\4383.pdf

3/10/2016 2:50:09 PM \\GDOT-DSN1\GOPLOT\OCF\OGC.gcf bguarles P:\Policy&Lighting\Standards\GA_Standards\4384\4384.prf

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			

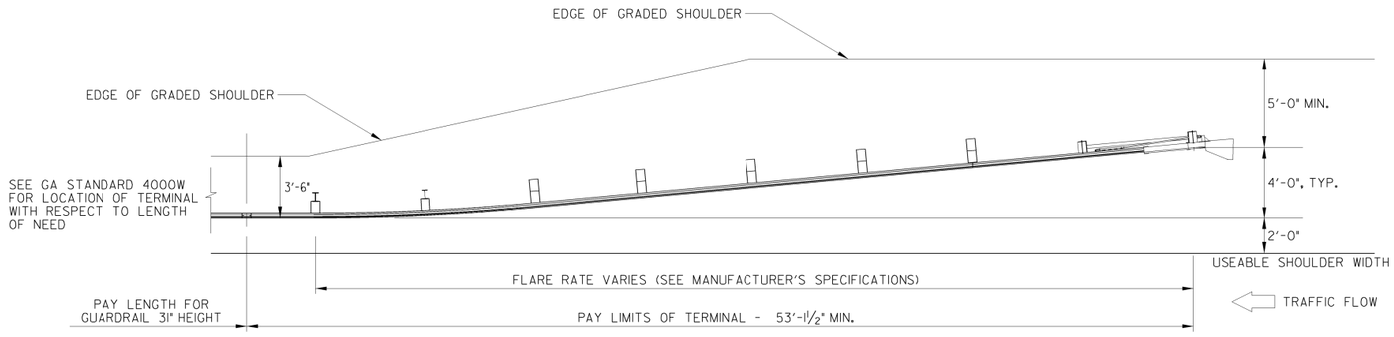


TYPE 12A - 31" GUARDRAIL TERMINAL
(TANGENT, ENERGY-ABSORBING)

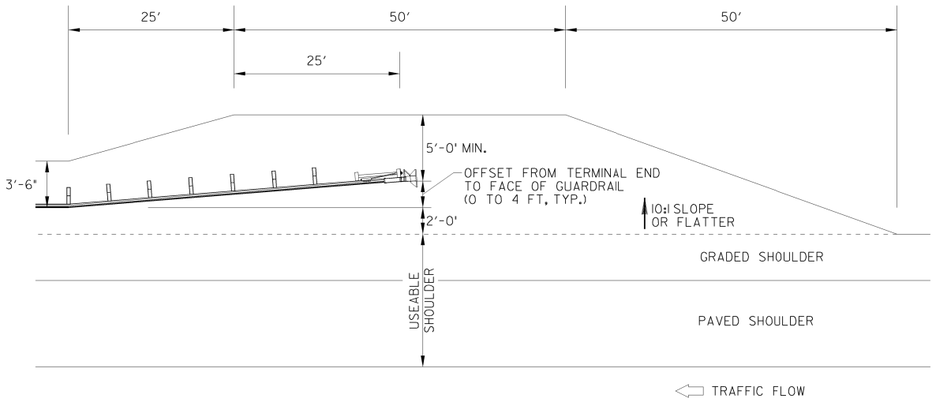
GENERAL NOTES:

1. SPECIFICATIONS: GEORGIA STANDARD CURRENT EDITION, AND SUPPLEMENTS THERETO.
2. SEE GDOT QPL 64 FOR APPROVED PRODUCTS.
3. THIS SHEET DEPICTS THE PAY LIMITS FOR GUARDRAIL AND TYPE 12 TERMINALS. TYPE 12 TERMINALS SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
4. W-BEAM INSTALLATIONS LESS THAN 150 FEET IN ADVANCE OF ANY SHIELDED OBJECT OR TOTAL LENGTH OF W-BEAM INSTALLATION IS LESS THAN ABOUT 150 FEET, AN ENGERGY-ABSORBING TERMINAL SHOULD BE SELECTED.

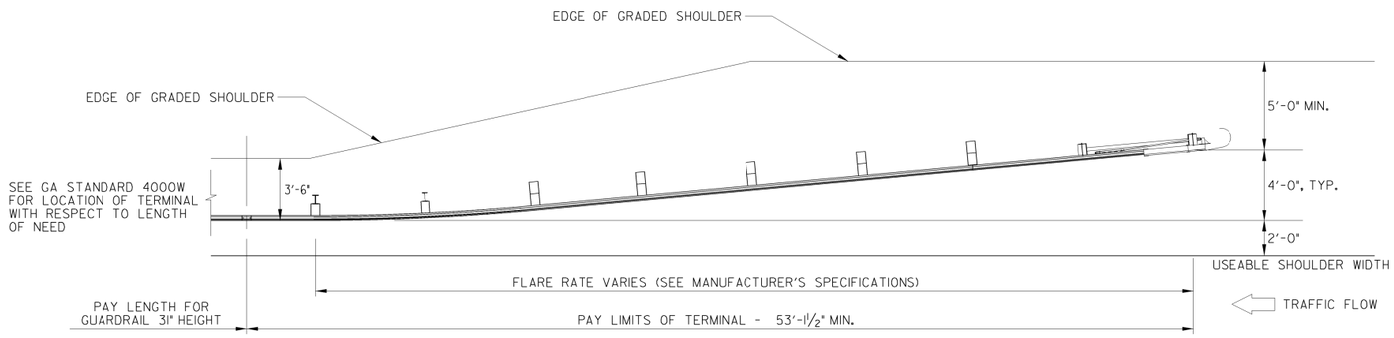
ITEM NO.	UNITS	DESCRIPTION
641-5015	EA	GUARDRAIL TERMINAL, TP 12A - 31", TANGENT, ENERGY-ABSORBING
641-5020	EA	GUARDRAIL TERMINAL, TP 12B - 31", FLARED, ENERGY-ABSORBING
641-5025	EA	GUARDRAIL TERMINAL, TP 12C - 31", FLARED, NON-ENERGY-ABSORBING



TYPE 12B - 31" GUARDRAIL TERMINAL
(FLARED, ENERGY-ABSORBING)



TERMINAL PAD GRADING DETAIL



TYPE 12C - 31" TERMINAL
(FLARED, NON-ENERGY-ABSORBING)

BY	REVISION	DATE
FBF	ADDED 12A, 12B, & 12C ADDED GRADING DTL	1-29-16

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

STANDARD

GUARDRAIL TERMINALS, TYPE 12A, 12B, AND 12C 31 INCH GUARDRAIL HEIGHT

NO SCALE — AUGUST 2011

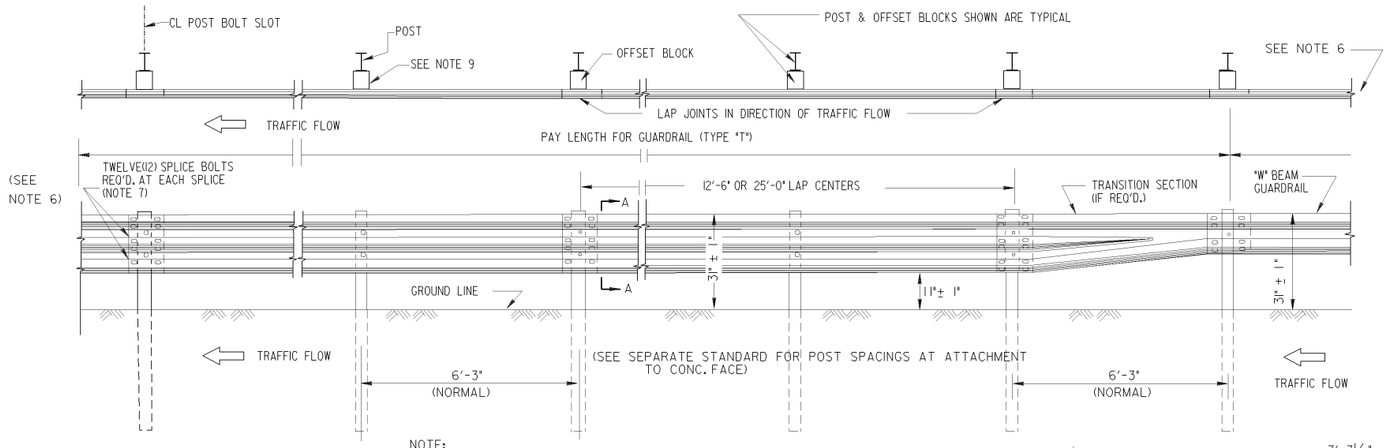
DES.	G.L.O.	(SUBMITTED)	STATE DESIGN POLICY ENGINEER
DRW.	G.L.O.		
CHK.	B.R.E.	(APPROVED)	CHIEF ENGINEER
REVIEW	B.A.S.		

NUMBER 4384

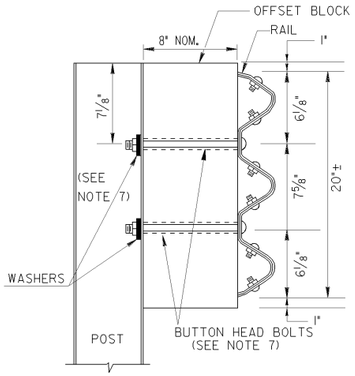
3/10/2016 2:50:09 PM \\GDOT-DSN1\GOPLOT\OCF\OGC.gcf bguarles P:\Policy&Lighting\Standards\GA_Standards\4384\4384.prf

12/7/2011 8:05:13 AM \\GDOT-DSN1\GOPLOT\QCF\GO_K1p8000.qcf tcox C:\tpc\31inch guardrail\new 31 inch guardrail files\4385.pdf GO-RD6
9/21/2011 8:14:06 AM \\GDOT-DSN1\GOPLOT\QCF\GO_K1p8000.qcf gowens V:\GARY\31 inch guardrail standards\4270 rev 4385.prf

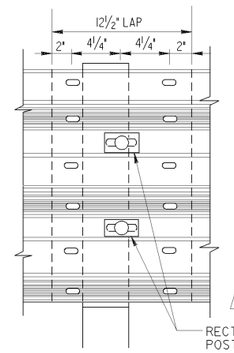
STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			



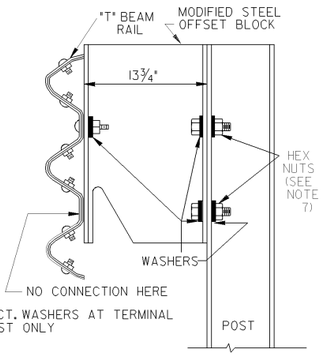
NOTE:
WHERE ATTACHED TO CONCRETE BARRIER, BRIDGE END POST OR OTHER CONCRETE FACE, PAYMENT FOR T BEAM GUARDRAIL SHALL INCLUDE ADDITIONAL POSTS, OFFSET BLOCKS AND DOUBLE THICKNESS (ONE RAIL NESTED INSIDE ANOTHER) SECTION OF T BEAM GUARDRAIL AS SPECIFIED.



SECTIONAL VIEW
(GUARDRAIL TP. T-LIN. FT.)

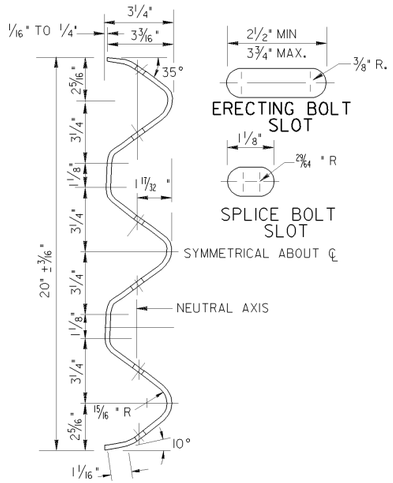


"T" BEAM SPLICE AT POST



SECTIONAL VIEW
(GUARDRAIL TP. T, MODIFIED OFFSET BLOCK)

NOTE:
13¾" DEPTH MODIFIED STEEL OFFSETS BLOCKS MAY BE SPECIFIED WHERE JUSTIFIED FOR MORE SEVERE CONDITIONS. PAY ITEM IS --GUARDRAIL, TP T, MODIFIED OFFSET BLOCK---PER LIN. FT.

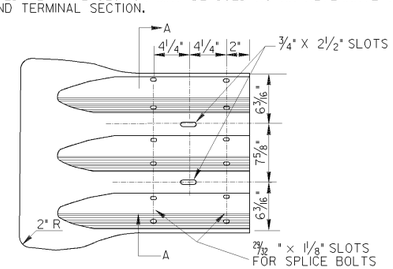


SECTION THROUGH RAIL ELEMENT (SEC. A-A)

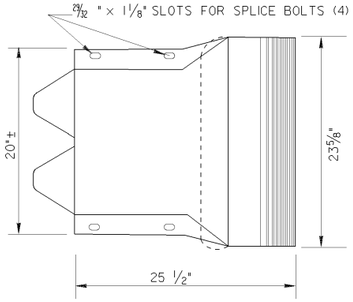
ERECTING BOLT SLOT

SPLICE BOLT SLOT

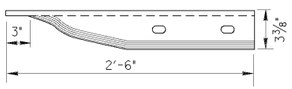
THE FLARED TERMINAL SECTION MAY BE USED AS AN ALTERNATE TO THE ROUND TERMINAL SECTION.



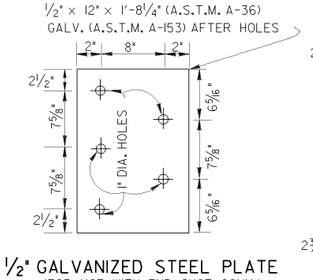
FLARED TERMINAL SECTION



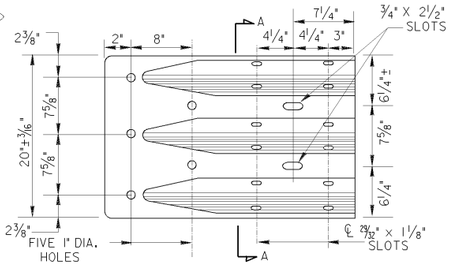
ROUNDED TERMINAL SECTION
TO BE LAPPPED ON TRAFFIC FACE OF RAIL WHERE TYPE I ANCHORAGE IS REQUIRED



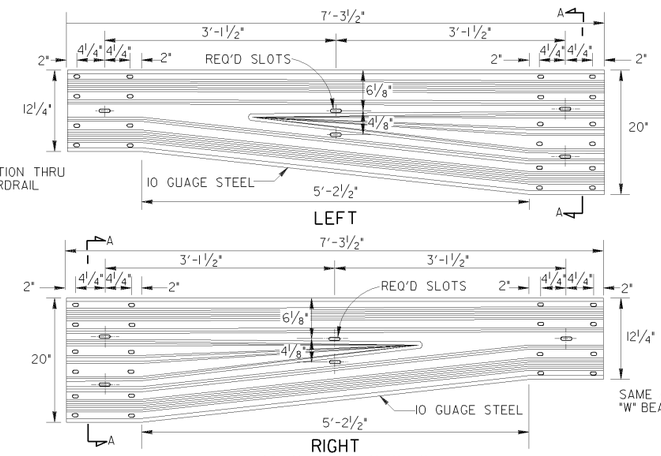
SPECIAL END SHOE WILL BE 10 GUAGE STEEL GALVANIZED ACCORDING TO A.A.S.H.T.O. M-111



1/2" GALVANIZED STEEL PLATE
(FOR USE WITH END SHOE CONN.)
ALTERNATE: FIVE 3" x 1/2" x 3" GALV. PLATES WITH 1" DIA. HOLE CENTERED, GALV. AFTER HOLES.



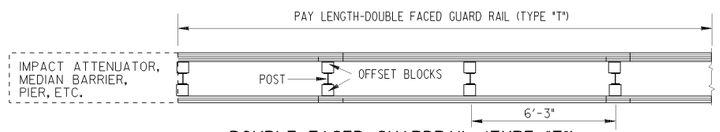
"T" BEAM SPECIAL END SHOE



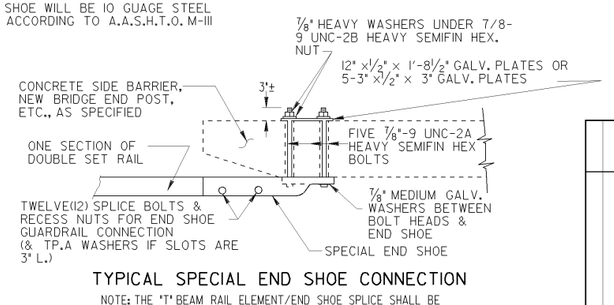
LEFT

SAME AS SECTION THRU "W" BEAM GUARDRAIL

RIGHT
TRANSITION SECTION



DOUBLE FACED GUARDRAIL (TYPE "T")



TYPICAL SPECIAL END SHOE CONNECTION
NOTE: THE "T" BEAM RAIL ELEMENT/END SHOE SPLICE SHALL BE LAPPED IN THE DIRECTION OF THE NEAREST TRAFFIC.

GENERAL NOTES:

1. SPECIFICATIONS: GA. STANDARD CURRENT EDITION & SUPPLEMENTS THERETO
2. DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES.
3. NET LENGTH OF RAIL ELEMENTS MAY BE EITHER 12'-6" OR 25'-0".
4. RAIL ELEMENTS ON CURVES OF RADII LESS THAN 150' WILL BE PRECURVED.
5. PAYMENT FOR GUARDRAIL (TYPE "T") WILL INCLUDE ALL POSTS, BLOCKS, HARDEWARE ACCESSORIES AND WHERE REQUIRED ALL ADDITIONAL POSTS, END SHOES, TERMINAL SECTIONS, TRANSITION SECTIONS, BACK-UP PLATES AND REMOVAL AND REPLACEMENT OF PORTIONS OF MEDIAN PAVING, SPILLWAYS OR CATCH BASINS WHERE NECESSARY.
6. ALL GUARDRAIL TERMINALS SHALL REQUIRE AN APPROVED ANCHORAGE AS SPECIFIED IN IN THE PLANS OR APPROVED BY THE ENGINEER EXCEPT WHERE CONNECTED TO A BRIDGE END OR OTHER CONCRETE FACE.
7. NUTS, BOLTS AND WASHERS WHICH ARE NOT DETAILED ON THIS STANDARD, SHALL BE AS SHOWN FOR W BEAM GUARDRAIL ON STANDARD 4380.
8. SEE SEPARATE STANDARDS AS APPLICABLE FOR ANCHORAGES, POSTS, OFFSET BLOCKS, CONNECTIONS TO CONCRETE FACE, W BEAM GUARDRAIL, ETC.
9. SEE STANDARD 4381 FOR DETAILS AND REQUIREMENTS OF BACK-UP PLATES, WHERE STEEL OFFSET BLOCKS ARE ALLOWED OR SPECIFIED.
10. OFFSET BLOCKS SHALL BE PLASTIC UNLESS OTHERWISE APPROVED OR SPECIFIED.

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

STANDARD
"T" BEAM GUARDRAIL CONNECTION TO 31 INCH HEIGHT "W" BEAM

NO SCALE — AUGUST 2011

DATE	REVISION	BY

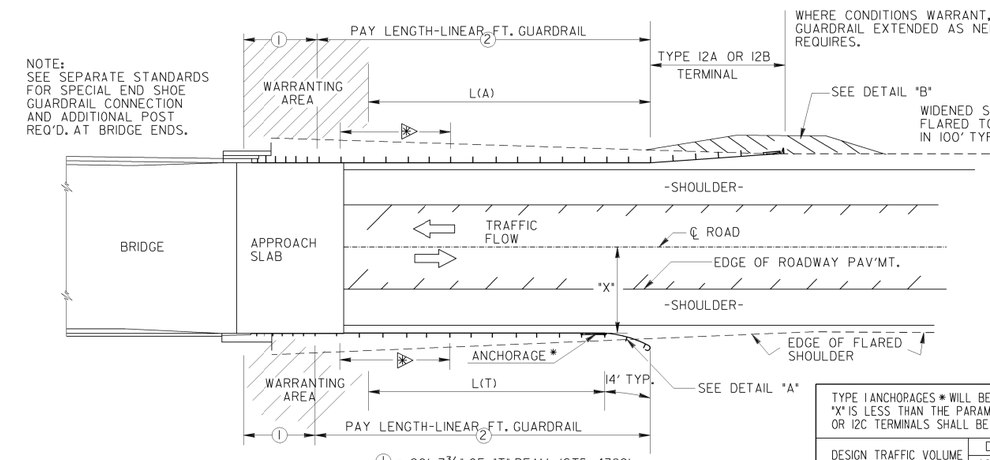
DES. G.L.O. (SUBMITTED) STATE DESIGN POLICY ENGINEER
DRW. G.L.O.
CHK. B.R.E. (APPROVED) CHIEF ENGINEER
REVIEW B.A.S.

NUMBER 4385

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STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			

NOTE:
FOR MINIMAL REDUCTION (TO 2') OF SHOULDER ACROSS BRIDGE, ALIGNMENT SHALL BE STRAIGHT FOR SHORT INSTALLATIONS (LESS THAN 200' TOTAL) AS SHOWN HEREON. FOR LONGER INSTALLATIONS, OR GREATER REDUCTION OF SHOULDER WIDTH, GUARDRAIL INSTALLATION SHALL BE AS PER DETAIL AT BOTTOM MIDDLE.



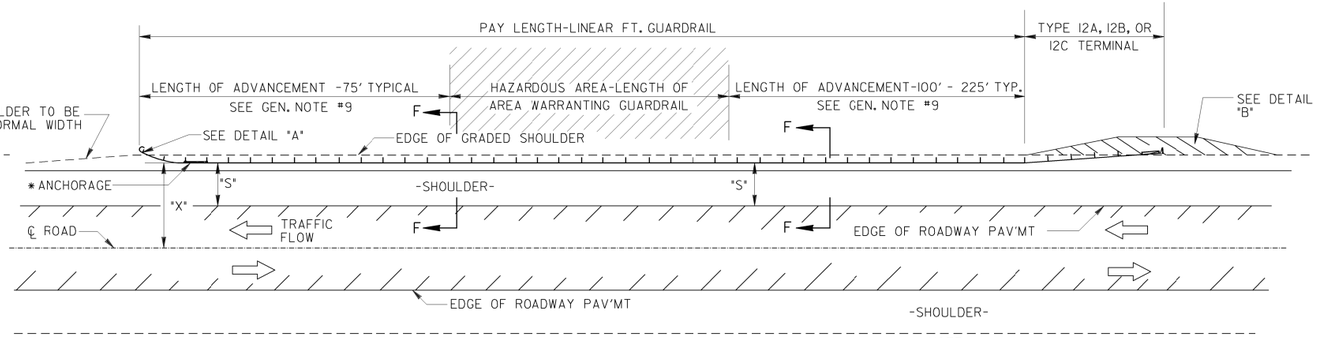
TRAFFIC VOLUME	MIN. L(T)	MIN. L(A)
DHV OVER 400	100'-0"	137'-6"
DHV 200-400	87'-6"	125'-0"
DHV 100-200	75'-0"	112'-6"
ADT 400 & OVER	62'-6"	100'-0"
ADT UNDER 400	50'-0"	87'-6"

NOTE: THESE MINIMUM LENGTHS ARE FOR STRAIGHT ALIGNMENTS IN ADVANCE OF WARRANTING AREA.

① = 20'-7¾" OF "T" BEAM (STD. 4382)
② = VARIABLE LENGTH OF "W" BEAM (6'-3" POST SPA.)

GUARDRAIL LOCATION AT BRIDGE ENDS

20' 10' 0 20'
SCALE



GUARDRAIL LOCATION ALONG ROADWAY

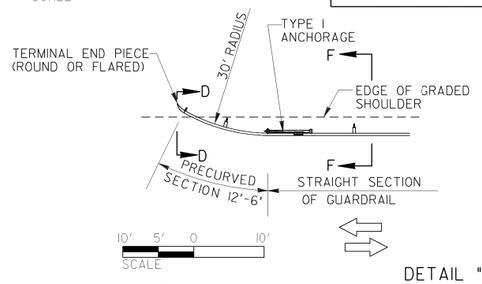
20' 10' 0 20'
SCALE

NOTE:
GUARDRAIL TO BE LOCATED ON BOTH SIDES OF ROAD IF CONDITIONS WARRANT.

TYPE I ANCHORAGES * WILL BE UTILIZED AT THE TRAILING END, UNLESS THE DISTANCE "X" IS LESS THAN THE PARAMETER GIVEN IN THIS TABLE IN WHICH CASE TYPE 12A, 12B, OR 12C TERMINALS SHALL BE REQUIRED.

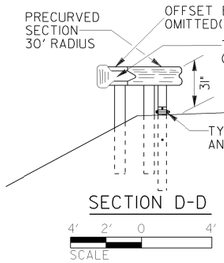
DESIGN TRAFFIC VOLUME	DESIGN SPEEDS (AS SHOWN ON COVER SHEET)				
	40 MPH	50 MPH	55 MPH	60 MPH	70 MPH
OVER 6000 A.D.T.	14'	20'	22'	30'	30'
1500 - 6000 A.D.T.	12'	16'	20'	26'	28'
750 - 1500 A.D.T.	10'	14'	16'	20'	24'
UNDER 750 A.D.T.	7'	10'	12'	16'	20'

"S" IS THE OFFSET TO THE FACE OF THE GUARDRAIL; THIS WILL BE TWO(2) FEET GREATER THAN THE USABLE SHOULDER WIDTH (PER AASHTO MINIMUM SHOULDER REQUIREMENTS) EXCEPT WHERE THE CURRENT A.D.T. IS UNDER 400, IN WHICH CASE "S" MAY BE EQUAL TO THE USABLE OR GRADED SHOULDER WIDTH (NOT LESS THAN 4).

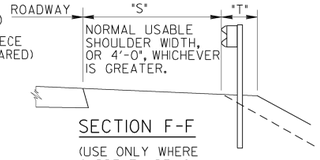


DETAIL "A"

NOTE:
DETAIL "A" IS FOR USE ONLY WHERE TYPE I ANCHORAGES ARE PERMITTED AS SHOWN ABOVE OTHERWISE, SEE DETAIL "B" FOR PROPER INSTALLATION OF TYPE 12A, 12B, OR 12C TERMINAL.



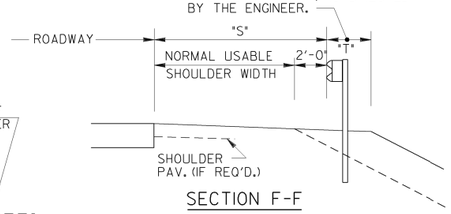
SECTION D-D



SECTION F-F

(USE ONLY WHERE CURRENT ADT IS UNDER 400)

"T"=3'-6" NORMAL LENGTH POST; MAY BE REDUCED TO 2'-6" WITH 7'-0" LENGTH POST, AS DIRECTED BY THE ENGINEER.



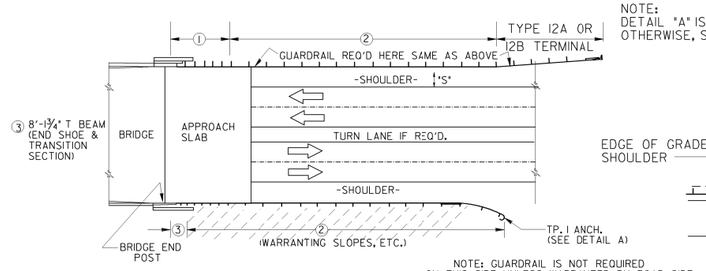
SECTION F-F

(USE FOR ALL CONDITIONS, EXCEPT WHERE CURRENT ADT IS UNDER 400.)

GENERAL NOTES:

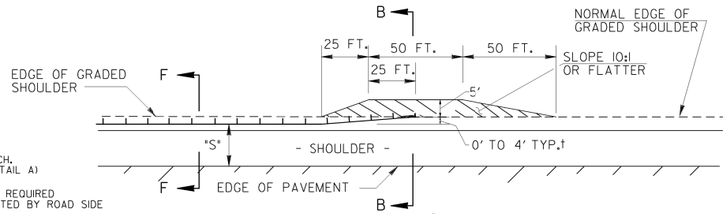
1. GUARDRAIL, ITS FITTINGS, PARTS, ETC. ARE TO BE IN ACCORDANCE WITH GEORGIA STANDARD SPECIFICATIONS AND/OR SPECIAL PROVISIONS.
2. FOR DETAILS OF BEAM TYPE GUARDRAIL, ACCESSORIES, GUARDRAIL POST, OFFSET BLOCKS, GUARDRAIL ANCHORAGE TYPE I, TERMINALS TYPE 12A, 12B, AND 12C, & BRIDGE END CONNECTION DETAILS, SEE APPLICABLE GEORGIA STANDARD PLANS AND/OR CONSTRUCTION DETAILS.
3. ALL OFFSET AND LENGTHS HERE SHOWN ARE APPLIED TO FACE OF GUARDRAIL.
4. POST SPACING SHALL BE 6'3" C. TO C., UNLESS OTHERWISE NOTED.
5. TYPE 12A, 12B, AND 12C TERMINALS SHOULD BE TERMINATED ON SLOPES 10:1 OR FLATTER. WHERE NORMAL SLOPE IS STEEPER, A 10:1 OR FLATTER SLOPE SHOULD BE CONSTRUCTED.
6. GUARDRAIL SHALL NOT BE ERECTED ON SLOPES WHICH ARE STEEPER THAN 10:1, EXCEPT FOR THE PORTION OF PRECURVED (SHOP CURVED) SECTION THAT EXTENDS BACK OF THE SHOULDER AS SHOWN IN DETAIL "A" WHICH IS ERECTED ON NORMAL SLOPES OR EXCEPT WHERE SHOWN OTHERWISE IN PLANS.
7. PAY LENGTH SHALL BE MEASURED ALONG FACE OF GUARDRAIL.
8. W. BEAM GUARDRAIL WILL HAVE A CONSTANT TOP OF RAIL HT. OF 31" THROUGHOUT INSTALLATION EXCEPT WHERE A PORTION OF THE PRECURVED SECTION SHOWN IN DETAIL "A" EXTENDS BACK OF THE GRADED SHOULDER.
9. GUARDRAIL WILL EXTEND PAST HAZARD ON BOTH THE APPROACH & TRAILING ENDS TO PREVENT VECHICLE PENETRATION BEHIND THE RAIL INTO THE HAZARDOUS AREA. THE TYPICAL LENGTHS OF ADVANCEMENT SHOWN MAY BE INCREASED OR DECREASED WHEN SHOWN IN THE PLANS, OR WHERE DIRECTED BY THE ENGINEER BECAUSE OF SPEED DESIGN, ROADSIDE GEOMETRY, SIZE OF HAZARD, OR OTHER CONDITIONS. IF FURTHER INFORMATION IS DESIRED; SEE THE AASHTO 'ROADSIDE DESIGN GUIDE'.

SPECIAL NOTE:
LOCATION AND QUANTITIES GIVEN IN THE PLANS FOR GUARDRAIL, TERMINALS, AND ANCHORAGES ARE ESTIMATES MADE FROM OFFICE COMPUTATIONS. A FINAL DETERMINATION AS TO LOCATIONS AND QUANTITIES OF GUARDRAIL, TERMINALS, AND ANCHORAGES WILL BE MADE BY THE ENGINEER OR A REPRESENTATIVE FROM THE OFFICE OF TRAFFIC OPERATIONS AFTER CONSTRUCTION OF ROADWAY.

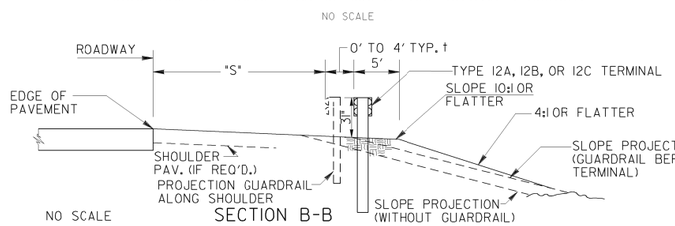


NOTE: GUARDRAIL IS NOT REQUIRED ON THIS SIDE UNLESS WARRANTED BY ROAD SIDE CONDITIONS.

GUARDRAIL AT BRIDGE END OF MULTI-LANE UNDIVIDED HIGHWAY



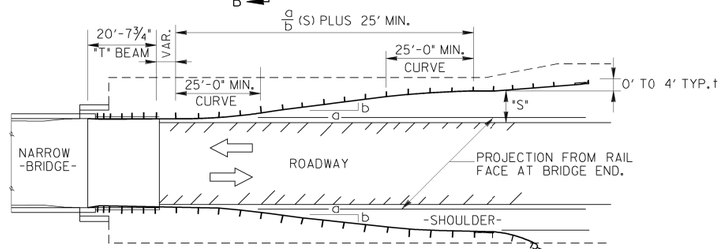
NO SCALE



NO SCALE

SECTION B-B

DETAIL "B"



NOTE:
DETAILS ARE SIMILAR FOR BOTH SIDES, BUT LENGTHS AND ANCHORAGE/TERMINAL TYPES MAY DIFFER.

GUARDRAIL LOCATION AT END OF NARROW BRIDGE

(NOTE: DETAILS NOT SHOWN HERE ARE SIMILAR TO THOSE AT TOP LEFT.)

FLARE RATE			
DESIGN SPEED (mph)	SHY-LINE OFFSET (ft)	(a/b) BARRIER INSIDE SHY-LINE	(a/b) BARRIER AT OR BEYOND SHY-LINE
70	9	30	15
60	8	26	14
55	7	24	12
50	6.5	21	11
45	6	18	10
40	5	16	8
30	4	13	7

IF THE OFFSET FROM THE EDGE OF THE TRAVEL LANE TO THE FACE OF THE GUARDRAIL AT ANY POINT ALONG THE INSTALLATION IS LESS THAN THE SHY-LINE OFFSET, USE THE FLATTER RATES GIVEN IN THE TABLE.

† SEE GA STANDARD 4384 FOR OFFSETS AND FLARE RATES FOR TYPE 12A, 12B, AND 12C TERMINALS.

BY	DATE	REVISION
FBF	1-29-16	REV TP 12 TO 12A/B/C; REV NOTES, AND FLARE TBL

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

STANDARD GUARDRAIL LOCATION DETAILS FOR UNDIVIDED HIGHWAYS AND ROADS (WITH SHOULDERS ADJACENT TO THE ROADWAY) 31 INCH GUARDRAIL HEIGHT

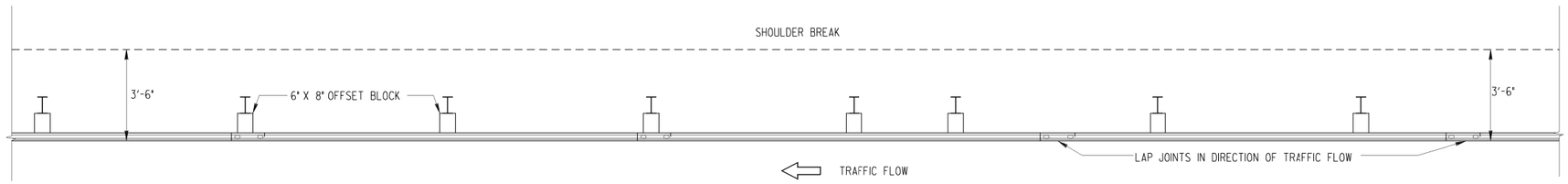
SCALE AS SHOWN — AUGUST 2011

DES. G.L.O. (SUBMITTED) STATE DESIGN POLICY ENGINEER
DRW. G.L.O.
CHK. B.R.E. (APPRCVED) Margaret B Pinkelo CHIEF ENGINEER
REVIEW B.A.S.

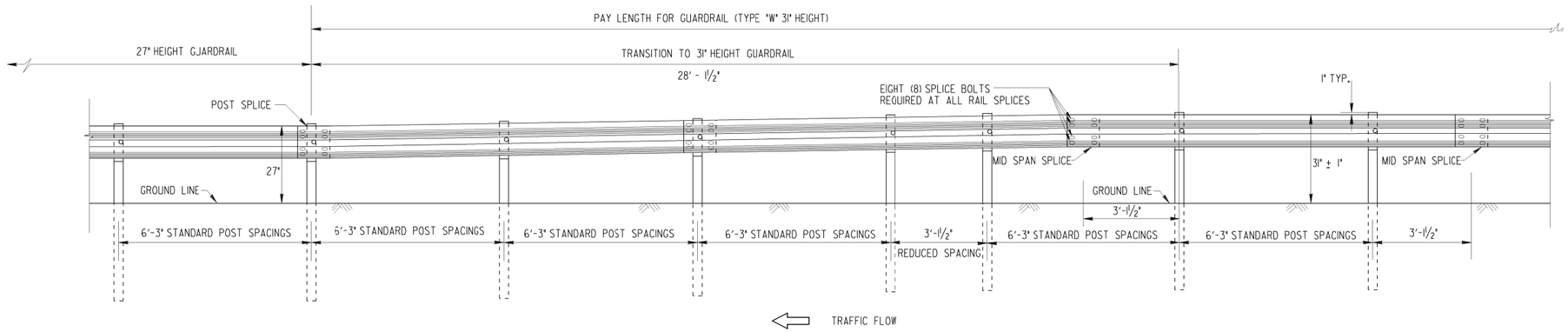
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STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			



PLAN



ELEVATION

(TYPICAL VIEW ALONG ROADWAY)

GENERAL NOTES:

1. SPECIFICATIONS: GEORGIA STANDARD CURRENT EDITION, AND SUPPLEMENTS THERETO.

2. NUTS, BOLTS, WASHERS, RAIL, TERMINAL SECTIONS, END SHOES, BACK-UP PLATES, END SECTIONS AND OTHER GUARDRAIL HARDWARE ARE IN ACCORDANCE WITH THE CURRENT AR"BA TECHNICAL BULLETIN NO. 268 -- UNLESS SPECIFIED OTHERWISE. DIMENSIONS FOR POSTS AND OFFSET BLOCKS WILL BE ACCORDING TO GA. STANDARD 438I.

3. FOR DETAILS OF GUARDRAIL ANCHORAGES AND TERMINALS, SEE APPLICABLE STANDARDS AND/OR CONSTRUCTION DETAILS.

4. FOR LOCATION OF GUARDRAIL SEE APPLICABLE LOCATION STANDARDS.

5. ALL STEEL HARDWARE COMPONENTS WILL BE GALVANIZED AFTER FABRICATION. GALVANIZING REPAIR COMPOUND (SEC. 645) WILL BE FIELD APPLIED TO ANY COATINGS DAMAGED.

6. WHEN GUARDRAIL IS REQUIRED ON CURVES WITH RADII LESS THAN 50', PRECURVED RAIL WILL BE REQUIRED.

7. PAYMENT FOR GUARDRAIL (Type "W") TO INCLUDE OFFSET BLOCKS, POST, BACK-UP PLATES WHERE REQUIRED, BOLTS, NUTS, WASHERS, TERMINAL SECTIONS, ADDITIONAL POST WHERE REQUIRED, & REMOVAL AND REPLACEMENT OF PORTIONS OF MEDIAN PAVING, SPILLWAYS, OR CATCH BASINS WHERE NECESSARY.

8. ALL DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES.

9. STANDARD NET LENGTH OF RAIL ELEMENTS MAY BE EITHER 12'-6" OR 25'-0". THESE LENGTHS SHALL BE ARRANGED TO PROVIDE AS NEARLY AS POSSIBLE THE REQUIRED LENGTH FOR EACH INSTALLATION.

BY	REVISION	DATE
FBF	REV. 31" W-BM BLOCK TO 6'X8'	1-29-16

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

STANDARD

"W" BEAM GUARDRAIL TRANSITION 27 INCH GUARDRAIL TO 31INCH GUARDRAIL HEIGHT

NO SCALE — AUGUST 2011

DES.	G.L.O.	(SUBMITTED)	STATE DESIGN POLICY ENGINEER
DRW.	G.L.O.		
CHK.	B.R.E.	(APPROVED)	CHIEF ENGINEER
REVIEW	B.A.S.		

NUMBER 4390

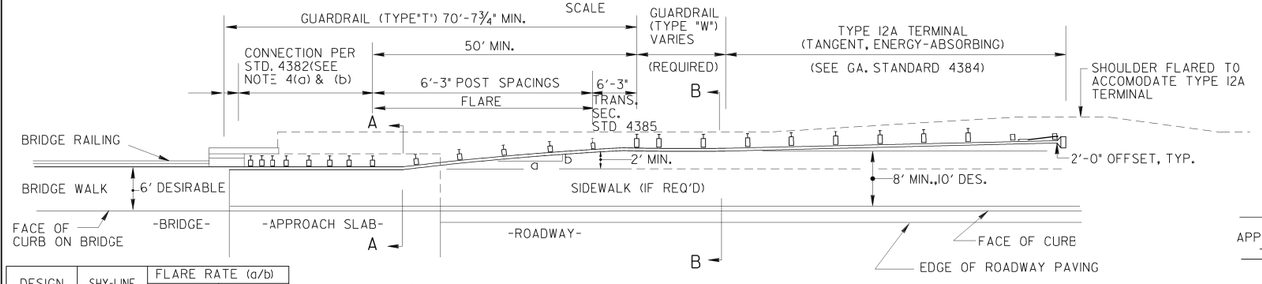
1/29/2016 7:21:59 AM \\GDOT-DSN1\GOPLOT\OCF\OGC.gcf bquarles P:\Policy&Lighting\Standards\GA Standards\4391\Revision_2016-1-29\4391_Revised_2016-1-29.prf

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			

GUARDRAIL LOCATION AT BRIDGE WITH SIDEWALK

(6 FT. SIDEWALK ACROSS BRIDGE DESIRABLE)

SCALE 0 5FT 10FT. 15FT.

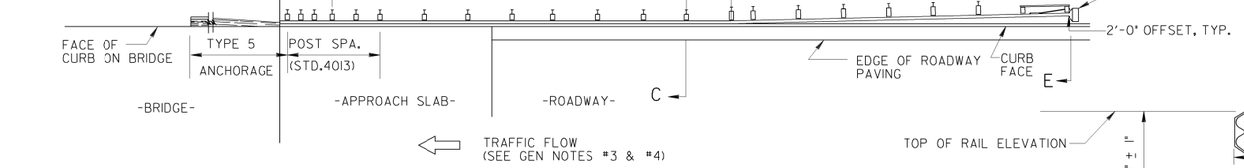


DESIGN SPEED (mph)	SHY-LINE OFFSET (ft)	FLARE RATE (a/b)	
		BARRIER INSIDE SHY-LINE	BARRIER AT OR BEYOND SHY-LINE
70	9	30	15
60	8	26	14
55	7	24	12
50	6.5	21	11
45	5	18	10
40	5	16	8
30	4	13	7

IF THE OFFSET FROM THE EDGE OF THE TRAVEL LANE TO THE FACE OF THE GUARDRAIL AT ANY POINT ALONG THE INSTALLATION IS LESS THAN THE SHY-LINE OFFSET, USE THE FLATTER RATES GIVEN IN THE TABLE.

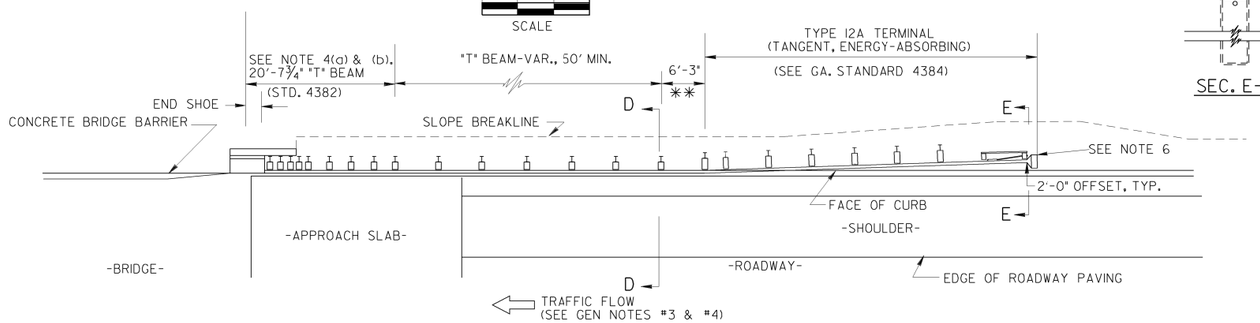
GUARDRAIL LOCATION AT BRIDGE WITH NARROW WALK

SCALE 0 5FT 10FT. 15FT.



GUARDRAIL LOCATION SHOULDER ACROSS BRIDGE

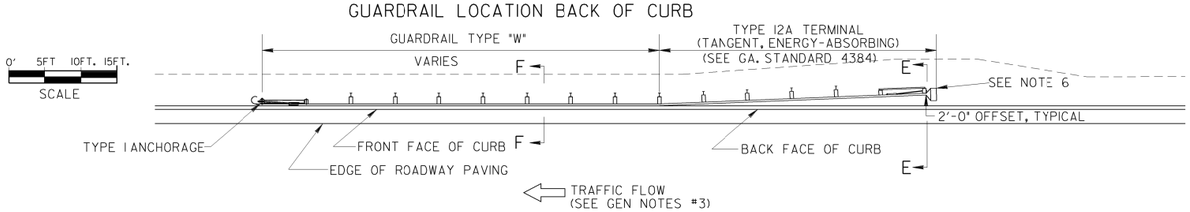
SCALE 0' 5FT 10FT. 15FT.



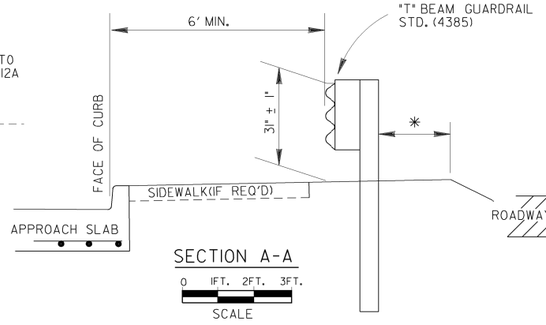
*SEE STD. 4385 FOR TRANSITION PIECE BETWEEN "T"-BEAM AND ANCHORAGES, WHERE REQUIRED.

GUARDRAIL LOCATION BACK OF CURB

SCALE 0' 5FT 10FT. 15FT.

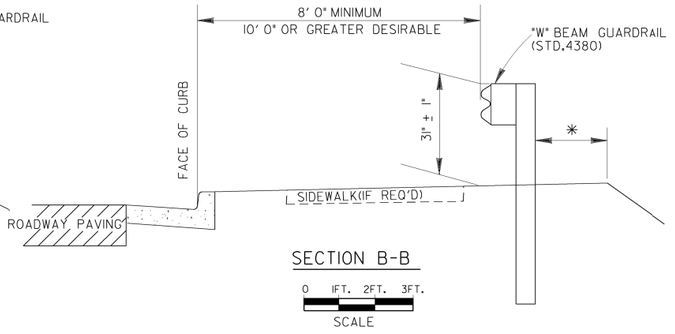


NOTE: APPLICATION OF ABOVE DETAILS IS TYPICAL FOR URBAN TYPE FACILITIES WITH CONTINOUS CONCRETE CURB & GUTTER ADJACENT TO THE PAVEMENT. SEE SEPARATE DETAILS WHERE SECTIONS OF ASPHALT CURB ARE LOCATED UNDER GUARDRAIL ON SHOULDERS OF RURAL TYPE FACILITIES.



SECTION A-A

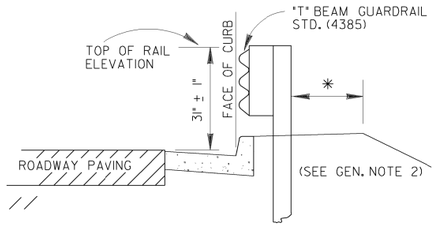
SCALE 0 1FT. 2FT. 3FT.



SECTION B-B

SCALE 0 1FT. 2FT. 3FT.

* DISTANCE FROM BACK OF POST TO EDGE OF GRADED SHOULDER SHALL NOT BE LESS THAN 2 FEET WITH NORMAL LENGTH POST AND NOT LESS THAN 1 FOOT WITH ADDITIONAL LENGTH POST.(STD. 438I)

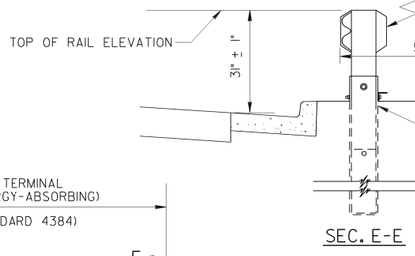


SECTION C-C

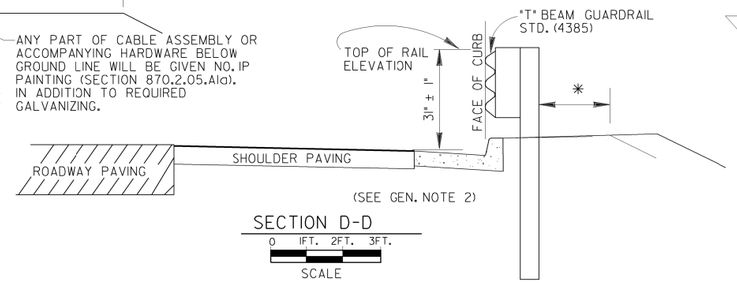
SCALE 0 1FT. 2FT. 3FT.

GENERAL NOTES:

1. SPECIFICATIONS: GEORGIA STANDARD, CURRENT EDITION, AND SUPPLEMENTS THERETO.
2. IF GUARDRAIL IS DIRECTLY ABOVE CURB, DO NOT USE STD. 1033D, 1033G, 1034D, 1034G CATCH BASINS AT SAME LOCATION. EITHER USE OTHER DRAINAGE STRUCTURES OR ADJUST LOCATION OF CATCH BASINS TO MISS GUARDRAIL.
3. (a) TYPE 12A, 12J, OR 12C TERMINALS ARE REQUIRED AT ALL APPROACH ENDS OF GUARDRAIL AND AT TRAILING ENDS THAT FALL WITHIN THE C.Z.W. OF THE TWO-WAY TRAFFIC. C.Z.W.=CLEAR ZONE WIDTH.
   (b) TYPE I ANCHORAGE WITH A 30' R PRECURVED RAIL SECTION MAY BE USED AT TRAILING ENDS THAT FALL OUTSIDE THE C.Z.W. OF THE TWO-WAY TRAFFIC.
   (c) TYPE I ANCHORAGES ARE USED AT THE TRAILING ENDS OF ONE-WAY TRAFFIC.
4. (a) GUARDRAIL PER APPLICABLE DETAIL AT LEFT IS REQUIRED AT BOTH APPROACH BRIDGE END POSTS WITH ONE-WAY TRAFFIC AND AT ALL 4 BRIDGE END POSTS WITH 2-LANES & 2-WAY TRAFFIC.
   (b) BRIDGE END POSTS AT THE TRAILING END OF ONE-WAY TRAFFIC OR AT THE TRAILING END OF TWO-WAY TRAFFIC ON MULTI-LANE(FOUR OR MORE) FACILITIES DOES NOT REQUIRE GUARDRAIL UNLESS STEEP SLOPES OR OTHER CONDITION WARRANTS GUARDRAIL FOR TRAFFIC COMING OFF OF BRIDGE. IF REQUIRED FOR THIS CONDITION, GUARDRAIL TYPE SHALL BE AS WARRANTED & WITHOUT ADDITIONAL POST/DOUBLE THICK RAIL.
5. SKETCHES SHOWN HERE FOR GUARDRAIL, TERMINALS, AND ANCHORAGES ARE REPRESENTATIVE. SEE SEPERATE STANDARDS OR DETAILS FOR SPECIFIC REQUIREMENTS.
6. TYPE 12A TERMINALS SHALL BE TAPERED PER MANUFACTURER'S SPECIFICATIONS SO THAT THE EXTRUDER/IMPACT HEAD WILL NOT PROTRUDE OVER CURB FACE.

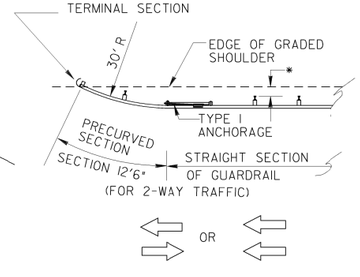


SEC. E-E

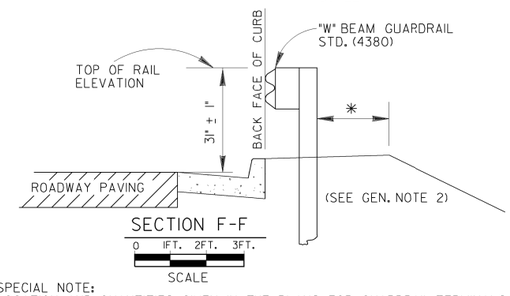


SECTION D-D

SCALE 0 1FT. 2FT. 3FT.



DETAIL "A"



SECTION F-F

SCALE 0 1FT. 2FT. 3FT.

SPECIAL NOTE:
LOCATION AND QUANTITIES GIVEN IN THE PLANS FOR GUARDRAIL, TERMINALS, AND ANCHORAGES ARE ESTIMATES MADE FROM OFFICE COMPUTATIONS. A FINAL DETERMINATION AS TO LOCATIONS AND QUANTITIES OF GUARDRAIL, TERMINALS, AND ANCHORAGES WILL BE MADE BY THE ENGINEER OR A REPRESENTATIVE FROM THE OFFICE OF TRAFFIC OPERATIONS AFTER CONSTRUCTION OF ROADWAY AND CURB. THIS APPLIES TO ALL CONDITIONS SHOWN ON THIS STANDARD.

BY	DATE	REVISION
FBF	1-29-16	REV TP12 TO TP12A & NOTE 6

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

STANDARD GUARDRAIL LOCATION

(ON ROADS WITH CURB & GUTTER, HEADER CURB OR INTEGRAL CURB)
31 INCH GUARDRAIL HEIGHT

SCALE AS SHOWN — AUGUST 2011

DES. G.L.O. (SUBMITTED) STATE DESIGN POLICY ENGINEER
DRW. G.L.O.
CHK. B.R.E. (APPROVED) Margaret B Pickle CHIEF ENGINEER
REVIEW B.A.S.

NUMBER 4391

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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.

150.1.02 Content

150.1 General Description

150.1.01 Definitions

150.1.02 Content

150.1.03 Related References

A. Standard Specification
B. Reference Documents

150.1.04 Submittals/Preconstruction

A. Worksite Traffic Control Supervisor
B. Sequence of Operations
C. Pedestrian Considerations

1. Pedestrian Signage
2. Temporary Pedestrian Facilities

150.2 Materials and Traffic Control Devices

150.2.01 Traffic Control Devices

A. NCHRP 350 and MASH
B. Approval
C. Quality Guidelines for All Temporary Traffic Devices

150.2.02 Reflectorization Requirements

A. Signs

B. Channelization Devices

150.2.03 Arrow Panels

150.2.04 Channelization Devices

A. General
B. Drums

1. Design
2. Application
3. Longitudinal Channelization
4. Removal

C. Vertical Panels

1. Design
2. Application

D. Cones

1. Design
2. Applications

E. Barricades

1. Design
2. Application

F. Warning Lights

1. Design
2. Application

150.2.05 Flashing Beacon

150.2.06 Guardrail

150.2.07 Interim Signs

A. Posts
B. Sign Blanks and Panels

150.2.08 Pavement Markings

A. All Traffic Striping for Forty-Five (45) Days or Less (≤45 Days)
B. All Temporary Striping Beyond Forty-Five (45) days (>45 Days)
C. All Temporary Traffic Striping on Final Surface

150.2.09 Portable Changeable Message Signs

150.2.10 Portable Impact Attenuators

150.2.11 Portable Temporary Traffic Control Signals

150.2.12 Raised Pavement Markers

150.2.13 Rumble Strips

150.2.14 Temporary Barriers

A. Design
B. Application

150.2.15 Temporary Guardrail Anchorage- Type 12

150.2.16 Temporary Traffic Signal

150.3 Construction Requirements

150.3.01 General

A. Implementation Requirements
B. Maintenance of Traffic Control Devices
C. Traffic Interruption Restrictions
D. Work Zone Restrictions

1. Interstate
2. Non-Interstate Divided Highways
3. Non-Divided Highways

E. Work Zone Geometric Restrictions
F. Clear Zone
G. Milled Surface Restrictions
H. Construction Vehicle
I. Environmental Impacts
J. Existing Street Lights
K. Nighttime Work Lighting
L. Removal/Reinstallation of Miscellaneous Items

150.3.02 Personnel – Worker Safety Apparel

150.3.03 Signage – General

A. Signing Requirements of the Temporary Traffic Control (TTC) Plan
B. Conflicting or Non-Applicable Signs
C. Removal of Existing Signs and Supports
D. Interim Guide, Warning and Regulatory Signs
E. Existing Special Guide Signs

1. Special Guide Signs
2. Interim Special Guide Signs
3. Interim Overhead Guide Sign Structures
4. Permanent Special Guide Signs

F. Stop Sign Regulated Intersections

G. Low Shoulder Signage

1. Low Shoulder for Construction/Reconstruction/Resurfacing Projects
2. Shoulder Drop-Off for Construction/Reconstruction/Resurfacing Project

H. Bump Signage
I. Sign Visibility

150.3.04 Advance Warning Signs

A. Project Signs - All Type of Highways

1. State Routes
2. Interstate, Limited Access and Multilane Divided Highways
3. Ramp Work on Limited Access Highways

B. Highway Work Zone

1. No Reduction in the Existing Posted Speed Limit in Highway Work Zone
2. Reducing the Speed Limit in a Highway Work Zone
3. Variable Speed Limit Zones

C. Installation/Removal of Work Area Signage

150.3.05 Shoulder/Lane Closure

A. Approval/Restrictions

1. Closure Length
2. Duration

B. Shoulder Closure
C. Lane Closure

1. Advance Warning Signs
2. Transition Area – Taper
3. Activity Area
4. Termination Area

D. Removal of Lane Closures
E. Exit and Entrance Ramps

150.3.06 Traffic Pacing Method

A. Pacing of Traffic
B. Methods of Signing for Traffic Pacing

150.3.07 Flagging Operation

A. Flaggers
B. Flagger Certification
C. Flagger Appearance and Equipment
D. Flagger Warning Signs
E. Pilot Vehicle Requirements
F. Automated Flagger Assistance Devices
G. Portable Temporary Traffic Control Signals

150.3.08 Traffic Signals

A. Responsibility/Cost
B. Law Enforcement Officer Requirement

150.3.09 Mobile Operations

150.3.10 Pavement Markings

A. General

1. Resurfacing Projects
2. Widening and Reconstruction Projects
3. New Location Construction Projects

B. Installation and Removal of Pavement Markings

1. Installation
2. Removal
3. Intermediate Surface
4. Final Surface
5. Pay Factor Reduction for Asphaltic Concrete Final Surfaces
6. Preparation and Planning for Traffic ShiftsC. Raised Pavement Markers

1. Supplementing Lane Lines
2. Supplementing Ramp Gore Lines
3. Other Lines

D. Exceptions for Interim Markings

1. Two-Lane, Two-Way Roadway

2. Multi-Lane Highway - with No Paved Shoulder(s) or Paved Shoulder(s) Four Feet or Less (≤ 4')
3. Limited Access Roadways and Roadways with Paved Shoulder Greater than Four Feet (>4')
4. Ramps for Multi-lane Divided Highways
5. Miscellaneous Pavement Markings

150.3.11 Differences in Elevation between Travel Lanes and Shoulders

A. Differences in Elevations

1. Difference of Two Inches (≤ 2") or Less Between Adjacent Travel Lanes
2. Difference of Two Inches (≤ 2") or Less Between Adjacent Travel Lane and Paved Shoulder
3. Difference of Greater Than Two Inches (>2") is Permitted for Continuous Operations
4. Difference of Greater Than Two Inches (>2") Between Travel Lanes and/or Shoulders for Non-Continuous Operations

B. Healed Section
C. Emergency Situations
D. Plating
E. Asphaltic Concrete Resurfacing Projects

1. Shoulder Construction Included as a Part of the Contract
2 Shoulder Construction Not Included as a Part of the Contract

150.3.12 Work Zone Law Enforcement

150.4 Measurement

150.4.01 Traffic Control Items

A. Traffic Control
B. Changeable Message Sign, Portable
C. Flashing Beacon Assembly
D. Pavement Markings
E. Portable Impact Attenuators
F. Signs

1. Interim Ground Mounted or Interim Overhead Special Guide Signs
2. Remove and Reset Existing Special Guide Signs, Ground Mount or Overhead
3. Modify Special Guide Signs, Ground Mount or Overhead

G. Temporary Audible Information Device
H. Temporary Barrier
I. Temporary Curb Cut Wheelchair Ramps
J. Temporary Guardrail Anchorage, Type 12
K. Temporary Walkways with Detectable Edging
L. Traffic Signal Installation - Temporary
M. Work Zone Law Enforcement

150.5 Reserved

150.6 Special Conditions

150.7 Payment

150.7.01 Enforcement and Adjustments

150.1.03 Related References

A. Standard Specifications

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) form provided by the Department. 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.

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 (≥ 1-1/2") thick. Temporary walkways constructed across unimproved streets and drives shall be a minimum thickness of four inches (≥ 4") for concrete and three inches (≥ 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 (≥ 3/4") thick, pressure treated and supported with pressure treated longitudinal joists spaced a maximum of sixteen inches (≤ 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 (≤ 1/4") of an inch and that the horizontal joints have gaps no greater than one half (≤ 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 (≤ 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 used 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 healed 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 (≤ 2") or less.
- Flush areas where equipment or workers are within ten feet (≤ 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 (≥ 36") high. The vertical panels shall be in addition a minimum eight inches (≥ 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 (≤ 10'); vertical panels shall be used to restore the travel lane to ten feet (≥ 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 (≥ 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 or trailer 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 or trailer 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.

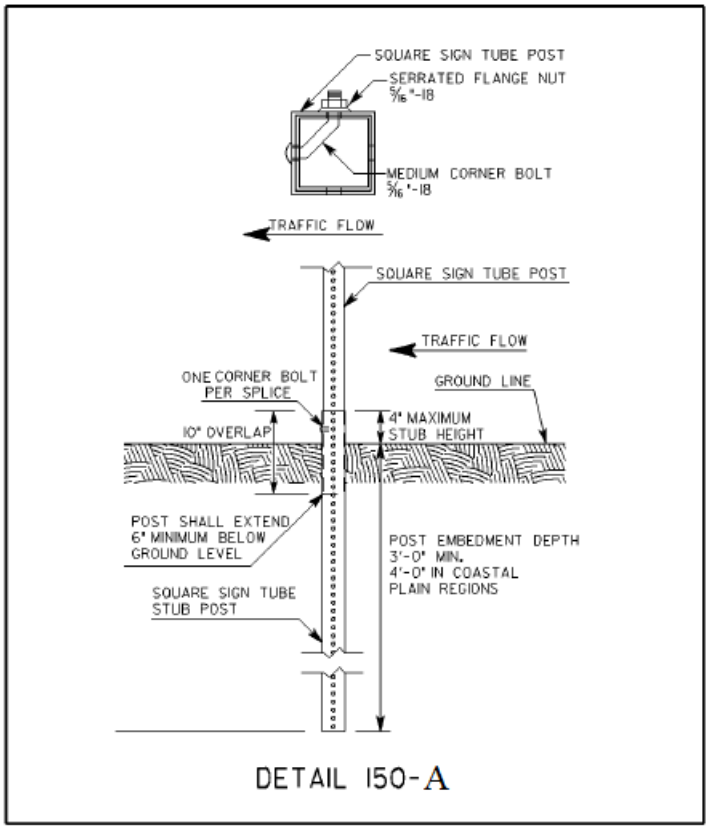
For utility work not included in the Contract, the utility Contractor may use flexible signs within the project limits.

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.



DETAIL 150-A

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.

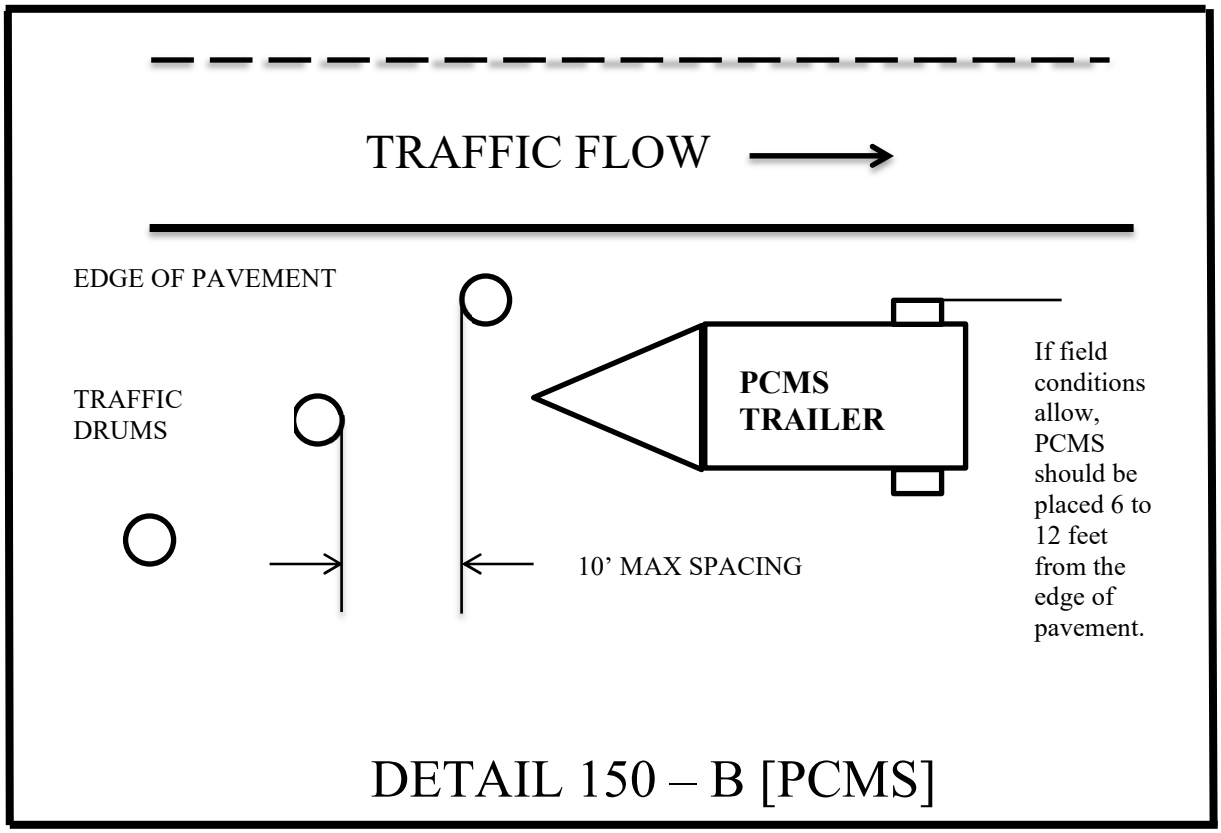
C. All Temporary Traffic Striping on Final Surface

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.



DETAIL 150 – B [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 spliceal 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 Subsection150.7.01.

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 (≤ 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 (≤ 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 (≤ 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 (≥ 16') in width at any location.

Vertical: The overhead clearance should not be reduced to less than fifteen feet (≥ 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 (≥ 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 (≥ 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

1. Non – Resurfacing Projects

Unless modified by the special conditions, a milled surface on any non-resurfacing project shall not be allowed to remain open for a period of time that exceeds thirty (**30)** calendar days.

2. Resurfacing Projects

A. Unless modified by the special conditions, a milled surface (excluding micro-mill) on an interstate or limited access highway resurfacing project shall be covered prior to opening to traffic.

B. Unless modified by the special conditions, a milled surface on any other resurfacing project not specified above shall not be allowed to remain open for a period of time that exceeds three **(3)** calendar days.

Failure to cover milled areas as specified above will result in liquidated damages to be assessed in accordance with Special Provision Section 150.7.01 Enforcement and Adjustments.

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 (≥ 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 (≤ 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. "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. "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 (≥ 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. "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 (½) 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 (≤ 50) mph or less, the one-half (½) 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 ½ 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.

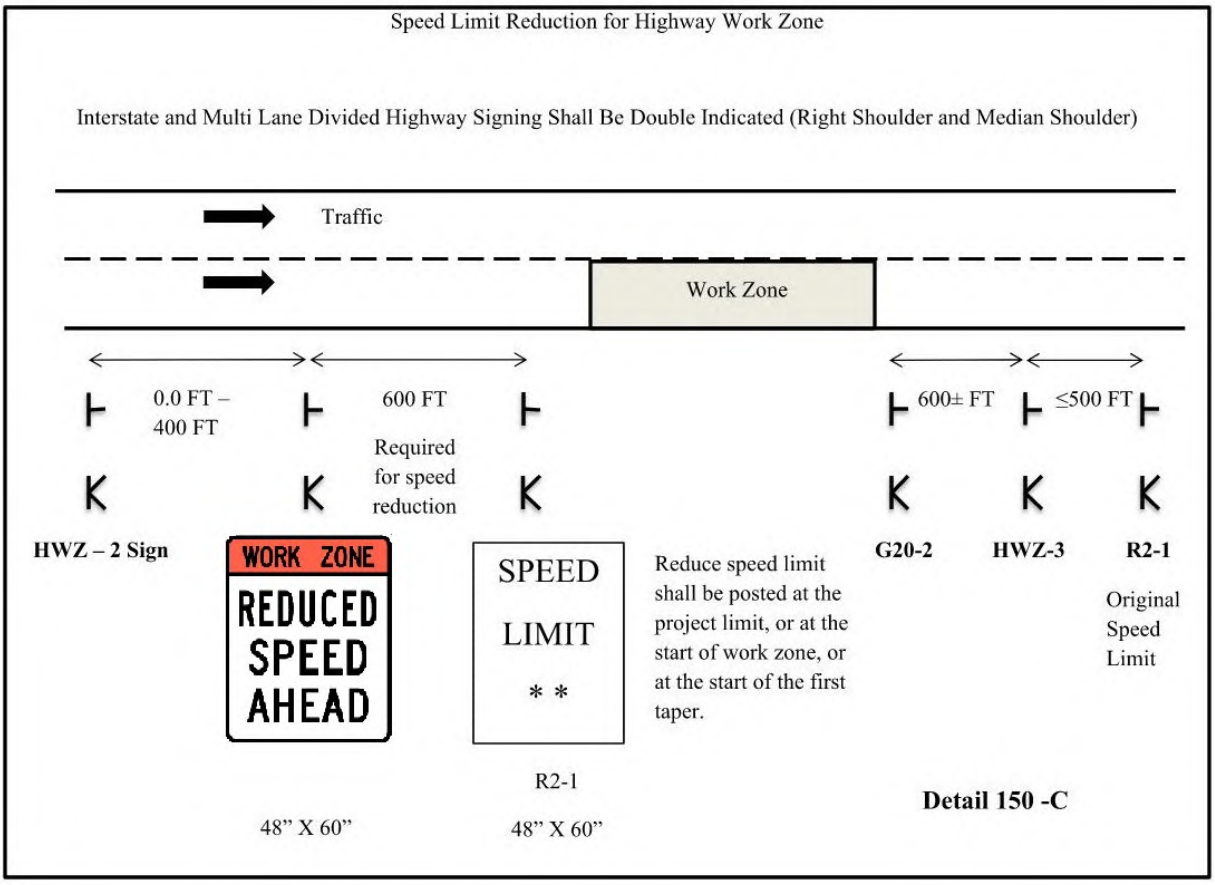
A copy of the weekly records for reduced speed zones shall be submitted to the Engineer.

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.



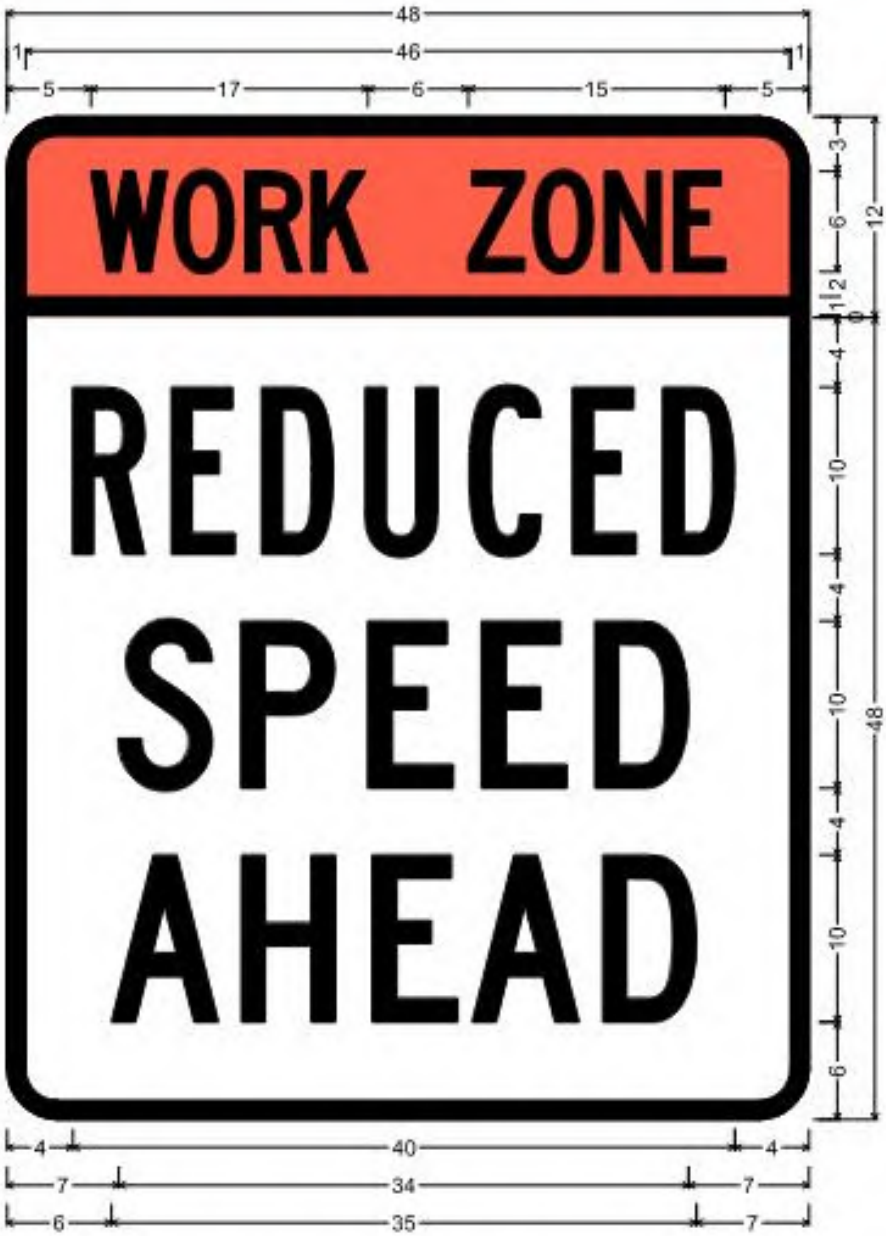
HWZ-3;

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;

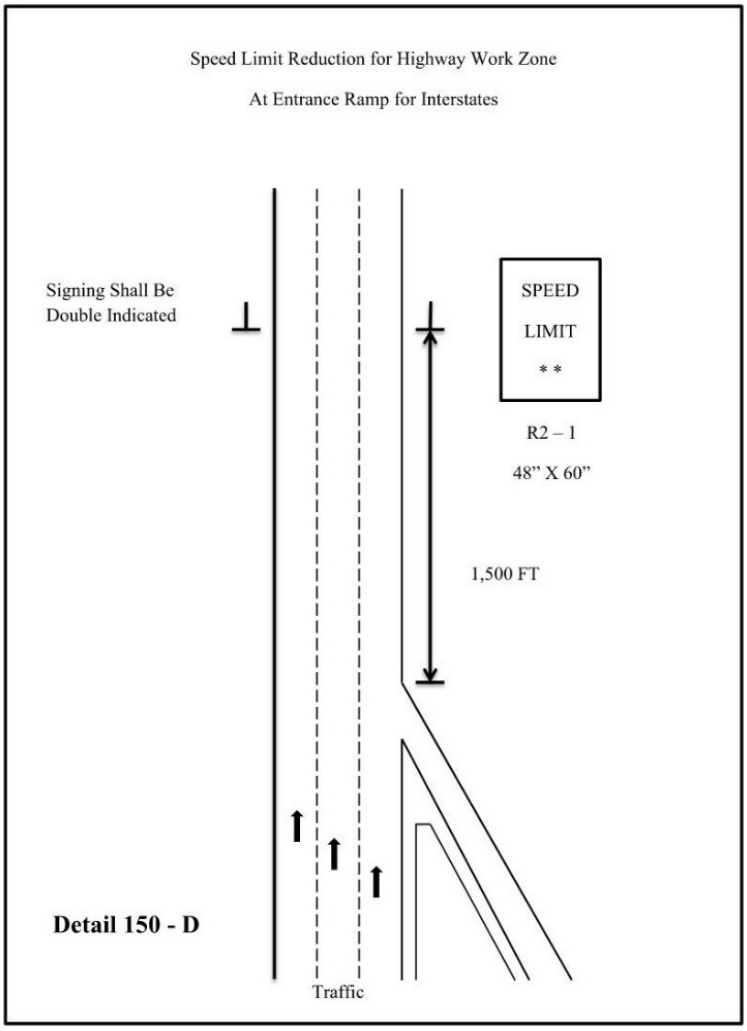
HWZ-3

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/Soft 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 (≥ 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 (≥ 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 (≥ 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 or trailer 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 (≤ 38'). On curves greater than six degrees (>6º), a one foot (1') stripe with a maximum gap of nineteen feet (≤ 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 feet (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 (≤½) 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 (≤ 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 (≤ 2") or less between adjacent travel lanes should remain for a maximum period of fourteen (14) calendar days.

2. Difference of two inches (≤ 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

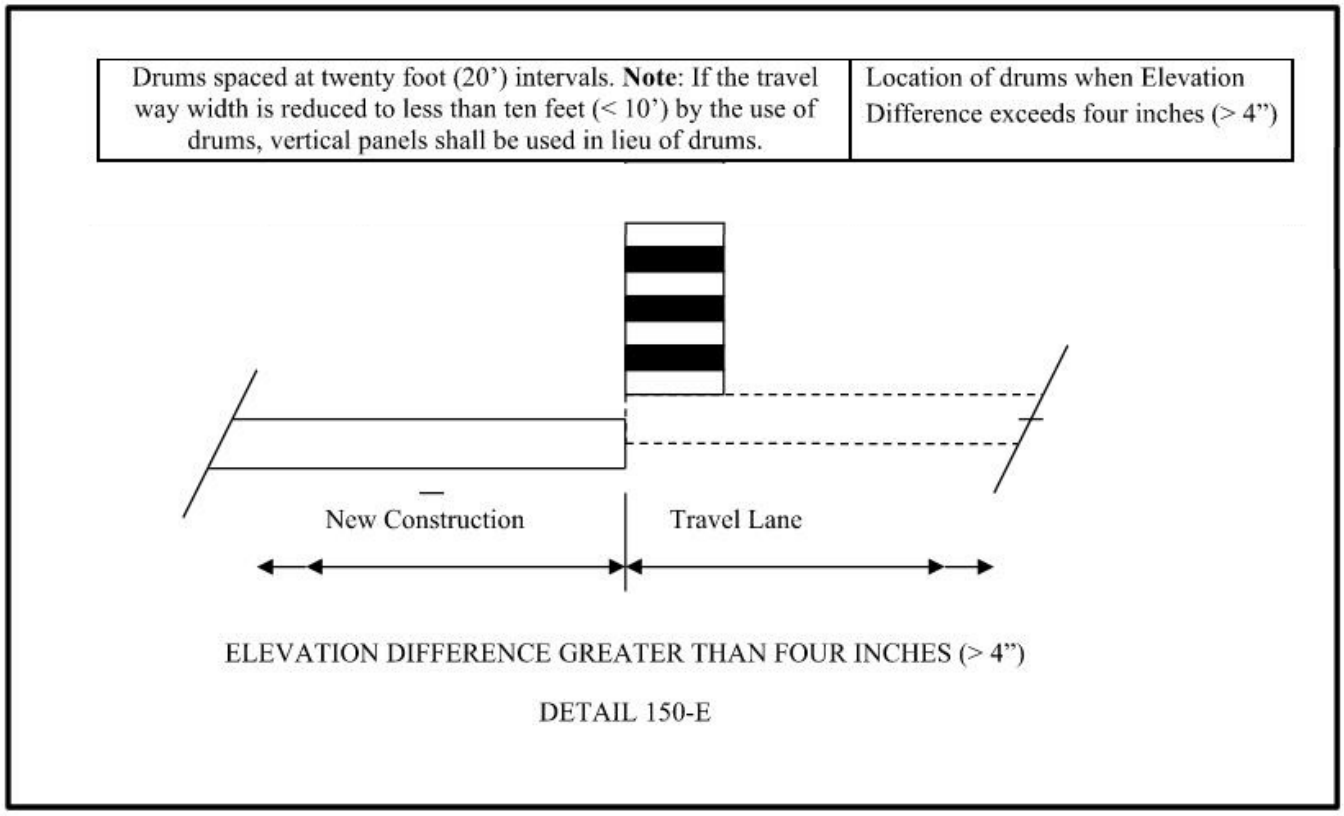
1. Shoulder Construction Included as a Part of the Contract

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

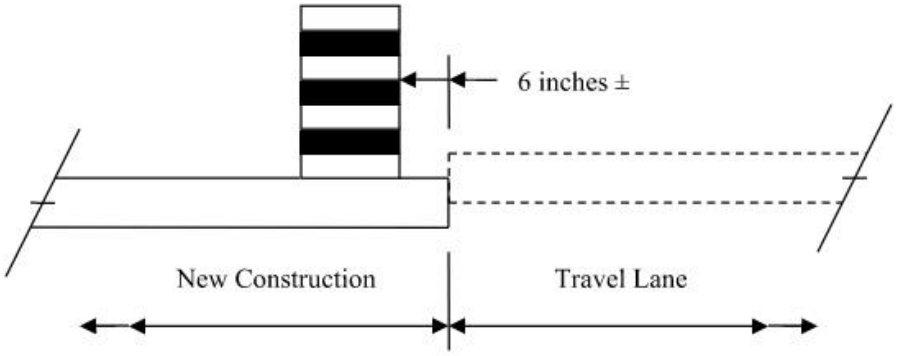
When the placement of asphaltic concrete materials creates a difference in elevation greater than two inches (> 2") between the earth shoulder (grassed or un-grassed) and the edge of travel lane or between the earth shoulder and a paved shoulder that is less than four feet (< 4') in width, the Contractor shall notify the Engineer, in writing, when the resurfacing work including all corrective list items has been completed.



ELEVATION DIFFERENCE GREATER THAN FOUR INCHES (> 4")

DETAIL 150-E

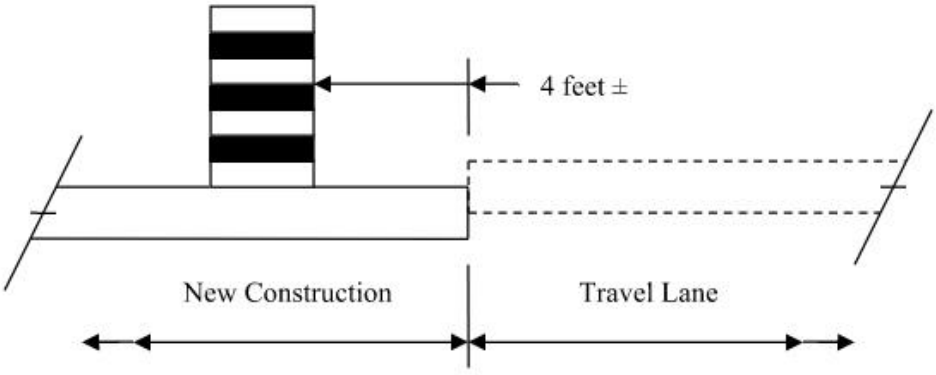
Drums spaced at forty foot (40') intervals.	Location of drums when Elevation Difference is greater than two inches (> 2") to four inches (4")



ELEVATION DIFFERENCE GREATER THAN TWO INCHES (> 2") TO FOUR INCHES (4")

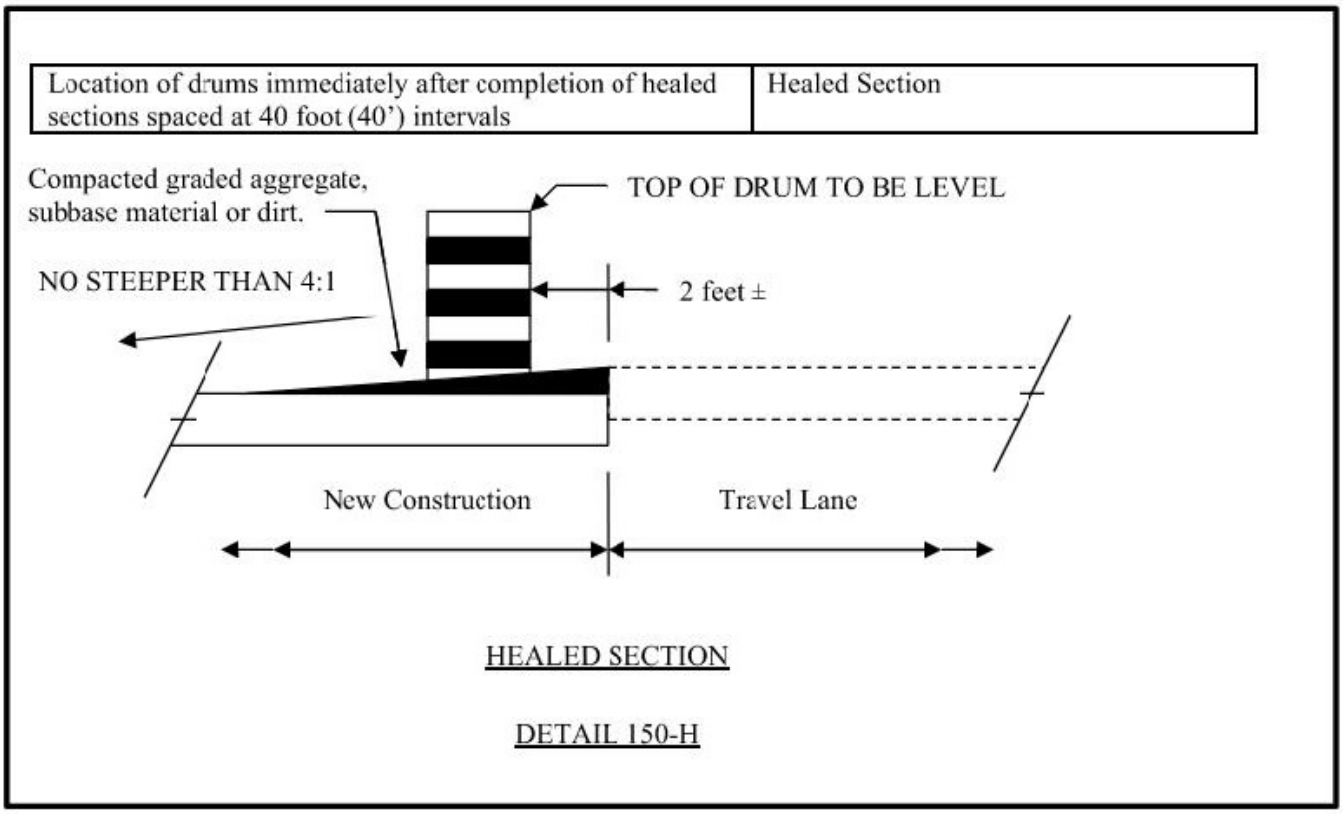
DETAIL 150-F

Drums spaced at eighty foot (80') intervals.	Location of drums when Elevation Difference is two inches (≤ 2") or less.



ELEVATION DIFFERENCE OF TWO INCHES (≤ 2") OR LESS

DETAIL 150-G



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 complied 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

SPECIAL PROVISION

Section 150—Traffic Control

Retain Section 150 as written and add the following:

150.6 SPECIAL CONDITIONS

A. Lane Closure Restrictions

1. The standard work hours are 7:00 am to 6:00 pm, with lane closures allowed between 9:00 am and 4:00 pm. Night work will be allowed without prior approval from the City.

2. The Contractor shall not perform work or move equipment or materials on the traveled way that interferes with traffic flow on the mainline or local streets on Saturday or Sunday without prior approval of the Engineer.

3. At no time shall there be any lane closures or equipment moved on the travel way on the mainline or local streets between the hours of 9:00 a.m. to 1:00 p.m. on Sundays.

Section 161—Control of Soil Erosion and Sedimentation

161.1 General Description

This Work includes using best management practices (BMPs) shown on the Plans, ordered by the Engineer, or as required during the life of the Contract to control soil erosion and sedimentation through the use of any of the devices or methods referred to in this Section.

161.1.01 Definitions

Certified Personnel— certified personnel are defined as persons who have successfully completed the Level IA, or higher, certification course approved by the Georgia Soil and Water Conservation Commission. For Department projects the certified person must also have successfully completed the Department's Worksite Erosion Control Supervisor (WECS) certification course.

Design Professional— as used within this specification, means that which is defined in the current National Pollutant Discharge Elimination System (NPDES) Infrastructure Permit No. GAR100002, Part I.B.

161.1.02 Related References

A. Standard Specifications

Section 105—Control of Work

Section 106—Control of Materials

Section 107—Legal Regulations and Responsibility to the Public

Section 109—Measurement and Payment

Section 160—Reclamation of Material Pits and Waste Areas

Section 162—Erosion Control Check Dams

Section 163—Miscellaneous Erosion Control Items

Section 166—Restoration or Alteration of Lakes and Ponds

Section 170—Silt Retention Barrier

Section 171—Silt Fence

Section 205—Roadway Excavation

Section 434—Asphalt Paved Ditches

Section 441—Miscellaneous Concrete

Section 603—Rip Rap

Section 700—Grassing

Section 711— Turf Reinforcement Matting

Section 716—Erosion Control Mats (Slopes)

Erosion control measures contained in the Specifications include:

Erosion Control Measure	Section
Concrete Paved Ditches	441
Check Dams	163.3.05.J
Mulching	700.3.05.G
Erosion Control Mats (Slopes)	716
Grassing	700
Maintenance of Temporary Erosion and Sedimentation Control Devices	165
Turf Reinforcement Matting	711
Reclamation of Material Pits and Waste Areas	160
Rip Rap	603
Restoration or Alteration of Lakes and Ponds	166
Asphalt Ditch Paving	434
Temporary Sediment Basin	163.3.05.C
Silt Control Gates	163.3.05.A
Silt Retention Barrier	170
Sod	700.3.05.H & 700.3.05.I
Mulch	163.3.05.G
Temporary Grass	163.3.05.F
Silt Fence	171
Temporary Slope Drains	163.3.05.B
Triangular Silt Barrier	720
Silt Filter Bag	719
Organic and Synthetic Material Fiber Blanket	713

B. Referenced Documents

NPDES Infrastructure Permit No. GAR100002

GDOT WECS seminar

Georgia Soil and Water Conservation Commission Certification Level IA and Level II courses

Environmental Protection Divisions Rules and Regulations (Chapter 391-3-7)

OCGA Sec 12-7-1 et seq.

Erosion, Sedimentation and Pollution Control Plan (ESPCP)

161.1.03 Submittals

A. Status of Erosion Control Devices

The Worksite Erosion Control Supervisor (WECS) or certified personnel will inspect the installation and maintenance of the Erosion Control Devices according to Subsection 167.3.05.B and the ESPCP.

1. Submit all reports to the Engineer within 24 hours of the inspection. Refer to Subsection 167.3.05.C for report requirements.
2. The Engineer will review the reports and inspect the Project for compliance and concurrence with the submitted reports.
3. The Engineer will notify the WECS or certified personnel of any additional items that should be added to the reports.
4. Items listed in the report requiring maintenance or correction shall be completed within seventy-two (72) hours.
5. BMP(s) that has failed or is deficient beyond routine maintenance and has resulted in sediment deposition into waters of the State shall have immediate reasonable steps taken to address the condition, including but not limited to cleaning up any contaminated surfaces so the sediment material will not discharge in subsequent storm events. When the repair does not require a new or replacement BMP or significant repair, the BMP failure or deficiency must be corrected by the close of the next business day from the time of discovery. If the correction requires a new or replacement BMP or significant repair, the correction must be completed and operational within seven (7) days from the time of discovery. If seven (7) days is infeasible, the Contractor must document the reasons why the timeframe is infeasible and coordinate with the Engineer to schedule the correction as soon as feasible after the seven (7) day timeframe. The Department must be in agreement with the infeasibility assessment.

B. Erosion and Sediment Pollution Control Plan

1. Project Plans

An Erosion, Sedimentation and Pollution Control Plan (ESPCP) for the construction of the project will be provided by the Department. The ESPCP will be prepared for the various stages of construction necessary to complete the project. If the Contractor elects to alter the stage construction from that shown in the plans, it will be the responsibility of the Contractor to have the plans revised and prepared in accordance with the current GAR100002 NPDES permit by a Design Professional to reflect all changes in Staging. This will also include any revisions to erosion and sedimentation control item quantities. If the changes affect the Comprehensive Monitoring Program (CMP), the Contractor will be responsible for any revisions to the CMP as well. Submit revised plans and quantities to the Engineer for review prior to land disturbing activities.

2. Haul Roads, Borrow Pits, Excess Material Pits, etc.

The Contractor is responsible for amending the approved erosion, sedimentation and control plans if they add a haul road that is outside of the project roadway but within the right of way or construct any borrow pits, or excess material pits inside the Right of Way. Prepare these plans for all stages of construction and include the appropriate items and quantities. Submit these plans to the Engineer for review prior to land disturbing activities. These plans are to be prepared by a Design Professional.

If construction of haul roads, or borrow pits, or excess material pits, etc., (inside the Right of Way) encroach within the 25 foot (7.6 m) buffer along the banks of all state waters or within the 50 ft. (15 m) buffer along the banks of any state waters classified as a “trout stream”, a state water buffer variance must be obtained by the Contractor prior to beginning any land disturbing activity in the stream buffer.

3. Erosion Control for Borrow and Excess Material Pits Outside the Right-of-Way

Erosion control for borrow pits and excess material pits outside the right of way is the responsibility of the Contractor. If borrow or excess material pits require coverage under the National Pollutant Discharge Elimination System permit (NPDES) or other permits or variances are required, submit a copy of all documentation required by the permitting agency to the Engineer. All costs associated with complying with local, state, and federal laws and regulations are the responsibility of the Contractor.

4. Culverts and Pipes

The ESPCP does not contain approved methods to construct a stream diversion or stream diversion channel. The Contractor shall prepare a diversion plan utilizing a Design Professional as defined in the current NPDES permit. See Subsection 161.3.05 G for additional information.

5. Temporary Asphalt or Concrete Batch Plants

In addition to the requirements of any applicable specifications, if the Department authorizes the temporary installation and use of any asphalt, concrete or similar batch plants within its right of way, the contractor shall submit an NOI to the Georgia Environmental Protection Division for coverage under the following NPDES permits; The Infrastructure permit for the construction of the plant, and the Industrial permit for the operation of, such a plant. The contractor shall submit the NOIs as both the Owner and the Operator.

161.2 Materials

General Provisions 101 through 150.

161.2.01 Delivery, Storage, and Handling

General Provisions 101 through 150.

161.3 Construction Requirements

161.3.01 Personnel

A. Duties of the Worksite Erosion Control Supervisor

Before beginning Work, designate a Worksite Erosion Control Supervisor (WECS) to initiate, install, maintain, inspect, and report the condition of all erosion control devices as described in Sections 160 through 171 or in the Contract and ESPCP documents. The designee shall submit their qualifications on the Department provided resume form for consideration and approval. The contractor may utilize additional persons having WECS qualifications to facilitate compliance however, only one WECS shall be designated at a time.

The WECS and alternates shall:

- Be an employee of the Prime Contractor.
- Have at least one year of experience in erosion and sediment control, including the installation, inspection, maintenance and reporting of BMPs.
- Successfully completed the Georgia Soil and Water Conservation Commission Certification Course Level IA and the Department's WECS Certification Course.
- Provide phone numbers where the WECS can be located 24 hours a day.

The WECS' duties include the following:

- Be available 24 hours a day and have access to the equipment, personnel, and materials needed to maintain erosion control, and to the extent practicable, flooding control. An approved representative can be substituted for the WECS in regard to 24 hour availability. This representative shall be at least GSWCC Level IA, or higher, but is not required to be certified as a WECS.
- Inform the Engineer in writing whenever the alternate WECS will assume project responsibilities for more than 3 (three) days.
- Ensure that erosion control deficiencies are corrected within seventy-two (72) hours.
- Ensure that erosion control deficiencies that resulted in sediment deposition into waters of the State are corrected.
- Deficiencies that interfere with traffic flow, safety, or downstream turbidity are to be corrected immediately.

- Be on the site within three (3) hours after receiving notification of an emergency prepared to positively respond to the conditions encountered. The Department may handle emergencies without notifying the Contractor. The Department will recover costs for emergency maintenance work according to Subsection 105.15, *Failure to Maintain Roadway or Structures.*
- Maintain and submit for project record, "As-built" Erosion, Sedimentation and Control Plans that supplement and graphically depict EC-1 reported additions and deletions of BMPs. The As-Built plans are to be accessed and retained at a Department facility at all times.
- Ensure that both the WECS and the alternate meet the criteria of this Subsection.
- The WECS shall maintain a current certification card for the duration of the Project. Recertification of the WECS may begin within three hundred sixty five (365) days of the expiration date of the current certification and upon receiving a passing examination grade; the current expiration date shall be extended three (3) years. Certification shall be allowed to occur without a lapse of the credential for a period not to exceed ninety (90) days after the current expiration date. If the allowed ninety (90) days has lapsed, the individual is no longer certified to serve in a WECS capacity on the Project until the individual attends and passes the course examination.

161.3.02 Equipment

General Provisions 101 through 150.

161.3.03 Preparation

General Provisions 101 through 150.

161.3.04 Fabrication

General Provisions 101 through 150.

161.3.05 Construction

A. Control Dust Pollution

The contractor shall keep dust pollution to a minimum during any of the activities performed on the project. It may be necessary to apply water or other BMPs to roadways or other areas reduce pollution.

B. Perform Permanent or Temporary Grassing

Perform permanent grassing, temporary grassing, or mulching on cut and fill slopes weekly (unless a shorter period is required by Subsection 107.23) during grading operations. When conditions warrant, the Engineer may require more frequent intervals.

Under no circumstances shall the grading (height of cut) exceed the height operating range of the grassing equipment. It is extremely important to obtain a cover, whether it is mulch, temporary grass or permanent grass. Adequate mulch is a must.

When grading operations or other soil disturbing activities have stopped, perform grassing or erosion control as shown in the Plans, as shown in an approved Plan submitted by the Contractor, or as directed by the Engineer.

C. Seed and Mulch

Refer to Subsection 161.3.05 B, *Perform Permanent and Temporary Grassing.*

D. Implement Permanent or Temporary Erosion Control

1. Silt fence shown along the perimeter, e.g. right of way, and sediment containment devices, e.g. sediment basins, shall be installed prior to major clearing and grubbing operations. Minor clearing and grubbing are allowed for the sole purpose of installing perimeter controls and other initial phase BMPs.
2. Incorporate permanent erosion control features into the Project at the earliest practicable time, e.g. velocity dissipation, permanent ditch protection.
3. Use temporary erosion control measures to address minor conditions that develop during construction, e.g. between construction stages.
4. Use temporary erosion control measures when installation of permanent erosion control features cannot be accomplished.

The Engineer has the authority to:

- Limit the surface area of erodible earth material exposed by clearing and grubbing.
- Limit the surface area of erodible earth material exposed by excavation and borrow and fill operations.
- Limit the area of excavation, and embankment operations in progress to correspond with the Contractor's ability to keep the finish grading, mulching, seeding, and other permanent erosion control measures current.
- Direct the Contractor to provide immediate permanent or temporary erosion control to prevent contamination of adjacent streams or water courses, lakes, ponds, or other areas of water impoundment.

Such Work may include constructing items listed in the table in Subsection 161.1.02.A, *Related References* or other control devices or methods to control erosion.

E. Erodible Area

NOTE: Never allow the surface area of erodible earth material exposed at one time to exceed 17 acres (7 ha) except as approved by the State Construction Engineer.

The maximum of 17 acres (7 ha) of exposed erodible earth applies to the entire Project and to all of its combined operations as a whole, not to the exposed erodible earth of each individual operation.

Upon receipt of a written request from the contractor the State Construction Engineer, or his designee, will review; the request, any justifications and the Project conditions for waiver of the 17 acres (7 ha) limitation. If the 17 acre limitation is increased by the State Construction Engineer, the WECS shall not be assigned to another project in that capacity and should remain on site each work day that the exposed acreage exceeds 17 acres.

After installing temporary erosion control devices, e.g., grassing, mulching, stabilizing an area, and having it approved by the Engineer, that area will be released from the 17 acres (7 ha) limit.

F. Perform Grading Operations

Perform the following grading operations:

1. Whenever practicable, complete each roadway cut and embankment continuously.
2. Maintain the top of the earthwork in roadway sections throughout the construction stages to allow water to run off to the outer edges, including techniques to minimize concentrated flow.
3. Provide temporary slope drain facilities with inlets and velocity dissipaters (straw bales, silt fence, aprons, etc.) to carry the runoff water to the bottom of the slopes. Place drains at intervals to handle the accumulated water.
4. Continue temporary erosion control measures until permanent drainage facilities have been constructed, pavement placed, and the grass on planted slopes stabilized to deter erosion.

G. Perform Construction in Rivers and Streams

Perform construction in river and stream beds as follows:

1. Unless otherwise agreed to in writing by the Engineer, restrict construction operations in rivers, streams, and impoundments to areas where channel changes or access for construction are shown on the Plans to construct temporary or permanent structures.
2. If channel changes or diversions are not shown on the Plans, the Contractor shall develop diversion plans prepared in accordance with the current GAR100002 NPDES Infrastructure Construction permit utilizing a design professional as defined within the permit. The Engineer will review prepared diversion plans for content only and accepts no responsibility for design errors or omissions. Amendments will be made part of the project plans by attachment. Include any associated costs in the price bid for the overall contract. Any contract time associated with the submittal or its review and subsequent response will not be considered for an extension of Contract time. All time associated with this subsection shall be considered incidental.
3. If additional access for construction or removal of work bridges, temporary roads/access or work platforms is necessary, and will require additional encroachment upon river or stream banks and bottoms, the contractor shall prepare a plan in accordance with the current GAR100002 NPDES Infrastructure Construction permit utilizing a design professional as defined within the permit. Plans should be submitted at least 12 weeks prior to the date the associated work is expected to begin. If necessary, the plan will be provided to the appropriate regulating authority, e.g. United States Army Corps of Engineers by the Department for consideration and approval. No work that impacts areas beyond what has been shown in the approved plans will be allowed to begin until written approval of the submitted plan has been provided by the Department. Approved plan amendments will be made part of the project plans by attachment. Include any associated costs in the price bid for the overall contract. Any contract time associated with the submittal or its review and subsequent response will not be considered for an extension of Contract time. All time associated with this subsection shall be considered incidental.
4. Clear rivers, streams, and impoundments of the following as soon as conditions permit:
    - Falsework
    - Piling that is to be removed
    - Debris
    - Other obstructions placed or caused by construction operations
5. Do not ford live streams with construction equipment.
6. Use temporary bridges or other structures that are adequate for a 25-year storm for stream crossings. Include costs in the price bid for the overall contract.
7. Do not operate mechanized equipment in live streams except to construct channel changes or temporary or permanent structures, and to remove temporary structures, unless otherwise approved in writing by the Engineer.

H. State Water Buffers and Environmental Restrictions

1. The WECS shall review the plans and contract documents for environmental restrictions, Environmentally Sensitive Areas (ESA), e.g. buffers, etc prior to performing land disturbing activities.
2. The WECS shall ensure all parties performing land disturbing activities within the project limits are aware of all environmental restrictions.
3. Buffer delineation shall be performed prior to clearing, or any other land disturbing activities. Site conditions may require temporary delineation measures to be implemented prior to the installation of orange barrier/safety fencing. The means of temporary delineation shall have the Engineer's prior approval.
4. The WECS shall allow the Engineer to review the buffer delineation prior to performing any land disturbing activities, including but not limited to clearing, grubbing and thinning of vegetation. Any removal and relocation of buffer delineation based upon the Engineer's review will not be measured for separate payment.
5. The WECS shall advise the Engineer of any surface water(s) encountered that are not shown in the plans. The WECS shall prevent land disturbing activities from occurring within surface water buffers until the Engineer provides approval to proceed.

I. Maintenance Projects

Projects that consist of asphalt resurfacing, shoulder reconstruction and/or shoulder widening; schedule and perform the construction of the project to comply with the following:

1. After temporary and permanent erosion control devices are installed and the area permanently stabilized (temporary or permanent) and approved by the Engineer, the area may be released from the 1 acre (0.4 ha) limit.
2. The maximum of 1 acre (0.4 ha) of erodible earth applies to the entire project and to all combined operations, including borrow and excess material operations that are within the right of way, not 1 acre (0.4 ha) of exposed erodible earth for each operation.
3. Do not allow the disturbed exposed erodible area to exceed 1 acre (0.4 ha). This 1 acre (0.4 ha) limit includes all disturbed areas relating to the construction of the project including but not limited to slope and shoulder construction.
4. At the end of each working day, permanently stabilize all of the area disturbed by slope and shoulder reconstruction to prevent any contamination of adjacent streams or other watercourses, lakes, ponds or other areas of water impoundment. For purposes of this Specification, the end of the working day is defined as when the construction operations cease. For example, 6:00 a.m. is the end of the working day on a project that allows work only between 9:00 p.m. and 6:00 a.m.)
5. Stabilize the cut and fill slopes and shoulder with permanent or temporary grassing and a Wood Fiber Blanket (Section 713, Type II). Mulching is not allowed. Borrow pits, soil disposal sites and haul roads will not require daily applications of wood fiber blanket. The application rate for the Wood Fiber Blanket on shoulder reconstruction is the rate specified for Shoulders. For shoulder reconstruction, the ground preparation requirements of Subsection 700.3.05.A.1 are waived. Preparation consists of scarifying the existing shoulders 4 to 6 in. (100 to 150 mm) deep and leaving the area in a smooth uniform condition free from stones, lumps, roots or other material.
6. If a sudden rain event occurs that would not allow the Contractor to apply the Type II Wood Fiber Blanket per Section 713, install Wood Fiber Blanket Type I per Section 713 if directed by the Engineer. Wood Fiber Blanket Type I application is for emergency use only.
7. Install temporary grass or permanent grass according to seasonal limitations and Specifications. When temporary grass is used, use the over seeding method (Subsection 700.3.05.E.4) when planting permanent grass.
8. Remove and dispose of all material excavated for the trench widening operation at an approved soil disposal site by the end of each working day. When shoulder reconstruction is required, this material may be used to reconstruct the graded shoulder after all asphaltic concrete pavement has been placed.
9. Provide immediate permanent and/or temporary erosion control measures for borrow pits, soil disposal sites and haul roads to prevent any contamination of adjacent streams or other watercourses, lakes, ponds or other areas of water impoundment.
10. Place asphalt in the trench the same day as the excavation occurs. Place asphalt or concrete in driveways and side roads being re-graded the same day as the excavation occurs. Stabilize any disturbed or exposed soil that is not covered with asphalt with a Wood Fiber Blanket (and grass seed). Payment will be made for the Wood Fiber Blanket and grass seed only if the shoulder has been constructed to final dimensions and grade and no further grading will be required.
11. Do not allow the grading (height of cut or fill) to exceed the operating range of the grassing equipment.
12. When grading operations or other soil disturbing activities are suspended, regardless of the reason, promptly perform all necessary permanent stabilization and/or erosion control work.
13. Use temporary erosion control measures to:
    - Correct conditions that develop during construction but were unforeseen during the design stage.
    - Use as needed before installing permanent erosion control features.
    - Temporarily control erosion that develops during normal construction practices but are not associated with permanent control features on the Project.
14. When conditions warrant, such as unfavorable weather (rain event), the Engineer may require more frequent intervals for this work.

J. Other Projects

On non-NOI construction projects that have minimal amounts of grading with the installation of BMP's, the Contractors qualified personnel shall be required to submit a weekly EC-1 inspection form in accordance with Section 167. This weekly EC-1 inspection shall begin when BMP's are installed and continue until the acceptance of permanent stabilization.

161.3.06 Quality Acceptance

Before Final Acceptance of the Work, clean drainage structures within the project limits, both existing and newly constructed, and ensure that they are functioning properly. Costs to accomplish this work are incidental and shall be included in the overall bid for the Contract.

161.3.07 Contactor Warranty and Maintenance

Maintain the erosion control features installed to:

- Contain erosion within the limits of the right-of-way
- Control storm water discharges from disturbed areas

Effectively install and maintain the erosion control features. Ensure these features contain the erosion and sediment within the limits of the rights of way and control the discharges of storm-water from disturbed areas to meet all local, state, and federal requirements on water quality.

161.4 Measurement

Control of soil erosion and sedimentation is not measured separately for payment.

161.4.01 Limits

General Provisions 101 through 150.

161.5 Payment

When no pay item is shown in the Contract, the requirements of this Specification and the Erosion, Sedimentation and Pollution Control Plan shall be in full effect. The cost of complying with these requirements will not be paid for separately, but shall be included in the overall bid submitted with the exception of inspections performed by qualified personnel which will be included in Section 167.

When listed as a pay item in the Contract, payment will be made at the unit price bid for each particular item.

No payment will be made for erosion control outside the Right-of-Way or construction easements except as provided for by the Plans.

161.5.01 Enforcement and Adjustments

A. Failure to Provide WECS

If a designated WECS is not maintained, activities will cease except traffic control and erosion control work. Monies that are due or may become due could be withheld according to the Specifications.

B. Failure to Comply with Specifications

If the Contractor repeatedly fails to comply with any of the requirements of this Specification, all activities should cease immediately except traffic control and erosion control related work.

Monies that are currently due or that may become due shall be withheld according to the specifications. In addition, nonrefundable monies shall be deducted from the contract as shown in the Schedule of Deductions table below. These deductions are in addition to any actions taken in the above subsections. Deductions assessed for uncorrected deficiencies shall continue until all corrections are completed to the satisfaction of the Engineer.

Failure of the WECS or alternate to perform the duties specified in the Contract, or whose performance, has resulted in a citation being received from a State or Federal Regulatory Agency, e.g. the Georgia Environmental Protection Division, should result in one or more of the following;

- Suspension of the WECS' certification for a period of not less than 30 days
- Removal of the Contractor's project superintendent in accordance with Subsections 105.05 and 108.05 for a period not less than 14 days
- Department wide revocation of the WECS certification for a period of 12 months
- Removal of the Contractor's project superintendent in accordance with Subsections 105.05 and C. Receipt of a Consent Order, Notice of Violation, etc.

Regulatory enforcement actions will be resolved including the minimum following steps:

- The Department will perform an internal review of the alleged violations
- The Department will then meet with the Contractor to review and further determine responsibilities for the alleged violations
- The Department will then arrange to collectively meet with the regulatory agencies to negotiate resolutions and/or settlements.

The Department does not waive any rights of the Contractor to resolve such matters however, in the event that regulatory agency communication is addressed jointly to the Department and to the contractor, the Department reserves the right to coordinate all communications, e.g., written correspondence, and to schedule jointly attended meetings with Regulatory agencies such that timely and accurate responses are known to the Department.

Such Orders or Notices may result in the assessment of Deductions from the table below for each day the condition remains non-compliant following an agreed remedy.

Monetary penalties for which the contractor is obligated for as a result of regulatory enforcement may be withheld from future monies due the contractor.

Schedule of Deductions for Each Calendar Day of Erosion Control Deficiencies Initial Occurrence* Original Total Contract Amount		
From More Than	**To and Including**	**Daily Charge**
0	$100,000	$750
$100,000	$1,000,000	$1125
$1,000,000	$5,000,000	$2000
$5,000,000	$15,000,000	$3000
$15,000,000	-	$5000

***Continued non-compliance with the requirements of this specification may result in the doubling of the above tabulated Daily Charge.**

Upon written request from the Contractor, the Engineer may allow, limited activities to concurrently proceed once significant portions of the corrective work have been completed. This authorization may be similarly rescinded if in the opinion of the Engineer corrective work is not being diligently pursued.