

# PUTNAM COUNTY



## CONTRACT DOCUMENTS FOR

Project No. 18-42001-003

## GLENWOOD SPRINGS ROAD OVER LITTLE RIVER (BRIDGE REPAIR)

# PUTNAM COUNTY

## SECTION I

### BID PROPOSAL

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# **SPECIAL NOTICE**

**120 CALENDAR DAYS ARE ALLOWED FOR CONSTRUCTION ON PROJECT NO. 18-42001-003 GLENWOOD SPRINGS ROAD OVER LITTLE RIVER. CONTRACTOR WILL BE ASSESSED LIQUIDATED DAMAGES IN THE AMOUNT OF \$750 PER CALENDAR DAY FOR FAILURE TO COMPLETE THE PROJECT ON SCHEDULE.**

**THE CONTRACTOR IS ADVISED THE ROAD IS TO REMAIN OPEN TO TRAFFIC DURING CONSTRUCTION.**

**THE CONTRACTOR IS ALSO ADVISED ALL EROSION CONTROL REQUIREMENTS SHOWN ON PLANS AND EROSION CONTROL MEASURES NECESSARY TO COMPLETE THE PROJECT SHALL BE INCLUDED IN THE PAY ITEM 161-1000 EROSION CONTROL.**

SECTION I

**NOTICE TO CONTRACTORS**

Sealed bids will be received by the Board of Commissioners of Putnam County, Georgia, 117 Putnam Drive, Suite A, Eatonton, Georgia 31024 until 10:00 a.m. local time, Thursday, January 17, 2019 for:

**18-42001-003  
GLENWOOD SPRINGS ROAD  
OVER LITTLE RIVER**

Scope of work for rehabilitation of the bridge consists of the following:

- 1) Replacing the cap riser at bent 5.
- 2) Encasing all piles at bent 5, providing a special structural encasement of the bent pile at bent 5.
- 3) Slope stabilization, and rebuilding the bank at bent 5.
- 4) The bridge will be jacked at bent 5 back, the existing cap riser and sole plates removed, and a new cap riser constructed with new anchor bolts, sole plates, and base plates.
  - a. The maximum limit of jacking of the bridge during construction is 1(one) inch.
- 5) All piles at bent 5 will be encased, and the bent pile will be reinforced with shear studs and a larger, special structural encasement.
- 6) The end bents will be armored with 24" type 1 rip-rap, a new bank will be constructed at bent 5 to address the excessive scour problem.
- 7) Reconstruction of the bank at bent 5 consists of:
  - a. Infilling with foundation backfill material
  - b. Overlaying with a layer of Type 1 grouted Rip Rap.

Bids received after the stated time will not be accepted. At 10:00 a.m. local time on the above date, the bids will be publicly opened and read aloud.

The Bid should be submitted in duplicate in a sealed envelope clearly marked '**GLENWOOD SPRINGS ROAD OVER LITTLE RIVER BID PROSOSAL FOR PUTNAM COUNTY, PROJECT No. 18-42001-003**' and include:

1. Completed Bid Form
2. Bid Bond, Certified Check or Cashier's Check
3. Corporate Certificate
4. Oath of Successful Bidder
5. References
6. List of Subcontractors
7. Schedule of Items
8. Contractor Affidavit and Agreement (E-verify)
9. SAVE Affidavit

Bidding Documents are available for viewing at the Putnam Board of Commissioners Office, Putnam County, Georgia, 117 Putnam Drive, Suite A, Eatonton, Georgia 31024. A complete set of plans and documents may be purchased for \$30.00 per set (non-refundable) from:

Moreland Altobelli Associates, LLC.  
2450 Commerce Avenue, Suite 100  
Duluth, Georgia 30096-8910  
Phone (770)263-5945



Putnam County 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 Putnam County Government should be directed to Mr. Paul Van Haute, County Manager, 706-485-5826.

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. 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 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, and must have an A.M. Best rating of A-5 or higher.

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

Questions regarding Bidding Documents, Drawings and Specifications should be directed to Mr. John Solomon, at [jsolomon@maai.net](mailto:jsolomon@maai.net) or facsimile (770) 263-7960 no later than Thursday, January 10, 2019 by 5:00 pm.

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. Putnam County reserves the right to reject any or all bids, to waive technicalities, and to make an award as deemed in its best interest. Where Putnam County provides forms for bid schedule and bond submissions, these forms must be used without exception.

All companies submitting a bid will be notified of award.

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

- Section I - Bid Proposal
- Section II - Contract Documents

BID FORM

To: THE BOARD OF COMMISSIONERS  
PUTNAM COUNTY, GEORGIA  
EATONTON, GEORGIA 31024

Gentlemen:

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

GLENWOOD SPRINGS ROAD  
OVER LITTLE RIVER

The Bidder has carefully examined and fully understands the Contract, Plans, and 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 Putnam County 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, 2013 Edition, 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 project 18-42001-003 Glenwood Springs Road Over Little River 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 County as liquidated damages and not as a penalty, (1) \$750 per calendar day for failure to complete the work in 120 calendar days, all as liquidation of the extra expense incurred by the county and liquidated damages to the county. Liquidated damages will continue until the contract is complete.

If this bid shall be accepted by Putnam County 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 Putnam County 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 Putnam County as liquidated damages.

Bidder acknowledges receipt of the following addenda:

<u>Addendum No.</u>	<u>Date Received</u>
_____	_____
_____	_____
_____	_____
_____	_____

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: \_\_\_\_\_

By: \_\_\_\_\_

Title: \_\_\_\_\_

**Putnam County, 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

Putnam County Board of Commissioners,  
(Name of Obligee)

117 Putnam Drive, Suite A, Eatonton, Georgia 31024  
(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 the Putnam County, Georgia, a proposal for furnishing materials, labor and equipment for: \_\_\_\_\_

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 Proposal.

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 Proposal and upon the terms, conditions, and prices set forth in the form and manner required by Putnam County, Georgia, and execute a sufficient and satisfactory Performance Bond and Payment Bond payable to Putnam County, Georgia, each in an amount of 100% of the total Contract Price, in form and with security satisfactory to said Putnam County, 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 Putnam County, Georgia, upon demand, the amount hereof in good and lawful money of the United States of America, not as a penalty, but as liquidated damages.

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. SS 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)

(SEAL)

BY: \_\_\_\_\_

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(Witness as to Principal)

\_\_\_\_\_  
(Address)

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

ATTEST:

By: \_\_\_\_\_  
(Attorney-in-Fact)

\_\_\_\_\_  
(Resident Agent)

(SEAL)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(Witness as to Surety)

\_\_\_\_\_  
(Address)

IMPORTANT: 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.

CORPORATE CERTIFICATE

I, \_\_\_\_\_, certify that I am the Secretary of the Corporation named as Contractor in the foregoing bid; that \_\_\_\_\_, who signed said bid in behalf of the Contractor, was then (Title) \_\_\_\_\_ of said Corporation; that said bid was duly signed for and in behalf of said Corporation by authority of its Board of Directors, and is within the scope of its corporate powers; that said Corporation is organized under the laws of the State of \_\_\_\_\_. This \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

\_\_\_\_\_(Seal)  
Signature

OATH OF SUCCESSFUL BIDDER

PUTNAM COUNTY, GEORGIA

Personally appeared before the undersigned officer duly authorized by law to administer oaths,

and \_\_\_\_\_ who, after being first duly sworn, depose and say that they are all the officers, agents, persons, or employees who have acted for or represented (Company Name) \_\_\_\_\_ in bidding or procuring a Contract with the Putnam County, Georgia on the following project:

**GLENWOOD SPRINGS ROAD OVER LITTLE RIVER**

and that said \_\_\_\_\_ has not by (himself, themselves) or through any persons, officers, agents, or employees prevented or attempted to prevent by any means whatsoever competition in such bidding; or by any means whatsoever prevented or endeavored to prevent anyone from making a bid therefore, or induced or attempted to induce another to withdraw a bid for said Work.

By: \_\_\_\_\_

\_\_\_\_\_  
Signature of Bidder

\_\_\_\_\_  
Name - Typed or Printed

\_\_\_\_\_  
Title

Sworn to and subscribed before me this

\_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_

Notary Public \_\_\_\_\_

PUTNAM COUNTY BOARD OF COMMISSIONERS



117 Putnam Drive, Suite A ♦ Eatonton, GA 31024  
706-485-5826 ♦ 706-923-2345 fax ♦ [www.putnamcountyga.us](http://www.putnamcountyga.us)

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

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

\_\_\_\_\_  
Federal Work Authorization User Identification Number

\_\_\_\_\_  
Date of Authorization

\_\_\_\_\_  
Name of Contractor

\_\_\_\_\_  
Name of Project

Putnam County Board of Commissioners  
Name of Public Employer

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

Executed on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ in

\_\_\_\_\_ (City), \_\_\_\_\_ (State).

\_\_\_\_\_  
Signature of Authorized Officer or Agent

\_\_\_\_\_  
Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME ON THIS THE  
\_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_\_

\_\_\_\_\_  
Notary Public Signature

My Commission Expires:\_\_\_\_\_



# PUTNAM COUNTY BOARD OF COMMISSIONERS



117 Putnam Drive, Suite A ♦ Eatonton, GA 31024

706-485-5826 ♦ 706-923-2345 fax

[www.putnamcountyga.us](http://www.putnamcountyga.us)

## SAVE Affidavit

**(U.S. Citizens are only required to provide this affidavit one time)**

By executing this affidavit under oath, as bidder to Putnam County Georgia as referenced in O.C.G.A. § 50-36-1, the undersigned applicant verifies one of the following with respect to my application for a public benefit:

**Please check one box only**

- 1)  I am a United States citizen
- 2)  I am a legal permanent resident of the United States
- 3)  I am a qualified alien or non-immigrant under the Federal Immigration and Nationality Act with an alien number issued by the Department of Homeland Security or other federal immigration agency

My alien number issued by the Department of Homeland Security or other federal immigration agency is:

\_\_\_\_\_

The undersigned applicant also hereby verifies that he or she is 18 years of age or older and has provided at least one secure and verifiable document, as required by O.C.G.A. § 50-36-1(e)(1), with this affidavit.

The secure and verifiable document provided with this affidavit can best be classified as:

\_\_\_\_\_.

In making the above representation under oath, I understand that any person who knowingly and willfully makes a false, fictitious, or fraudulent statement or representation in an affidavit shall be guilty of a violation of O.C.G.A. § 16-10-20, and face criminal penalties as allowed by such criminal statute.

Executed in \_\_\_\_\_ (city), \_\_\_\_\_ (state).

Signature of Applicant: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Date \_\_\_\_\_

SUBSCRIBED AND SWORN BEFORE ME ON THIS THE \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_

Notary Public Signature: \_\_\_\_\_

Affix Notary stamp/seal here

My Commission Expires: \_\_\_\_\_

## REFERENCES

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

1. Company Name \_\_\_\_\_  
Brief Description Of Project \_\_\_\_\_  
Completion Date \_\_\_\_\_  
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. Failure to return this page may result in rejection of bid.*



<b>PUTNAM COUNTY, GEORGIA</b>	
PROJECT #:	18-42001-003
PROJECT:	GLENWOOD SPRINGS ROAD OVER LITTLE RIVER

**BID SCHEDULE**

Item #	GDOT #	Description	Units	Est. Bid Quantity	Unit Price Bid	Total Price Bid
005	150-1000	TRAFFIC CONTROL: 18-42001-003	LS	1		
010	161-1000	EROSION CONTROL: 18-42001-003	LS	1		
015	207-0203	FOUND BKFILL MATL, TP II	CY	347		
020	603-1224	STN GROUTED RIP RAP, 24 IN	SY	400		
025	603-2024	STN DUMPED RIP RAP, TP 1, 24 IN	SY	1102		
030	603-7000	PLASTIC FILTER FABRIC	SY	1502		
		<b>BRIDGE</b>				
035	500-3101	CLASS 'A' CONCRETE	CY	14		
040	501-2000	STR STEEL	LS	1		
045	511-1000	BAR REINF STEEL	LB	845		
050	518-1000	RAISE EXISTING BRIDGE, STA 424+62	LS	1		
055	521-3000	PATCHING CONCRETE BRIDGE	SF	2		
060	600-0001	FLOWABLE FILL	CY	5		
					<b>TOTAL</b>	

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

<b>PUTNAM COUNTY, GEORGIA</b>	
PROJECT #:	18-42001-003
PROJECT:	GLENWOOD SPRINGS ROAD OVER LITTLE RIVER

**BID SCHEDULE**

Item #	GDOT #	Description	Units	Est. Bid Quantity	Unit Price Bid	Total Price Bid
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CERTIFICATION OF NONCOLLUSION IN BID PREPARATION \_\_\_\_\_  
(Signature) (Date)

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

In compliance with the attached specifications, the undersigned offers and agrees, if this bid is accepted by the Board of Commissioners within ninety (90) 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)*

FED TAX ID \_\_\_\_\_

ADDRESS: \_\_\_\_\_

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

REPRESENTATIVE SIGNATURE: \_\_\_\_\_

PRINT AUTHORIZED REPRESENTATIVE'S NAME: \_\_\_\_\_

TELEPHONE NUMBER: \_\_\_\_\_ FAX: \_\_\_\_\_

E-MAIL ADDRESS \_\_\_\_\_

COMPANY NAME: \_\_\_\_\_  
 Failure to return this page may result in rejection of bid.

## **CONTRACT DOCUMENTS**

### **TABLE OF CONTENTS**

- Contract
- Performance Bond
- Payment Bond
- Insurance Requirements
- General Conditions
- General Instructions for Bidders
- Special Provisions

**SECTION II**  
**CONTRACT**

This **AGREEMENT** made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ by and between Putnam County, Georgia (Party of the First Part, hereinafter called the County), and \_\_\_\_\_, (Party of the Second Part, hereinafter called the Contractor).

**WITNESSETH:** That the said Contractor has agreed, and by these presents does agree with the said County, for the consideration herein mentioned and under the provision of the Performance Bond and Payment Bond required by the Specifications to furnish all equipment, tools, materials, skill and labor of every description necessary to carry out and complete in a good, firm and substantial and workmanlike manner, the work specified, in strict conformity with the drawings and specifications, together with the foregoing proposal made by the Contractor, the Advertisement, the Instructions to Bidders, General Conditions, and this Agreement, shall all form essential parts to this Agreement. The work covered by this Agreement includes all work shown on plans and specifications and listed in the conditions and specifications to wit:

**GLENWOOD SPRINGS ROAD OVER LITTLE RIVER**

The Contractor awarded work under this contract shall commence work within ten (10) days after the issuance of the Notice to Proceed and shall fully complete all work within 120 calendar days on project 18-42001-003 Glenwood Springs Road Over Little River.

If said work is not completed within the times stated, the Contractor shall be liable and hereby agrees to pay the County as liquidated damages and not as a penalty, (1) \$750 per calendar day for failure to complete the work in 120 calendar days, all as liquidation of the extra expense incurred by the county and liquidated damages to the county. Liquidated damages will continue until the contract is complete.

The County shall pay and the Contractor shall receive the prices stipulated in the proposal hereto attached as full compensation for everything furnished and done by the Contractor under this contract, which shall in no event exceed (\$) based on the bid which sum shall be paid in the manner and terms specified in the Contract Documents, but before issuance of certificate of payment, if the Contractor shall not have submitted evidence satisfactory to the County that all payrolls, materials bills, and other indebtedness connected with the work have been paid, the County may withhold, in addition to the retained percentages, such amount or amounts as may be necessary to pay just claims for labor and services rendered and materials in and about the work, and such amount or amounts withheld or retained may be applied by the County to the payment of such just claims.

When the Contractor has performed in accordance with the provisions of this Agreement, Putnam County shall pay to the Contractor, within thirty (30) days of receipt of any payment request based upon work completed or service provided pursuant to the Contract, the sum so requested, less the retainage stated in this Agreement, if any. In the event that Putnam County fails to pay the Contractor within sixty (60) days of receipt of a pay request based upon work completed or service provided pursuant to the Contract, the County shall pay the Contractor interest at the rate of 1/2% per month or pro rata fraction thereof, beginning the sixty-first (61st) day following receipt of the pay request. The Contractor's acceptance of progress payments or final payment shall release all claims for interest on said payments.

It is further mutually agreed between the Parties hereto that if, at any time after the execution of the agreement and the Performance Bond for its faithful performance and the Payment Bond, the County shall deem the surety or sureties upon such bond to be inadequate to cover the performance of the work, the Contractor shall, at its expense, within five (5) days after the receipt of notice from the County to do so, furnish an additional bond or bonds in such form and amount, and with such surety or sureties as shall be satisfactory to the first party. In such event, no further payment to the Contractor shall be deemed to be due under this agreement until such new or additional security for the faithful performance of the work shall be furnished in a manner and form satisfactory to the County.

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 Contract.

(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.

PUTNAM COUNTY, GEORGIA

By: \_\_\_\_\_  
Billy Webster, Chairman  
Putnam County Board of Commissioners

ATTEST:

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Print Name  
County Clerk, Putnam County  
Board of Commissioners

APPROVED AS TO FORM:

\_\_\_\_\_  
Signature  
Putnam County Staff Attorney

CONTRACTOR: \_\_\_\_\_

By: \_\_\_\_\_  
Signature

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

\_\_\_\_\_  
Title

ATTEST:

\_\_\_\_\_  
Signature

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

Corporate Secretary

(Seal)

**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

Putnam County Board of Commissioners  
\_\_\_\_\_  
(Name of Obligee)

117 Putnam Drive, Suite A, Eatonton, Georgia 31024  
\_\_\_\_\_  
(Address of Obligee)

hereinafter referred to as Obligee; are held 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 well 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 conditions of this obligation are such that if the above bound 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 his 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. SS 36-91-1, et. eq. , and is intended to be and shall be construed as a bond in compliance with the requirements thereof.

(Signatures Next Page)

PUTNAM COUNTY, GEORGIA

ATTEST:

\_\_\_\_\_  
(Principal Secretary)

(SEAL)

\_\_\_\_\_  
(Witness as to Principal)

\_\_\_\_\_  
(Address)  
\_\_\_\_\_

ATTEST:

\_\_\_\_\_  
Resident or Nonresident Agent

(SEAL)

\_\_\_\_\_  
(Witness as to Surety)

\_\_\_\_\_  
(Address)  
\_\_\_\_\_

\_\_\_\_\_  
(Principal)

By: \_\_\_\_\_

\_\_\_\_\_  
(Address)

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

By: \_\_\_\_\_

(Attorney-in-Fact)

\_\_\_\_\_  
(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.

PUTNAM COUNTY, GEORGIA

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

Putnam County Board of Commissioners  
(Name of Oblige)

117 Putnam Drive, Suite A Eatonton, Georgia 31024  
(Address of Oblige)

hereinafter called Oblige;

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 \_\_\_\_\_

\_\_\_\_\_ Dollar

(\$ \_\_\_\_\_) 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 Oblige.

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.

PUTNAM COUNTY, GEORGIA

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. SS 36-91-1, et. eq. , and is intended to be and shall be construed as a bond in compliance with the requirements thereof.

(Signatures Next Page)

PUTNAM COUNTY, GEORGIA

ATTEST:

\_\_\_\_\_  
(Principal Secretary)

(SEAL)

\_\_\_\_\_  
(Witness as to Principal)

\_\_\_\_\_  
(Address)  
\_\_\_\_\_

ATTEST:

\_\_\_\_\_  
Resident or Nonresident Agent

(SEAL)

(Witness as to Surety)

\_\_\_\_\_  
(Address)  
\_\_\_\_\_

\_\_\_\_\_  
(Principal)

By: \_\_\_\_\_

\_\_\_\_\_  
(Address)

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

By: \_\_\_\_\_

(Attorney-in-Fact)

\_\_\_\_\_  
(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.

# PUTNAM COUNTY BOARD OF COMMISSIONERS



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117 Putnam Drive, Suite A ♦ Eatonton, GA 31024  
Tel: 706-485-5826 ♦ Fax: 706-923-2345 ♦ [www.putnamcountyga.us](http://www.putnamcountyga.us)

## INSURANCE CLAUSE FOR ALL COUNTY CONTRACTS

The Contractor shall indemnify and hold harmless, to the fullest extent allowed by law, Putnam County, Georgia, its members, its officers and employees from and against all losses, claims, damages and expenses, including court-ordered attorney's fees, arising out of or resulting from the performance of the contract that results in bodily injury, sickness, disease, death or injury to or destruction of tangible property, including the loss of use resulting therefrom and is caused in whole or in part by the Contractor, any subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable.

Contractor shall not commence work under this contract until he has obtained all insurance required under this Section and such insurance has been approved by PUTNAM COUNTY, nor shall the Contractor allow any subcontractor to commence work on his subcontract until all similar insurance required of the subcontractor has been so obtained and approved.

A. Workers' Compensation Insurance and Employer's Liability Insurance:

The Contractor shall take out and maintain during the life of this contract the applicable statutory Worker's Compensation Insurance, and in the case of any work sublet, the Contractor shall require the subcontractor similarly to provide statutory Worker's Compensation Insurance for the latter's employees. Coverage shall be provided by an insurance company authorized to write such insurance in all states where the Contractor will have employees located in the performance of this contract, and the Contractor shall require each of his subcontractors similarly to maintain Employer's Liability Insurance similarly to the Contractor.

Worker's Compensation – Required limits:

Coverage A – Coverage will include Statutory requirements

Coverage B – Employers Liability

\$100,000 Each Person

\$100,000 Each Person by Disease

\$500,000 Policy Limit – Disease

B. General Liability Insurance

1. The Contractor shall maintain during the life of this contract, Commercial General Liability Insurance, naming and protecting him and Putnam County against claims for damages resulting from (a) bodily injury, including wrongful death, and (b) property damage which may arise from operations under this contract whether such operations be by himself or by any subcontractor or anyone directly or indirectly employed by either of them. The insurance requirements are:

Commercial General Liability with limits of:

- \$1,000,000 Each Occurrence
- \$1,000,000 Personal Injury
- \$2,000,000 Products/Completed Operations
- \$2,000,000 General Aggregate

2. Coverage shall include Contractual Liability coverage insuring the contractual exposure as addressed in this contract.
  3. There shall be no exclusion or limitation for the Explosion (X), Collapse (C) and Underground (U) hazards.
  4. **Putnam County shall be named as Additional Insured.**
  5. The Commercial General Liability coverage shall be endorsed with the Designated Construction Project(s) General Aggregate Limit endorsement.
- C. Automobile Liability Insurance: The Contractor shall take out and maintain during the life of the contract such Automobile Liability Insurance as shall protect him against claims for damages resulting from (a) bodily injury, including wrongful death, and (b) property damage which may arise from the operations of any owned, hired, or non-owned automobiles used by or for him in any capacity in connection with the carrying out of this contract. The minimum acceptable limits of liability to be provided by such Automobile Liability Insurance shall be as follows:
- Bodily Injury and Property Damage \$1,000,000 Combined Single Limit
- D. Builder's Risk Insurance: **(For Building Construction Contracts Only)** Unless otherwise specified where buildings are to be constructed under this contract, the Contractor shall provide coverage for all direct physical loss (also known as "Special Causes of Loss"). Such insurance shall be written on a Replacement Cost basis covering such building in the amount equal to one-hundred percent (100%) of the contract amount (minimum) as specified herein. Losses, if any, shall be made payable to PUTNAM COUNTY and Contractor as their interest may appear. A certificate of insurance evidencing such insurance coverage shall be filed with PUTNAM COUNTY by the time work on the building begins and such insurance shall be subjected to the approval of PUTNAM COUNTY.
- E. Minimum Scope of Insurance: All Liability Insurance policies shall be written on an "Occurrence" basis only. All insurance coverage is to be placed with insurers authorized to do business in the State of Georgia.
- F. Certificate of Insurance: All Certificates of Insurance shall be filed with PUTNAM COUNTY on the standard ACCORD CERTIFICATE OF INSURANCE form showing the specific limits of insurance, coverage modifications and endorsements required by the preceding Sections A, B, C, D and showing PUTNAM COUNTY as an additional insured where required. Such certificate shall specifically state that insurance policies are to be endorsed to require the insurer to provide PUTNAM COUNTY thirty days notice of cancellation, non-renewal or any material reduction of insurance coverage.

***The original certificate shall be provided to the Putnam County Board of Commissioners as designated and mailed to: 117 Putnam Drive, Suite A, Eatonton, GA 31024.***



## 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, 2013 Edition, Supplemental thereto (Published and Not Published) and Special Provisions modifying them, except as noted below.

### Modification of Standard Specifications

<b><u>SECTION 101</u></b>	<b><u>DEFINITION AND TERMS</u></b>
Section 101.14 COMMISSIONER	Delete as written and substitute the following: THE PUTNAM COUNTY BOARD OF COMMISSIONERS
Section 101.22 DEPARTMENT	Delete as written and substitute the following: THE PUTNAM COUNTY BOARD OF COMMISSIONERS
Section 101.24 ENGINEER	Delete as written and substitute the following: PUTNAM COUNTY, DIRECTOR ACTING DIRECTLY OR THROUGH HIS DULY AUTHORIZED REPRESENTATIVE.
Section 101.83 COUNTY	Add: THE PUTNAM COUNTY BOARD OF COMMISSIONERS
Section 101.84 MAAI	Add: MORELAND ALTOBELLI ASSOCIATES, ILLC.

## **SECTION 102: BIDDING REQUIREMENTS AND CONDITIONS**

### **SECTION 102 BIDDING REQUIREMENTS AND CONDITIONS**

#### **Section 102.01 PREQUALIFICATION OF BIDDERS**

*Delete in its entirety and substitute the following:*

Before submitting a bid in excess of \$2,000,000, the Bidder shall have been prequalified with the Georgia Department of Transportation and received a Certificate of Qualification in accordance with the Rules and Regulations approved and adopted by the State Transportation Board. Bidders submitting bids of \$2,000,000 or less shall have been registered with the Georgia Department of Transportation. In addition, the aggregate total amount a Non-prequalified Bidder may have under contract shall not exceed \$4,000,000.

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 County 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 County 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 County 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 County 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 Putnam County, 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 Board of Commissioners of Putnam County. Such Bid Bond shall be on the forms provided by the County."

**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:

Putnam County Board of Commissioners  
Bid for Construction  
Bid Number  
Date and Hour of Bid Opening  
Company Name

## **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 County, 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 County for such purpose may be withheld for the use of the County; 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 County; 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 County 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 COUNTY 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 COUNTY for work done, materials furnished, costs incurred, or otherwise arising out of this Agreement and shall release the COUNTY 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 County 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 County will furnish sufficient control points from which the centerline can be re-established by the Contractor. It will be the responsibility of the Contractor to check these for accuracy and report any discrepancies, which are found to the Engineer.

After the Contractor has verified the accuracy of the existing centerline, 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 Putnam County.

The Contractor shall read and record original ground elevations in all cut areas before excavation begins. A permanent written record shall be maintained and provided to the Engineer, which will become the property of Putnam County.

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.”

## 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. During the life of this contract others, 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.

#### D. 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.

#### 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 and within 32 feet of the edge of pavement, as directed by the Engineer.
  1. 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 County 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 Putnam County 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 County. 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 Transportation Engineer, Putnam County. Two (2) weeks prior notice will be required. The Contractor will coordinate the contact with the Putnam County 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 Transportation Engineer, Putnam County, 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 Putnam County Road Improvement 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 Putnam County. 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 County 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 hall route will not be permitted unless special permission is granted by the Putnam County D.O.T.

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 Putnam County 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 325-5000 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 COUNTY BID SCHEDULE.
2. FAILURE TO RETURN APPLICABLE COMPLIANCE SHEETS/SPECIFICATION SHEETS.
3. FAILURE TO RETURN APPLICABLE AGENDA.
4. FAILURE TO PROVIDE INFORMATION ON ALTERNATES OR EQUIVALENTS.
5. THE COUNTY SHALL BE THE SOLE DETERMINATION OF TECHNICALITY VS. NON-RESPONSIVE BID.
6. FAILURE TO PROVIDE BID BOND, WHEN REQUIRED, WILL RESULT IN BID BEING DEEMED NON-RESPONSIVE AND AUTOMATIC REJECTION. BID BONDS ARE NOT REQUIRED ON ALL BIDS. BOND REQUIREMENTS ARE CLEARLY STATED ON THE INVITATION TO BID. IF YOU NEED CLARIFICATION CONTACT MR. JOHN SOLOMON AT (770) 263-5945.

**PUTNAM COUNTY  
DEPARTMENT OF COMMUNITY DEVELOPMENT  
GENERAL INSTRUCTIONS FOR BIDDERS, TERMS AND CONDITIONS**

**I. PREPARATION OF BIDS:**

- A. Each bidder shall examine the drawings, specifications, schedule and all instructions. Failure to do so will be at the bidder's risk, as the bidder will be held accountable for their bid response.
- B. Each bidder shall furnish all information required by the bid form or document. Each bidder shall sign the bid and print or type his or her name on the schedule. The person signing the bid must initial erasures or other changes. An authorized agent of the company must sign bids.
- C. **Individuals, firms and businesses seeking an award of a Putnam County contract may not initiate or continue any verbal or written communications regarding a solicitation with any County officer, elected official, employee or other County representative without permission of the County Administrator, named in the solicitation between the date of the issuance of the solicitation and the date of the final contract award by the Board of Commissioners. Violations will be reviewed by the County 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.**

**II. DELIVERY:**

- A. Each bidder should state time of proposed delivery of goods or services.
- B. Words such as "immediate," "as soon as possible," etc. shall not be used. The known earliest date or the minimum number of calendar days required after receipt of order (delivery A.R.O.) shall be stated (if calendar days are used, include Saturday, Sunday and holidays in the number).

**III. EXPLANATION TO BIDDERS:**

Any explanation desired by a bidder regarding the meaning or interpretation of the invitation for bids, drawings, specifications, etc. must be requested by the question cutoff deadline stated in the solicitation in order for a reply to reach all bidders before the close of bid. Any information given to a prospective bidder concerning an invitation for bid will be furnished to all prospective bidders as an addendum to the invitation if such information is necessary or if the lack of such information would be prejudicial to uninformed bidders. The written bid documents supersede any verbal or written communications between parties. Receipt of addendum should be acknowledged in the bid. It is the bidder's responsibility to ensure that they have all applicable

addenda prior to bid submittal. This may be accomplished via contact with Mr. John Solomon at [jsolomon@maai.net](mailto:jsolomon@maai.net) prior to bid submittal.

#### **IV. SUBMISSION OF BIDS:**

- A. Bids shall be enclosed in sealed envelopes, addressed to the Putnam County Board of Commissioners with the name of the bidder, the date and hour of opening and the invitation to bid number on the face of the envelope. Telegraphic/faxed bids will not be considered. Any addenda should be enclosed in the sealed envelopes as well.
- B. Samples of items, when required, must be submitted within the time specified and, unless otherwise specified by the County, at no expense to the County. Unless otherwise specified, samples will be returned at the bidder's request and expense if items are not destroyed by testing.
- C. Items offered must meet required specifications and must be of a quality which will adequately serve the use and purpose for which intended.
- D. Full identification of each item bid upon, including brand name, model, catalog number, etc. must be furnished to identify exactly what the bidder is offering. Manufacturer's literature may be furnished.
- E. The bidder must certify that items to be furnished are new and that the quality has not deteriorated so as to impair its usefulness.
- F. Unsigned bids will not be considered except in cases where bid is enclosed with other documents which have been signed. The County will determine this.
- G. Putnam County is exempt from federal excise tax and Georgia sales tax with regard to goods and services purchased directly by Putnam County. Suppliers and contractors are responsible for federal excise tax and sales tax, including taxes for materials incorporated in county construction projects. Suppliers and contractors should contact the State of Georgia Sales Tax Division for additional information.
- H. Information submitted by a bidder in the bidding process shall be subject to disclosure after the public opening in accordance with the Georgia Open Records Act. Each page of proprietary information must be identified. Entire bid may not be deemed proprietary.

#### **V. WITHDRAWAL OF BID DUE TO ERRORS:**

The bidder shall give notice in writing of his claim of right to withdraw his bid without penalty due to an error within two (2) business days after the conclusion of the bid opening procedure. Bids may be withdrawn from consideration if the price was substantially lower than the other bids due solely to a mistake therein, provided the bid was submitted in good faith, and the mistake was a clerical mistake as opposed to a judgement mistake, and was actually due to an unintentional arithmetic error or an unintentional omission of a quantity of work, labor or material made directly in the compilation of the bid, which unintentional arithmetic error or



unintentional omission can be clearly shown by objective evidence drawn from inspection of original work papers, documents and material used in the preparation of the bid sought to be withdrawn. The bidder's original work papers shall be the sole acceptable evidence of error and mistake if he elects to withdraw his bid. If a bid is withdrawn under the authority of this provision, the lowest remaining responsive bid shall be deemed to be low bid.

No bidder who is permitted to withdraw a bid shall, for compensation, supply any material or labor or perform any subcontract or other work agreement for the person or firm to whom the contract is awarded or otherwise benefit, directly or indirectly, from the performance of the project for which the withdrawn bid was submitted.

Supplier has up to forty-eight (48) hours to notify the Putnam County of an obvious clerical error made in calculation of bid in order to withdraw a bid after bid opening. Withdrawal of bid for this reason must be done in writing within the forty-eight (48) hour period. Suppliers who fail to request withdrawal of bid by the required forty-eight (48) hours shall automatically forfeit bid bond. Bid may not be withdrawn otherwise.

Bid withdrawal is not automatically granted and will be allowed solely at Putnam County's discretion.

**VI. TESTING AND INSPECTION:**

Since tests may require several days for completion, the County reserves the right to use a portion of any supplies before the results of the tests are determined. Cost of inspections and tests of any item which fails to meet the specifications shall be borne by the bidder.

**VII. F.O.B. POINT:**

Unless otherwise stated in the invitation to bid and any resulting contract, or unless qualified by the bidder, items shall be shipped F.O.B. Destination. The seller shall retain title for the risk of transportation, including the filing for loss or damages. The invoice covering the items is not payable until items are delivered and the contract of carriage has been completed. Unless the F.O.B. clause states otherwise, the seller assumes transportation and related charges either by payment or allowance.

**VIII. PATENT INDEMNITY:**

The contractor guarantees to hold the County, its agents, officers or employees harmless from liability of any nature or kind for use of any copyrighted or uncopyrighted composition, secret process, patented or unpatented invention, articles or appliances furnished or used in the performance of the contract, for which the contractor is not the patentee, assignee or licensee.

**IX. BID BONDS AND PAYMENT AND PERFORMANCE BONDS:**

A five percent (5%) bid bond, a one hundred percent (100%) performance bond, and a one hundred percent (100%) payment bond shall be furnished to Putnam County for any bid as required in bid package or document. Failure to submit appropriate bonding will result in

automatic rejection of bid. Bonding company must be authorized to do business in Georgia by the Georgia Insurance Commission, listed in the Department of the Treasury's publication of companies holding certificates of authority as acceptable surety on Federal bonds and as acceptable reinsuring companies, and have an A.M. Best rating as stated in the insurance requirement of the solicitation.

**X. DISCOUNTS:**

- A. Time payment discounts will be considered in arriving at net prices and in award of bids. Offers of discounts for payment within ten (10) days following the end of the month are preferred.
- B. In connection with any discount offered, time will be computed from the date of delivery and acceptance at destination, or from the date correct invoice or voucher is received, whichever is the later date. Payment is deemed to be made for the purpose of earning the discount, on the date of the County check.

**XI. AWARD:**

- A. Award will be made to the lowest responsive and responsible bidder. The quality of the articles to be supplied, their conformity with the specifications, their suitability to the requirements of the County, and the delivery terms will be taken into consideration in making the award. The County may make such investigations as it deems necessary to determine the ability of the bidder to perform, and the bidder shall furnish to the County all such information and data for this purpose as the County may request. The County reserves the right to reject any bid if the evidence submitted by, or investigation of such bidder fails to satisfy the County that such bidder is properly qualified to carry out the obligations of the contract.
- B. The County reserves the right to reject or accept any or all bids and to waive technicalities, informalities and minor irregularities in bids received.
- C. The County reserves the right to make an award as deemed in its best interest, which may include awarding a bid to a single bidder or multiple bidders; or to award the whole bid, only part of the bid, or none of the bid to single or multiple bidders, based on its sole discretion of its best interest.

**XII. DELIVERY FAILURES:**

Failure of a contractor to deliver within the time specified or within reasonable time as interpreted by Putnam County, or failure to make replacement of rejected articles/services when so requested, immediately or as directed by Putnam County County Manager, shall constitute authority for the Putnam County County Manager to purchase in the open market articles/services of comparable grade to replace the articles/services rejected or not delivered. On all such purchases, the contractor shall reimburse the County within a reasonable time specified by the Putnam County County Manager for any expense incurred in excess of contract prices, or the County shall have the right to deduct such amount from monies owed

the defaulting contractor. Alternatively, the County may penalize the contractor one percent (1%) per day for a period of up to ten (10) days for each day that delivery or replacement is late. Should public necessity demand it, the County reserves the right to use or consume articles delivered which are substandard in quality, subject to an adjustment in price to be determined by the Putnam County County Manager.

**XIII. COUNTY FURNISHED PROPERTY:**

No material, labor or facilities will be furnished by the County unless so provided in the invitation to bid.

**XIV. REJECTION AND WITHDRAWAL OF BIDS:**

Failure to observe any of the instructions or conditions in this invitation to bid may constitute grounds for rejection of bid.

**XV: CONTRACT:**

Each bid is received with the understanding that the acceptance in writing by the County of the offer to furnish any or all of the commodities or services described therein shall constitute a contract between the bidder and the County which shall bind the bidder on his part to furnish and deliver the articles quoted at the prices stated in accordance with the conditions of said accepted bid. The County, on its part, may order from such contractor, except for cause beyond reasonable control, and to pay for, at the agreed prices, all articles specified and delivered.

Upon receipt of a bid package containing a Putnam County "Sample Contract" as part of the requirements, it is understood that the bidder has reviewed the documents with the understanding that Putnam County requires that all agreements between the parties must be entered into via this document. If any exceptions are taken to any part, each must be stated in detail and submitted as part of the bid. If no exceptions are stated, it is assumed that the bidder fully agrees to the provisions contained in the "Sample Contract" in its entirety.

When the contractor has performed in accordance with the provisions of this agreement, Putnam County shall pay to the contractor, within thirty (30) days of receipt of any payment request based upon work completed or service provided pursuant to the contract, the sum so requested, less the retainage stated in this agreement, if any. In the event that Putnam County fails to pay the contractor within sixty (60) days of receipt of a pay requested based upon work completed or service provided pursuant to the contract, the County shall pay the contractor interest at the rate of ½% per month or pro rata fraction thereof, beginning the sixty-first (61<sup>st</sup>) day following receipt of pay requests. The contractor's acceptance of progress payments or final payment shall release all claims for interest on said payment.

**XVI. NON-COLLUSION:**

Bidder declares that the bid is not made in connection with any other bidder submitting a bid for the same commodity or commodities, and that the bid is bona fide and is in all respects fair and

without collusion or fraud. An affidavit of non-collusion shall be executed by each bidder. Collusion and fraud in bid preparation shall be reported to the State of Georgia Attorney General and the United States Justice Department.

**XVII. DEFAULT:**

The contract may be canceled or annulled by the Putnam County, County Manager in whole or in part by written notice of default to the contractor upon non-performance or violation of contract terms. An award may be made to the next low responsive and responsible bidder, or articles specified may be purchased on the open market similar to those so terminated. In either event, the defaulting contractor (or his surety) shall be liable to the County for costs to the County in excess of the defaulted contract prices; provided, however, that the contractor shall continue the performance of this contract to the extent not terminated under the provisions of this clause. Failure of the contractor to deliver materials or services within the time stipulated on his bid, unless extended in writing by the Putnam County, County Manager, shall constitute contract default.

**XVIII. DISPUTES:**

Except as otherwise provided in the contract documents, any dispute concerning a question of fact arising under the contract which is not disposed of shall be decided after a hearing by the Putnam County, County Manager, who shall reduce his/her decision to writing and mail or otherwise furnish a copy thereof to the contractor. The decision of the procurement agent shall be final and binding; however, the contractor shall have the right to appeal said decision to a court of competent jurisdiction.

**XIX. SUBSTITUTIONS:**

Bidders offering and quoting on substitutions or who are deviating from the attached specifications shall list such deviations on a separate sheet to be submitted with their bid. The absence of such a substitution list shall indicate that the bidder has taken no exception to the specifications contained herein.

**XX. INELIGIBLE BIDDERS:**

The County may choose not to accept the bid of a bidder who is in default on the payment of taxes, licenses or other monies due to the County. Failure to respond to three (3) consecutive times for any given commodity/service may result in removal from the supplier list under that commodity/service.

**XXI. OCCUPATION TAX CERTIFICATE:**

Each successful bidder shall provide evidence of a valid Putnam County occupation tax certificate if the bidder maintains an office within the unincorporated area of Putnam County. Incorporated, out of County, and out of State bidders are required to provide evidence of a certificate to do business in any town, County or municipality in the State of Georgia, or as otherwise required by County ordinance or resolution.

**XXII. PURCHASING POLICY AND REVIEW COMMITTEE:**

The Purchasing Policy and Review Committee has been established to review purchasing procedures and make recommendations for changes; resolve problems regarding the purchasing process; make recommendations for standardization of commodities, schedule buying, qualified products list, annual contracts, supplier performance (Ineligible Source List), and other problems or requirements related to Purchasing. The Purchasing Policy & Review Committee has authority to place suppliers and contractors on the Ineligible Source List for reasons listed in the Putnam County Purchasing Ordinance.

**XXIII. AMERICANS WITH DISABILITIES ACT:**

All contractors for Putnam County are required to comply with all applicable sections of the Americans with Disabilities Act (ADA) as an equal opportunity employer. In compliance with the Americans with Disabilities Act (ADA), Putnam County provides reasonable accommodations to permit a qualified applicant with a disability to enjoy the privileges of employment equal to those employees with disabilities. Disabled individuals must satisfy job requirements for education background, employment experience, and must be able to perform those tasks that are essential to the job with or without reasonable accommodations. Any requests for the reasonable accommodations required by individuals to fully participate in any open meeting, program or activity of Putnam County should be directed to Mr. Paul Van Haute, Putnam County, County Manager.

**XXIV. ALTERATIONS OF SOLICITATION AND ASSOCIATED DOCUMENTS**

Alterations of County documents are strictly prohibited and will result in automatic disqualification of the firm's solicitation response. If there are "exceptions" or comments to any of the solicitation requirements or other language, then the firm may make notes to those areas, but may not materially alter any document language.

**XVIII. TAX LIABILITY**

Local and state governmental entities must notify contractors of their use tax liability on public works projects. Under Georgia law, private contractors are responsible for paying a use tax equal to the sales tax rate on material and equipment purchased under a governmental exemption that is incorporated into a government construction project: excluding material and equipment provided for the installation, repair, or expansion of a public water, gas or sewer system when the property is installed for general distribution purposes. To the extent the tangible personal property maintains its character (for example the installation of a kitchen stove), it remains tax-exempt. However, if the installation incorporates the tangible personal property into realty, e.g., the installation of sheetrock, it becomes taxable to the private contractor.

See O.C.G.A. 48-8-3(2) and O.C.G.A. 48-8-63

**XIX. STATE LAW REGARDING WORKER VERIFICATION**

Effective July 1, 2013 State Law requires that all who enter into a contract for the physical

performance of services for all labor or service contract(s) that exceed \$2,499.99 (except for services performed by an individual who is licensed pursuant to Title 26, Title 43, or the State Bar of Georgia) for the County, must satisfy the Illegal Immigration Reform and Enforcement Act, in all manner, and such are conditions of the contract.

The Putnam County, County Manager shall be authorized to conduct random audits of a contractor's or subcontractors' compliance with the Illegal Immigration Reform and Enforcement Act and the rules and regulations of the Georgia Department of Labor. The contractor and subcontractors shall retain all documents and records of its compliance for a period of five (5) years following completion of the contract. This requirement shall apply to all contracts for all labor or service contracts that exceed \$2,499.99 except for services performed by an individual who is licensed pursuant to Title 26, Title 43, or the State Bar of Georgia.

Whenever it appears that a contractor's or subcontractor's records are not sufficient to verify the work eligibility of any individual in the employ of such contractor or subcontractor, the Putnam County, County Manager shall report same to the Department of Homeland Security and may result in termination of the contract if it is determined at any time during the work that the contractor/or subcontractor is no longer in compliance with the Illegal Immigration Reform and Enforcement Act.

State Law requires that all who enter into a contract for public works as defined by O.C.G.A. 36-91-2(10) for the County must satisfy the Illegal Immigration Reform and Enforcement Act of 2011, in all manner, and such are conditions of the contract.

By submitting a bid to the County, contractor agrees that, in the event the contractor employs or contracts with any subcontractor(s) in connection with the covered contract, the contractor will secure from the subcontractor(s) such subcontractor(s)' indication of the employee-number category applicable to the subcontractor, as well as attestation(s) from such subcontractor(s) that they are in compliance with the Illegal Immigration Reform and Enforcement Act of 2011. Original signed, notarized Subcontractor Affidavits and Agreements must be submitted to the County.

The Putnam County, County Manager shall be authorized to conduct random audits of a contractor's or subcontractors' compliance with the Illegal Immigration Reform and Enforcement Act of 2011 and the rules and regulations of the Georgia Department of Labor. The contractor and subcontractors shall retain all documents and records of its compliance for a period of three (3) years following completion of the contract. This requirement shall apply to all contracts for the public works as defined by O.C.G.A. 36-91-2(10) where any persons are employed on the County contract.

Whenever it appears that a contractor's or subcontractor's records are not sufficient to verify the work eligibility of any individual in the employ of such contractor or subcontractor, the Putnam County, County Manager shall report same to the Department of Homeland Security.

A contractor's failure to participate in the federal work authorization program as defined by the Illegal Immigration Reform and Enforcement Act of 2011 shall be sanctioned by termination of the contract. If it is determined that a subcontractor is not participating in the federal work

authorization program as defined by the Illegal Immigration Reform and Enforcement Act of 2011, Putnam County may direct the contractor to terminate that subcontractor. A contractor's failure to follow Putnam County's instruction to terminate a subcontractor that is not participating in the federal work authorization program as defined by the Illegal Immigration Reform and Enforcement Act of 2011 may be sanctioned by termination of the contract.

**XXIX. SOLID WASTE ORDINANCE**

No individual, partnership, corporation or other entity shall engage in solid waste handling except in such a manner as to conform to and comply with the current Putnam County Solid Waste Ordinance and all other applicable local, state and federal legislation, rules, regulation and orders.

**XXX. GENERAL CONTRACTORS LICENSE**

Effective July 1, 2008: **All General Contractors must have a current valid license from the State Licensing Board for Residential and General Contractors, unless specifically exempted from holding such license pursuant to Georgia law (O.C.G.A. Section 43-41-17).**

**XXXI. INDEMNIFICATION**

To the fullest extent permitted by law, the Contractor shall, at his sole cost and expense, indemnify, defend, satisfy all judgments, and hold harmless the County, the engineer, and their agents and employees from and against all claims, damages, actions, judgments, costs, penalties, liabilities, losses and expenses, including, but not limited to, attorney's fees arising out of or resulting from the performance of the work, provided that any such claim, damage, action, judgment, cost, penalty, liability, loss or expense (1) is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the work itself) including the loss of use resulting therefrom, and (2) is caused in whole or in part by any 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, regardless whether such claim is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge or otherwise reduce any of the rights or obligations of indemnity which would otherwise exist as to any party or person described in this agreement. In any and all claims against the County, 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 contained herein 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 Worker's Compensation Acts, disability benefit acts, or other employee benefit acts.

**XXXII. CODE OF ETHICS:**

"Proposer/Bidder" shall disclose under oath the name of all elected officials whom it employs or who have a direct or indirect pecuniary interest in the business entity, its affiliates, or its subcontractors. The "Proposer/Bidder" shall execute a Code of Ethics affidavit. Failure to submit the affidavit during the bid or proposal process shall render the bid or proposal non-responsive.

The act of submitting false information or omitting material information shall be referred to the Purchasing Policy & Review Committee for action pursuant to the Purchasing Ordinance or to the District Attorney for possible criminal prosecution.

Any business entity holding a contract with Putnam County that subsequent to execution of the contract or issuance of the purchase order employs, subcontracts with, or transfers a direct or indirect pecuniary interest in the business entity to an elected official shall within five (5) days disclose such fact in writing under oath to the Clerk of the Board of Commissioners. Failure to comply shall be referred to the Purchasing Policy & Review Committee for action pursuant to the Purchasing Ordinance or to the District Attorney for possible criminal prosecution.

**XXXIII. PENDING LITIGATION:**

A bid submitted by an individual, firm or business who has litigation pending against the County, or anyone representing a firm or business in litigation against the County, not arising out of the procurement process, will be disqualified.



**GLENWOOD SPRINGS ROAD OVER LITTLE RIVER  
(BRIDGE REPAIR)**

**SPECIAL PROVISIONS AND ADDITIONS**

  √   PUTNAM COUNTY – SUBCONTRACTOR AFFIDAVIT

  √   PUTMAN COUNTY – SUB-SUBCONTRACTOR AFFIDAVIT

  √   SECTION 150 – TRAFFIC CONTROL

  √   SECTION 161 – CONTROL OF SOIL EROSION AND SEDIMENTATION

  √   SECTION 163 – MISCELLANEOUS EROSION CONTROL ITEMS

  √   SECTION 171 – SILT FENCE

  √   SECTION 518 – RAISE EXISTING BRIDGE

  √   SECTION 547 – PATCHING CONCRETE BRIDGE STRUCTURE

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# PUTNAM COUNTY BOARD OF COMMISSIONERS



117 Putnam Drive, Suite A ♦ Eatonton, GA 31024  
706-485-5826 ♦ 706-923-2345 fax ♦ www.putnamcountyga.us

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

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

\_\_\_\_\_  
Federal Work Authorization User Identification Number

\_\_\_\_\_  
Date of Authorization

\_\_\_\_\_  
Name of Subcontractor

\_\_\_\_\_  
Name of Project

Putnam County Board of Commissioners

Name of Public Employer

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

Executed on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ in

\_\_\_\_\_ (city), \_\_\_\_\_ (state).

\_\_\_\_\_  
Signature of Authorized Officer or Agent

\_\_\_\_\_  
Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME ON THIS THE

\_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_\_

\_\_\_\_\_  
Notary Public Signature

My Commission Expires:

# PUTNAM COUNTY BOARD OF COMMISSIONERS



117 Putnam Drive, Suite A ♦ Eatonton, GA 31024  
706-485-5826 ♦ 706-923-2345 fax ♦ www.putnamcountyga.us

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

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

\_\_\_\_\_  
Federal Work Authorization User Identification Number

\_\_\_\_\_  
Date of Authorization

\_\_\_\_\_  
Name of Sub-subcontractor

\_\_\_\_\_  
Name of Project

\_\_\_\_\_  
Putnam County Board of Commissioners

\_\_\_\_\_  
Name of Public Employer

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

Executed on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ in

\_\_\_\_\_ (city), \_\_\_\_\_ (state).

\_\_\_\_\_  
Signature of Authorized Officer or Agent

\_\_\_\_\_  
Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME ON THIS THE  
\_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_\_

\_\_\_\_\_  
Notary Public Signature

\_\_\_\_\_  
My Commission Expires:

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA  
SPECIAL PROVISION  
PUTNAM COUNTY**

**Section 150—Traffic Control**

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**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 he or his 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 2009 Edition of the MUTCD 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, Paragraph 35.130) 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 bounded 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 Standard Manual.

### **150.1.01 Definitions**

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

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

###### 1. For All Projects Let Prior to and Including April/May 2018

###### 1. For All Projects Let Prior to and Including April/May 2018

B. Channelization Devices

1. For All Projects Let Prior to and Including April/May 2018
2. For All Projects Let Prior to and Including April/May 2018

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 ( $\leq 45$  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
- C. Variable Message Board 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 Shifts

C. 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 ( $\leq 4'$ )
- 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 ( $\leq 2''$ ) or Less Between Adjacent Travel Lanes
- 2. Difference of Two Inches ( $\leq 2''$ ) or Less Between Adjacent Travel Lane and Paved Shoulder Should
- 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 Payment**

150.5.01 Enforcement and Adjustments

### **150.1.03 Related References**

#### **A. Standard Specifications**

Section 104 - Scope of Work

Section 105 - 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 - Standard and Wet Weather Polyurea Traffic Stripe

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

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

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

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

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

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

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

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

Quality 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 his 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 150.5.01.

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 regularly perform inspections to ensure that traffic control is maintained. 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 150.5.01.

The designated Contractor's representative charged with the responsibility for traffic control on this project will review the project at least weekly after dark, but prior to midnight to ensure that all traffic control devices have been installed and maintained properly and is adequate to provide the necessary protection to the traffic in addition to the normal daily maintenance.

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 WCTS 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.D.

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.

A minimum of three (3) copies of the above details shall be submitted to the Engineer for approval at least fourteen (14) days prior to the anticipated traffic shift. 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 ( $\geq 48''$ ).

#### 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 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.

## 2. Temporary Pedestrian Facilities

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

### a. Temporary Walkways with Detectable Edging

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

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

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

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

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

Temporary walkways shall be constructed and maintained so there are no abrupt changes in grade or terrain that could cause a tripping hazard or could be a barrier to wheelchair use. The contractor shall construct and maintain the walkway to ensure that joints in the walkway have a vertical difference in elevation of no more than one quarter ( $\leq 1/4''$ ) of an inch and that the horizontal joints have gaps no greater than one half ( $\leq 1/2''$ ) of an inch. The grade of the temporary walkway should parallel the grade of the existing walkway or roadway and the cross slope should be no greater than two percent ( $\leq 2\%$ ).



A width of sixty inches (60”), if practical, should be provided throughout the entire length of any temporary walkway. The temporary walkway shall be a minimum width of forty eight inches (48”). When it is not possible to maintain a minimum width of sixty inches (60”) throughout the entire length of temporary walkway, a sixty inch (60”) by sixty inch (60”) 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 are 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 should meet the requirements of Section 913 and QPL-29

1. For all projects let prior to and including April/May 2018, signs can be:
  - a. All rigid fluorescent orange construction warning signs (black on fluorescent orange) shall meet the minimum retroreflectivity and color requirements of ASTM Type VII, VIII, IX or X regardless of the mounting height.
  - b. Warning signs (W3-1) for stop conditions that have rumble strips located in the travel lane shall be reflectorized with ASTM Type IX fluorescent yellow sheeting.
  - c. All other signs shall meet the requirements of ASTM Type III or IV except for "Pass With Care" and "Do Not Pass" signs which may be ASTM Type I unless otherwise specified
2. For all projects let May/June 2018 and afterward, 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 should meet the requirements of Section 913 and QPL-29

1. For all projects let prior to and including April/May 2018, channelization devices shall meet the minimum requirements of ASTM Type III or IV high intensity sheeting.
2. For all projects let May/June 2018 and afterward, all channelization devices (white/ fluorescent orange and white/red) shall meet the minimum retroreflectivity requirements of ASTM D4956 Type VI.

### 150.2.03 Arrow Panels

Arrow panel should meet the requirements for MUTCD (6F.61) 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 (6F.61). 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 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 (6F.67). For all projects let May/June 2018 and afterward, drums shall have six inch (6”) wide stripes – white/fluorescent orange.

##### 2. Application

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

##### 3. Longitudinal Channelization

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

a. FORTY FOOT (40') SPACING MAXIMUM

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

b. EIGHTY FOOT (80') SPACING MAXIMUM

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

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

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

4. Removal of Drums

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

**C. Vertical Panels**

1. Design

All vertical panels shall meet the minimum requirements of the MUTCD (6F.66). All vertical panels shall have a minimum of 270 square inches of retroreflective area facing the traffic and be a minimum thirty-six inches ( $\geq 36''$ ) high. For all projects let May/June 2018 and afterward, the vertical panel shall be in addition a minimum eight inches ( $\geq 8''$ ) wide with a stripe width of six inches (6") – white/fluorescent orange.

2. Application

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

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

## **D. Cones**

### 1. Design:

All cones shall be a minimum of twenty-eight inches ( $\geq 28''$ ) in height regardless of application and shall meet the requirements of the MUTCD (6F.64).

Retroreflectivity may be deleted from all cones.

### 2. Application

On interstate 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 (6F.68). 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 (6F.83).

### 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 fix object and shall be projected. The maximum length of rail that can be removed at any time without being replaced with positive barrier protection is a total of 2000 linear feet of existing rail or the total length of one run of existing rail, whichever is less. Based on existing field conditions, the Engineer may review the work and require that the guardrail be installed earlier than the maximum time allowed.

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

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

The laps on anchors shall be in accordance with the manufacture'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 150.5.01.

### **150.2.07 Interim Signs**

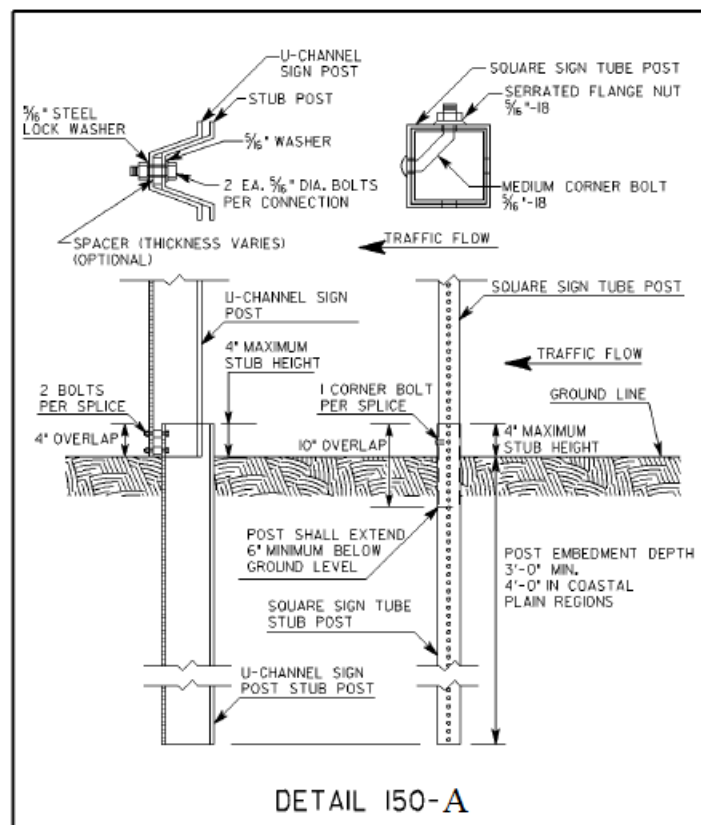
#### **A. Posts**

Permanent mounting height to the bottom of sign shall be seven (7) feet – 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) 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.

Galvanized U-Channel post can be used in lieu of square tubular posts until December 31, 2019. The U-Channel post shall meet the requirements of Section 911. Ground mounted sign(s) greater than nine (9) square feet shall be mounted on two posts. All posts replaced or installed on or after January 01, 2020 shall be square tubular posts.

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.



## B. 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 should follow the dimensions provide in MUTCD Table 6F-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 should follow the dimensions provide in 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.

### **150.2.08 Pavement Markings**

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

#### **A. All Traffic Striping for 45 Days or Less ( $\leq 45$ 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 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 overlay or grinded may be 4 inches in width or as shown on the plans.

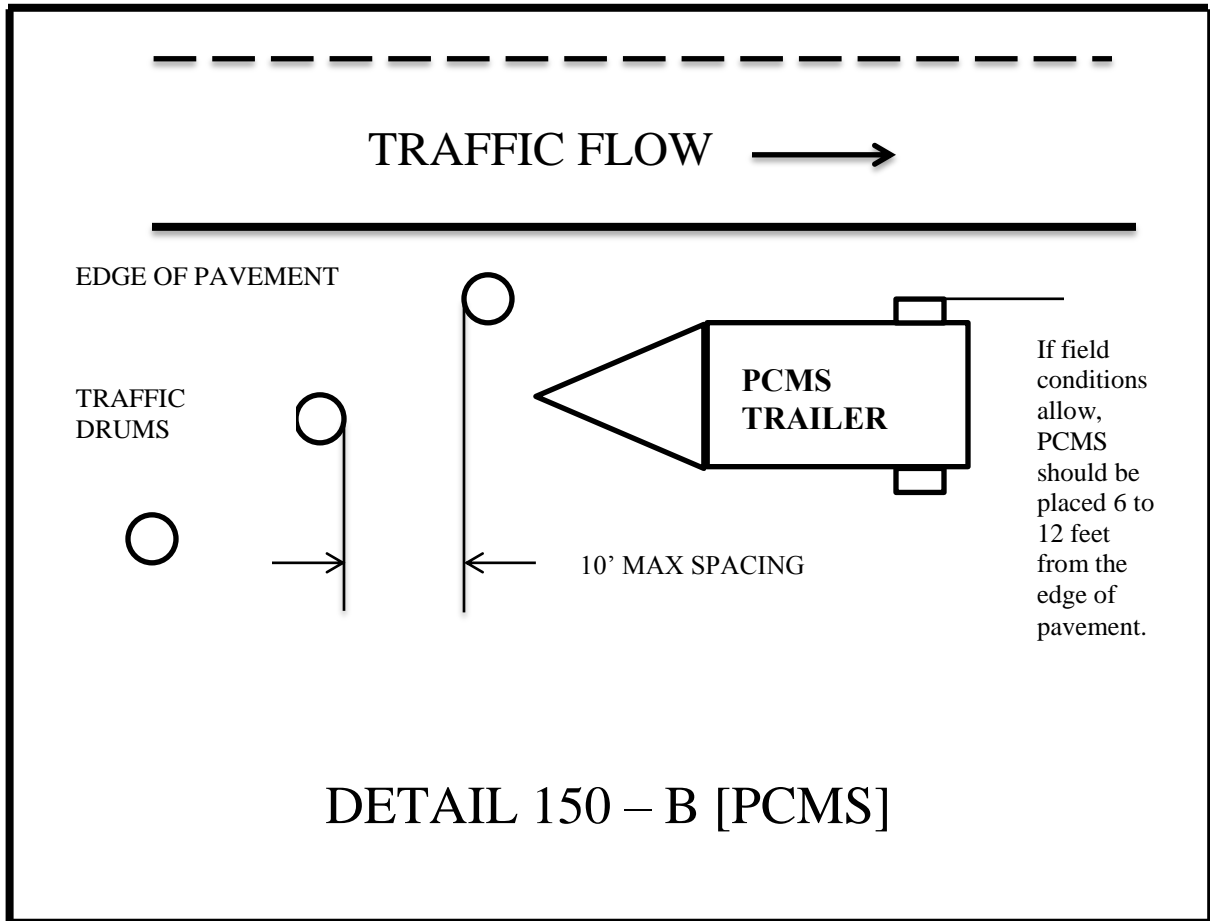
### **150.2.09 Portable Changeable Message Signs**

Unless specified as a paid item in the contract, the use of a portable changeable message sign will not be required. When specified, a portable changeable message sign (PCMS) shall meet the minimum requirements of Section 632, MUTCD (6F.60) and be on QPL-82. The maximum amount of messages allowed to be flashed on one PCMS is two phases (flashes). The language and the timing of the messages shall comply with the MUTCD and Section 632. When used as an advanced device, the PCMS should typically be placed ahead of the construction activities. If the PCMS is used as a substitute for another device, then the requirements for the other device apply.

Any PCMS in use, which is not protected by positive barrier protection, shall be delineated by a minimum of three drums that meet the requirement of Subsection 150.2.04.B. The drum spacing shall not exceed a maximum of ten



(10') feet as shown in Detail 150-B. When the PCMS is within twenty (20') feet of the opposing traffic flow, the trailing end of the PCMS shall be delineated with a minimum of three drums spaced in the same manner as the approach side of the PCMS.



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

**150.2.10 Portable Impact Attenuators**

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

Portable Impact Attenuator Unit/Arrays installation shall conform to the requirements of Section 648, Manufacturer's recommendations and Georgia Standard 4960 "Temporary Barrier (End Treatment Options)" and shall be installed at locations designated by the Engineer, and/or as shown on the plans. When gating

attenuators are used, the contractor shall maintain the appropriate recovery area in accordance with the manufacturers' recommendations.

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

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

### **150.2.11 Portable Temporary Traffic Control Signals**

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

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

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

Each signal face shall have at least three lenses. The lenses shall be red, yellow, or green in color and shall give a circular type of indication. All lenses shall be twelve (12") inches nominal in diameter.

A minimum of two signal faces shall face each direction of traffic. A minimum of one signal head shall be suspended over the roadway travel lane in a manner that will allow the bottom of the signal head housing to be not less than seventeen (17') feet above and not more than nineteen (19') feet above the pavement grade at the center of the travel lane. The second signal head may be located over the travel lane with the same height requirements or the second signal head may be located on the shoulder. When the signal head is located on the shoulder, the bottom of the signal head housing shall be at least eight (8') feet but not more than (15') feet above the pavement grade at the center of highway.

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

The signals shall be operated in a manner consistent with traffic requirements. The signals may be operated in timed-mode or in a vehicle-actuated mode. The signals shall be interconnected in a manner to ensure that conflicting movements cannot occur. To ensure that the appropriate operating pattern, including timing is displayed to the traveling public, regular inspections, including the use of accurate timing devices shall be made by the Worksite Traffic Control Supervisor. 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 Worksite Traffic Control Supervisor (WTCS) shall continuously monitor the portable traffic control signal to insure 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 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 150.5.01 will be assessed for any intermediate surface in place for greater than 45 days without rumble strips.

Rumble strips shall be installed on the final surface within fourteen (14) calendar days of the placement of the final surface in the area of the stop condition. Failure to install within fourteen (14) calendar days will result in assessment of non-refundable deductions in accordance with Subsection 150.5.01.

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 (6F.85).

#### **B. Application:**

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

The reflectors shall be 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:

- 1) Guardrails including anchors and delineation with properly lapped panels
- 2) Impact attenuators
- 3) Traffic signals
- 4) Warning devices
- 5) Pavement markings including words, symbols, stop bars, 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. 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.

## **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 traffic through the construction area by removing and replacing the undesirable material for half the width of the existing roadway at a time. Replacement should be made such that paving is completed to the level of the existing pavement in the adjacent lane by the end of the workday or before opening all the roadway to traffic.

### **E. Work Zone Geometric Restrictions**

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

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

Horizontal: The combined dimensions of the paved shoulder and the roadway surface remaining outside the Work Zone should be no less than sixteen feet ( $\geq 16'$ ) in width at any location.

Vertical: The overhead clearance should not be reduced to less than fifteen feet ( $\geq 15'$ ) at any location.

The restrictions above apply to all shifts, lane closures, on-site detours and off-site detours whether shown in the contract or proposed by the Contractor. It shall be the responsibility of the Contractor to verify that these minimum requirements have been met before proceeding with any phase of the Work. Two-lane, two-way roadways may have temporary horizontal restrictions of less than sixteen feet ( $\geq 16'$ ) during flagging operations. The minimum horizontal clearance should be restored before the flagging operation is removed.

### **F. Clear Zone**

At the end of the workday, all equipment, materials, and TTC devices not in use should be moved out of the clear zone or behind positive protection. The clear zone is defined by Georgia Standard 4000W "Lengths of Advancement, Clear Zone Distances, Fill Height Embankment". For urban roadway with curb, the minimum set back is six (6') feet from the curb face. If stored behind positive protection, proper lengths of advancement should be maintained. If stored behind guardrail the items shall be a minimum five feet ( $\geq 5'$ ) from the face of the guardrail and not in the recovery zone of the anchor.

The Worksite Traffic Control Supervisor (WTCS) shall monitor the work to ensure that all the rocks, boulders, construction debris, stockpiled materials, equipment, tools and other potential hazards are kept clear of the travel lane.

**G. Milled Surface Restrictions**

Unless modified by the special conditions, a milled surface on any asphaltic concrete surface shall not be allowed to remain open to traffic for a period of time that exceeds thirty (> 30) calendar days.

**H. Construction Vehicles**

The Contractor’s vehicles shall travel in the direction of normal roadway traffic and shall not reverse direction except at intersections, interchanges, or approved temporary crossings. The Contractor may submit a plan requesting that construction traffic be allowed to travel in the opposite direction of normal traffic when it would be desirable to modify traffic patterns to accommodate specific construction activities.

Prior approval of the Engineer shall be obtained before any construction traffic is allowed to travel in a reverse direction. If the Contractor’s submittal is approved, the construction traffic shall be separated from normal traffic by appropriate traffic control devices.

The parking of Contractor’s and/or workers’ personal vehicles within the work area or adjacent to traffic is prohibited. It shall be the responsibility of the Worksite Traffic Control Supervisor 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) 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 temporary traffic control (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.

#### **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 150.5.01.

#### **C. Removal of Existing Signs and Supports**

The Contractor shall not remove any existing signs and supports without prior approval from the Engineer. All existing signs and supports which are to be removed shall be stored and protected if this material will be required later in the work as part of the TTC plan. If the signs are not to be utilized in the work then the signs will become the property of the Contractor unless otherwise specified in the contract documents.

#### **D. Interim Guide, Warning and Regulatory Signs**

Interim guide, warning, or regulatory signs required to direct traffic and pedestrians shall be furnished, installed, reused, and maintained by the Contractor in accordance with the MUTCD, the Plans, Special Provisions, Special Conditions, or as directed by the Engineer. These signs shall remain the property of the Contractor. When the signs are used for long-term stationary operations as defined MUTCD (6G.02), the bottom of all interim signs shall be mounted seven feet (7') to eight feet (8') above the level of the pavement edge or sidewalk. The signs offset should be six feet (6') to twelve feet (12') from the pavement edge or two feet ( $\geq 2'$ ) minimum for sidewalks according to MUTCD (6F-1). 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 signs shall be used for all punch list work. Portable interim signs shall be mounted a minimum of one foot ( $\leq 1'$ ) above the level of the pavement edge for directional traffic of two (2) lanes or less and at seven feet (7') for directional traffic of three (3) or more lanes according to MUTCD (6F-2). Signs shall be mounted at the height recommended by the manufacturer's crashworthy testing requirements.

All sign blanks shall be rigid whether the sign is mounted as a portable sign, on a Type III barricade or as a permanent mount height sign. Utilities and their subcontractors working in the project limits, and not included in the project contract, may use non-rigid signs.

## **E. Existing Special Guide Signs**

Existing special guide signs on the Project shall be maintained until conditions require a change in location or legend content. When change is required, existing signs shall be modified and continued in use if the required modification can be made within existing sign borders using design requirements (legend, letter size, spacing, border, etc.) equal to that of the existing signs, or of Subsection 150.3.E.2. Differing legend designs shall not be mixed in the same sign.

### **1. Special Guide Signs**

Special guide signs are those expressway or freeway guide signs that are designed with message content (legend) that applies to a particular roadway location. When an existing special guide sign is in conflict with work to be performed, the Contractor shall remove the conflicting sign and reset it in a new, non-conflicting location which has been approved by the Engineer.

### **2. Interim Special Guide Signs**

When it is not possible to utilize existing signs, either in place or relocated, the Contractor shall furnish, erect, maintain, modify, relocate, and remove new interim special guide signs in accordance with the Plans or as directed by the Engineer. Interim special guide signs that may be required in addition to, or a replacement for, existing expressway and freeway (interstate) signs shall be designed and fabricated in compliance with the minimum requirements for guide signing contained in Part 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 36 inches for interim situations. The use of 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 portable changeable message signs 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 ( $\leq 3"$ ) between the travel lane and any type of shoulder.

The spacing of the signs shall not exceed one (1) mile and the signs shall be placed immediately past each crossroad intersection. The "Low" 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.

The spacing of the signs shall not exceed one (1) mile and the signs shall be placed immediately past each crossroad intersection. The “Shoulder Drop-Off” signs shall remain in place until the difference in elevation is eliminated and the shoulder has been dressed and permanently grassed for a minimum of thirty (30) calendar days. These signs shall be furnished, installed, maintained, and removed by the Contractor as part of Traffic Control-Lump Sum. These signs shall be black borders on fluorescent orange background.

### H. Bump Signage

A bump sign (W8-1) shall be utilized when a transverse joint in the pavement structure has a vertical difference in elevation of three quarters ( $\geq 3/4''$ ) of an inch or greater in depth with no horizontal taper to ramp the traffic from one elevation to the other. This condition typically occurs at approach slabs during pavement milling operations and at transverse joints in asphaltic pavement lifts. Other conditions include utility and storm drainage repairs that require concrete placement for patching and/or steel plating.

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 so as 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 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 and punch list work shall be performed with portable signage.

Project mileage indicated on the G20-1 sign shall be the actual project mileage rounded up to the nearest whole mile. Projects less than two (< 2) miles in length or individual worksites that are part of a multiple worksite project may delete this sign. The G20-1 sign shall be forty-eight inches by twenty-four inches (48" x 24") and the G20-2 sign shall be forty-eight inches by twenty-four inches (48" x 24").

## 2. Interstate, Limited Access and Multilane Divided Highways

In addition to the W20-1 signs required at 500 ft., 1000 ft. and 1500 ft., multi-lane divided highways shall also have additional advanced warning signs installed with the legend "ROAD WORK (2 MILES, 1 MILE and 1/2 MILE). All construction warning signs on divided highways shall be double indicated (i.e., on the left and right sides of the roadway.) If the use of the half (1/2) mile, one (1) mile and two (2) mile advanced warning signs cause an overlap with other work or do not benefit field conditions then the Engineer may review the use of these signs and eliminate their installation. When the posted speed limit is fifty ( $\leq$  50) mph or less, the one-half (1/2) mile, one (1) mile and two (2) mile signs should be eliminated especially in urban areas.

The W20-1 advance warning signs for ROAD WORK 500 FEET; 1000 FEET; and 1500 FEET shall be temporarily covered when work involving the advanced warning signs for lane shifts and lane closures overlap these signs. The ROAD WORK 1/2 MILE, ROAD WORK 1 MILE, and ROAD WORK 2 MILES shall be in place when the 500, 1000 and 1500 foot 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 a 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 in accordance with Detail 150-C.

A “Reduce Speed Limit Ahead” (W3-5) 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 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 ( $\leq 55$ ) 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.

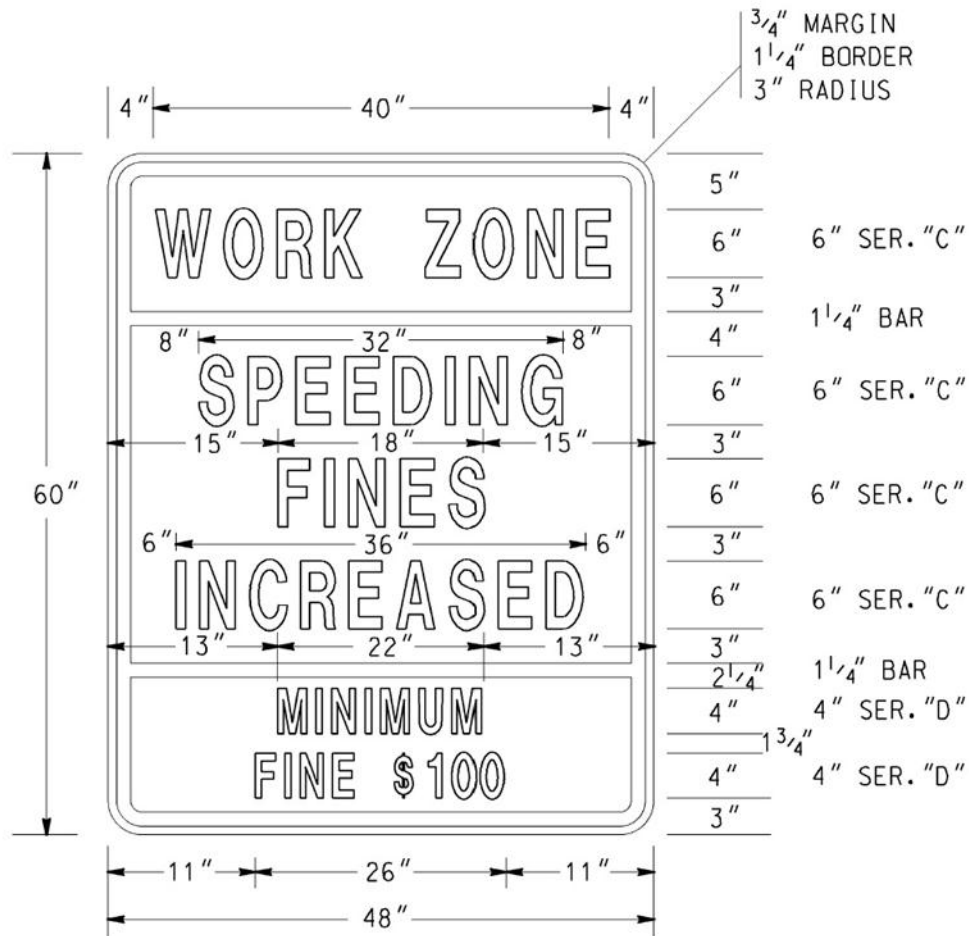
A copy of the weekly records for reduced speed zones shall be submitted to the Engineer.

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 can be set for the project limits.



HWZ-2

COLORS

TOP PANEL

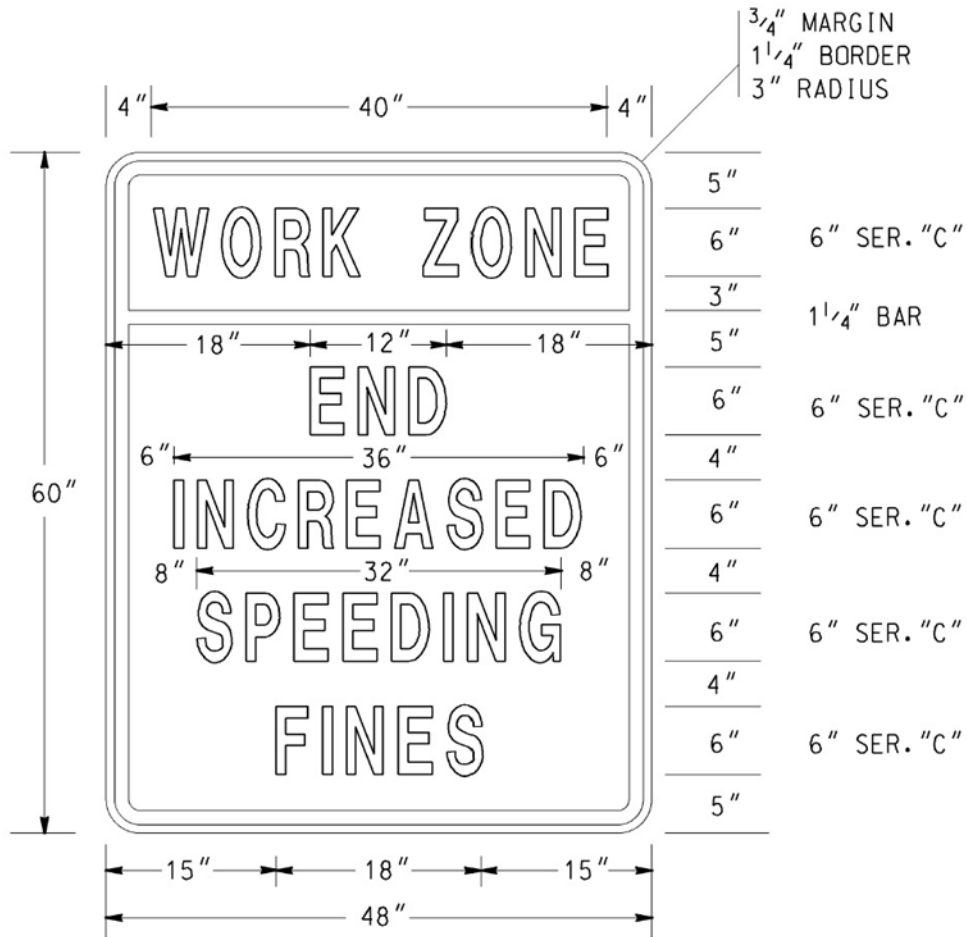
LEGEND & BORDER - BLACK (NON-REFL)  
BACKGROUND - FLUORESENT ORANGE

MIDDLE & BOTTOM PANELS

LEGEND & BORDER - BLACK  
BACKGROUND - WHITE

NOTES:

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

COLORS

TOP PANEL

LEGEND & BORDER - BLACK (NON-REFL)  
BACKGROUND - FLUORESENT ORANGE

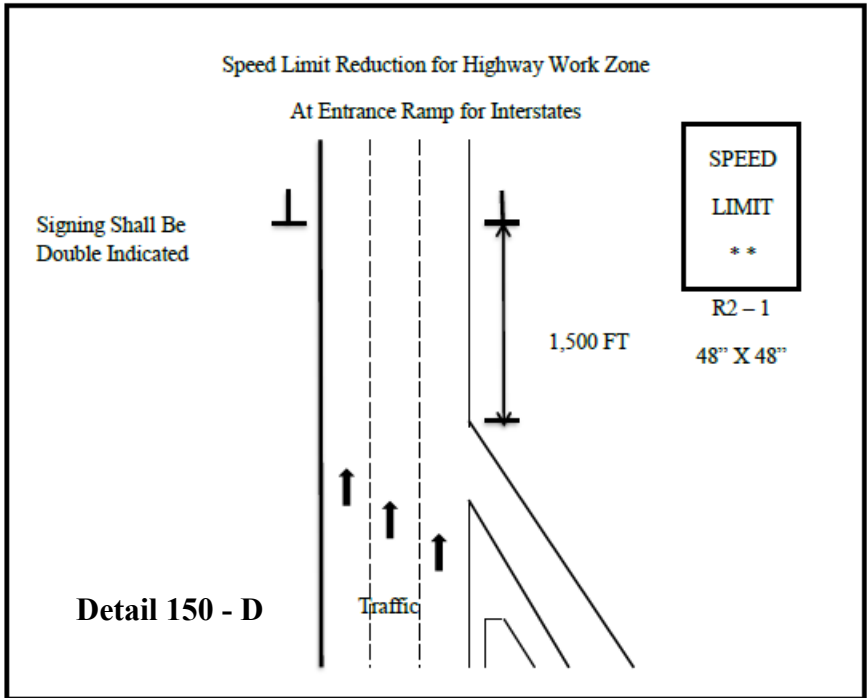
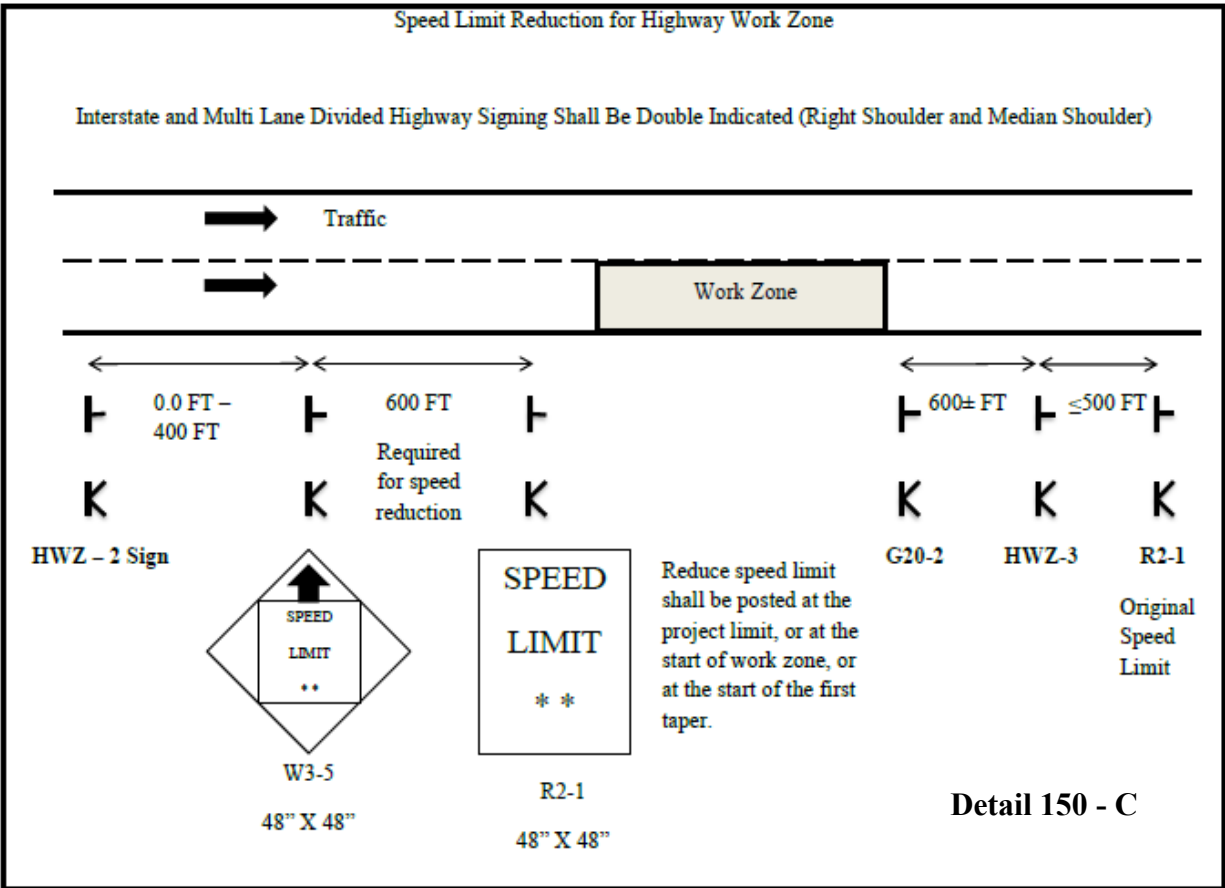
BOTTOM PANEL

LEGEND & BORDER - BLACK (NON-REFL)  
BACKGROUND - WHITE

NOTES:

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.





### 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 ( $\leq 7$ ) 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 ( $\leq 7$ ) 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.

PUNCH LIST WORK: Portable signs shall be utilized to accomplish the completion of all punch list items. The portable signs shall be removed daily. All permanent mount height signs shall be removed prior to the beginning of the punch list work except "Low/Soft Shoulder" signs and any signs that have the prior written approval of the Engineer to remain in place while the punch 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 150.5.01.

## 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 three (3) calendar days 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 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 6G.07, when paved shoulders, having a width of eight feet ( $\geq 8'$ ) or more are closed, at least one (1) advance warning sign shall be used. The sign(s) should read SHOULDER CLOSED (W21-5a). The signs are only posted on the side with the shoulder closure. Where the downstream end of the shoulder closure extends beyond the distance that can be perceived by road users, a supplementary plaque bearing the message NEXT XX FEET(W16-4P) or MILES (W7-3aP) should be placed below the SHOULDER CLOSED (W21-5a) sign. These signs shall be placed 500 feet prior to the shoulder closure. For multi-shoulder closures, the Shoulder Closed sign shall be repeated after two (2) miles at 500 feet prior to the next shoulder closure.

A shoulder closure will require a shoulder taper of  $(1/3)L$  ( $L$ =merging taper length). Traffic drums shall be used for the taper. Arrow boards are not required.

If positive barriers are used to close the shoulder, the taper and drums shall be in accordance with Standard 4960, Temporary Barrier (End Treatment Options). The approach end of the barrier taper should be 10:1 or flatter slope.

## **C. Lane Closure**

### **1. Advance Warning Signs**

The advance Warning signs shall be in accordance with MUTCD and Georgia Standard 9106 "Traffic Control Detail for Lane Closure on Multi-Lane Divided Highway" and Georgia Standard 9107 "Traffic Control Detail for Lane Closure on Multi-Lane Undivided Highway".

When the temporary traffic control zone already has advanced warning (W20-1) signs installed the W20-1 signs required for lane closures under Standard 9106 and 9107 should be eliminated.

For Interstate, Limited Access and Multi-lane Divided Highways, an additional Portable Changeable Message Sign (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 (6C.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 merge taper.
- b. A minimum tangent length of two ( $\geq 2$ ) 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 portable changeable message sign with the message "TRAFFIC SLOWED AHEAD 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 3 or better high-visibility clothing. Flagger stations shall be illuminated at night according to MUTCD (6F.82). They shall use a Stop/Slow paddle meeting the requirements of the MUTCD (6E.03) for controlling traffic. The Stop/Slow paddles shall have a shaft length of seven feet ( $\geq 7'$ ) minimum. The Stop/Slow paddle shall be retroreflectorized for both day and night usage. In addition to the Stop/Slow paddle, a flagger may use a flag as an additional device to attract attention. This flag shall meet the minimum requirements of the MUTCD (6E.03). The flag shall, as a minimum, be twenty-four inches ( $\geq 24''$ ) square and red or red/orange in color.

#### **D. Flagger Warning Signs**

Signs for flagger traffic control shall be placed in advance of the flagging operation, in accordance with the MUTCD and Georgia Standard 9102 “Traffic Control Detail for Lane Closure on Two-Lane Highway”. In addition, signs at regular intervals, warning of the presence of the flagger shall be placed beyond the point where traffic can reasonably be expected to stop under the most severe conditions for that day’s work.

#### **E. Pilot Vehicle Requirements**

Pilot vehicles should be required during placement of bituminous surface treatment or asphaltic concrete on two-lane roadways unless otherwise specified. Pilot vehicles shall meet the requirements of the MUTCD (6C.13).

#### **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 (6E.04). As a part of this request, the Contractor shall also submit an alternate temporary traffic control 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 temporary traffic control 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 temporary traffic control 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.

#### **C. Variable Message Board Requirement**

Variable Message Boards will be required at all intersection approaches of new signal installations for seven (7) days prior to the traffic signal activation. No separate pay item will be included; the cost of these variable message boards will be included in the the Lump Sum price bid for Traffic Signal Installation.

### **150.3.09 Mobile Operations**

A mobile operation is defined by a minimum speed of three (3) mph. When pavement markings (centerlines, lane lines, and edge lines) are applied in a continuous operation by moving vehicles and equipment, the following minimum equipment and warning devices shall be required. These devices and equipment are in addition to the minimum requirements of the MUTCD.

All vehicles shall be equipped with the official slow moving vehicle symbol sign. All vehicles shall have a minimum of two (2) flashing or rotating beacons visible in all directions. All protection vehicles shall have an arrow panel mounted on the rear. All vehicles requiring an arrow panel shall have, as a minimum, a Type B panel. All vehicle mounted signs shall be mounted with the bottom of the sign a minimum height of forty-eight inches (48") above the pavement. All sign legends shall be covered or removed from view when work is not in progress.

The lead vehicle may be a separate vehicle or the work vehicle applying the pavement markings may be used as the lead vehicle. The lead vehicle shall have an arrow panel mounted so that the panel is easily visible to oncoming (approaching) traffic. The arrow panel should operate in the caution mode.

The work vehicle(s) applying markings shall have an arrow panel mounted on the rear. The arrow panel should typically operate in the caution mode. The work vehicle placing cones shall follow directly behind the work vehicle applying the markings.

A protection vehicle shall follow the last work vehicle at all times and shall be equipped with a truck mounted attenuator that shall be certified for impacts not less than sixty-two (62) mph in accordance with MASH/NCHRP350 Test Level Three (3).

### **150.3.10 Pavement Markings**

#### **A. General**

Full pattern pavement markings in conformance with Section 3A and 3B, except 3B.02, 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 temporary traffic control 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 150.5.01.

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 so as 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) should 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, RPM's 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) should be placed and/or maintained on intermediate pavements surfaces on all highways that are open to traffic. This includes all resurfacing projects along with widening and reconstruction projects. The RPMs shall be placed as follows:

1. Supplementing Lane Lines:
  - a. Eighty foot (80') center on skip lines with curvature less than three degrees. (Includes tangents)
  - b. Forty foot (40') centers on solid lines and all lines with curvature between three degrees and six degrees.
  - c. Twenty foot (20') centers on curves over six degrees.
  - d. Twenty foot (20') centers on lane transitions or shifts.
2. Supplementing Ramp Gore Lines:
  - a. Twenty foot (20') centers, two each, placed side by side.
3. Other Lines:
  - a. As shown on the plans or directed by the Engineer.

#### **D. Exceptions for Interim Markings**

Some exceptions to the time of placement and pattern of markings are permitted as noted below; however, full pattern pavement markings are required for the completed project.

1. Two-Lane, Two-Way Roadways
  - a. Skip Lines

If used, interim temporary tape or paint skip (broken) stripe may only be used for a maximum of three (3) calendar days. The stripes shall be at least two feet ( $> 2'$ ) long with a maximum gap of thirty-eight feet ( $\leq 38'$ ). On curves greater than six degrees ( $> 6^\circ$ ), a one-foot ( $1'$ ) stripe with a maximum gap of nineteen feet ( $\leq 19'$ ) shall be used. In lane shift areas, solid lines will be required.

Interim raised pavement markers may be substituted for the interim skip (broken) stripes. If raised pavement markers are substituted for the two foot ( $2'$ ) interim skip stripe, three (3) markers spaced at equal intervals over a two foot ( $2'$ ) distance will be required. No separate payment will be made if the interim raised pavement markers are substituted for interim skip lines.

Interim raised pavement markers shall be retro-reflective, shall be the same color as the pavement markers for which they are substituted, and shall be visible during daytime.

The type of interim marker and method of attachment to the pavement shall be approved by the Office of Materials and Testing but in no case will the markers be attached by the use of nails. Flexible reflective markers, Type 14 or Type 15, may be used for a maximum of three (3) calendar days as an interim marker. Any flexible reflective markers in use shall be from the QPL-76.

The interim raised pavement markers shall be maintained until the full pattern pavement markings are applied. At the time full pattern markings are applied the interim raised markers shall be removed in a manner that will not interfere with application of the full pattern pavement markings.

b. No Passing Zones Two-Lane, Two-Way Roadways

Passing zones shall be re-established in the locations existing prior to resurfacing. No changes to the location of passing zones shall be done without the written approval of the Engineer. For periods not to exceed three (3) calendar days where interim skip centerlines are in place, no-passing zones shall be identified by using post or portable mounted DO NOT PASS regulatory signs (R4-1) twenty-four inches by thirty inches ( 24" x 30") at the beginning and at intervals not to exceed one-half ( $\leq 1/2$ ) mile within each no-passing zone. A post or portable mounted PASS WITH CARE regulatory sign (R4-2) twenty-four inches by thirty inches ( 24" x 30") shall be placed at the end of each no-passing zone. Post mounted signs shall be placed in accordance with the MUTCD. Portable signs shall be secured in such a manner to prevent misalignment and minimize the possibility of being blown over by weather conditions or traffic.

On new location projects and on projects where either horizontal or vertical alignments has been modified, the location of No-Passing Zones will be identified by the Engineer.

c. Edge lines

- Bituminous Surface Treatment Paving

Edge lines will not be required on intermediate surfaces (including asphaltic concrete leveling for bituminous surface treatment paving) that are in use for a period of less than sixty (<60) calendar days except at bridge approaches, on lane transitions, lane shifts, and in such other areas as determined by the Engineer. On the final surface, edge lines shall be placed within thirty ( $\leq 30$ ) 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 ( $\leq 14$ ) calendar days of the time that the surface was placed.

2. Multi-Lane Highways – With No Paved Shoulder(s) or Paved Shoulder(s) Four Feet or Less ( $\leq 4'$ )

a. Undivided Highways (Includes Paved Center Turn Lane)

- Centerlines and No-Passing Barrier-Full Pattern centerlines and no-passing barriers shall be restored before opening to traffic.
- Lane lines- Interim skip (broken) stripe as described in Subsection 150.3.10.D.1.a. may be used for periods not to exceed three ( $\leq 3$ ) 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 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.16) on all surfaces prior to opening to traffic. Temporary tape can be used.

### **150.3.11 Differences In Elevations Between Travel Lanes And Shoulders**

All time frames and requirements may be changed with the Engineer's approval.

#### **A. Differences in Elevations**

Difference in elevations due to construction between travel lanes and/or shoulders within the clear zone should be limited to the following:

1. Difference of two inches ( $\leq 2''$ ) or less between adjacent travel lanes should remain for a maximum period of fourteen (14) calendar days.
2. Difference of two inches ( $\leq 2''$ ) or less between adjacent travel lane and paved shoulder should remain for a maximum of thirty (30) calendar days. Traffic control devices shall be in accordance with Detail 150-G.
3. Difference of greater than two inches ( $> 2''$ ) is permitted for continuous operations. Traffic control devices shall be in accordance with Detail 150-E.
4. Difference of greater than two inches ( $> 2''$ ) between travel lanes and/or shoulders for non-continuous operations will not be allowed for more than a twenty-four (24) hour period. For the first twenty-four (24) hours, traffic control shall be in accordance with Detail 150-E. After twenty-four (24) hours the section should be healed according to Detail 150-H. This condition can exist for a maximum sixty (60) calendar days.
  - a. A single length of area that does not exceed 1000 feet total length may be left open as a startup area for periods not to exceed forty-eight (48) hours provided the Contractor can demonstrate the ability to complete the Work in a proficient manner. Prior approval of the Engineer shall be obtained before any startup area may be allowed.
  - b. For cement stabilized base, work adjacent to the travel lane and/or shoulders shall be healed as per Detail 150-H within forty-eight (48) hours after the seven (7) calendar day curing period is complete for each section placed. During the placement and curing period, traffic control shall be in accordance Detail 150-E.

Failure to meet these requirements shall be considered as non-performance of Work under Subsection 150.5.01.

## **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 150.5.01.

#### **D. Plating**

Plating for drainage structures, utility facilities, etc. is prohibited on the interstates. Plating on State Routes and secondary roads will required 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**

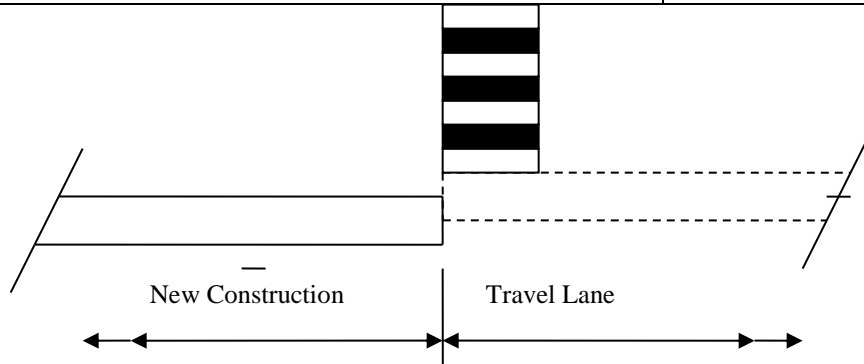
When the placement of asphaltic concrete materials creates a difference in elevation greater than two inches (> 2") between the earth shoulder (grassed or un-grassed) and the edge of travel lane or between the earth shoulder and a paved shoulder that is less than four feet (< 4') in width, the Contractor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

Drums spaced at twenty foot (20') intervals. **Note:** If the travel way width is reduced to less than ten feet (< 10') by the use of drums, vertical panels shall be used in lieu of drums.

Location of drums when Elevation Difference exceeds four inches (> 4")

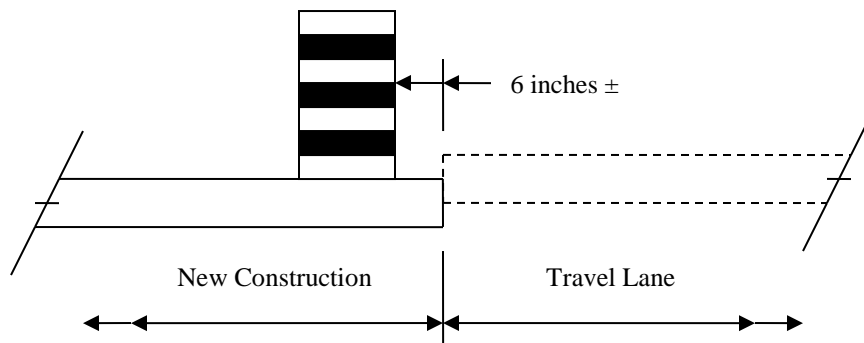


ELEVATION DIFFERENCE GREATER THAN FOUR INCHES (> 4")

DETAIL 150-E

Drums spaced at forty foot (40') intervals.

Location of drums when Elevation Difference is greater than two inches (> 2") to four inches (4")



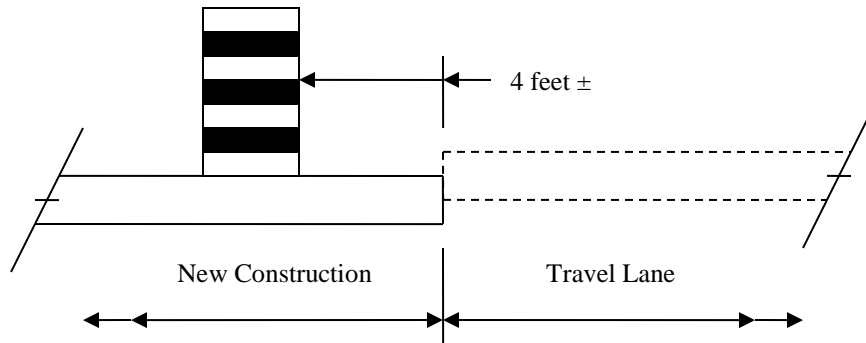
ELEVATION DIFFERENCE GREATER THAN TWO INCHES (> 2") TO FOUR INCHES (4")

DETAIL 150-F



Drums spaced at eighty foot (80') intervals.

Location of drums when Elevation Difference is two inches ( $\leq 2''$ ) or less.



ELEVATION DIFFERENCE OF TWO INCHES ( $\leq 2''$ ) OR LESS

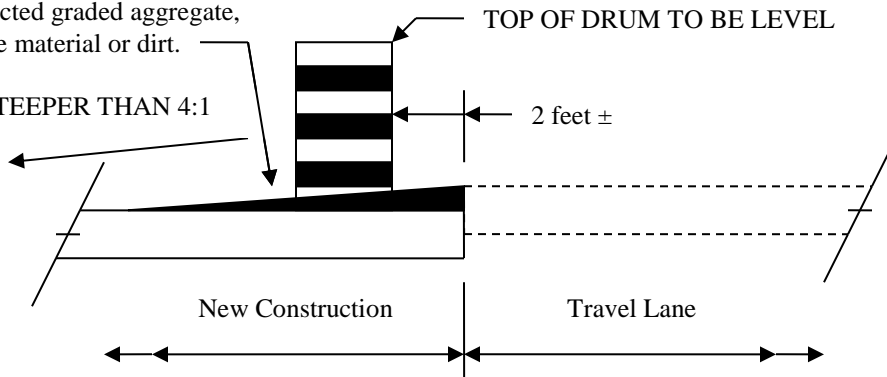
DETAIL 150-G

Location of drums immediately after completion of healed sections spaced at 40 foot (40') intervals

Healed Section

Compacted graded aggregate, subbase material or dirt.

NO STEEPER THAN 4:1



HEALED SECTION

DETAIL 150-H

### **150.3.12 Work Zone Law Enforcement**

Work zone law enforcement consists of utilizing a uniformed law enforcement officer equipped with patrol vehicle and blue flashing lights to enforce traffic laws in construction work zones and the administration of this service. Payment for work zone law enforcement will be made only for the utilization in work zones during lane closures, traffic pacing, or other activities that occur within travel lanes. The Contractor will be responsible for negotiating a rate of reimbursement and making reimbursement to that law enforcement agency.

The Contractor will be responsible for coordinating and scheduling the utilization of the work zone law enforcement. The Engineer may require the use of work zone law enforcement at specific times and locations.

## **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 ten percent (10%) of the lump sum price will be made, but in no event shall the initial payment exceed two percent (2%) of the total contract value. For each progress payment thereafter, the total of the Project percent complete shown on the last pay statement plus ten percent (10%) will be paid (less previous payments), not to exceed one hundred percent (100%).

When no payment item for Traffic Control-Lump Sum is shown in the Proposal, all of the requirements of Section 150 and the Temporary Traffic Control Plan shall be in full force and effect. The cost of complying with these requirements will not be paid for separately, but shall be included in the overall bid submittal.

#### **B. Changeable Message Sign, Portable**

Portable changeable message sign will be measured as specified in Section 632.

#### **C. Flashing Beacon Assembly**

Flashing beacon assemblies will be measured as specified in Section 647.

#### **D. Pavement Markings**

Pavement markings will be measured as specified in Section 150.

#### **E. Portable Impact Attenuators**

Each portable impact attenuator will be measured by the unit/array which shall include all material components, hardware, incidentals, labor, site preparation, and maintenance, including spare parts recommended by the manufacturer for repairing accident damage. Each unit will be measured only once regardless of the number of locations installed, moves required, or number of repairs necessary because of traffic damage. Upon completion of the project, the units shall be removed and retained by the Contractor.

#### **F. Signs**

When shown as a pay item in the contract, interim special guide signs will be paid for as listed below. All other regulatory, warning, and guide signs, as required by the Contract, will be paid for under Traffic Control Lump Sum or included in the overall bid submitted.

1. Interim ground mounted or interim overhead special guide signs will be measured for payment by the square foot. This payment shall be full compensation for furnishing the signs, including supports as required, erecting, illuminating overhead signs, maintaining, removing, re-erecting, and final removal from the Project. Payment will be made only one time regardless of the number of moves required.
2. Remove and reset existing special guide signs, ground mount or overhead, complete, in place, will be measured for payment per each. Payment will be made only one time regardless of the number of moves required.
3. Modify special guide signs, ground mount or overhead, will be measured for payment by the square foot. The area measured shall include only that portion of the sign modified. Payment shall include materials, removal from posts or supports when necessary, and remounting as required.

#### **G. Temporary Audible Information Device**

Temporary audible information devices are measured as the actual number furnished and installed in accordance with the manufacturer's recommendations, which shall include all necessary materials, equipment, labor, site preparation, maintenance and removal. Each temporary audible information device will be paid for only one time regardless of the number of times it's reused during the duration of The Work. These devices shall remain the property of the Contractor.

#### **H. Temporary Barrier**

Temporary barrier shall be measured as specified in Sections 620.

#### **I. Temporary Curb Cut Wheelchair Ramps**

Temporary curb cut wheelchair ramps are measured as the actual number formed and poured, complete and accepted, which shall include all necessary materials, equipment, labor, site preparation, maintenance and removal. No additional payment will be made for sawing existing sidewalk and removal and disposal of removed material for temporary wheelchair ramp construction. No additional payment will be made for constructing the detectable warning surface.

#### **J. Temporary Guardrail Anchorage, Type 12**

Temporary guardrail anchorage- type 12 will be measured by each assembly, complete in place and accepted according to the details shown in the plans, which shall also include the additional guardrail and appurtenances necessary for transition and connection to temporary concrete barrier. Payment shall include all necessary materials, equipment, labor, site preparation, maintenance and removal.

#### **K. Temporary Walkways with Detectable Edging**

Temporary walkways with detectable edging will be measured in linear feet (meters), complete in place and accepted, which shall include all necessary materials, equipment, labor, site preparation, temporary pipes, passing spaces, maintenance and removal. Excavation and backfill are not measured separately for payment. No payment will be made for temporary walkways where existing pavements or existing edging (that meets the requirements of MUTCD) are utilized for the temporary walkway. Payment for temporary detectable edging, including approved barriers and channelizing devices, installed on existing pavement shall be included in Traffic Control-Lump Sum.

#### **L. Traffic Signal Installation- Temporary**

Temporary traffic signal installation will be measured as specified in Section 647.

#### **M. Work Zone Law Enforcement**

When work zone law enforcement is shown as a pay item, work zone law enforcement will be measured for payment by the hour. The Contractor shall provide a daily work record containing the actual number of hours charged by the law enforcement officer. The daily work record shall be compiled on a form provided by the Department, signed by the law enforcement officer, signed by the Contractor's Worksite Traffic Control Supervisor attesting that the law enforcement was utilized during the time recorded, and then submitted to the Engineer.

Work zone law enforcement will be measured for payment by the hour up to the maximum number of hours included in the contract. The Engineer may at his 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 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	Single lane closure	Per each
Item No. 150	Multilane closure	Per each
Item No, 150	Work Zone Law Enforcement	Per hour

### 150.5.01 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 161 CONTROL OF SOIL EROSION AND SEDIMENTATION**

Delete Section 161 and substitute the following:

**161.01 DESCRIPTION:**

This work shall consist of control measures as shown on the Plans, ordered by the Engineer or as required during the life of the Contract to control soil erosion and sedimentation through use of the devices or methods referred to in this section. Temporary erosion control is also required outside the right of way on easements where such work is necessary as a result of roadway construction such as borrow pit operations, haul road, etc. No payment will be made for erosion control outside the right of way and/or construction easement except that provided for by the Plans.

The temporary erosion control provisions contained herein shall be coordinated with the permanent erosion control features specified herein and elsewhere in the Contract to the extent practical to assure economical, effective and continuous erosion control throughout the construction period.

The erosion control features installed by the Contractor shall be effectively maintained by the Contractor to contain erosion and sediment within the limits of the right of way and to control the discharge of storm-water from disturbed area so that all local, state, and federal requirements on water quality are met.

On construction projects having separate contractor, the prime contractor shall maintain all erosion control measures at all sites in a manner acceptable to the Engineer until the Contract is accepted. If any erosion control devices are damaged by any contractor, either by neglect, by his construction methods or any other reason, including acts of nature, they shall be repaired within 24 hours by the prime contractor at no cost to the Department.

Dust from any of the Contractor's activities shall be controlled to keep dust pollution to a minimum. The Engineer may direct that roadways or other areas be sprinkled with water to achieve the desired results.

## **161.02 EROSION CONTROL MEASURES:**

The following is a listing of erosion control measure in the Specifications:

A.	Sediment Barrier (baled straw)	163.3.05D
B.	Bituminous Treated Mulch	700.05.C.4
C.	Miscellaneous Concrete - Paved Ditches	441
D.	Erosion Control Mats (Slopes)	716
E.	Erosion Control Checkdams	162
F.	Grassing	700
G.	Maintenance of Temporary Erosion Control Devices	165
H.	Reclamation of Material/Waste Pits	160
I.	Rip Rap	603
J.	Restoration/Alteration of Lakes/Ponds	166
K.	Asphalt Ditch Paving	434
L.	Sediment Basin	163.03.C.
M.	Silt Retention Barrier	170
N.	Sod	700.3.05H
O.	Mulch	163.3.05G
P.	Temporary Grassing	163.3.05F
Q.	Temporary Silt Fence	171
R.	Temporary Slope Drains	163.3.05B
S.	Triangular Sediment Barrier	720
T.	Silt Filter Bag	719

## **161.03 WORKSITE EROSION CONTROL SUPERVISOR:**

### **A. GENERAL:**

The Contractor shall designate, prior to beginning any work, a Worksite Erosion Control Supervisor (WECS) who shall be responsible for initiating, properly installing, and maintaining all erosion control devices, and inspecting and reporting the condition of all BMP's as described in Section 160 through 171 or elsewhere in the Contract documents. Phone numbers shall be provided where the WECS can be reached 24 hours a day.

The Worksite Erosion Control Supervisor (WECS) and alternate (if necessary) shall be an employee of the Prime Contractor, shall have at least on year experience directly related to roadway construction in a supervisory capacity and shall have successfully completed the Department's WECS Certification Course or an equivalent erosion control course approved by the Department. Failure of the WECS, or alternate to perform the duties as specified in the Contract will result in the WECS being placed on probation. Continuation of non-performance of duties will result in revocation of the certification for a period of not less than 12 (twelve) months. The WECS must maintain a current certification card for the life of the project.

Recertification of the WECS will be required prior to the expiration date shown on the Certification card in order to remain as the Certified WECS for this project.

The WECS shall be on the site within forty-five (45) minutes after notification of any emergency situation, prepared to positively respond to the emergency with access to all equipment, personnel, and materials needed to control erosion and handle flooding related situations. The WECS shall ensure that routine deficiencies are corrected with a twenty four (24) hour period. Additionally, in periods of heavy rain the WECS shall have the construction are patrolled regardless of the time of day or night or the day of the week for the purpose of early detection and correction of erosion or flooding problems before they interfere with traffic flow, safety or downstream turbidity. In emergency situations, corrections shall begin immediately.

If deemed necessary, the Department reserves the right to take action to remedy emergency situations without prior notification to the Contractor. The Department shall recover its cost for the emergency maintenance work in accordance with Sub-Section 105.15 of the Specifications.

Failure to provide and maintain a Certified WECS or failure to comply with the provision of this Specification will result in cessation of all activities except traffic control and erosion control work and may result in the withholding of monies due or which may become due in accordance with the Specifications. Both the WECS and the alternate shall meet the above criteria. The WECS assumes project responsibilities.

Continue failure of the Contractor to comply with the requirements of this Specification shall result in non-refundable deduction of monies from the Contract as tabulated below for non-performance of Erosion Control. This is in addition to the actions described in the preceding paragraphs above. Deduction shall continue until all corrections are completed.

**SCHEDULE OF DEDUCTIONS FOR EACH CALENDAR DAY  
OF EROSION CONTROL DEFICIENCIES**

**ORIGINAL TOTAL CONTRACT AMOUNTS**

From More Than	To and Including	Daily Charge
0.00	\$100,000.00	\$500.00
\$100,000.00	\$1,000,000.00	\$750.00
\$1,000,000.00	\$5,000,000.00	\$1,000.00
\$5,000,000.00	-----	\$1,500.00

- B.** The WECS and the Engineer shall inspect the installation and maintenance of the best management practices in accordance with the plans. The WECS shall report on DOT form EC-1 the status of all erosion control devices and needs to the Engineer weekly. These reports shall be submitted on the date the inspection is made by the WECS. The



Engineer will include them as part of the Project records. The Engineer will review the submitted DOT form EC-1, list additional deficiencies that need correction, and any comments and provide a copy to the WECS. If problems are not corrected within the time period established by the Engineer, deductions as shown in the schedule above may be assessed the Contractor. Such notifications to the WECS shall be documented.

## **C. INSPECTIONS**

### **DAILY:**

The WECS shall conduct daily inspections on the following areas:

- a. petroleum product storage, usage and handling areas
- b. all locations where vehicles enter/exit the site

### **WEEKLY AND STORM:**

The WECS shall inspect the following area every seven (7) calendar days and within twenty-four (24) hours of the end of a storm that is 0.5 inches or greater:

- a. disturbed areas not permanently stabilized
- b. material storage areas
- c. structural control measures (BMP's)

The Engineer shall inspect the installation of the control measures (BMP's) within one week after the initial construction activities of each active phase commences. All deficiencies shall be reported to the contractor and corrections shall be made within two business days.

### **MONTHLY:**

The WECS shall inspect all areas where final stabilization had been completed once per month. These areas shall be inspected for evidence of sediments or pollutants entering the drainage system and or receiving waters. Any structural controls that remain in place shall be inspected to ensure they are operation correctly and their maintenance status.

These inspections shall continue until the Notice of Termination is submitted.

### **REPORTS:**

All of the above noted inspections shall be summarized in written reports including the following information date(s) of inspection; name of personnel making inspection; status of device; observations; actions taken; signatures of personnel making the inspection; and incidents of non-compliance.

In the event there are non-incidents of non-compliance, the report shall contain the following certification, “the facility is in compliance with the Erosion, Sedimentation and Pollution Control Plan and this permit.”

All reports shall be submitted to the Engineer within twenty-four (24) hours of the inspection. The Engineer will review the submitted reports and inspect the project the projects for compliance and concurrence with the submitted reports. The Engineer will notify the WECS of any additional items that should be added to the reports. Items listed in the report that required routine maintenance or correction shall be corrected within twenty-four (24) hours.

- D.** As a minimum the Contractor shall complete the permanent grassing, or temporary grassing and mulching, as appropriate, on all cut and fill slopes on a weekly basis during grading operations, except projects with a total of 3 acres or less of grassing may be treated every two weeks. When condition warrant, the Engineer may require more frequent intervals for this work. It is extremely important to get 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 been suspended, for whatever reason, the Contractor shall promptly perform needed grassing work and/or erosion control work as shown in the plans, submitted by the Contractor, or as directed by the Engineer.

**161.04 EROSION AND SEDIMENTATION CONTROL PLANS:**

- A.** Erosion and sedimentation control for the construction of the project will be provided by the Department. The erosion and sedimentation control plan 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 responsibility of the contractor to revise the plans to reflect all changes in Staging. This will also include any revision to erosion and sedimentation control items quantities.

Revised plans and quantities shall be submitted to the Engineer for review and approval, prior to land disturbing activities.

- B.** Erosion and sedimentation control plans for haul roads, borrow pips, excess material pits, etc., shall be prepared by the contractor. These plans shall be prepared to all stages of construction and will include the appropriate items and quantities. These plans shall be submitted to the Engineer for review and approval prior to land disturbing activities.

**161.05 CONSTRUCTION:**

**A. GENERAL:**

The Engineer has the authority to limit the surface area of erodible earth material exposed by clearing and grubbing, the surface area of erodible earth material exposed by excavation, borrow and fill operations and to direct the Contractor to provide immediate permanent and/or temporary erosion control measures to prevent contamination of adjacent streams or other water-course, lakes, pond, or other areas or water impoundment. Such work may involve the construction of any of the items listed in Sub-Section 161.02 or other control devices or methods necessary to control erosion. Cut slopes shall be seeded and mulched weekly as required in Section 161.03.C. Under no circumstances shall the grading (height of cut) exceed the operating range of the grassing equipment. The Contractor shall incorporate all permanent erosion control features into the Project at the earliest practicable time as outlined in his accepted schedule. Temporary erosion control measures shall be used to correct conditions that develop during construction which were unforeseen during the design stage; that are needed prior to installation of permanent erosion control features; or that are needed temporarily to control erosion that develops during normal construction practices, but are not associated with permanent control features on the project whether a pay item is established or not.

**B. ERODIBLE AREA:**

Operations shall be so scheduled and performed that the installation of temporary silt fence, construction of sediment basins and other temporary erosion control devices may be performed concurrently with clearing and grubbing. Grading operation and permanent erosion control features must follow immediately thereafter.

The Engineer will limit the area of excavation, borrow and embankment operation in progress commensurate with the Contractor's capability and progress in keeping the finish grading, mulching, seeding and other such permanent erosion control measures current in accordance with the accepted schedule. Should seasonal limitations make such coordination unrealistic, temporary erosion control measures shall be taken immediately. Under no circumstances shall the surface area of erodible earth material exposed at one time exceed 17 acres except as noted below. When all temporary erosion control devices have been installed and the area grassed (temporary or permanent) mulched, stabilized and approved by the Engineer it may be released from the 17-acre limit.

Only the State Construction Engineer may increase the 17 acre limit of surface area of erodible earth material to be exposed at one time by clearing and grubbing, excavation, borrow, and fill operations combined as determined by his analysis of project conditions. The maximum of 17 acres of exposed erodible earth applies to the entire Project and to all combined operations, including borrow and excess material operations, not 17 acres to surface area of exposed erodible earth for each operation.

**C. GRADING OPERATIONS:**

Each roadway cut and each embankment shall be completed in a continuous manner, unless otherwise provided for in the Contract or ordered by the Engineer. The Contractor shall maintain the top of the earthwork in all roadway sections through all construction stages in a manner, which will permit the runoff of water to the outer edges. Temporary slope drain facilities with adequate inlets and velocity dissipaters (straw bales, silt fence, sprons, etc.) shall be provided to carry runoff water to the bottom of the slopes. Drains shall be located at intervals that will satisfactorily handle the accumulated water.

- D.** The temporary erosion control measures shall be continued until the permanent drainage Facilities have been constructed, pavement placed and the grass on planted slopes is sufficiently stabilized to be an effective erosion deterrent.

**E. CONSTRUCTION IN STREAMS BEDS:**

Unless otherwise approved in writing by the Engineer, construction operations in rivers, streams and impoundment shall be restricted to those areas where channel changes are shown on the Plans and to those areas which must be entered for the construction of temporary or permanent structures. Where channel changes are not shown the Contractor may construct diversion channels as appropriate to protect the stream from erosion. As soon as conditions permit, rivers, streams and impoundments shall be cleared of all falsework, piling, debris and other obstructions placed therein or cause by the construction operations. Fording of live streams with construction equipment will not be permitted. Temporary stream crossing or temporary bridges must be utilized for crossing live streams. Temporary bridges or other structures shall be adequate to accommodate a 25-year storm and shall be used whenever crossing are necessary and all cost shall be included in the price bid for overall contract. Unless otherwise approved in writing by the Engineer, mechanized equipment shall not be operated in live streams except as may be required to construct channel changes and temporary or permanent structures and to remove temporary structures.

- F.** Prior to final acceptance, all drainage structures within the project limits, both existing and newly constructed, shall be cleaned of all debris, sediment, etc. and functioning properly. All costs bid for the contract.

**161.06 MEASUREMENT:**

Control of Soil Erosion and Sedimentation will be measured as shown below:

- A.** When no pay items are shown in the Contract, all of the requirements of Section 161 shall be in full effect. The cost of complying with these requirements will not be paid separately, but shall be included in the overall bid submitted.
- B.** When listed as a pay item in the contract, payment will be made at the Lump Sum Price bid, which payment shall be full compensation for control of Soil and

Sedimentation including temporary grass, temporary mulch, maintenance of all erosion control items as identified in section 165 or otherwise needed, construction exits and other work described under Section 163, on the plans and on the Standards that is not paid for separately.

Payment will be made under:

Item No. 161 Erosion Control ..... Lump Sum

July 31, 2015

**DEPARTMENT OF  
TRANSPORTATION**

**SPECIAL PROVISION**

**Section 163—Miscellaneous Erosion Control Items**

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*Delete Section 163 and substitute the following:*

**163.1 General Description**

This work includes constructing, maintaining and removing:

- Silt control gates
- Temporary erosion control slope drains shown on the Plans or as directed
- Sediment basins
- Baled straw sediment barrier and check dams
- Rock filter dam
- Stone filter berm
- Stone filter ring
- Other temporary erosion control structures shown on the Plans or directed by the Engineer

This work also includes applying mulch (straw or hay, erosion control compost), and temporary grass.

**163.1.01 Related References**

**A. Standard Specifications**

[Section 109—Measurement and Payment](#)

[Section 161—Control of Soil Erosion and Sedimentation](#)

[Section 171—Temporary Silt Fence](#)

[Section 500—Concrete Structures](#)

[Section 603—Rip Rap](#)

[Section 700—Grassing](#)

[Section 715—Bituminous Treated Roving](#)

[Section 720 – Triangular Silt Barrier](#)

[Section 800 – Coarse Aggregate](#)

[Section 801 - Fabrics](#)

[Section 822—Emulsified Asphalt](#)

[Section 860—Lumber and Timber](#)

[Section 863—Preservative Treatment of Timber Products](#)

[Section 890—Seed and Sod](#)

[Section 893—Miscellaneous Planting Materials](#)

## B. Referenced Documents

AASHTO M252

AASHTO M294

### 163.1.02 Submittals

Provide written documentation to the Engineer as to the average weight of the bales of mulch.

### 163.2 Materials

Provide materials shown on the Plans, such as pipe, spillways, wood baffles, and other accessories including an anti-seep collar, when necessary. The materials shall remain the Contractor's property after removal, unless otherwise shown on the Plans.

Materials may be new or used; however, the Engineer shall approve previously used materials before use.

Materials shall meet the requirements of the following Specifications:

Material	Section
Mulch	<a href="#">893.2.02</a>
Temporary Silt Fence	<a href="#">171</a>
Concrete Aprons and Footings shall be Class A	<a href="#">500</a>
Rip Rap	<a href="#">603</a>
Temporary Grass	<a href="#">700</a>
Bituminous Treated Roving	<a href="#">715</a>
Triangular Silt Barrier	<a href="#">720</a>
Lumber and Timber	<a href="#">860.2.01</a>
Preservative Treatment of Timber Products	<a href="#">863.1</a>
Corrugated Polyethylene Temporary Slope Drain Pipe	AASHTO M252 or M294

#### 163.2.01 Delivery, Storage, and Handling

General Provisions 101 through 150.

### 163.3 Construction Requirements

#### 163.3.01 Personnel

General Provisions 101 through 150.

#### 163.3.02 Equipment

General Provisions 101 through 150.

#### 163.3.03 Preparation

General Provisions 101 through 150.

#### 163.3.04 Fabrication

General Provisions 101 through 150.

#### 163.3.05 Construction

##### A. Silt Control Gates

If silt control gates are required or are directed by the Engineer, follow these guidelines to construct them:

1. Clear and grade only that portion of the roadway within the affected drainage area where the drainage structure will be constructed.

2. Construct or install the drainage structure and backfill as required for stability.
3. Install the silt control gate at the inlet of the structure. Use the type indicated on the Plans.
4. Vary the height of the gate as required or as shown on the Plans.
5. Finish grading the roadway in the affected drainage area. Grass and mulch slopes and ditches that will not be paved. Construct the ditch paving required in the affected area.
6. Keep the gate in place until the work in the affected drainage area is complete and the erodible area is stabilized.
7. Remove the Type 1 silt gate assembly by sawing off the wood posts flush with the concrete apron. Leave the concrete apron between the gate and the structure inlet in place. The gate shall remain the property of the Contractor.

#### **B. Temporary Slope Drains**

If temporary slope drains are required, conduct the roadway grading operation according to [Section 161](#) and follow these guidelines:

1. Place temporary pipe slope drains with inlets and velocity dissipaters (straw bales, silt fence, or aprons) according to the Plans.
2. Securely anchor the inlet into the slope to provide a watertight connection to the earth berm. Ensure that all connections in the pipe are leak proof.
3. Place temporary slope drains at a spacing of 350 ft (105 m) maximum on a 0% to 2% grade and at a spacing of 200 ft (60m) maximum on steeper grades, or more frequently as directed by the Engineer. Keep the slope drains in place until the permanent grass has grown enough to control erosion.
4. Remove the slope drains and grass the disturbed area with permanent grass. However, the temporary slope drains may remain in place to help establish permanent grass if approved by the Engineer.

#### **C. Sediment Basins**

Construct sediment basins according to the Plans at the required location, or as modified by the Engineer.

1. Construct the unit complete as shown, including:
  - Grading
  - Drainage
  - Rip rap
  - Spillways
  - Anti-seep collar
  - Temporary mulching and grassing on internal and external slopes
  - Accessories to complete the basin
2. When the sediment basin is no longer needed, remove and dispose of the remaining sediment.
3. Remove the sediment basin. Grade to drain and restore the area to blend with the adjacent landscape.
4. Mulch and permanently grass the disturbed areas according to [Section 700](#).

#### **D. Sediment Barrier (baled straw)**

Construct sediment barrier (baled straw) according to the Plan details. Use rectangular, standard size baled straw in mechanically produced bales.

The following items may be substituted for sediment barrier (baled straw)

1. Type B Silt Fence.
2. Triangular Silt Barrier.
3. Synthetic Fiber: Use synthetic fiber bales of circular cross section at least 18 in (450 mm) in diameter. Use synthetic bales of 3 ft or 6 ft (0.9 m or 1.8 m) in length that are capable of being linked together to form a continuous roll of the desired total length. Use bales that are enclosed in a geotextile fabric and that contain a pre-made stake hole for anchoring.



4. Coir: Use coir fiber bales of circular cross section at least 16" (400mm) in diameter. Use coir bales of 10 ft, 15 ft, or 20 ft (3 m, 4.5 m, or 6 m) in length. Use coir baled with coir twine netting with 2 in X 2 in (50 mm X 50 mm) openings. Use coir bales with a dry density of at least 7 lb/ft<sup>3</sup> (112 kg/m<sup>3</sup>). Anchor in place with 2 in X 4 in (50 mm X 100 mm) wooden wedges with a 6 in (150 mm) nail at the top. Place wedges no more than 36 in (900 mm) apart.
5. Excelsior: Use curled aspen excelsior fiber with barbed edges in circular bales of at least 18 in (450 mm) in diameter and nominally 10 ft (3 m) in length. Use excelsior baled with polyester netting with 1 in X 1 in (25 mm by 25 mm) triangular openings. Use excelsior bales with a dry density of at least 1.4 lb/ft<sup>3</sup> (22 kg/m<sup>3</sup>). Anchor in place with 1 in (25 mm) diameter wooden stakes driven through the netting at intervals of no more than 2 ft (600 mm).
6. Compost Filter Sock: Use general use compost (see [Subsection 893.2.02.A.5.b](#)) in circular bales at least 18 in in diameter. Use compost baled with photo-degradable plastic mesh 3 mils thick with a maximum 0.25 in X 0.25 in (6 mm X 6 mm) openings. Anchor in place with 1 in (25 mm) diameter wooden stakes driven through the netting at intervals of no more than 2 ft (600 mm). The sock shall be dispersed on site when no longer required, as determined by the Engineer. Do not use Compost Filter Socks in areas where the use of fertilizer is restricted.
7. Compost Filter Berm: Use erosion control compost (see [Subsection 893.2.02](#)) to construct an uncompacted 1.5 ft to 2 ft (450 mm to 600 mm) high trapezoidal berm which is approximately 2 ft to 3 ft (600 mm to 1 m) wide at the top and minimum 4 ft (1.2 m) wide at the base. Do not use Compost Filter Berms in areas where the use of fertilizer is restricted.

The construction of the compost filter berm includes the following:

- a. Keeping the berm in a functional condition.
- b. Installing additional berm material when necessary.
- c. Removing the berm when no longer required, as determined by the Engineer. At the Engineer's discretion, berm material may be left to decompose naturally, or distributed over the adjacent area.

#### **E. Other Temporary Structures**

When special conditions occur during the design stage, the Plans may show other temporary structures for erosion control with required materials and construction methods.

#### **F. Temporary Grass**

Use a quick growing species of temporary grass such as rye grass, millet, or a cereal grass suitable to the area and season.

Use temporary grass in the following situations:

- When required by the Specifications or directed by the Engineer to control erosion where permanent grassing cannot be planted.
- To protect an area for longer than mulch is expected to last (60 calendar days).

Plant temporary grass as follows:

1. Use seeds that conform to [Subsection 890.2.01, "Seed."](#) Perform seeding according to [Section 700](#); except use the minimum ground preparation necessary to provide a seed bed if further grading is required.
2. Prepare areas that require no further grading according to [Subsection 700.3.05.A, "Ground Preparation."](#) Omit the lime unless the area will be planted with permanent grass without further grading. In this case, apply the lime according to [Section 700](#).
3. Apply mixed grade fertilizer at 400 lbs/acre (450 kg/ha). Omit the nitrogen. Mulch (with straw or hay) temporary grass according to [Section 700](#). (Erosion control compost Mulch will not be allowed with grassing.)
4. Before planting permanent grass, thoroughly plow and prepare areas where temporary grass has been planted according to [Subsection 700.3.05.A, "Ground Preparation"](#).
5. Apply Polyacrylamide (PAM) to all areas that receive temporary grassing.

6. Apply Pam (powder) before grassing or PAM (emulsion) to the hydroseeding operation.
7. Apply PAM according to manufacturer specifications.
8. Use only anionic PAM.

For projects that consist of shoulder reconstruction and/or shoulder widening refer to [Subsection 161.3.05.H](#) for Wood Fiber Blanket requirements.

#### **G. Mulch**

When stage construction or other conditions prevent completing a roadway section continuously, apply mulch (straw or hay or erosion control compost) to control erosion. Mulch may be used without temporary grassing for 60 calendar days or less. Areas stabilized with only mulch (straw/hay/compost) shall be planted with temporary grass after 60 calendar days.

Apply mulch as follows:

1. Mulch (Hay or Straw) – Without Grass Seed
  - a. Uniformly spread the mulch over the designated areas from 2 in to 4 in (50 mm to 100 mm) thick.
  - b. After spreading the mulch, walk in the mulch by using a tracked vehicle (preferred method), empty sheep foot roller, light discing, or other means that preserves the finished cross section of the prepared areas. The Engineer will approve of the method.
  - c. Place temporary mulch on slopes as steep as 2:1 by using a tracked vehicle to imbed the mulch into the slope.
  - d. When grassing operations begin, leave the mulch in place and plow the mulch into the soil during seed bed preparation. The mulch will become beneficial plant food for the newly planted grass.
2. Erosion control compost – Without Grass Seed
  - a. Uniformly spread the mulch (erosion control compost) over the designated areas 2 in (50 mm) thick.
  - b. When rolling is necessary, or directed by the Engineer, use a light corrugated drum roller.
  - c. When grassing operations begin, leave the mulch in place and plow the mulch into the soil during seed bed preparation. The mulch will become beneficial plant food for the newly planted grass.
  - d. Plant temporary grass on area stabilized with mulch (erosion control compost) after 60 calendar days.
  - e. Do not use Erosion Control Compost in areas where the use of fertilizer is restricted.

#### **H. Miscellaneous Erosion Control Not Shown on the Plans**

When conditions develop during construction that were unforeseen in the design stage, the Engineer may direct the Contractor to construct temporary devices such as but not limited to:

- Bulkheads
- Sump holes
- Half round pipe for use as ditch liners
- U-V resistant plastic sheets to cover critical cut slopes

The Engineer and the Contractor will determine the placement to ensure erosion control in the affected area.

#### **I. Diversion Channels**

When constructing a culvert or other drainage structure in a live stream that requires diverting a stream, construct a diversion channel.

#### **J. Temporary Check Dams**

Temporary check dams are constructed of the following materials;

- Stone plain rip rap according to [Section 603](#) or of sand bags as in [Section 603](#) without Portland cement. (Place plastic filter fabric on ditch section before placing rip rap.)
- Hay Bales

Temporary check dams shall be constructed according to plan details and shall remain in place until the permanent ditch protection is in place or being installed and the removal is approved by the Engineer.

#### **K. Construction Exits**

Locate construction exits at any point where vehicles will be leaving the project onto a public roadway. Install construction exits at the locations shown in the plans and in accordance with plan details.

#### **L. Retrofit**

Add the retrofit device to the permanent outlet structure as shown on the Plan details.

When all land disturbing activities that would contribute sediment-laden runoff to the basin are complete, clean the basin of sediment and stabilize the basin area with vegetation.

When the basin is stabilized, remove the retrofit device from the permanent outlet structure of the detention pond.

#### **M. Inlet Sediment Trap**

Inlet sediment traps consist of a temporary device placed around a storm drain inlet to trap sediment. An excavated area adjacent to the sediment trap will provide additional sediment storage.

Inlet sediment traps may be constructed of Type C silt fence, plastic frame and filter, hay bales, baffle box, or other filtering materials approved by the Engineer.

Construct inlet sediment traps according to the appropriate specification for the material selected for the trap.

Place inlet sediment traps as shown on the Plans or as directed by the Engineer.

#### **N. Rock Filter Dams**

Construct rock filter dams of the materials selected as shown in the approved erosion and sediment control plan. Construct and place this item in accordance with the approved erosion control construction details (s) and Standard Specification Section 603.

Rock filter dams shall remain in place until the permanent ditch protection is in place or is being installed and their removal is approved by the Engineer.

#### **O. Stone Filter Berm**

Construct stone filter berms of the material selected as shown in the approved erosion and sediment control plan. Construct and place this item in accordance with the approved erosion control construction detail (s) and Standard Specification Section 603.

Stone filter berms shall remain in place until the permanent slope protection is in place or is being installed and their remove is approved by the Engineer.

#### **P. Stone Filter Rings**

Construct stone filter rings of the material selected as shown in the approved erosion and sediment control plan. Construct and place this item in accordance with the approved erosion control construction details (s) and Standard Specification Section 603.

A stone filter ring shall remain in place until final stabilization of the area which drains towards it is achieved and its removal is approved by the Engineer.

#### **163.3.06 Quality Acceptance**

General Provisions 101 through 150.

#### **163.3.07 Contractor Warranty and Maintenance**

General Provisions 101 through 150.

### **163.4 Measurement**

#### **A. Silt Control Gates**

Silt control gates are measured for payment by the entire structure constructed at each location complete in place and accepted. Silt control gates constructed at the inlet of multiple lines of drainage structures are measured for payment as a single unit.

**B. Temporary Slope Drains**

Temporary slope drains are measured for payment by the linear foot (meter) of pipe placed. When required, the inlet spillway and outlet apron and/or other dissipation devices are incidental and not measured separately.

**C. Sediment Basins**

Sediment basins are measured for payment by the entire structure complete, including construction, maintenance, and removal. Measurement also includes:

- Earthwork
- Drainage
- Spillways
- Baffles
- Temporary mulching & grassing
- Rip rap
- Final cleaning to remove the basin

Permanent grassing for sediment basins is measured separately for payment.

**D. Diversion Channels**

Diversion channels are not measured for payment. Costs for the entire structure complete, including materials, construction (including earthwork), and removal is included in the price bid for the drainage structure or for other Contract items.

**E. Temporary Grass**

Temporary grass is measured for payment by the acre (hectare). Lime, when required, is measured by the ton (megagram). Mulch and fertilizer are measured separately for payment.

**F. Mulch**

Mulch (straw or hay, or erosion control compost) is measured for payment by the ton (megagram).

**G. Baled Straw Sediment Barrier, Baled Straw Check Dam and Fabric Check Dams**

Baled straw sediment barrier, baled straw check dams, and fabric check dams are measured by the linear foot (meter). When the Contractor substitutes a product allowed in [Subsection 163.3.05.D](#) for baled straw sediment barrier or when the Engineer directs this substitution, the product will be measured by the linear foot (meter).

**H. Rip Rap Check Dams**

Rip Rap Check Dams are measured per each which will include all work necessary to construct the check dam including plastic filter fabric placed beneath the rip rap or sand bags.

**I. Construction Exits**

Construction exits are measured per each which will include all work necessary to construct the exit including the required geotextile fabric placed beneath the aggregate.

**J. Retrofit**

Retrofit will be measured for payment per each. The construction of the detention pond and permanent outlet structure will be measured separately under the appropriate items.

**K. Inlet Sediment Trap**

Inlet sediment traps, regardless of the material selected, are measured per each which includes all work necessary to construct the trap including any incidentals and providing the excavated area for sediment storage.

**L. Rock Filter Dams**

Rock Filter dams are measured for payment per each required. This includes the entire structure at each location and all the work necessary for construction.

**M. Stone Filter Berms**

Stone filter berms are measured for payment per each required. This includes the entire structure at each location and all the work necessary for construction.

**N. Stone Filter Rings**

Stone Filter Rings are measured for payment per each required. This includes the entire structure at each location and all the work necessary for construction.

**163.4.01 Limits**

General Provisions 101 through 150.

**163.5 Payment**

**A. Silt Control Gates**

The specified silt control gates are paid for at the Contract Unit Price per each. Payment is full compensation for:

- Furnishing the material and labor
- Constructing the concrete apron as shown on the Plans
- Excavating and backfilling to place the apron
- Removing the gate

**B. Temporary Slope Drains**

Temporary slope drains are paid for by the linear foot (meter). Payment is full compensation for materials, construction, removal (if required), inlet spillways, velocity dissipaters, and outlet aprons.

When temporary drain inlets and pipe slope drains are removed, they remain the Contractor's property and may be reused or removed from the Project as the Contractor desires. Reused pipe or inlets are paid for the same as new pipe or inlets.

**C. Sediment Basin**

Sediment basins, measured according to [Subsection 163.4.C "Measurement,"](#) are paid for by the unit, per each, for the type specified on the Plans. Price and payment are full compensation for work and supervision to construct, and remove the sediment basin, including final clean-up.

**D. Diversion Channel**

Diversion channels are not paid for separately; they are included in the price bid for the drainage structure or for other Contract Items.

**E. Temporary Grass**

Temporary grass is paid for by the acre (hectare). Payment is full compensation for all equipment, labor, ground preparation, materials, wood fiber mulch, polyacrylamide, and other incidentals. Lime (when required) is paid for by the ton (megagram). Mulch and fertilizer are paid for separately.

**F. Mulch**

Mulch is paid for by the ton. Payment is full compensation for all materials, labor, maintenance, equipment and other incidentals.

The weight for payment of straw or hay mulch will be the product of the number of bales used and the average weight per bale as determined on certified scales provided by the contractor or state certified scales. Provide written documentation to the Engineer stating the average weight of the bales.

The weight of erosion control compost mulch will be determined by weighing each loaded vehicle on the required motor truck scale as the material is hauled to the roadway, or by using recorded weights if a digital recording device is used. The contractor may propose other methods of providing the weight of the mulch to Engineer for approval.

**G. Baled Straw Sediment barrier, and Baled Straw Check Dams**

Baled straw sediment barrier, and baled straw check dams, complete in place and accepted are paid for at the Contract Unit Price bid per linear foot (meter). Payment is full compensation for constructing, and removing (when directed) the baled straw sediment barrier or either check dam.

When the Contractor substitutes any product allowed in [Subsection 163.3.05.D](#) for baled straw sediment barrier or when the Engineer directs this substitution, payment is made at the bid price per linear foot (meter) for baled straw sediment barrier.

**H. Rip Rap Check Dams**

Rip Rap Check Dams are paid for per each. Payment is full compensation for all materials, construction, and removal. Reused stone plain rip rap or sandbags are paid for on the same basis as new items. Filter fabric required under rip rap check dams is included in the price bid for each check dam.

**I. Construction Exits**

Construction exits are paid for per each. Payment is full compensation for all materials including the required geotextile, construction, and removal.

**J. Retrofit**

This item is paid for at the Contract Unit Price per each. Payment is full compensation for all work, supervision, materials (including the stone filter), labor and equipment necessary to construct and remove the retrofit device from an existing or proposed detention pond outlet structure.

**K. Inlet Sediment Trap**

Inlet sediment traps are paid for per each. Payment is full compensation for all materials, construction, and removal.

**L. Rock Filter Dams**

Rock filter dams are paid for per each. Payment is full compensation for all materials, construction, and removal for each. Clean reused stone Type 3 riprap and #57 stone are paid for on the same basis as new items. Plastic woven filter fabric is required under rock filter dams and is include in the price bid for each.

**M. Stone Filter Berms**

Stone filter berms are paid for per each. Payment is full compensation for all materials, construction and removal for each. Clean reused stone Type 3 riprap and #57 stone are paid for on the same basis as new items. Plastic woven filter fabric is required under rock filter berms and is included in the price for each.

**N. Stone Filter Rings**

Stone filter rings are paid for per each. Payment is full compensation for all materials, construction, and removal for each. Clean reused stone Type 3 riprap and #57 stone are paid for on the same basis as new items. Plastic woven filter fabric is required under rock filter rings and is included in the price bid for each.

The Items in this Section (except temporary grass and mulch) are made as partial payments as follows:

- When the item is installed and put into operation the Contractor will be paid 75 percent of the Contract price.
- When the Engineer instructs the Contractor that the Item is no longer required and is to remain in place or is removed, whichever applies, the remaining 25 percent will be paid.

Temporary devices may be left in place at the Engineer's discretion at no change in cost. Payment for temporary grass will be made based on the number of acres (hectares) grassed. Mulch will be based on the number of tons (megagrams) used.

Payment is made under:

Item No. 163	Construct , maintain & remove temporary pipe slope drains__	Per linear foot (meter)
Item No. 163	Construct, maintain & remove silt control gate	Per Each
Item No. 163	Construct, maintain & remove check dams	Per linear foot (meter)
Item No. 163	Construct, maintain & remove sediment basin type__, Sta. No.____	Per each
Item No. 163	Construct, maintain & remove sediment barrier	Per linear foot (meter)
Item No. 163	Construct, maintain & remove stone filter rings	Per Each
Item No. 163	Construct, maintain & remove temporary rock filter dams	Per Each
Item No. 163	Construction exit	Per each
Item No. 163	Construct, maintain & remove retrofit, Sta. No.____	Per each
Item No. 163	Construct, maintain & remove inlet sediment trap	Per each
Item No. 163	Temporary grass	Per acre (hectare)
Item No. 163	Mulch	Per ton (megagram)

**163.5.01 Adjustments**

General Provisions 101 through 150.

# DEPARTMENT OF TRANSPORTATION

## SPECIAL PROVISION

### Section 171—Silt Fence

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*Delete Section 171 and substitute the following:*

#### **171.1 General Description**

This work includes furnishing, installing, maintaining and removing a water permeable filter fabric fence to remove suspended particles from drainage water.

##### **171.1.01 Definitions**

General Provision 101 through 150.

##### **171.1.02 Related References**

###### **A. Standard Specifications**

Section 163---Miscellaneous Erosion Control Items

Section 700---Grassing

Section 862---Wood Posts and Bracing

Section 881---Fabrics

Section 894---Fencing

###### **B. Referenced Documents**

ASTM D 3786

ASTM D 4355

ASTM D 4632

ASTM D 4751

GDT 87

QPL 36

##### **171.1.03 Submittals**

General Provision 101 through 150.

#### **171.2 Materials**

Materials shall meet the requirements of the following Specification:

<b>Material</b>	<b>Section</b>
Filter Fabrics	<u>881</u>
Fencing	<u>894</u>
Wood Posts and Bracing	<u>862</u>



Conditions during Project construction will affect the quantity of the silt fence to be installed.

The Engineer may increase, decrease, or eliminate the quantity at his or her direction. Variations in quantity are not changes in details of construction or in the character of the work.

For Type A, B, and C fences, use fabric as specified in Subsection 881.2.07, "Silt Fence Filter Fabric"

#### **171.2.01 Delivery, Storage, and Handling**

During shipment and storage, wrap the fabric in a heavy-duty covering that will protect the cloth from sunlight, mud, dust, dirt and debris. Do not expose the fabric to temperature greater than 140° F (60°C).

When installed, the Engineer will reject the fabric if it has defects, rips, holes, flaws, deterioration, or damage incurred during manufacture, transportation, or storage.

### **171.3 Construction Requirements**

#### **171.3.01 Personnel**

General Provision 101 through 150.

#### **171.3.02 Equipment**

General Provision 101 through 150.

#### **171.3.03 Preparation**

General Provisions 101 through 150.

#### **171.3.04 Fabrication**

General Provisions 101 through 150.

#### **171.3.05 Construction**

Install the silt fence according to this Specification, as shown on the Plans, or as directed by the Engineer as; perimeter, ditch check or similar protection.

#### **A. Install Silt Fence**

1. Install silt fence by either of the following methods:
  - a. Excavated Trench Method

Excavate a trench 4 to 6 in (100 to 150 mm) deep using equipment such as trenching machine or motor grader. If equipment cannot be operated on the site, excavate the trench by hand.
  - b. Soil Slicing Method

Create a mechanical slice in the soil 8 to 12 in (200 to 300 mm) deep to receive the silt fence. Ensure that the width of the slice is not more than 3 in (75mm). Mechanically insert the silt fence fabric into the slice in a simultaneous operation with the slicing that ensures consistent depth and placement.
2. Install the first post at the center of the low point (if applicable). Space the remaining posts a maximum of 6 ft. (1.8m) apart for Types A and B fence and 4 ft. (1.2 m) apart for Type C fence.
3. Bury the posts at least 18 in (450 mm) into the ground. If this depth cannot be attained, secure the post enough to prevent the fence from overturning from sediment loading.

4. Attach the filter fabric to the post using wire, cord, staples, nails, pockets, or other acceptable means.
  - a. **Staples and Nails (Wood Posts):** Evenly space staples or nails with a least five per post for Type A fence and four per post for Type B fence.
  - b. **Pockets:** If using pockets and they are not closed at the top, attach the fabric to wood post using at least one additional staple or nail, or to steel post using wire. Ensure that the additions attachment is within the top 6 in (150 mm) of the fabric.
  - c. Install the filter fabric so that 6 to 8 in (150 to 200mm) of fabric is left at the bottom to be buried. Provide a minimum overlap of 18 in (450 mm) at all splice joints.
  - d. For type C fence:
    1. Woven Wire Supported

Steel Post: Use wire to attach the fabric to the top of the woven wire support fence at the midpoint between posts. Also, use wire to attach the fabric to the post.
    2. Polypropylene Mesh Supported

Wood Post: Use at least six staples per post. Use two staples in a crisscross or parallel pattern to secure the top portion of the fence. Evenly space the remaining staples down the post.

Steel Post: Use wire to attach the fabric and polypropylene mesh to the post.
5. Install the fabric in the trench so that 4 to 6 in (100 to 150 mm) of fabric is against the side of the trench with 2 to 4 in (50 to 100mm) of fabric across the bottom in the upstream direction.
6. Backfill and compact the trench to ensure that flow cannot pass under the barrier. When the slice method is used, compact the soil disturbed by the slice on the upstream side of the silt fence first, and then compact the downstream side.
7. When installing a silt fence across a waterway that produces significant runoff, place a settling basin in front of the fence to handle the sediment load, if required. Construct a suitable sump hole or storage area according to Section 163.

## **B. Install silt fence ditch checks**

1. Temporary Silt Fence Ditch Checks

Temporary silt fence ditch checks shall be constructed of the material type selected and shown on the approved erosion and sediment control plan. Item installation shall be constructed and placed according to approved Plan details. Temporary ditch checks shall remain in place until the permanent ditch protection is in place or being installed and the removal is approved by the Engineer.

## **C. Maintenance**

1. The Contractor shall maintain the silt fence until the Project is accepted or until the fence is removed, and shall remove and dispose of silt accumulations at the silt fence. Filter fabric shall

be removed and replaced whenever it has deteriorated to such extent that it reduces the effectiveness of the silt fence.

2. Silt fence shall remain in place unless the Engineer directs that it be removed. Silt fence which has been removed will remain the property of the Contractor and may be used at other locations provided it is in a condition acceptable to the Engineer.

#### **D. Remove the Silt Fence**

1. Keep all silt fences in place unless or until the Engineer directs it to be removed. A removed silt fence may be used at other locations if the Engineer approves of its condition.
2. After removing the silt fence, dress-the area to natural ground, grass-and mulch the area according to Section 700.
3. The silt fence shall remain until the Project is accepted or until the fence is removed. Also, remove and dispose of the silt accumulations at the silt fence.
4. Remove and replace any deteriorated filter fabric that reduces the effectiveness of the silt fence.
5. Repair or replace any undermined silt fence at no addition cost to the Department.

#### **171.3.06 Quality Acceptance**

Approved silt fence is listed in QPL 36. Approved fabrics must consistently exceed the minimum requirements of this Specification as verified by the Office of Materials and Research. The Office of Materials and Research will remove fabric that fails to meet the minimum requirements of this specification from the QPL until the products' acceptability has been reestablished to the Department's satisfaction.

At the time of installation, the Engineer will reject the fabric if it has defects, rips, holes, flaws, deterioration, or damage incurred during manufacture, transportation, or storage.

#### **171.3.07 Contractor Warranty**

The silt fence shall remain until the Project is accepted or until the fence is removed. Also, remove and dispose of the silt accumulations at the silt fence.

Remove and replace any deteriorated filter fabric that reduces the effectiveness of the silt fence.

Repair or replace any undermined silt fence at no additional cost to the Department.

#### **171.4 Measurement**

The quantity of silt fence, silt fence ditch checks to be paid for is the actual number of linear feet (meters) of silt fence, measured in place from end post to end post of each separate installation. The silt fence must be complete and accepted.

##### **171.4.01 Limits**

General Provisions 101 through 150.

##### **171.5 Payment**

Silt fence Type A, B, or C measured as defined in Subsection 171.4, "Measurement," is paid for at the Contract Unit Price bid per linear foot (meter).

Payment is full compensation for the following:

- Furnishing materials
- Erecting the fence
- Dressing and grassing, when required
- Maintaining the fence
- Removing the fence, when required

Payment for this Item is made as follows:

- Seventy-five percent of the Contract Price bid per linear foot (meter) is paid when each fence is complete in place.
- Twenty-five percent is paid at removal or acceptance.

If the silt fence must be repaired or removed, as the result of neglect or damage, perform the work at no additional cost to the Department.

Payment will be made under:

Item No. 171	Silt Fence, type _____	Per linear foot (meter)
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**171.05.01 Adjustment**

General Provisions 101 through 150.

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**SPECIAL PROVISION**

**PUTNAM COUNTY**

**Section 518—Raise Existing Bridge**

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*Add the following:*

**518.1 General Description**

This work consists of raising an existing bridge the minimum amount necessary to remove and replace concrete pedestals while maintaining traffic in accordance with the Specifications and Plan Details.

**518.1.01 Definitions**

General Provisions Section 109 through 150.

**518.1.02 Related References**

Section 500

Section 501

**518.1.03 Submittals**

**A. Shop Drawings**

Submit proposed methods for raising the bridge spans in sufficient time for review and approval by the Engineer prior to commencing work.

**B. Calculations**

Submit calculations for the proposed method and materials.

**518.2 Materials**

Ensure that materials are in accordance with the Plans and Specifications.

**518.3 Construction Requirements**

**518.3.01 Personnel**

General Provisions 101 through 150.

## Section 518 – Raise Existing Bridge

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### 518.3.02 Equipment

General Provisions 101 through 150.

### 518.3.03 Construction

#### A. Contractor Options

1. Use either of the following methods:
  - a. Hydraulic jacks may be placed under each beam at each bent and act in unison in each bay at each bent and be supported on false bents or cribbing.
  - b. Hydraulic jacks may be used in conjunction with jacking beams and act in unison in each bay at each bent and be supported directly on existing cap unless cap is being replaced as shown in the plans.
2. Jack the bridge by individual spans or in unison with adjacent spans. Do not exceed 1 inch (25 mm) differential height between spans or bridge approaches.

#### B. Blocking

1. Temporary: Use standard steel rolled shapes and/or plates as temporary blocking under jacks. At other locations, standard steel rolled shapes or oak timbers may be used.
2. Permanent: Use steel bearings plates, shim plates and steel pedestals, and existing bearing assembly plates unless otherwise shown in the plans. When multiple shim plates are used, weld plates all around at each interface. The minimum thickness of any shim plate is ¼ inch (6 mm).

#### C. Anchor Bolts

Install new anchor bolts in accordance with the Plans.

#### D. Manifolds and Gauges

1. When the jack stroke is greater than 1 inch (25 mm), use a gauge at each jack and use a minimum of one manifold at each bent.
2. When the jack stroke is equal to or less than 1 inch (25 mm), use a minimum of one gauge per manifold.
3. Only use standard steel rolled shapes and/or plates as temporary blocking under jacks. At other locations, standard steel rolled shapes or oak timbers may be used.

#### E. Damage

Repair any damage to the bridge or road resulting from bridge jacking work at no expense to the Department.

### 518.4 Measurement

Raising of existing bridge is measured as an accepted Lump Quantity, complete in place.

#### 518.4.01 Limits

General Provisions 101 through 150.

### 518.5 Payment

This work is paid for at the Contract Price, complete in-place and accepted. This Lump Sum price is full compensation for furnishing all labor, materials, equipment, and services necessary to raise the bridge. This cost also includes any costs associated with obtaining access, clearing, grading, excavation, and temporary shoring.

Payment will be made under:

Item No. 518	Raise Existing Bridge, STA NO	Per Lump Sum
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#### 518.5.01 Adjustments

General Provisions 101 through 150.

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**SPECIAL PROVISION**

**PUTNAM COUNTY**

**SECTION 521 – PATCHING CONCRETE BRIDGE STRUCTURES**

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**521.1 General Description**

This work includes patching of substructure or superstructure concrete bridge components by removing the broken, damaged, or disintegrated concrete, cleaning existing reinforcement, adding supplemental reinforcement when required, and patching with approved conventional or accelerated Portland cement concrete or rapid setting patching materials according to this Specification and as shown on the Plans.

**521.1.01 Definitions**

General Provisions 101 through 150.

“Sound” – the act of striking a concrete surface with a chipping hammer or similar tools to detect unsound concrete.

**521.1.02 Related References**

**A. Standard Specifications**

Section 500—Concrete Structures

Section 504—Twenty-Four Hour Accelerated Strength Concrete

Section 511—Reinforcement Steel

Section 853—Reinforcement and Tensioning Steel

Section 886—Epoxy Resin Adhesives

Section 934—Rapid Setting Patching Materials for Portland Cement Concrete

**B. Referenced Documents**

QPL 10

QPL 27

**521.1.03 Submittals**

General Provisions 101 through 150.

## 521.2 Materials

Ensure that the materials used to repair and patch bridge components meet the following requirements:

### A. Portland Cement Concrete Patching Materials

1. Conventional Portland Cement Concrete (Repair Method 1)
  - a. Use Class “A” or Class “AA” concrete or as indicated on the Plans.
  - b. Meets the requirements of Section 500 of the Specifications.
  - c. Use concrete manufactured at plants that qualify as approved sources according to the Standard Operating Procedure for Ready Mix Concrete. See QPL 10 for a list of approved plants.
2. Twenty-Four Hour Accelerated Strength Concrete (Repair Method 2)
  - a. Meets the requirements of Section 504 of the Specifications, except that the use of a portable concrete mixer is required.

### B. Rapid Setting Patching Materials (Repair Method 3)

1. Use rapid setting patching materials meeting the requirements of Section 934. See QPL 27 for a list of approved patching materials. Patching materials not listed on QPL 27 will require testing and approval by the Office of Materials and Research before use.
2. When shown on the Plans, use Type III rapid setting patching material to patch vertical and overhead repair areas.

#### 521.2.01 Delivery, Storage, and Handling

General Provisions 101 through 150.

## 521.3 Construction Requirements

### 521.3.01 Personnel

General Provisions 101 through 150.

### 521.3.02 Equipment

To clean the repair areas, use air compressors equipped with traps that can remove surplus water and oil in the compressed air. Ensure that the compressor can deliver compressed air at a continuous pressure of at least 90 psi (620 kPa).

The Engineer will check the compressed air daily for contamination. Do not use contaminated air.

### 521.3.03 Preparation

#### A. Limits of Repair

Repair all patches as shown on the Plans and as directed by the Engineer. Determine limits of patch repair as follows:

1. “Sound” concrete surface with visual defects to determine the limits of the damaged areas. Strike the surface with a chipping hammer or similar tools to detect unsound concrete. Concrete that is loose or exhibits a flat or hollow sound is considered unsound. Omit any defect for repair that is less than 1 in. by 6 in. by 0.5 in. (25 by 150 by 12 mm) deep.
2. Mark the limits of the defective areas on the concrete surface by making a rectangle 2 in. (50 mm) beyond the outer limits of the unsound concrete area as a guide for saw cuts.



3. Combine patched areas less than 6 in. (150 mm) from each other as one patch area.
4. Obtain approval from the Engineer on the limits of each repair prior to saw cutting.

#### **B. Concrete Removal**

1. Saw the rectangular marked areas a minimum of 1 in. (25 mm) deep or as shown on the plans. Exercise extreme care not to saw or damage the reinforcing steel.
2. Remove unsound material within the sawed area to a minimum depth of 2 inches for unreinforced concrete or 0.5 in. (12 mm) below the reinforcing steel or as shown on the Plans with power chipping or hand tools. Pneumatic hammers heavier than 15 lb. class nominal (30 lb. maximum) are not permitted. Exercise extreme care not to saw or damage the reinforcing steel.
3. Operate pneumatic hammers and chipping tools at an angle not to exceed 60 degrees relative to the surface of the concrete. After starting the tool in the vertical position, immediately tilt the tool to a 60 degree operating angle.
4. Do not damage or fracture the sound concrete substrate to be left on the bottom of the patch area. Do not use sharp pointed bits.

#### **C. Surface Preparation**

1. Clean all exposed reinforcing steel of all rust and corrosive products including oil, dirt, concrete fragments, loose scale and any other coating of any character that would destroy or inhibit the bond with the patching material.
2. Immediately before placing the patching material, thoroughly clean the surfaces within the repair areas by sandblasting and air blasting to remove oil, dust, dirt, slurry from saw operation, and other contaminants.
3. Place formwork as required to complete patch repair. Provide access in formwork for placement of patch material.
4. Ensure that the finished surface meets a surface tolerance of 1/16 in. (1.5 mm).
5. Use approved measures as necessary to keep the adjacent concrete surfaces free of excess grout and other materials.

#### **521.3.04 Fabrication**

General Provisions 101 through 150.

#### **521.3.05 Construction**

##### **A. Concrete Patching**

Patch concrete safely and rapidly to minimize inconvenience to the traveling public.

1. Accomplish this work with other operations in progress within an area if possible.
2. Remove and replace completed patches that contain cracks, shrinkage, compression failures, or are damaged by construction or traffic before Final Acceptance at no cost to the Department.

##### **B. Placing Patching Material**

Only use Repair Method 1 with the class of concrete on bridge components designated on the Plans.

Use Repair Method 2 unless the Engineer gives written approval to use Repair Method 3. Use Repair Method 1 and 2 when the average daily temperature is 50 °F (10 °C) or above. Use of Repair Method 3, if approved, is limited to the manufacturer's written recommendations.

For the following repair methods, begin the placement when the surface within the repair area is dry and thoroughly free of contaminants.

1. Repair Method 1: Conventional Portland Cement Concrete

- a. Completely coat the concrete surface areas within the repair area with a film of Type II epoxy adhesive as specified in Section 886 approximately 10 to 20 mils (0.25 to 0.50 mm) thick or according to the manufacturer's written recommendations.
  - b. Deposit the concrete in the repair area while the epoxy is still tacky. Vibrate it to form a dense, homogeneous mass of concrete that completely fills the patch area.
  - c. Screed the concrete to the proper grade and do not disturb it until the water sheen disappears from the surface.
  - d. Cover the concrete with wet burlap or membrane curing compound. Allow the curing to continue until the required minimum design compressive strength is achieved as designated by the class of concrete used or as shown on the Plans. Complete curing prior to transferring load to the repaired section.
2. Repair Method 2: Twenty-Four Hour Accelerated Strength Concrete
    - a. Prepare, remove and place as outlined in Subsections 521.3.03 and 521.3.05.B and 521.3.05.B.1.
    - b. Mix the concrete on site in a portable mixer of adequate capacity. Obtain approval for the mix design and mixing method from the Office of Materials and Research.
    - c. The material must meet a slump range of 1.0 to 3.0 in. (25 to 75 mm).
  3. Rapid-Setting Patching Material
    - a. In addition to the requirements outlined in Subsection 521.3.03, prepare the surfaces in the repair areas according to the manufacturer's written recommendations.
    - b. Perform the patching material handling, mixing, placing, consolidating, finishing, and curing according to the manufacturer's written recommendations as approved by the Office of Materials and Research.
    - c. Continue curing until a minimum design compressive strength of 3,000 psi (20 MPa) or as shown on the Plans is achieved. Complete curing prior to transferring load to the repaired section.

### C. Special Requirements

The following special requirements apply to this work:

1. During sandblasting, protect traffic in adjacent travel lanes.
2. After the sandblasting operations:
  - a. Thoroughly clean the area to be repaired with compressed air.
  - b. Remove sand from the sandblasting operation from adjacent concrete surfaces.
3. Do not "over-cut" concrete surfaces beyond marked areas whenever possible.
4. Remove saw slurry and other contaminants from the over-cutting.
5. Repair the over-cuts by filling full-depth with an approved low-viscosity epoxy compound using a Type II epoxy adhesive specified in Section 886. Make these repairs as soon as possible.

#### 521.3.06 Quality Acceptance

General Provisions 101 through 150.

#### 521.3.07 Contractor Warranty and Maintenance

General Provisions 101 through 150.

### 521.4 Measurement

The area measured for payment is the number of square feet (meters) of patching complete in place and accepted.

#### 521.4.01 Limits

General Provisions 101 through 150.

## 521.5 Payment

The area measured as specified above will be paid for at the Contract Unit Price per square foot (meter). Payment is full compensation for equipment, tools, labor, incidentals to complete the work, including but not limited to:

- Removing existing patching material or the spalled, broken, or damaged concrete
- Cleaning the open area by sandblasting
- Furnishing, placing, finishing, and curing the patching material
- Supplemental reinforcement

Payment will be made under:

Item No. 521	Patching concrete bridge	Per square foot (meter)
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### 521.5.01 Adjustments

General Provisions 101 through 150.