

PROJECT MANUAL

for

City of Jefferson – Downtown  
Drainage Project  
Jefferson, Georgia  
CIP 2024-001

---

March 13, 2024

ARCHITECT/ENGINEER



3011 Sutton Gate Drive, Suite 130  
Suwanee, Georgia 30024  
(770) 831-9000

**CPL PROJECT NUMBER R21.16043.01**

**OWNER**

**CITY OF JEFFERSON**  
147 Athens Street  
Jefferson, GA 30549

(706) 367-5121

Ms. Priscilla Murphy, City Manager

**PRIMARY CONSULTANT:**

**ARCHITECT &  
ENGINEER**

**CPL ARCHITECTURE ENGINEERING & PLANNING**  
3011 Sutton Gate Drive, Suite 130  
Suwanee, Georgia 30024

(770) 831-9000

Richard J. Edinger, PE, CFM, Vice President

TECHNICAL PROVISIONS

DIVISION 0 - BIDDING/CONTRACT REQUIREMENTS

Section Title

00 001	Project Directory
00 002	Table of Contents
00 010	Invitation to Bid
00 100	Instructions to Bidders
00 200	Project Description
00 300	Bid Form
00 500	Form of Agreement
00 701	General Conditions

DIVISION 1 - GENERAL REQUIREMENTS

01 010	Summary of Work
01 230	Alternates
01 630	Product Options and Substitutions
01 740	Contractor Warranty Form
01 741	Subcontractor Warranty Form
01 742	E-Verify Contractor Affidavit

DIVISION 2 – EXISTING CONDITIONS

02 4100	Demolition
---------	------------

DIVISION 3 – CONCRETE

03 1000	Concrete Forming & Accessories
03 2000	Concrete Reinforcing
03 3000	Cast-In-Place Concrete

DIVISION 31 – EARTHWORK

31 1000	Site Clearing
31 2200	Grading
31 2316	Excavation
31 2316.13	Trenching
31 2323	Fill

DIVISION 32 – EXTERIOR

32 1216	Asphalt Paving
32 1723	Pavement Markings

DIVISION 33 – UTILITIES

33 0561	Concrete Manholes
33 4211	Stormwater Gravity Piping
33 4230	Stormwater Drains

GEORGIA DEPARTMENT OF TRANSPORTATION SPECIAL SPECIFICATIONS

Section Title

150	Traffic Control
-----	-----------------

END OF SECTION 00 002

INVITATION TO BID ON THE  
**JEFFERSON DOWNTOWN DRAINAGE PROJECT**  
PROJECT BID NO. CIP2024-001

The City of Jefferson is soliciting competitive sealed bids from qualified contractors for DRAINAGE PIPE REPLACEMENT, ROAD REPAIR, PATCHING, and RESURFACING. Sealed bids will be received by the City of Jefferson at the Jefferson City Hall, 147 Athens Street, Jefferson, Georgia 30549, until 2:00 p.m. local time on Monday, April 29, 2024. The bids will be opened by staff and the results will be posted later that day via email to the bid submitters. Any bid received after 2:00 p.m. will not be accepted. Bid envelope must be marked on the outside with Bid Number, Name of Bidder, date and time of opening and Contractor's License Number. Failure to display Contractor's License Number may result in the bid being returned.

Work required under the Contract would include demolition, trenching, storm drain replacement, road repair and patching, marking in the City of Jefferson.

Interested parties should contact Lori Brothers at [LBrothers@cplteam.com](mailto:LBrothers@cplteam.com) (770-831-9000) to request a bid package at:

CPL Architecture Engineering & Planning  
3011 Sutton Gate Drive, Suite 130  
Suwanee, GA 30024

Bids shall be entered as a lump sum price. The bidder shall provide a lump sum price for all work shown on the construction documents and as described in the project manual and outlined on the bid form.

One complete set of drawings and specifications shall be provided in an electronic format. No partial sets of working drawings or specifications shall be issued. Questions shall be emailed to Clark Patterson Lee, Attention: Jefferson City Drainage Bid No. CIP2024-001 at [redinger@cplteam.com](mailto:redinger@cplteam.com). Questions will be received up to Monday, April 15, 2024, at 5:00 pm. Responses will be made through an addendum. Contractor shall provide email address on facsimile and/or at time of bid package request and/or pick up.

Bids in the case of Corporations not chartered in Georgia, must be accompanied by proper certification stating that said Corporation is authorized to do business in the State of Georgia. No Bidder may withdraw his Bid within ninety (90) days after the actual date of the opening thereof.

All Bidders are required to submit a Bid Bond or a certified check made payable to the City of Jefferson in the amount of five percent (5%) of the total amount bid. The successful bidder will be required to furnish a contract performance bond and payment bond in the amount of one hundred percent (100%) of the total amount bid and provide insurance coverage as required by the contract documents. The Bid Bond or certified check must be enclosed in the envelope with the sealed bid.

Bonding Company must be licensed to do business in Georgia, licensed to do business by the Georgia Secretary of State, authorized to do business in Georgia by the Georgia Insurance Department, listed in the Department of 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 of A-, Class V or higher.

The Owner will award the Contract to the lowest responsive and responsible bidder, subject to the Owner's right to reject any or all bids, to waive technicalities, and to make an award deemed in its best interests.

SECTION I  
INSTRUCTIONS TO BIDDERS

1. DEFINED TERMS:

- 1.1 The terms used in Instructions to Bidders and defined in General Conditions (Section G) shall have meanings assigned to them in General Conditions.
- 1.2 The term “Successful Bidder” means the Bidder to whom the Owner awards or expects to award the contract.

2. COPIES OF BID DOCUMENTS:

- 2.1 Bid Document Package may be available in advance to contractors and other interested parties at the cost and location stipulated in the INVITATION TO BID.
- 2.2 Complete sets of Bid Documents shall be used in preparing Bids. The Owner assumes no responsibility for errors or misinterpretations resulting from using incomplete sets of Bid Documents.
- 2.3 The Owner, in making Bid Documents available on the above terms, does so only to obtain Bids on Work and does not confer license or grant for any other use.
- 2.4 Any part of the Bid Documents may be modified by Addenda.

Where forms are provided, **THEY MUST BE USED WITHOUT SUBSTITUTION!** Use of forms other than those provided by the City shall constitute a non-responsive Bid and shall be rejected.

NOTE: Bidder must submit one original and one copy of Bid Documents to include: Bid Form; Instructions to Bidders; Bidder’s Affidavit; Non-Collusion Affidavit; and Bid Bond.

3. QUALIFICATIONS OF BIDDERS:

- 3.1 The City may make any investigations deemed necessary to determine Bidder’s ability to perform the Work, and Bidder shall furnish all information and data requested by the City. The City reserves right to reject any bid from any Bidder that the City considers not properly qualified to carry out Contract obligations or able to satisfactorily complete the Work on schedule.
- 3.2 If Bidder does not have offices in the State of Georgia, such Bidder shall designate a proper agent in the State of Georgia on whom service can be made in the event of litigation.

4. EXAMINATION OF BID DOCUMENTS AND SITE:

- 4.1 Before submitting Bid, each Bidder shall: (a) examine the Bid Document Package thoroughly; (b) visit the site to become familiar with local conditions affecting cost or Work progress or performance; (c) become familiar with federal, state, and local laws, ordinances, rules, and regulations affecting cost or Work progress or performance; (d) study and carefully correlate Bidder's observations with the Bid Document Package; and, (e) notify The Architect concerning conflicts, errors, or discrepancies in Bid Document Package.
- 4.2 On request, The Architect may provide each Bidder access to the site to conduct investigations and tests that Bidder deems necessary in order to submit Bid subject to easement acquisitions and existing conditions.
- 4.3 Bid submission will constitute **incontrovertible** representation that Bidder understands and has complied with requirements contained in this Article 4, and that Bidder has read and understood the Bid Document Package and hereby stipulates that the documents are sufficient in scope and detail to indicate and convey understanding for terms and conditions in order to perform Work.

5. ADDENDA AND INTERPRETATIONS:

- 5.1 Questions concerning meaning or intent of Bid Document Package shall be directed in email to Rich Edinger at [redinger@cplteam.com](mailto:redinger@cplteam.com) . Replies will be issued by Addenda mail or delivered to parties recorded by the Department as having received Bid Document Package. Questions after the end of questions date and time will not be answered. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
- 5.2 Addenda may be issued to modify Bid Document Package as deemed necessary by the City.

6. BID SECURITY:

- 6.1 Each bid shall be accompanied by Bid Security made payable to Owner in the amount equal to five percent (5%) of the Bidder's maximum Bid Price. Bid Security shall be cashier's check or Bid Bond issued by Surety meeting requirements contained in paragraph 24 below. Bid bond must be on City provided form found in bid package. Failure to use City forms may constitute a non-responsive bid and may be rejected.
- 6.2 Bid Security for Successful Bidder will be retained until Bidder has executed Agreement and furnished required payment and performance bonds. If Successful Bidder fails to furnish the qualifications submittals or fails to execute and deliver Agreement and furnish required Payment and Performance Bonds within fifteen (15) calendar days after Notice of Award, Owner may annul Notice of Award and Bidder's Bid Security will be forfeited.

Bid Security, for any Bidder that the City believes to have a reasonable chance to receive award, may be retained by Owner until the ninety-first (91<sup>st</sup>) day after Bid opening. If Notice of Award is issued within ninety (90) calendar days after Bid opening, Bid Security for Bidder receiving Notice of Award may be retained by Owner up to ninety (90) calendar days after Notice of Award.

- 6.3 Bid Bond shall be issued by company having a registered agent in State of Georgia and shall comply with the additional requirements of paragraph 23 below.

7. CONTRACT TIME:

The Work shall be completed within ninety (120) consecutive calendar days.

8. EXAMINATION OF BID PLANS AND SPECIFICATIONS:

Bidders are advised to carefully examine the Bid Plans and Specifications for the proposed Work. The Bid Plans indicate the surface and underground structures likely to affect the prosecution of the Work insofar as they have been determined, but the information indicated is not guaranteed as being correct and complete. Bidders are expected to examine the Bid Plans and the location of the Work, verify all information with authorities concerned, and judge for themselves all the circumstances affecting the cost of the Work and the time required for its completion, and shall assume all patent and latent risks in connection therewith.

9. BID BOND FORFEITURE:

The Successful Bidder, upon his failure or refusal to execute and deliver the Contract and Bonds required within fifteen (15) calendar days after receipt of Notice of Award, shall forfeit to the Owner, as penalty for such failure or refusal, the security deposited with Bid.

Provisions for penalty are set forth in the Advertisement for Bid, Bid Documents, and Specifications (including General Conditions).

10. SUBSTITUTE OR "OR EQUAL" TERMS:

- 10.1 The Contract, if awarded, will be based on material and equipment described in Plans or specified in Specifications without consideration for possible substitute or "or equal" items. Where indicated in Plans or specified in Specifications, substitute or "or equal" material or equipment may be furnished or used by Contractor, **if acceptable to the Architect**. Application for substitute or "or equal" items will be considered by the Owner until seven (7) calendar days **prior** to date for opening Bids.

Procedure for submitting application and consideration by the Architect is set forth in General Conditions and may be supplemented in Paragraphs 11.2 and 11.3 following.



- 10.2 Materials or equipment specified or described in Bid Document Package by proprietary name or by naming a particular supplier are intended to establish type, function, and quality required. Unless name is followed by words indicating no substitution is permitted, materials or equipment from other suppliers may be accepted by the Architect **if sufficient information is submitted by Bidder** to allow the Architect to determine material or equipment proposed is equivalent or equal to named material or equipment. Bidders shall make written application to the Architect for proposed substitute material or equipment and shall certify that the proposed substitute material or equipment will perform adequate functions and achieve results called for by general design, be similar and equal substance to item specified, and be suited to same use as specified material or equipment. Application shall state that the Architect's acceptance of proposed substitute will not prejudice Contractor's achieving Substantial Completion on time, will or will not require changes to Contract Documents to adapt design to proposed substitute, and will or will not require payment for license fee or royalty. Bidder shall indicate acceptance of responsibility for all costs of redesign, which will be required through approval of Bidder's application.

Variations for proposed substitute from item specified will be identified in application and available maintenance, repair, and replacement service will be indicated.

- 10.3 Bidders may propose substitute construction means, methods, sequences, techniques, or procedures for specific construction means, methods, techniques, sequences, or procedures indicated in or required by Bid Document Package. Bidders shall submit sufficient information to allow the Architect to determine substitute proposed is equivalent to means, method, sequence, technique, or procedure indicated or required by Bid Document Package. Procedure for review by the Architect will be similar to method provided in Paragraph 11.2 above.
- 10.4 The Architect will be allowed reasonable time to evaluate each proposed substitute. No application for substitute will be considered later than seven (7) calendar days prior to bid opening date. The Architect will be sole judge concerning proposed substitute acceptability.

11. SUBCONTRACTORS, SUPPLIERS AND OTHERS:

- 11.1 Each Bid shall identify names and addresses for subcontractors, suppliers, and other persons and organizations furnishing material and equipment, or Bid will be considered non-responsive. The Bidder is cautioned that any person, firm or other party to whom it is proposed to award a subcontract under this Contract must meet the same conditions of experience, competent personnel and workman's compensation insurance as the Bidder.

If requested by the Architect, the Successful Bidder and any other Bidder shall, within seven (7) calendar days after request, submit to the Architect experience statement with pertinent information for similar projects and other qualifications

for each subcontractor, supplier, person, and organization. If the Architect, after due investigation has reasonable objection to any proposed subcontractor, supplier, person, or organization, the Architect may, before giving Notice of Award, request Successful Bidder to submit acceptable substitute without increase in Contract Price or Contract Time. If Successful Bidder declines to make substitution, the Architect may elect not to award contract to Bidder. Bidder's declining to make substitution will not constitute grounds for sacrificing Bid Security.

- 11.2 Procedures for approving Subcontractors after executing Agreement are described in the General Conditions. No subcontractors may be employed without the specific written authorization of the Architect.
- 11.3 No Contractor will be required to employ subcontractor, supplier, person, or organization against whom Contractor has reasonable objection.

12. NOTICE OF SPECIAL CONDITIONS:

Attention is particularly called to those parts of the Specifications (including General Conditions) which deal with the following:

- a. Insurance Requirements

13. BID FORM:

- 13.1 Bid Form is included in the Bid Document package purchased by the Bidders.
- 13.2 Bid Forms shall be completed and submitted in duplicate.
- 13.3 Bids by corporations shall be executed in corporate name by president or vice-president (or other corporate officer accompanied by evidence indicating officer has authority to sign) and corporate seal shall be affixed and attested by secretary or assistant secretary. Corporate address and state of incorporation shall be shown below signature. If Bid is executed by someone other than president or vice-president, attach to Bid certified corporate resolution by board of directors authorizing person to execute Bid for Corporation.
- 13.4 Bids by partnerships shall be executed in partnership name and signed by partner, whose title shall appear under signature and official partnership address shall be shown below signature.
- 13.5 If requested, person signing Bid for corporation or partnership shall produce evidence satisfactory to Owner indicating person's authority to bind corporation of partnership.
- 13.6 Names shall be typed or printed below signature.
- 13.7 Bid shall contain acknowledgement Bidder has received Addenda (Addenda numbers shall be filled in on Bid Form).

- 13.8 Address and telephone number for communications regarding Bid shall be shown.
- 13.9 Bidder must furnish, in his Bid (if not furnished with Pre-Qualification Package), summary information relative to the facilities, ability, and financial resources available for the fulfillment of the Contract.

14. QUANTITIES OF WORK:

The quantities of Work shown on the drawings are approximate and are assumed solely for comparison of the proposals. They are not guaranteed to be accurate statements or estimates of quantities of Work that are to be performed under the Contract, and any departure, therefrom will not be accepted as valid grounds for any claim for damages, for extension of time or for loss of profits; nor will any additional payments other than that bid, be made regardless of the actual quantities required or ordered to complete the Work.

15. SUBMISSION OF BIDS:

- 15.1 Bids shall be submitted before time and at place indicated in Advertisement for Bid and shall be submitted in sealed envelope with the following notation on the face:

**BID NUMBER: CIP2024-001**

**CITY OF JEFFERSON DOWNTOWN DRAINAGE PROJECT**

**NAME OF BIDDER**

**DATE AND TIME OF OPENING: THURSDAY, APRIL 25, 2024, 2:00 PM**

If Bid is sent through mail or other delivery system, sealed envelope shall be enclosed in separate envelope with same notations as above on face.

- 15.2 Each Bid shall contain following documents in completed form (City forms must be used without substitution):

1. Bid Form
2. Bidder's Affidavit
3. Non-Collusion Affidavit
4. Bid Security (Surety Bond on City provided Form or Certified or Cashier's Check)
5. Power of Attorney (Surety Bonds only)
6. Corporate authority to execute Bid (required for any corporate officer other than president or vice-president)
7. E-verify Form

- 15.3 More than one Bid received for same work from individual, firm, partnership, corporation, or association under same or different names will not be considered. Reasonable grounds for believing any Bidder is interested in more than one Bid for same work will cause Owner to reject all Bids from Bidder. If Owner believes collusion exists among Bidders, Bids from participants in collusion will not be considered.

- 15.4 Conditions, limitations, or provisions attached by the Bidder to the Bid Forms may cause its rejection. Bids containing Items not included in the form of Bid will be considered irregular.

16. MODIFICATION AND WITHDRAWAL OF BIDS:

- 16.1 Withdrawal Prior to Time for Receiving Bids: Bids may be modified or withdrawn by appropriate document duly executed (in manner Bid must be executed) and delivered to place where Bids are to be submitted at any time prior to deadline for submitting Bids. Bid Withdrawal will not prejudice Bidder's rights to submit new Bid prior to Bid Date and Time.

- 16.2 Withdrawal After Time for Receiving Bids: After period for receiving Bids has expired, no Bid may be withdrawn, modified, or explained except as provided for in paragraph 18 below.

17. OPENING OF BIDS:

Bids will be opened publicly at the time and place set forth in the INVITATION TO BID and read aloud. Abstract listing amount for Base Bids and major alternates will be made available after Bid opening.

- 17.1 After Bid opening Bidder has up to twenty-four (24) hours to notify the City that Bidder made an obvious error in Bid calculation. Bid Bond withdrawal for this reason shall be requested in writing within this same twenty-four (24) hour period. Said written request shall be accompanied by sufficient documentation to demonstrate the origin and composition of the "obvious error." Bid Bond may not be withdrawn for any other reason.

18. BIDS TO REMAIN OPEN:

Bids shall remain open for acceptance by Owner for ninety (90) calendar days after Bid opening. Owner may, at its sole discretion, release any Bid prior to that date.

19. AWARD OF CONTRACT:

- 19.1 To extent permitted by applicable state and federal laws and regulations, Owner reserves the right to reject any and all Bids, to waive any and all informalities, and to disregard nonconforming, non-responsive, or conditional Bids. Bids may be considered irregular and subject to rejection if they show serious omission, unauthorized form alterations, use unauthorized forms, unauthorized alternate bids, incomplete or unbalanced unit prices, or other irregularities. Discrepancies between words and figures will be resolved in favor of correct sum. Any mistake which is obviously a clerical one, such as an error in price extension, or in placement of decimal points, reversal of prices, FOB destination, FOB point of origin, etc., may be corrected by the purchasing authority after verification is made by the bidder. However, under no circumstances can unit prices be changed.

- 19.2 Contract will be awarded by Owner pursuant to applicable law. Nothing contained herein shall place duty upon Owner to reject bids or award contract based upon anything other than Owner's sole discretion as described herein.
- 19.3 The Department may consider qualifications and experience for subcontractors, suppliers, persons, and organizations proposed for Work.
- 19.4 The Department may conduct investigations deemed necessary to assist in evaluating Bids and to establish responsibility, qualifications, and financial ability for Bidders, proposed Subcontractors, persons, and organizations to do Work. Owner reserves right to reject Bid from any Bidder not passing evaluation to Owner's satisfaction.
- 19.5 One contract for Work will be awarded, if award is made, based upon Base Bid to lowest responsible, responsive Bidder. Alternate Bids will not be considered as basis for award unless specifically stated on the Bid Form. Successful Bidder will be required to perform Work as Prime Contractor. Work performed by Contractor shall be 50% minimum. No Contract assignment or subcontracting will be allowed without written permission from the Architect.
- 19.6 The Successful Bidder will be required to furnish a Performance and Payment Bond, Each in a sum not less than one hundred percent (100%) of the amount of the Contract. The Bonds shall be that of an approved surety meeting the requirements as noted in paragraphs 6 and 24 herein.
- 19.7 If at any time after the execution and approval of the Contract and of the Surety Bonds as required in the Bid Advertisement, the Owner shall deem any of the Sureties upon such Bonds to be unsatisfactory, or such Bonds to be inadequate security for the Owner, the Contractor shall, within five (5) calendar days after notice from Owner to do so, furnish new or additional Contract Bonds, in form and sum, and signed by such Sureties who all shall be satisfactory to the Owner. No further payment will be deemed due nor will any further payment be made to the Contractor unless such new or additional Bonds are furnished and approved. The premium on such Bonds shall be paid by the Contractor.

Failure of the Contractor to submit approved Performance and Payment Bonds within the required five (5) calendar days shall, at the discretion of the Owner, constitute a forfeiture of the Bid Bond.

20. SUBMITTALS BY SUCCESSFUL BIDDER:

- 20.1 Owner intends to award contract to Bidder competent to perform and complete Work in satisfactory manner. Owner will require Successful Bidder to submit, within seven (7) calendar days after receiving written request from the Architect and prior to contract award, Preliminary Progress Schedule and Schedule of Values, as set forth below.
- 20.2 Preliminary Progress Schedule shall be submitted in triplicate and include time-scaled schedule and narrative in accordance with appropriate formats established in the Architects' written request for schedules. Activities in schedule shall show order Successful Bidder proposes to perform Work within constraints and

sequencing conditions set forth in Specification (including General Conditions) and shall indicate starting and completion dates for key milestones and Work pertaining to each Specifications division within each major structure or geographical area on site. Activities shall identify significant submittals and approvals, major equipment deliveries, equipment testing, Owner's responsibilities, affected utilities, and other similarly involved third parties.

- 20.3 Schedule of Values shall include Bid itemization by major structures or Work areas.
- 20.4 Successful Bidder and surety, if any, agree any delays within Bidder's control in delivering submittals shall constitute request by Bidder for time extension and Bid shall remain open for Owner's acceptance. If Owner agrees to time extension, Bidder shall comply with Submittal Requirement within five (5) additional calendar days. At Owner's option, failure by Successful Bidder to deliver submittals within extended period will void Bid evaluation and will constitute proof Successful Bidder has abandoned Bid, Bid Security may be declared forfeited to Owner as liquidated damages, and Work may be awarded to Another Bidder.
21. BUSINESS LICENSE:

Successful Bidder's submittals shall include a copy of Bidder's business license.

22. TAXES:

Contractor shall pay applicable sales, consumer, use, and other similar taxes required by law. Contractor is responsible for reviewing pertinent state statutes involving sales tax and complying with requirements.

The Contract prices for articles, materials, or equipment names herein are subject to increase by the amount of any additional tax or taxes affecting the articles, materials or equipment involved in the Contract imposed by or under the authority of the Federal or State Government and passed or taking effect after the receipt of Bids, and shall continue in effect during such time as such tax or taxes are lawfully collectible; provided, however, that in the event of such increase in cost, the claim shall be presented within thirty (30) days and supported by evidence of such additional tax, satisfactory to the City Attorney.

23. QUALIFICATIONS OF SURETY COMPANIES:

In order to be acceptable to Owner, surety company issuing Bid Guaranty Bonds or 100% Performance/Payment bonds as required in Bid Advertisement shall meet and comply with following minimum standards:

- 23.1 Bonding Company must be licensed to do business in Georgia by the Georgia Secretary of State, authorized to do business in Georgia by the Georgia Insurance Department, 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 of A-, Class VI or higher.

- 23.2 All bonds must be submitted on forms provided by the City and agencies providing bonds and insurance must provide proof that they meet the criteria outlined in the bid and contract documents.
- 23.3 Surety shall be admitted to do business in State of Georgia and shall be registered to provide such surety the State of Georgia Insurance Commissioner.
- 23.4 Attorneys-in-fact who sign bid bonds or performance/payment Bonds shall file with bond certified power of attorney to sign bond.
- 23.5 Surety company agents shall list name, address, and telephone number on bonds.
- 23.6 Performance and payment Bonds shall extend twelve (12) months beyond date of final payment and shall contain waiver for alteration to Contract terms, time extensions, or forbearance on Owner's part.

24. EXECUTION OF WRITTEN CONTRACT

Successful Bidder will be required to sign written contract identified in bid package as Agreement. Unsigned Agreement will be submitted to Successful Bidder either prior to or along with the Notice of Award. The Contractor shall sign and deliver the fully executed Agreements to Owner with all required bonds within ten (10) calendar days following receipt of Agreement forms, (unless otherwise stipulated by the Owner).

~~25. AREA OFFICE:~~

~~If required by the Architect, the Contractor will be required to establish an office and an equipment and spare parts storage yard within Gwinnett County to conduct this work and must arrange to cope with any emergency that may arise in connection with the Work on a twenty four (24) hour per day, seven (7) day per week basis.~~

26. PROTESTS:

Owner is responsible for resolving protests concerning contract award, claims, disputes, alleged license fees, and other related procurement matters in accordance with sound business judgment and good administrative practice. Following procedures shall be used for this purpose:

- 26.1 Any party with direct financial interest adversely affected by Owner's procurement decision shall file protest under this article, or be barred further relief.
- 26.2 Protest shall: (a) be made in writing, oral protests will not be permitted; (b) adequately state basis for protest and relief requested; and (c) be received by Owner within seven (7) calendar days from date basis for protest was, or should have been, known.
- 26.3 Owner may defer protested procurement upon receiving procedurally adequate protests, provided in any even awarding contract, subcontract, or procurement for sub item may be permitted, at Owner's sole discretion, where award will not materially affect resolving protest.

- 26.4 Protest shall be limited to: (a) issues arising from procurement provisions contained in Specifications; and (b) state or local law. No protest may be filed with respect to basic project design.
- 26.5 City Attorney will establish procedures for resolving protests. Owner will rely for protest resolution on decisions issued under Georgia law, as well as decisions issued under Georgia law, as well as decisions issued by other states, Federal courts, U.S. Comptroller General, or other Federal agencies with extensive procurement expertise, if state law is not clearly established.

27. BIDDER'S ACKNOWLEDGEMENT:  
The undersigned bidder acknowledges all requirements outlined in the above "Instructions to Bidders Package" and all documents referred to therein. This signed form must accompany the completed bid form submitted at the time of bid.

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_  
(President, Vice President or  
Corporate Officer)

PRINTED NAME: \_\_\_\_\_ TITLE: \_\_\_\_\_

ATTESTED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
(Secretary of Corporation)

PRINTED NAME: \_\_\_\_\_ TITLE: \_\_\_\_\_

SEAL  
(Corporate Seal Required if Bidder is a Corporation)

COMPANY NAME:  
\_\_\_\_\_

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

CITY: \_\_\_\_\_ STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_

TELEPHONE NO: \_\_\_\_\_



## **REPLACEMENT OF STORM DRAIN SYSTEMS IN THE DOWNTOWN AREA**

**This project consists of replacing storm drain pipes on various downtown city streets as shown on the construction plans.**

This section provides a description of the project, the diagrams and exhibits necessary to understand the scope and work of the project, and technical descriptions of how the work is to be conducted.

**BIDDERS ARE ADVISED TO THOROUGHLY UNDERSTAND THE GENERAL CONDITIONS AND SPECIAL PROVISIONS OF THIS SECTION, PRIOR TO SUBMITTING THEIR BID.**

### **I. GENERAL CONDITIONS**

#### **A. AWARD OF CONTRACT**

The Contract will be lump sum. The city expects to pay for all materials and labor necessary to construct the work shown in the construction documents for the sum indicated in the bid form.

#### **B. LOCATION AND SITE**

1. The site of the proposed work is at the stated location(s) within the City of Jefferson, Georgia.
2. The Contractor shall accept the site in its present condition and carry out all work in accordance with the requirements of the specifications, as indicated on the drawings or as directed by the engineer.
3. The Contractor, before submitting a bid, is advised to visit the site, and acquaint themselves with the actual conditions and the location of any or all obstructions that may exist on the site.
4. The Contract Documents contain the provisions required for the completion of the work to be performed pursuant to this Contract. Information obtained from an Officer, agent, or employee of City of Jefferson or any other person shall not affect the risks or obligations assumed by the Contractor or relieve the Contractor from fulfilling any of the conditions of the Contract. Each Bidder is responsible for inspecting the site and for reading and being thoroughly familiar with the Contract Documents. The failure or omission of any Bidder to so familiarize themselves shall in no way relieve any Bidder from any obligation in respect to their Bid.
5. The Contractor is responsible for the location of above and below ground utilities and structures, which may be affected by the work.

### **II. SPECIAL PROVISIONS**

#### **A. GENERAL CONSTRUCTION GUIDELINES**

1. The City of Jefferson does not commit to furnishing full-time inspection or testing of the work in progress, or at material sources. Lack of inspection and/or testing by the City will in no way relieve the Contractor of their responsibility to provide quality workmanship in accordance with the Specifications.

2. On roads adjacent to the storm drain replacement work, the contractor shall furnish, install, maintain and remove all necessary traffic signs, barricades, lights, signals, cones and other traffic control devices, and all flagging and other means of traffic protection and guidance as required by the Standard Specifications of the Georgia Department of Transportation. Such work shall be considered incidental to the overall contract, and no additional compensation will be made.

B. PAVEMENT MARKING

1. The contractor will replace all pavement marking that is obliterated in performing the storm drain replacement as exists on the streets where the work is occurring. The application will be thermoplastic marking in accord with the specification.

END OF SECTION

BID FORM

**CITY OF JEFFERSON – DOWNTOWN DRAINAGE PROJECT**

BID NUMBER: CIP2024-001

BID DATE: April 25, 2024

SUBMITTAL DATE: \_\_\_\_\_

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

(Bidder)

PROJECT DESCRIPTION: The project consists of the removal of existing pipe, installation of new pipe and storm inlet structure, repair of an existing catch basin, road milling, patching, and resurfacing at three locations.

THIS BID IS SUBMITTED TO: City of Jefferson, Georgia (hereinafter called Owner) acting through its City Council.

- A. Undersigned Bidder offers and agrees to enter into Agreement with Owner, in accordance with the instructions, requirements and forms included in Bid Document Package (including the Invitation to Bid and Instructions to Bidders Package), and to complete all Work for the Bid Price and within required calendar days, all in accordance with the Bid Document Package.

Bidder accepts terms and conditions contained in Bid Document Package including without limitation those dealing with Owner’s time for accepting Bid and disposition of Bid Security.

In submitting this Bid, Bidder makes representations required by Instructions to Bidders and further warrants and represents:

Bidder has examined Bid Document Package, including Invitation for Bids and Instructions to Bidders, and following addenda:

No. _____	Dated _____	No. _____	Dated _____
No. _____	Dated _____	No. _____	Dated _____
No. _____	Dated _____	No. _____	Dated _____
No. _____	Dated _____	No. _____	Dated _____

Bidder has examined site and locality where the Work is to be performed and legal requirements (federal, state, and local laws, ordinances, rules, and regulations) and conditions affecting Work cost, difficulty, progress, or performance and has made independent investigations as Bidder deems necessary.

- B. Bidder has carefully studied reports and drawings indicating subsurface conditions and drawing depicting physical conditions as identified in General Conditions and accepts determination concerning technical data contained in reports and drawings on which Bidder is entitled to rely.
- C. Bidder has obtained and carefully studied (or assumes responsibility for obtaining and carefully studying) examinations, investigations, explorations, tests, and studies (in addition to or to supplement those referred to in “B” above) pertaining to subsurface or physical conditions at site or otherwise affecting cost, progress, performance, or furnishing Work as Bidder considers necessary for

performing or furnishing Work at Contract Price, within Contract Time, and in accordance with terms and conditions contained in Bid Document Package, including specifically provisions stated in General Conditions and no additional examinations, investigations, explorations, tests, reports, or similar information or data are or will be required by Bidder.

- D. Bidder has reviewed and checked Plans and data shown or indicated on Bid Document Package with respect to existing underground facilities at or contiguous to site and assumes responsibility for accurately locating underground facilities. No additional examinations, investigations, explorations, tests, reports, or similar information or data concerning underground facilities are or will be required by Bidder in order to perform and furnish Work at Contract Price, within Contract Time, and in accordance with terms and conditions contained in Bid Document Package, including specifically provisions stated in General Conditions.
- E. Bidder has correlated results from observations, examinations, investigations, explorations, tests, reports, and studies with terms and conditions contained in Bid Document Package.
- F. Bidder has given Owner written notice concerning conflicts, errors, or discrepancies discovered in Bid Document Package and written resolution by Owner is acceptable to Bidder.
- G. This Bid is genuine and not made in interest of or for any undisclosed person, firm, or corporation and is not submitted in conformity with any agreement or rules produced by any group, association, organization, or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit false or sham Bid; Bidder has not solicited or induced any person, firm, or corporation to refrain from bidding; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over Owner.

Bidder submits following lump sum/unit prices identified in Bid Form as part of this Bid:

BID NUMBER: CIP2024-001 BID DATE: April 25, 2024

SUBMITTAL DATE: \_\_\_\_\_

BY: \_\_\_\_\_  
(Bidder)

BIDDERS SIGNATURE: \_\_\_\_\_

BID FORM

This form is mandatory and must be completed in its entirety.

**A: BASE BID TOTAL:**

\_\_\_\_\_ Dollars \_\_\_\_\_ Cents  
(Base Bid Includes all work identified in the contract documents).

\$ \_\_\_\_\_

Attached prices shall include all labor, materials, balling, shoring, removal, overhead (Direct and Indirect), profit, insurance, bonds, and other costs, to cover all finished Work.

Bidder agrees this Bid shall be good and may not be withdrawn for a period of 90 calendar days after scheduled closing time for receiving bids.

There is enclosed herewith a certified or cashier's check or a Bid Bond to the order of City of Jefferson, Georgia, in the sum of \$ \_\_\_\_\_ Dollars.

Check or Bid Bond shall be equal to, not less than, the amount stipulated in INVITATION TO BID and it is understood and agreed that said check or Bid Bond shall be subject to terms and conditions stipulated in Bid Document Package.

Undersigned Bidder hereby agrees to each and every stipulation in Bid Document Package pertaining to the submission of Bids and further, if awarded the Contract, duly agrees to execute and secure the required Contract and Bid Document Package within fifteen (15) days from service of Notice of Award and deliver a surety bond or bonds as required by General Conditions. The name and business address of Bidder to which all formal Notices shall be sent:

Company: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

Undersigned Bidder states the names and addresses of persons interested as principals in this Bid are as follows: (Write first name in full):

---

---

---

BID NUMBER: CIP2024-001

BID DATE: April 25, 2024

SUBMITTAL DATE: \_\_\_\_\_

BY: \_\_\_\_\_  
(Bidder)

BIDDERS SIGNATURE: \_\_\_\_\_

Bidder shall state on line below, if a corporation, the name of State in which incorporated and the date of said incorporation:

---

Undersigned Bidder states (he/she/they) (is a/are) citizen(s) of the United States and all partners, associates, or principals interested herein are citizens of the United States, except: (Give full names and addresses):

---

---

---

---

Undersigned Bidder submitting this Bid certifies and affirms that such Bid is genuine and not collusive or sham; that said Bidder has not colluded, conspired, connived, or agreed, directly or indirectly, with any Bidder or person, to put in a sham Bid, or that such other person shall refrain from bidding, and has not in any manner, directly or indirectly, sought by agreement or collusion, or communication or conference, with any person to fix the Bid Price of affiant or any other Bidder, or to fix any overhead, profit, or cost element of said Bid Price, or of that of any other Bidder, or to secure any advantage against the City of Jefferson or any person interested in the proposed Contract; and that all statements contained in said Bid are true, and further, that such Bidder has not directly or indirectly submitted this Bid, or the contents thereof, or divulged information or data relative thereto to any association or to any member or agent thereof; and, that no member of Owner or other officers or employees of said Owner is interested directly or indirectly in the Bid or in any portion of the Bid nor the Contract or any part of the Contract which may be awarded the undersigned Bidder on the basis of such Bid.

The undersigned bidder acknowledges the requirements of the Plans and Specifications for this project. It is further understood that quantities are approximate, are solely for the purpose of comparing proposals, and are not represented by the Owner as an accurate statement of the actual work to be performed under the Contract.

The Bidder agrees to complete the Contract awarded within the “allowable calendar days for completion” from the date of the “Notice to Proceed” and he further agrees that the owner may retain from the monies which may become due the amount of five hundred dollars per day for each and every day that the completion of the work may be delayed.

**NOTE: See paragraph 13 of “Instruction to Bidders” for requirements in completing signature block below and remainder of this page.**

SIGNATURE: \_\_\_\_\_  
(President, Vice President or Corporate Office)

DATE: \_\_\_\_\_

PRINTED NAME: \_\_\_\_\_

TITLE: \_\_\_\_\_

ATTESTED BY: \_\_\_\_\_  
(Secretary of Corporation must attest)

DATE: \_\_\_\_\_

PRINTED NAME: \_\_\_\_\_

TITLE: \_\_\_\_\_

(Corporate Seal Required if Bidder is a Corporation)

BIDDER'S AFFIDAVIT

BID NUMBER: CIP2024-001

BID DATE: April 25, 2024

PROJECT DESCRIPTION: : JEFFERSON DOWNTOWN DRAINAGE PROJECT

STATE OF \_\_\_\_\_)

COUNTY OF \_\_\_\_\_)

\_\_\_\_\_  
(Name Printed)

being duly sworn, deposes and says that he resides at \_\_\_\_\_

\_\_\_\_\_  
that he is the

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Name of Bidder)

who signed the above Bid Form, that he was duly authorized to sign and that the Bid is the true offer of the Bidder, that the seal attached is the seal of the Bidder and that all the declarations and statements contained in the Bid are true to the best of his knowledge and belief.

\_\_\_\_\_  
(Affiant)

Sworn to and subscribed before me this \_\_\_\_\_ day of \_\_\_\_\_, 2024.

\_\_\_\_\_  
(Notary Public in and for

\_\_\_\_\_  
County

My Commission expires \_\_\_\_\_.

(SEAL)



FORM OF NON-COLLUSION AFFIDAVIT

(This Non-Collusion Affidavit is Part of the Bid Documents)

BID NUMBER: CIP2024-001

BID DATE: April 25, 2024

PROJECT DESCRIPTION: : JEFFERSON DOWNTOWN DRAINAGE PROJECT

STATE OF \_\_\_\_\_ )

) SS

COUNTY OF \_\_\_\_\_ )

\_\_\_\_\_  
(Name Printed)

\_\_\_\_\_  
being duly sworn, deposes and says that he is

\_\_\_\_\_  
(sole owner, partner, president, secretary, etc.)

the party making the foregoing Proposal or Bid; that such Bid is genuine and not collusive or sham; that said Bidder has not colluded, conspired, connived, or agreed, directly or indirectly, with any Bidder or person, to put in a sham Bid, or that such other person shall refrain from bidding, and has not in any manner, directly or indirectly, sought by agreement or collusion, or communication or conference, with any person to fix the Bid Price of affiant or any other Bidder, or to fix any overhead, profit, or cost element of said Bid Price, or of that of any other Bidder, or to secure any advantage against the City of Jefferson, or any person interested in the proposed Contract; and that all statements contained in said Proposal or Bid are true, and further, that such Bidder has not, directly or indirectly submitted this Bid, or the contents thereof, or divulged information or data relative thereto to any association or to any member or agent thereof; and, that no member of Owner or other officers or employees of said Owner is interested directly or indirectly in the Bid or in any portion of the Bid nor the Contract or any part of the Contract which may be awarded the undersigned Bidder on the basis of such Bid.

\_\_\_\_\_  
(Affiant)

Sworn to and subscribed before me this \_\_\_\_\_ day of \_\_\_\_\_, 2024.

\_\_\_\_\_  
(Notary Public in and for

\_\_\_\_\_  
County

\_\_\_\_\_  
My Commission expires  
(SEAL)

BID BOND

(This Bid Bond is part of the Bid Documents)

BID NUMBER: CIP2024-001 BID DATE: April 25, 2024

PROJECT DESCRIPTION: : JEFFERSON DOWNTOWN DRAINAGE PROJECT

KNOW ALL MEN BY THESE PRESENTS: that

\_\_\_\_\_  
(Name of Contractor)

\_\_\_\_\_  
(Address of Contract)

a \_\_\_\_\_  
(Corporation, Partnership or individual)

hereinafter called Principal, and

\_\_\_\_\_  
(Name of Surety)

\_\_\_\_\_  
(Address of Surety)

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

City of Jefferson  
(Name of Obligee)

147 Athen Street  
Jefferson, Georgia 30549  
(Address of Obligee)

hereinafter referred to as Obligee, 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.

Page 2

BID NUMBER: CIP2024-001 BID DATE: April 25, 2024

SUBMITTAL DATE: \_\_\_\_\_

BY: \_\_\_\_\_  
(Bidder)

BIDDERS SIGNATURE: \_\_\_\_\_

WHEREAS, the Principal is about to submit, or has submitted, to the City of Jefferson, Georgia, a proposal for furnishing materials, labor, and equipment for: JEFFERSON DOWNTOWN DRAINAGE PROJECT

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

NOW, THEREFORE, the conditions of this obligation are such that if the proposal 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 the City of Jefferson, Georgia, and execute a sufficient and satisfactory Performance Bond and Payment Bond payable to the City of Jefferson, Georgia, each in the amount of 100% of the total Contract Price, in form and with security satisfactory to said City of Jefferson, 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 the City of Jefferson, 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. 13-10-1, et. sea. And 36-86-101, et. seg. and is intended to be and shall be constructed as a bond in compliance with the requirements thereof.

(SIGNATURES NEXT PAGE)

Page 3

Signed, sealed, and dated this \_\_\_\_\_ day of \_\_\_\_\_ A.D., \_\_\_\_\_.

ATTEST:

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

(SEAL)

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

(Address)

ATTEST:

\_\_\_\_\_  
(Attorney-in-fact)  
(SEAL)

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

(Address)

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

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

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

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

By: \_\_\_\_\_  
(Attorney-in-Fact and Resident Agent)

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

NOTE: Date of Bond must not be prior to date of Contract. If Contractor is Partnership, all partners should execute Bond.

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.

JEFFERSON DOWNTOWN DRAINAGE PROJECT AGREEMENT

**BID NUMBER CIP2024-001**  
**JEFFERSON DOWNTOWN DRAINAGE PROJECT**

This Agreement (the “Agreement”) is made and entered into this \_\_\_\_\_th day of \_\_\_\_\_, 2024 (the “Effective Date”), by and between the CITY OF JEFFERSON, a Georgia municipal corporation (the “City”) and

\_\_\_\_\_,  
a Georgia \_\_\_\_\_ company (the “Contractor”),  
collectively referred to herein as the “Parties”.

WITNESSETH:

**WHEREAS**, under authority granted to it by the Georgia General Assembly as codified in the Official Code of Georgia Annotated (“O.C.G.A.”) § 32-4-92, the City desires to retain a contractor to perform services for **BID NUMBER CIP2024-001: JEFFERSON DOWNTOWN DRAINAGE PROJECT** regarding the construction, maintenance, administration, or operation of one or more City facilities incident thereto (the “Project”), as further defined below; and

**WHEREAS**, the City, in accordance with O.C.G.A. § 32-4-110 et seq., solicited competitive bids for the Project pursuant to a Request for Bids issued by the City Manager or designee (“Purchasing Agent”) on \_\_\_\_\_, 2024; and

**WHEREAS**, the Contractor submitted a complete and timely bid and met all bid requirements such that the City awarded the Project to the Contractor; and

**WHEREAS**, the City finds that specialized knowledge, skills, and training are necessary to perform the Work (defined below) contemplated under this Agreement; and

**WHEREAS**, the Contractor has represented that it is qualified by training and experience to perform the Work; and

**WHEREAS**, based upon Contractor’s bid, the City has selected Contractor as the successful bidder; and

**WHEREAS**, Contractor desires to perform the Work as set forth in this Agreement under the terms and conditions provided in this Agreement; and

**WHEREAS**, the public interest will be served by this Agreement; and

**WHEREAS**, Contractor has familiarized itself with the nature and extent of the Contract Documents, the Project, and the Work, and with all local conditions and federal, state and local laws, ordinances, rules and regulations that may in any manner affect cost,

progress or performance of Work, and Contractor is aware that it must be licensed to do business in the State of Georgia.

**NOW THEREFORE**, for and in consideration of the mutual promises, the public purposes, and the acknowledgements and agreements contained herein and other good and adequate consideration, the sufficiency of which is hereby acknowledged, the Parties hereto do mutually agree as follows:

**Section 1. Contract Documents**

This Agreement along with the following documents, attached hereto (except as expressly noted otherwise below) and incorporated herein by reference, constitute the “Contract Documents”:

- A. City’s Request for Bids solicitation, attached hereto marked “**Exhibit A**”;
- B. Bid response received from Contractor, dated \_\_\_\_\_, 2024, attached hereto marked “**Exhibit B**”;
- C. Performance Bond and Payment Bond, attached hereto collectively marked “**Exhibits C.1 and C.2**”;
- D. E-Verify compliance affidavits, attached hereto marked “**Exhibits D.1 and D.2**”;
- E. Additional payment terms, attached hereto marked “**Exhibit E**”; and
- F. The following, which may be delivered or issued after the Effective Date of the Agreement and are not attached hereto: All Change Orders (defined in Section 6 below), other written amendments, and other documents amending, modifying, or supplementing the Contract Documents if properly adopted in writing and executed by the Parties.

**Section 2. Project Description**

- A. **Project.** A general description of the Project is as follows: **BID NUMBER CIP2024-001: JEFFERSON DOWNTOWN DRAINAGE PROJECT** (the “Project”) as more fully detailed in Exhibit A.

**Section 3. The Work.**

- A. **The Work.** The Work to be completed under this Agreement (the “Work”) includes, but shall not be limited to, the work described in one or more of the following documents which are attached hereto and by this reference incorporated herein: the Specifications, Bid Form, Roadway Summaries, the Georgia Department of Transportation Specifications, Standards, and Special Provisions, Construction Documents, Location Maps,

and elsewhere in the Contract Documents for the Project, a true and correct copy of which has been provided to Contractor with originals maintained on file with the City's Purchasing Agent. The Work includes all material, labor, insurance, tools, equipment, machinery, water, heat, utilities, transportation, facilities, services and any other miscellaneous items and work reasonably inferable from the Contract Documents. The term "reasonably inferable" takes into consideration the understanding of the Parties that some details necessary for proper execution and completion of the Work may not be shown on the drawings or included in the specifications or Scope of Work, but they are a requirement of the Work if they are a usual and customary component of the Work or are otherwise necessary for proper and complete installation and operation of the Work. Contractor shall complete the Work in strict accordance with the Contract Documents. In the event of any discrepancy among the terms of the various Contract Documents, the provision most beneficial to the City, as determined by the City in its sole discretion, shall govern.

- B. Notice to Proceed. The City will issue a Notice to Proceed, which Notice to Proceed shall state the dates for beginning Work ("Commencement Date") and the Expected Date of Final Completion (defined in Section 4(A) below). Unless otherwise approved, the Contractor shall perform its obligations under this Agreement as expeditiously as is consistent with reasonable skill and care and the orderly progress of the Work.
- C. Plans, Drawings and Specifications. The plans, drawings and specifications, a true and correct copy of which has been provided to Contractor with originals maintained on file in the City Purchasing Agent, are hereby acknowledged by the Parties and incorporated herein by reference.
- D. Shop Drawings, Product Data, and Samples. Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents, but must be in conformity therewith. The purpose of their submittal is to demonstrate, for those portions of the Work for which submittals are required by the Contract Documents, the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents.
- (i) "Shop Drawings" are drawings, diagrams, schedules and other data specifically prepared for the Work by the Contractor or a subcontractor, sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.
  - (ii) "Product Data" are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.
  - (iii) "Samples" are physical examples that illustrate materials, equipment

or workmanship and establish standards by which the Work will be judged.

The Contractor shall review for compliance with the Contract Documents and shall approve and submit to the Contract Administrator Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the City or of separate contractors. By approving and submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents that the Contractor has determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and has checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents. Submittals which are not marked as reviewed for compliance with the Contract Documents and approved by the Contractor may be returned by the Contract Administrator without action. The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been approved in writing by the Contract Administrator, provided that submittals that are not required by the Contract Documents may be returned without action.

The Work shall be completed in accordance with approved submittals, provided that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Contract Administrator's approval of Shop Drawings, Product Data, Samples or similar submittals, unless the Contractor has specifically informed the Contract Administrator in writing of such deviation at the time of submittal and (1) the Contract Administrator has given written approval to the specific deviation as a minor change in the Work, or (2) a written Change Order has been issued and approved to authorize the deviation. The Contract Administrator's approval of the Shop Drawings, Product Data, Samples or similar submittals shall not relieve the Contractor of responsibility for errors or omissions therein.

The Contractor shall, in writing or on resubmitted Shop Drawings, Product Data, Samples or similar submittals, direct the Contract Administrator's attention to any additional revisions included other than those requested by the Contract Administrator on previous submittals. In the absence of such written notice drawing the Contract Administrator's attention to such additional revisions, the Contract Administrator's approval of a resubmission shall not apply to such additional revisions.

The Contractor shall maintain at the Project site(s) one record copy of the Contract Documents in good order and marked currently to record field changes and selections made during construction and one record copy of approved Shop Drawings, Product Data, Samples and similar required submittals. These documents shall be available to the City and Contract Administrator and shall be delivered to the Contract Administrator or City



upon completion of the Work.

**Section 4. Contract Term; Liquidated Damages; Expedited Completion; Partial Occupancy or Use**

- A. Contract Term. The term of this Agreement (“Term”) shall commence on the Effective Date and continue until the earlier of the Expected Date of Final Completion or the proper termination and non-renewal of this Agreement (provided that certain obligations, including but not limited to Warranty obligations, will survive termination/expiration of this Agreement). Contractor warrants and represents that it will perform its Work in a prompt and timely manner, which shall not impose delays on the progress of the Work. The Contractor shall commence Work pursuant to this Agreement within five (5) business days of the Commencement Date provided by the City and the Parties intend that all Work shall be completed on or before ninety (90) days following the commencement date specified in the Notice to Proceed. Every effort will be made by Contractor to shorten this period.
- B. Time is of the Essence; Liquidated Damages. Contractor specifically acknowledges that TIME IS OF THE ESSENCE of this Agreement and that City will suffer financial loss if the Work is not completed in accordance with the deadlines specified in Section 4(A) above and within the Contract Documents. The City and Contractor also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by the City if the Work is not completed within the specified times. Accordingly, instead of requiring any such proof, the City and Contractor agree that, as liquidated damages for delay (but not as a penalty), the Contractor shall pay to the City One hundred fifty and 00/100 Dollars (\$150.00) for each and every calendar day that expires after a deadline provided in the Contract Documents.
- C. Expediting Completion. The Contractor is accountable for completing the Work within the time period provided in the Contract Documents. If, in the judgment of the City, the Work is behind schedule and the rate of placement of work is inadequate to regain scheduled progress to ensure timely completion of the entire Work or a separable portion thereof, the Contractor, when so informed by the City, shall immediately take action to increase the rate of work placement by:
- (1) An increase in working forces;
  - (2) An increase in equipment or tools;
  - (3) An increase in hours of work or number of shifts;
  - (4) Expediting delivery of materials; and/or
  - (5) Other action proposed if acceptable to City.

Within five (5) calendar days after such notice from City that the Work is behind schedule, the Contractor shall notify the City in writing of the specific measures taken and/or planned to increase the rate of progress. The Contractor

shall include an estimate as to the date of scheduled progress recovery. Should the City deem the plan of action inadequate, the Contractor shall take additional steps to make adjustments as necessary to its plan of action until it meets with the City's approval and such approval is provided in writing by the City.

- D. Partial Occupancy or Use. The City may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement between the City and Contractor, provided such occupancy or use is consented to by the insurer and authorized by public authorities having jurisdiction over the Work. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the City and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. Immediately prior to such partial occupancy or use, the City, Contractor and Contract Administrator shall jointly inspect the area to be occupied, or portion of the Work to be used, in order to determine and record the condition of the Work. Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

**Section 5. Contractor's Compensation; Time and Method of Payment**

- A. Maximum Contract Price. The total amount paid under this Agreement as compensation for Work performed and reimbursement for costs incurred shall not, in any case, exceed \_\_\_\_\_ Dollars (\$ \_\_\_\_\_) (the "Maximum Contract Price"), except as outlined in Section 6 below. The compensation for Work performed shall be based upon the amount(s) specified in **Exhibit B**, and Contractor represents that the Maximum Contract Price is sufficient to perform all of the Work set forth in and contemplated by this Agreement.
- B. Additional Payment Terms. Additional payment requirements are included as **Exhibit E**, attached hereto and incorporated herein by reference.
- C. Material Deviations. Any material deviations in tests or inspections performed, or times or locations required to complete such tests or inspections, and like deviations from the Work described in this Agreement shall be clearly communicated to the City *before* charges are incurred and shall be handled through written Change Orders, as described in Section 6 below. Whenever the Contract Administrator considers it necessary or advisable, it shall have authority to require inspection or testing of the Work. However, neither this authority of the Contract Administrator nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or

responsibility of the Contract Administrator to the Contractor, subcontractors, material and equipment suppliers, their agents or employees, or other persons or entities performing portions of the Work.

- D. Taxes. The City is a governmental tax-exempt entity and shall not be responsible for paying any taxes on any materials or services provided for herein. At Contractor's request, City shall provide evidence of its tax-exempt status. To the extent, if any, that the City furnishes tangible personal property to Contractor for incorporation into the Project, Contractor shall be responsible for paying the amount of tax owed for such tangible personal property.

**Section 6. Change Orders**

- A. Change Order Defined. A "Change Order" means a written modification of the Contract Documents, signed by representatives of the City and the Contractor with appropriate authorization.
- B. Right to Order Changes. The City reserves the right to order changes in the Work to be performed under this Agreement by altering, adding to, or deducting from the Work. All such changes shall be incorporated in written Change Orders and executed by the Contractor and the City. Such Change Orders shall specify the changes ordered and any necessary adjustment of compensation and completion time. If the Parties cannot reach an agreement on the terms for performing the changed work within a reasonable time to avoid delay or other unfavorable impacts as determined by the City in its sole discretion, the City shall have the right to determine reasonable terms, and the Contractor shall proceed with the changed work.
- C. Change Order Requirement. Any work added to the scope of this Agreement by a Change Order shall be executed under all the applicable conditions of this Agreement. No claim for additional compensation or extension of time shall be recognized, unless contained in a written Change Order duly executed on behalf of the City and the Contractor.
- D. Authority to Execute Change Order. The City Manager has authority to execute, without further action of Jefferson City Council, any number of Change Orders so long as their total effect does not materially alter the terms of this Agreement or materially increase the Maximum Contract Price, as set forth in Section 5(A) above. Any such Change Orders materially altering the terms of this Agreement, or any Change Order, or combination of Change Orders increasing the Maximum Contract Price by more than five percent (5%) must be approved by the Jefferson City Council.
- E. Minor Changes in the Work. The Contract Administrator will have the authority to order minor changes in the Work not involving adjustment in the Maximum Contract Price or extension of the Term and not inconsistent with the intent of the Contract Documents. Such changes shall be effected by written order signed by the Contract Administrator. The Contractor shall carry out such written orders promptly. If the minor changes subsequently may affect

adjustments in the Maximum Contract Price or the Term, the changes shall then be converted to a written Change Order by the requesting Party.

**Section 7. Covenants of Contractor**

- A. Ethics Code: Conflict of Interest. Contractor agrees that it shall not engage in any activity or conduct that would result in a violation of the City's Code of Ethics or any other similar law or regulation. Contractor certifies that to the best of his knowledge no circumstances exist which will cause a conflict of interest in performing the Work. Should Contractor become aware of any circumstances that may cause a conflict of interest during the Term of this Agreement, Contractor shall immediately notify the City. If the City determines that a conflict of interest exists, the City may require that Contractor take action to remedy the conflict of interest or terminate the Agreement without liability. The City shall have the right to recover any fees paid for services rendered by Contractor when such services were performed while a conflict of interest existed, if Contractor had knowledge of the conflict of interest and did not notify the City within five (5) business days of becoming aware of the existence of the conflict of interest.
- B. Meetings. The Contractor is required to meet with the City's personnel, or designated representatives, to resolve technical or contractual problems that may occur during the Term of this Agreement at no additional cost to the City. Meetings will occur as problems arise and will be coordinated by the City or the Contract Administrator. The Contractor will be given a minimum of three (3) full business days' notice of meeting date, time, and location. Face-to-face meetings are desired. However, at the Contractor's option and expense, a conference call meeting may be substituted. Consistent failure to participate in problem resolution meetings, two consecutive missed or rescheduled meetings, or failure to make a good faith effort to resolve problems, may result in termination of the contract for cause.
- C. Expertise of Contractor. Contractor accepts the relationship of trust and confidence established between it and the City, recognizing that the City's intention and purpose in entering into this Agreement is to engage an entity with the requisite capacity, experience, and professional skill and judgment to provide the Work in pursuit of the timely and competent completion of the Work undertaken by Contractor under this Agreement. The Contractor agrees to use its best efforts, skill, judgment, and abilities to perform its obligations and to further the interests of City and the Project in accordance with City's requirements and procedures, and Contractor shall employ only persons duly qualified in the appropriate area of expertise to perform the Work described in this Agreement.
- D. Proper Execution by Contractor. Contractor agrees that it will perform its services in accordance with the usual and customary standards of the Contractor's profession or business and in compliance with all federal, state,

and local laws, regulations, codes, ordinances, or orders applicable to the Project, including, but not limited to, O.C.G.A. § 50-5-63, any applicable records retention requirements, and Georgia's Open Records Act (O.C.G.A. § 50-18-70, *et seq.*). Any additional work or costs incurred as a result of error and/or omission by Contractor as a result of not complying with the Contract Documents or not meeting the applicable standard of care or quality, including but not limited to those of repeated procedures and compensation for the Contract Administrator's services or expenses, will be provided at Contractor's expense and at no additional cost to the City. This provision shall survive termination of this Agreement.

It is the Contractor's responsibility to be reasonably aware of all applicable laws, statutes, ordinances, building codes, and rules and regulations. If the Contractor observes that portions of the Contract Documents are at variance therewith, the Contractor shall promptly notify the Contract Administrator and the City in writing of any portions of the Contract Documents that are at variance with the applicable laws, statutes, ordinances, building codes, and rules and regulations.

The Contractor's duties shall not be diminished by any approval by the City or Contract Administrator of Work completed or produced; nor shall any approval by the City or Contract Administrator of Work completed or produced release the Contractor from any liability therefor, it being understood that the City is ultimately relying upon the Contractor's skill and knowledge in performing the Work required under the Contract Documents.

Organization of the specifications into divisions, sections and articles, and arrangement of drawings shall not control the Contractor in dividing the Work among subcontractors or in establishing the extent of Work to be performed by any trade.

E. Familiarity with the Work.

- (i) Contractor Familiarity with Work. Contractor represents that it has familiarized itself with the nature and extent of the Contract Documents, the Work, work site(s), locality, and all local conditions, laws and regulations that in any manner may affect cost, progress, performance, or furnishing of the Work. Since the Contract Documents are complementary, before starting each portion of the Work, the Contractor shall carefully study and compare the various Contract Documents, site conditions, authorities, tests, reports and studies relative to that portion of the Work, as well as the information furnished by the City, shall take field measurements of any existing conditions related to that portion of the World, and shall observe any conditions at the Project site(s) affecting it. Contractor represents and agrees that it has correlated the results of all such observations, examinations, investigations, explorations, tests, reports, and studies with the terms and conditions of the Contract Documents. These obligations are for the purpose of facilitating construction by the Contractor and are not for the purpose of discovering errors, omissions, inconsistencies, or ambiguities in the Contract

Documents; however, any errors, inconsistencies, omissions, or ambiguities discovered by the Contractor shall be reported promptly to the Contract Administrator and City in writing. Contractor represents that it has given the City written notice of all errors, omissions, inconsistencies, or ambiguities that the Contractor has discovered in the Contract Documents so far, and the written resolution thereof by the City is acceptable to the Contractor. Further, Contractor acknowledges that its obligation to give notice of all such errors, omissions, inconsistencies, or ambiguities shall be continuing during the Term of this Agreement. Any failure on the part of the Contractor to notify the Contract Administrator and City in writing of any errors, omissions, inconsistencies, or ambiguities in the Contract Documents that Contractor discovered or reasonably should have discovered shall result in a waiver and full release by the Contractor of any future arguments or defenses based on such errors, omissions, inconsistencies, or ambiguities against the City. Further, if the Contractor fails to perform its obligations pursuant to this paragraph, the Contractor shall pay such costs and damages to the City as would have been avoided if the Contractor had performed such obligations.

- (ii) *Inspection of Prior Work.* If paid of the Contractor's Work depends for proper execution or results upon construction or operations by a separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Contract Administrator apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acknowledgment that the City's or separate contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work, except as to defects not then reasonably discoverable, and Contractor shall be responsible for all costs and damages resulting from its failure to report reasonably discoverable defects.
- (iii) *Contractor Requests for Information.* If, with undue frequency (as determined by the City in its sole discretion), the Contractor requests information that is obtainable through reasonable examination and comparison of the Contract Documents, site conditions, and previous correspondence, interpretations or clarifications, the Contractor shall be liable to the City for reasonable charges from the Contract Administrator for the additional services required to review, research and respond to such requests for information.

- F. Supervision, Inspection and Construction Procedures. The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Agreement, unless the Contract Documents give other specific instructions conceiving these matters.

If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety therefor and, except as stated below, shall be fully and solely responsible for the jobsite safety for such means, methods, techniques, sequences, or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the City and Contract Administrator and shall not proceed with that portion of the Work without further written instructions from the City or Contract Administrator as approved in writing by the City.

The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of this Agreement. The Contractor shall take reasonable precautions for the safety of, and shall provide reasonable protection to prevent damage, injury or loss to: (a) employees and other persons who may be affected, (b) the Work and materials and equipment to be incorporated therein, whether in storage on or off the Project site(s), under care, custody or control of the Contractor or Contractor's subcontractors or sub-subcontractors, and (c) other property at the Project site(s) or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction. The Contractor shall give notices and comply with applicable laws, ordinances, rules, regulations and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.

When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel. If reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the Project site(s) by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the City and Contract Administrator in writing.

- G. Tests and Inspections. Tests, inspections and approvals of portions of the Work required by the Contract Documents or by laws, or ordinances, rules, regulations or orders of public authorities having jurisdiction shall be made promptly at an appropriate time to avoid unreasonable delay in the Work. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the City, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Contract Administrator timely notice of when and where tests and inspections are to be made so that the Contract Administrator may be present for such procedures. Required permits or certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be

secured by the Contractor and delivered to the Contract Administrator within ten (10) calendar days of issuance.

- H. Budgetary Limitations. Contractor agrees and acknowledges that budgetary limitations are not a justification for breach of sound principles of Contractor's profession and industry. Contractor shall take no calculated risk in the performance of the Work. Specifically, Contractor agrees that, in the event it cannot perform the Work within the budgetary limitations established without disregarding sound principals of Contractor's profession and industry, Contractor will give written notice immediately to the City.
- I. City's Reliance on the Work. The Contractor acknowledges and agrees that the City does not undertake to approve or pass upon matters of expertise of the Contractor and that therefore, the City bears no responsibility for Contractor's Work performed under this Agreement. The Contractor acknowledges and agrees that the acceptance of Work by the City is limited to the function of determining whether there has been compliance with what is required to be produced under this Agreement. The City will not, and need not, inquire into adequacy, fitness, suitability or correctness of Contractor's performance. Contractor further agrees that no approval of designs, plans, or specifications by any person, body, or agency shall relieve Contractor of the responsibility for adequacy, fitness, suitability, and correctness of Contractor's Work under professional and industry standards, or for performing services under this Agreement in accordance with sound and accepted professional and industry principles.
- J. Contractor's Reliance on Submissions by the City. Contractor must have timely information and input from the City in order to perform the Work required under this Agreement. Contractor is entitled to rely upon information provided by the City, but Contractor shall be required to provide immediate written notice to the City if Contractor knows or reasonably should know that any information provided by the City is erroneous, inconsistent, or otherwise problematic.
- K. Uncovering and Correction of Work. If a portion of the Work is covered contrary to the Contract Administrator's request or to requirements specifically expressed in the Contract Documents, it must, if required in writing by the Contract Administrator, be uncovered for examination by the Contract Administrator and be replaced at the Contractor's expense without change in the Agreement Term.

If a portion of the Work has been covered which the Contract Administrator has not specifically requested to examine prior to its being covered or which the Contract Documents did not require to remain uncovered until examined, the Contract Administrator may request to see such Work, and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be at the City's expense, which expense shall be agreed upon in writing



prior to being incurred. If such Work is not in accordance with the Contract Documents, correction shall be at the Contractor's expense, unless the condition was caused by the City, in which event the City shall be responsible for payment of such costs including reasonable charges, if any, by the Contract Administrator for additional service, which expense shall be agreed upon in writing prior to being incurred.

If the City prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the City may do so instead of requiring its removal and correction, in which case the Maximum Contract Price will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

- L. Clean Up. Contractor shall keep the Project site(s) and surrounding area free from accumulation of waste materials or rubbish caused by operations under this Agreement. At completion of the Work, the Contractor shall remove from and about the Project waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials. If the Contractor fails to clean up as provided in the Contract Documents, the City may do so, and the cost thereof shall be charged to the Contractor.
- M. Contractor's Representative. \_\_\_\_\_ shall be authorized to act on Contractor's behalf with respect to the Work as Contractor's designated representative.
- N. Independent Contractor. Contractor hereby covenants and declares that it is engaged in an independent business and agrees to perform the Work as an independent contractor and not as the agent or employee of the City. Nothing contained in this Agreement shall be construed to make the Contractor or any of its employees, servants or subcontractors an employee, servant or agent of the City for any purpose. The Contractor agrees to be solely responsible for its own matters relating to the time and place the Work is performed and the method used to perform such Work; the instrumentalities, tools, supplies, and/or materials necessary to complete the Work; hiring of subcontractors, agents, or employees to complete the Work; and the payment of employees, including benefits and compliance with Social Security, withholding, and all other regulations governing such matters. The Contractor agrees to be solely responsible for its own acts and those of its subordinates, employees, and subcontractors during the life of this Agreement. There shall be no contractual relationship between any subcontractor or supplier and the City by virtue of this Agreement with the Contractor. Any provisions of this Agreement that may appear to give the City the right to direct Contractor as to the details of the services to be performed by Contractor or to exercise a measure of control over such services will be deemed to mean that Contractor shall follow the directions of the City with regard to the results of such services only. It is further understood that this Agreement is not exclusive, and the City may hire additional entities to perform Work related to this Agreement.

In as much as the City and the Contractor are independent of each other, neither has the authority to bind the other to any third person or otherwise to act in any way as the representative of the other, unless otherwise expressly agreed to in writing signed by both Parties hereto. The Contractor agrees not to represent itself as the City's agent for any purpose to any party or to allow any employee of the Contractor to do so, unless specifically authorized, in advance and in writing, to do so, and then only for the limited purpose stated in such authorization. The Contractor shall assume full liability for any contracts or agreements the Contractor enters into on behalf of the City without the express knowledge and prior written consent of the City.

- O. Responsibility of Contractor and Indemnification of City. The Contractor covenants and agrees to take and assume all responsibility for the Work rendered in connection with this Agreement. The Contractor shall bear all losses and damages directly or indirectly resulting to it and/or the City on account of the performance or character of the Work rendered pursuant to this Agreement. To the fullest extent permitted by law, Contractor shall defend, indemnify, and hold harmless the City and the City's elected and appointed officials, officers, boards, commissions, employees, representatives, consultants, servants, agents, attorneys and volunteers (individually an "Indemnified Party" and collectively "Indemnified Parties") from and against any and all claims, suits, actions, judgments, injuries, damages, losses, costs, expenses and liability of any kind whatsoever, including, but not limited to, attorney's fees and costs of defense ("Liabilities"), which may arise from or be the result of an alleged willful, negligent, or tortious act or omission arising out of the Work, performance of contracted services, or operations by the Contractor, any subcontractor, anyone directly or indirectly employed by the Contractor or subcontractor, or anyone for whose acts the Contractor or subcontractor may be liable, regardless of whether or not the act or omission is caused in part by a party indemnified hereunder. This indemnity obligation does not include Liabilities caused by or resulting from the sole negligence of an Indemnified Party. Such obligation shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person described in this provision.

In any and all claims against an Indemnified Party, by any employee of the Contractor, its subcontractor, anyone directly or indirectly employed by the Contractor or subcontractor, or anyone for whose acts the Contractor or subcontractor may be liable, the indemnification obligation set forth in this provision 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 workers' or workmen's compensation acts, disability benefit acts, or other employee benefit acts. This obligation to indemnify, defend, and hold harmless the Indemnified Party(ies) shall survive expiration or termination of this Agreement, provided that the claims are based upon or arise out of actions or omissions that occurred during the performance of this Agreement.

- P. Insurance.

- (1) Requirements: The Contractor shall have and maintain in full force and effect for the duration of this Agreement, insurance insuring against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the Work by the Contractor, its agents, representatives, employees or subcontractors. All policies shall be subject to approval by the City as to form and content. These requirements are subject to amendment or waiver if so approved in writing by the City Manager.
  
- (2) Minimum Limits of Insurance: Contractor' shall maintain the following insurance policies with coverage and limits no less than:
  - ⓐ Commercial General Liability: \$1,000,000 (one million dollars) combined single limit per occurrence comprehensive/ extended/enhanced Commercial General Liability policy with coverage including bodily and personal injury, sickness, disease or death, injury to or destruction of property, including loss of use resulting therefrom, damage to premises/operations, products/ completed operations, independent consultants and contractual liability (specifically covering the indemnity), broad-from property damage, and underground, explosion and collapse hazard. This coverage may be achieved by using an excess or umbrella policy. The policy or policies must be on "an occurrence" basis ("claims made" coverage is not acceptable). If a general aggregate limit applies, the general aggregate limit shall apply separately to this project/location, and the general aggregate limit shall be twice the required occurrence.
  
  - ⓑ Commercial Automobile Liability (owned, non-owned, hired): \$1,000,000 (one million dollars) combined single limit per occurrence \$2,000,000 (two million dollars) aggregate for comprehensive Commercial Automobile liability coverage (owned, non-owned, hired) including bodily and personal injury, sickness, disease or death, injury to or destruction of property, including loss of use resulting therefrom.
  
  - ⓒ Workers' Compensation and Employers' Liability: Workers' Compensation policy with limits as required by the State of Georgia and Employers' Liability limits of \$1,000,000 (one million dollars) per occurrence or disease. (If Contractor is a sole proprietor, who is otherwise not entitled to coverage under Georgia's Workers' Compensation Act, Contractor must secure Workers' Compensation coverage approved by both the State Board of Workers' Compensation and the Commissioner of Insurance. The amount of such coverage shall be the same as what is otherwise required of employers entitled to coverage under the Georgia Workers' Compensation Act. Further, the Contractor shall provide a certificate of insurance indicating

that such coverage has been secured and that no individual has been excluded from coverage.)

If higher limits are maintained by Contractor than shown above, the City shall be entitled to coverage for any additional insurance proceeds in excess of the specified minimum limits maintained by the Contractor.

- (3) Deductibles and Self-Insured Retentions: Any deductibles or self-insured retentions must be declared to and approved by the City in writing so that the City may ensure the financial solvency of the Contractor; self-insured retentions should be included on the certificate of insurance.
- (4) Other Insurance Provisions: Each policy shall contain, or be endorsed to contain, the following provisions respectively:

Ø General Liability, Automobile Liability and Umbrella Liability Coverage.

- (I) *Additional Insured* requirement. The City and City's elected and appointed officials, officers, boards, commissioners, employees, representatives, consultants, servants, agents and volunteers (individually "Insured Party" and collectively "Insured Parties") shall be named as additional insureds as respects: liability arising out of activities performed by or on behalf of the Contractor; products and completed operations of the Contractor; premises owned, leased, or used by the Contractor; automobiles owned, leased, hired, or borrowed by the Contractor. The coverage shall contain no special limitations on the scope of protection afforded to the Insured Parties. Nothing contained in this section shall be construed to require the Contractor to provide liability insurance coverage to any Insured Party for claims asserted against such Insured Party for its sole negligence.
- (ii) *Primary Insurance Requirement.* The Contractor's insurance coverage shall be primary noncontributing insurance as respects to any other insurance or self-insurance available to the Insured Parties. Any insurance or self-insurance maintained by the Insured Parties shall be in excess of the Contractor's insurance and shall not contribute with it.
- (iii) *Reporting Requirement.* Any failure to comply with reporting provisions of the policies shall not affect

coverage provided to the Insured Parties.

- (iv) *Separate Coverage.* Coverage shall state that the Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to limits of insurance provided.
- (v) *Defense Costs/Cross Liability.* Coverage shall be provided on a "pay on behalf" basis, with defense costs payable in addition to policy limits. There shall be no cross liability exclusion.
- (vi) *Subrogation.* The insurer shall agree to waive all rights of subrogation against the Insured Parties for losses arising from Work performed by the Contractor for the City.

Ø Workers' Compensation Coverage: The insurer providing Workers' Compensation Coverage will agree to waive all rights of subrogation against the Insured Parties for losses arising from Work performed by the Contractor for the City.

Ø All Coverages:

- (i) *Notice Requirement.* Each insurance policy required by this Agreement shall be endorsed to state that coverage shall not be reduced, suspended, voided, or canceled except after thirty (30) calendar days' prior written notice (or 10 calendar days if due to non-payment) has been given to the City. In addition, Contractor shall provide written notice to City at least thirty (30) days prior to any reduction, suspension, voiding, or cancellation of coverage. The City reserves the right to accept alternate notice terms and provisions, provided they meet the minimum requirements under Georgia law.
- (ii) *Starting and Ending Dates.* Policies shall have concurrent starting and ending dates.
- (iii) *Incorporation of Indemnification Obligations.* Policies shall include a Project-specific endorsement incorporating the indemnification obligations assumed by the Contractor under the terms of this Agreement, including but not limited to Section 7(O) of this Agreement.

- (5) Acceptability of Insurers: The insurance to be maintained by Contractor must be issued by a company licensed or approved by the Insurance Commissioner to transact business in the State of Georgia. Such insurance shall be placed with insurer(s) with an A.M. Best Policyholder's rating of no less than "A-" and with a financial rate of Class VII or greater. The Contractor shall be responsible for any delay resulting from the failure of its insurer to provide proof of coverage in the proscribed form.
- (6) Verification of Coverage: Contractor shall furnish to the City for City approval certificates of insurance and endorsements to the policies evidencing all coverage required by this Agreement prior to the start of work. Without limiting the general scope of this requirement, Contractor is specifically required to provide an endorsement naming the City as an additional insured when required. The certificates of insurance and endorsements for each insurance policy are to be on a form utilized by Contractor's insurer in its normal course of business and are to be signed by a person authorized by that insurer to bind coverage on its behalf, unless alternate sufficient evidence of their validity and incorporation into the policy is provided. The City reserves the right to require complete, certified copies of all required insurance policies at any time. The Contractor shall provide proof that any expiring coverage has been renewed or replaced prior to the expiration of the coverage.
- (7) Subcontractors: Contractor shall either (1) ensure that its insurance policies (as described herein) cover all subcontractors and the Work performed by such subcontractors or (2) ensure that any subcontractor secures separate policies covering that subcontractor and its Work. All coverage for subcontractors shall be subject to all of the requirements stated in this Agreement, including, but not limited to, naming the Insured Parties as additional insureds.
- (8) Claims-Made Policies: Contractor shall extend any claims-made insurance policy for at least six (6) years after termination or final payment under the Agreement, whichever is later, and have an effective date which is on or prior to the Effective Date.
- (9) Progress Payments: The making of progress payments to the Contractor shall not be construed as relieving the Contractor or its subcontractor or insurance carriers from providing the coverage required in this Agreement.
- Q. Bonds. In accordance with O.C.G.A. § 32-4-119, for road construction/maintenance contracts valued at five thousand dollars (\$5,000.00) or more, or in any other instance where the City has elected to include such bond requirements as exhibits to this Agreement, the Contractor shall provide Performance and Payment Bonds on the forms attached hereto as "**Exhibits**

**C.1 and C.2**” and with a surety licensed to do business in Georgia and listed on the Treasury Department’s most current list (Circular 570 as amended). Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under this Agreement, the Contractor shall promptly furnish a copy of the bonds or shall permit a copy to be made.

R. Assignment of Agreement. The Contractor covenants and agrees not to assign or transfer any interest in, or delegate any duties of this Agreement, without the prior express written consent of the City. As to any approved subcontractor’s, the Contractor shall be solely responsible for reimbursing them, and the City shall have no obligation to them.

S. Employment of Unauthorized Aliens Prohibited - E-Verify Affidavits. Pursuant to O.C.G.A. § 13-10-91, the City shall not enter into a contract for the physical performance of services unless:

- (1) the Contractor shall provide evidence on City-provided forms, attached hereto as **“Exhibits D.1 and D.2”** (affidavits regarding compliance with the E-Verify program to be sworn under oath under criminal penalty of false swearing pursuant to O.C.G.A. § 16-10-71), that it and its subcontractors have registered with, are authorized to use and use 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, and that they will continue to use the federal work authorization program throughout the contract period, or
- (2) the Contractor provides evidence that it is not required to provide an affidavit because it is an *individual* licensed pursuant to Title 26 or Title 43 or by the State Bar of Georgia and is in good standing.

The Contractor hereby verifies that it has, prior to executing this Agreement, executed a notarized affidavit, the form of which is provided in **“Exhibit D.1”**, and submitted such affidavit to City or provided the City with evidence that it is an individual not required to provide such an affidavit because it is licensed and in good standing as noted in sub-subsection (2) above. Further, Contractor hereby agrees to comply with the requirements of the federal Immigration Reform and Control Act of 1986 (IRCA), P.L. 99-603, O.C.G.A. § 13-10-91 and Georgia Department of Labor Rule 300-10-1-.02.

In the event the Contractor employs or contracts with any subcontractor(s) in connection with the covered contract, the Contractor agrees to secure from such subcontractor(s) attestation of the subcontractor’s compliance with O.C.G.A. § 13- 10-91 and Rule 300-10-1-.02 by the subcontractor’s execution of the subcontractor affidavit, the form of which is attached hereto as **“Exhibit D.2”**, which subcontractor affidavit shall become part of the contractor/subcontractor agreement, or evidence that the subcontractor is not

required to provide such an affidavit because it is licensed and in good standing as noted in sub-subsection (2) above. If a subcontractor affidavit is obtained, Contractor agrees to provide a completed copy to the City within five (5) business days of receipt from any subcontractor.

Where Contractor is required to provide an affidavit pursuant to O.C.G.A. § 13-10-91, the City Manager or his/her designee shall be authorized to conduct an inspection of the Contractor's and Contractor's subcontractors' verification process at any time to determine that the verification was correct and complete. The Contractor and Contractor's subcontractors shall retain all documents and records of their respective verification process for a period of five (5) years following completion of the contract. Further, where Contractor is required to provide an affidavit pursuant to O.C.G.A. § 13-10-91, the City Manager or his/her designee shall further be authorized to conduct periodic inspections to ensure that no City Contractor or Contractor's subcontractors employ unauthorized aliens on City contracts. By entering into a contract with the City, the Contractor and Contractor's subcontractors agree to cooperate with any such investigation by making their records and personnel available upon reasonable notice for inspection and questioning. Where a Contractor or Contractor's subcontractors are found to have employed an unauthorized alien, the City Manager or his/her designee may report same to the Department of Homeland Security. The Contractor's failure to cooperate with the investigation may be sanctioned by termination of the contract, and the Contractor shall be liable for all damages and delays occasioned by the City thereby.

Contractor agrees that the employee-number category designated below is applicable to the Contractor. [Information only required if a contractor affidavit is required pursuant to O.C.G.A. § 13-10-91.]

- \_\_\_\_\_ 500 or more employees.
- \_\_\_\_\_ 100 or more employees.
- \_\_\_\_\_ Fewer than 100 employees.

Contractor hereby agrees that, in the event Contractor employs or contracts with any subcontractor(s) in connection with this Agreement and where the subcontractor is required to provide an affidavit pursuant to O.C.G.A. § 13-10-91, the Contractor will secure from the subcontractor(s) such subcontractor(s)' indication of the above employee-number category that is applicable to the subcontractor.

The above requirements shall be in addition to the requirements of State and federal law and shall be construed to be in conformity with those laws.

T. Records, Reports and Audits.

- (1) Records:



- (a) Books, records, documents, account ledgers, data bases, and similar materials relating to the Work performed for the City under this Agreement (“Records”) shall be established and maintained by the Contractor in accordance with applicable law and requirements prescribed by the City with respect to all matters covered by this Agreement. Except as otherwise authorized or required, such Records shall be maintained for at least three (3) years from the date that final payment is made to Contractor by City under this Agreement. Furthermore, Records that are the subject of audit findings shall be retained for three (3) years or until such audit findings have been resolved, whichever is later.
    - (b) All costs claimed or anticipated to be incurred in the performance of this Agreement shall be supported by properly executed payrolls, time records, invoices, contracts, or vouchers, or other official documentation evidencing in proper detail the nature and propriety of the charges. All checks, payrolls, invoices, contracts, vouchers, orders, or other accounting documents pertaining in whole or in part to this Agreement shall be clearly identified and readily accessible.
  - (2) Reports and Information: Upon request, the Contractor shall furnish to the City any and all Records in the form requested by the City. All Records stored on a computer database must be of a format compatible with the City’s computer systems and software.
  - (3) Audits and Inspections: At any time during normal business hours and as often as the City may deem necessary, Contractor shall make available to the City or City’s representative(s) for examination all Records. The Contractor will permit the City or City’s representative(s) to audit, examine, and make excerpts or transcripts from such Records. Contractor shall provide proper facilities for City or City’s representative(s) to access and inspect the Records, or, at the request of the City, shall make the Records available for inspection at the City’s office. Further, Contractor shall permit the City or City’s representative(s) to observe and inspect any or all of Contractor’s facilities and activities during normal hours of business for the purpose of evaluating Contractor’s compliance with the terms of this Agreement. In such instances, the City or City’s representative(s) shall not interfere with or disrupt such activities.
- U. Confidentiality. Contractor acknowledges that it may receive confidential information of the City and that it will protect the confidentiality of any such confidential information and will require any of its subcontractors, contractors, and/or staff to likewise protect such confidential information. The Contractor agrees that confidential information it receives or such reports, information, opinions, or conclusions that Contractor creates under this Agreement shall

not be made available to, or discussed with, any individual or organization, including the news media, without prior written approval of the City. Contractor shall exercise reasonable precautions to prevent the unauthorized disclosure and use of City information whether specifically deemed confidential or not.

Contractor acknowledges that the City's disclosure of documentation is governed by Georgia's Open Records Act, and Contractor further acknowledges that, if Contractor submits records containing trade secret information and if Contractor wishes to keep such records confidential, Contractor must submit and attach to such records an affidavit affirmatively declaring that specific information in the records constitutes trade secrets pursuant to Article 27 of Chapter 1 of Title 10, and the Parties shall follow the requirements of O.C.G.A. § 50-18-72(a)(34) related thereto.

- V. Licenses, Certifications and Permits. The Contractor covenants and declares that it has obtained all diplomas, certificates, licenses, permits, or the like required of the Contractor by any and all national, state, regional, county or local boards, agencies, commissions, committees or other regulatory bodies in order to perform the Work contracted for under this Agreement; provided that some permits or licenses related to the Project may be obtained as part of the Work and shall be obtained as required. The Contractor shall secure and pay for the building permit and other permits and governmental fees, licenses and inspections necessary for proper execution and completion of the Work, which are customarily secured after execution of the Agreement and which are legally required. Contractor shall furnish copies of such permits, licenses, etc. to the City within ten (10) days after issuance.
- W. Authority to Contract. The Contractor covenants and declares that it has obtained all necessary approvals of its board of directors, stockholders, general partners, limited partners, or similar authorities to simultaneously execute and bind Contractor to the terms of this Agreement, if applicable.
- X. Ownership of Work. All reports, designs, drawings, plans, specifications, schedules, work product, and other materials, including those in electronic form, prepared or in the process of being prepared for the Work to be performed by the Contractor ("Materials") shall be the property of the City, and the City shall be entitled to full access and copies of all Materials in the form prescribed by the City. Any Materials remaining in the hands of the Contractor or subcontractor upon completion or termination of the Work shall be delivered immediately to the City whether or not the Project or Work is commenced or completed, provided, however, that Contractor may retain a copy of any deliverables for its records. The Contractor assumes all risk of loss, damage or destruction of or to Materials. If any Materials are lost, damaged, or destroyed before final delivery to the City, the Contractor shall replace them at its own expense. Any and all copyrightable subject matter in all Materials is hereby assigned to the City, and the Contractor agrees to execute any additional documents that may be necessary to evidence such

assignment.

- Y. Nondiscrimination. In accordance with Title VI of the Civil Rights Act of 1964, as amended, 42 U.S.C. § 2000d, section 303 of the Age Discrimination Act of 1975, as amended, 42 U.S.C. § 6102, section 202 of the Americans with Disabilities Act of 1990, 42 U.S.C. § 12132, and all other provisions of Federal law, the Contractor agrees that, during performance of this Agreement, Contractor, for itself, its assignees and successors in interest, will not discriminate against any employee or applicant for employment, any subcontractor, or any supplier because of race, color, creed, national origin, gender, age or disability. In addition, Contractor agrees to comply with all applicable implementing regulations and shall include the provisions of this paragraph in every subcontract for services contemplated under this Agreement.

**Section 8. Covenants of the City**

- A. Right of Entry. City shall provide for right of entry for Contractor and Contractor's equipment as required for Contractor to complete the Work; provided that Contractor shall not unreasonably encumber the Project site(s) with materials or equipment.
- B. City's Representative. **Priscilla Murphy City Manager, or her designee**, shall be authorized to act on City's behalf with respect to the Work as the City's designated representative on this Project; provided that any changes to the Work or the terms of this Agreement must be approved as provided in Section 6 above.

**Section 9. Final Project Documents; Warrants**

- A. Final Project Documents. Prior to final payment, Contractor shall deliver to City a written assignment of all warranties, guaranties, certificates, permits, and other documents, including without limitation, all contractors' and manufacturers' warranties. At such time, Contractor shall also deliver to the City copies of all as-built drawings, operations, and maintenance manuals, and any other pertinent documents relating to the construction and operation of the Work that is not otherwise in the possession of the City.
- B. Warranty. The Contractor warrants to the City and the Contract Administrator that materials and equipment furnished under the Agreement will be of good quality and new, unless otherwise required or permitted by the Contract Documents, that the Work will be free from defects not inherent in the quality required or permitted, and that the Work will conform to the requirements of the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved and authorized, is considered defective. This warranty excludes remedy for damage or defect caused by abuse by the City or modifications to the Work not executed by the Contractor

or an employee/subcontractor/sub-subcontractor thereof.

**Section 10. Termination**

- A. For Convenience. The City may terminate this Agreement for convenience at any time upon providing written notice thereof to Contractor at least seven (7) calendar days in advance of the termination date.
- B. For Cause. The Contractor shall have no right to terminate this Agreement prior to completion of the Work, except in the event of City's failure to pay the Contractor within thirty (30) calendar days of Contractor providing the City with notice of a delinquent payment and an opportunity to cure. The City may terminate this Agreement for cause as provided in Section 11 of this Agreement. The City shall give Contractor at least seven (7) calendar days' written notice of its intent to terminate the Agreement for cause and the reasons therefor, and if Contractor, or its Surety, fails to cure the default within that period, the termination shall take place without further notice. The City shall then make alternative arrangements for completion of the Project.
- C. For Lack of Appropriations. This Agreement shall terminate immediately and absolutely at such time as appropriated or otherwise unobligated funds are no longer available to satisfy the obligation of the City.
- D. Payment. Provided that no damages are due to the City for Contractor's failure to perform in accordance with this Agreement, and except as otherwise provided herein, the City shall, upon termination for convenience or statutory termination, pay Contractor for Work performed prior to the date of termination in accordance with Section 5 herein. The City shall have no further liability to Contractor for such termination. At its sole discretion, the City may pay Contractor for additional value received as a result of Contractor's efforts, but in no case shall said payment exceed any remaining unpaid portion of the Maximum Contract Price.

If this Agreement is terminated for cause, the City will make no further payment to the Contractor or its Surety until the Project is completed and all costs of completing the Project are paid. If the unpaid balance of the amount due the Contractor, according to this Agreement, exceeds the cost of finishing the Project, City shall provide payment to the Contractor (or its Surety) for services rendered and expenses incurred prior to the termination date, provided that such payment shall not exceed the unpaid balance of the amount otherwise payable under this Agreement minus the cost of completing the Project. If the costs of completing the Project exceed the unpaid balance, the Contractor or its Surety shall pay the difference to the City.

- E. Assumption of Contracts. The City reserves the right in termination for cause to take assignment of all contracts between the Contractor and its subcontractors, vendors, and suppliers. The City will promptly notify the

Contractor of the contracts the City elects to assume. Upon receipt of such notice, the Contractor shall promptly take all steps necessary to effect such assignment.

- F. Conversion to Termination for Convenience. If the City terminates this Agreement for cause and it is later determined that the City did not have grounds to do so, the termination will be converted to and treated as a termination for convenience under the terms of Section 10(A) above.
- G. Requirements Upon Termination. Upon termination, the Contractor shall: (1) promptly discontinue all services, cancel as many outstanding obligations as possible if requested to do so by the City, and not incur any new obligations, unless the City directs otherwise; and (2) promptly deliver to the City all data, drawings, reports, summaries, and such other information and materials as may have been generated or used by the Contractor in performing this Agreement, whether completed or in process, in the form specified by the City.
- H. Reservation of Rights and Remedies. The rights and remedies of the City and the Contractor provided in this Section are in addition to any other rights and remedies provided under this Agreement or at law or in equity.

**Section 11. City's Rights; Contractor Default**

- A. City Rights Related to the Work.
  - (i) *City's Right to Stop the Work.* If the Contractor fails to correct Work which is not in accordance with the requirements of the Contract Documents, as required by the Contract Administrator, or persistently fails to carry out Work in accordance with the Contract Documents, the City may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the City to stop the Work shall not give rise to a duty on the part of the City to exercise this right for the benefit of the Contractor or any other person or entity. Such a stoppage of Work shall not extend the Expected Date of Final Completion of the Work.
  - (ii) *City's Right to Carry Out the Work* If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a seven (7) calendar day period after receipt of written notice from the City to commence and/or continue correction of such default or neglect with diligence and promptness, the City may, without prejudice to other remedies the City may have, correct such deficiencies. In such case, an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including City's expenses and compensation for the Architect/Engineer's and/or Contract Administrator's additional services (if

any) made necessary by such default, neglect or failure. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the City.

- B. Contractor Default. For the purposes of this Agreement, Contractor shall be in default if any of the following occur during the Term of this Agreement: (a) a failure to fulfill in a timely and proper manner Contractor's obligations under this Agreement; (b) Contractor violates any of the material provisions, agreements, representations or covenants of this Agreement or any applicable city, state, or federal laws, which do not fall within the force majeure provisions of this Agreement; (c) the Contractor becomes insolvent or unable to pay its debts as they mature, or makes an assignment for the benefit of creditors, or files a bankruptcy petition under the United States Bankruptcy Code; or (d) Contractor is the subject of a judgment or order for payment of money, which judgment or order exceeds \$100,000 and is no longer subject to appeal or, in the opinion of the City, would be fruitless to appeal and where (i) such judgment or order shall continue un-discharged or unpaid for a period of thirty (30) calendar days, (ii) an insurer acceptable to the City has not acknowledged that such judgment or order is fully covered by a relevant policy of insurance, or (iii) the City is otherwise reasonably satisfied that such judgment or order is not likely to be satisfied or complied with within ninety (90) calendar days of its issuance.

In the event of Contractor's default under this Agreement, the City shall send written notice to the Contractor setting forth the specific instances of the default and providing the Contractor with at least seven (7) calendar days to cure or otherwise remedy the default to the reasonable satisfaction of the City. If the default is not remedied during the stated cure period, then the City may, at its election: (a) in writing terminate the Agreement in whole or in part; (b) cure such default itself and charge the Contractor for the costs of curing the default against any sums due or which become due to the Contractor under this Agreement; and/or (c) pursue any other remedy then available, at law or in equity, to the City for such default.

**Section 12. [Intentionally Omitted]**

**Section 13. Miscellaneous**

- A. Complete Agreement. This Agreement, including all of the Contract Documents, constitutes the complete agreement between the Parties and supersedes any and all other agreements, either oral or in writing, between the Parties with respect to the subject matter of this Agreement. No other agreement, statement, or promise relating to the subject matter of this Agreement not contained in this Agreement or the Contract Documents shall be valid or binding. This Agreement may be modified or amended only by a written document signed by representatives of both Parties with appropriate authorization.

Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of Georgia without regard to choice of law principles. If any action at law or in equity is brought to enforce or interpret the provisions of this Agreement, the rules, regulations, statutes and laws of the State of Georgia will control. Any action or suit related to this Agreement shall be brought in the Superior Court of DeKalb County, Georgia, or the U.S. District Court for the Northern District of Georgia — Atlanta Division, and Contractor submits to the jurisdiction and venue of such court.

- B. Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original, but all of which together shall constitute one and the same instrument.
- C. Invalidity of Provisions: Severability. Should any article(s) or section(s) of this Agreement, or any part thereof, later be deemed illegal, invalid or unenforceable by a court of competent jurisdiction, the offending portion of the Agreement should be severed, and the remainder of this Agreement shall remain in full force and effect to the extent possible as if this Agreement had been executed with the invalid portion hereof eliminated, it being the intention of the Parties that they would have executed the remaining portion of this Agreement without including any such part, parts, or portions that may for any reason be hereafter declared invalid.
- E. Business License. Prior to commencement of the Work to be provided hereunder, Contractor shall apply to the City for a business license, pay the applicable business license fee, and maintain said business license during the Term of this Agreement, unless Contractor provides evidence that no such license is required.
- F. Notices.

*(1) Communications Relating to Day-to-Day Activities.*

All communications relating to the day-to-day activities of the Work shall be exchanged between **Priscilla Murphy, City Manager**, or her designee, for the City and \_\_\_\_\_, for the Contractor.

*(2) Official Notices.*

All other notices, requests, demands, writings, or correspondence, as required by this Agreement, shall be in writing and shall be deemed received, and shall be effective, when (1) personally delivered, or (2) on the third calendar day after the postmark date when mailed by certified mail, postage prepaid, return receipt requested, or (3) upon actual delivery when sent *via* national overnight commercial carrier to the Party at the addresses given below, or at a substitute address previously furnished to the other Party by written notice in accordance herewith:

NOTICE TO CITY shall be sent to:

Priscilla Murphy, City Manager  
City of Jefferson, Georgia  
1147 Athens Street  
Jefferson, Georgia 30549

NOTICE TO CONTRACTOR shall be sent to:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- G. Waiver of Agreement. No failure by the City to enforce any right or power granted under this Agreement, or to insist upon strict compliance by Contractor with this Agreement, and no custom or practice of the City at variance with the terms and conditions of this Agreement shall constitute a general waiver of any future breach or default or affect the City's right to demand exact and strict compliance by Contractor with the terms and conditions of this Agreement. Further, no express waiver shall affect any term or condition other than the one specified in such waiver, and that one only for the time and manner specifically stated.
- H. Survival. All sections of this Agreement which by their nature should survive termination will survive termination, including, without limitation, confidentiality obligations, warranties, and insurance maintenance requirements.
- I. Sovereign Immunity. Nothing contained in this Agreement shall be construed to be a waiver of the City's sovereign immunity or any individual's qualified good faith or official immunities.
- J. No Personal Liability. Nothing herein shall be construed as creating any individual or personal liability on the part of any of City's elected or appointed officials, officers, boards, commissions, employees, representatives, consultants, servants, agents, attorneys or volunteers. No such individual shall be personally liable to the Contractor or any successor in interest in the event of any default or breach by the City or for any amount which may become due to the Contractor or successor or on any obligation under the terms of this Agreement. Likewise, Contractor's performance of services under this Agreement shall not subject Contractor's individual employees, officers, or directors to any personal liability, except where Contractor is a sole proprietor. The Parties agree that their sole and exclusive remedy, claim, demand, or suit shall be directed and/or asserted only against Contractor or the City,



respectively, and not against any elected or appointed official, officers, boards, commissions, employees, representatives, consultants, servants, agents, attorneys and volunteers.

- K. Force Majeure. Neither the City nor Contractor shall be liable for their respective non-negligent or non-willful failure to perform or shall be deemed in default with respect to the failure to perform (or cure a failure to perform) any of their respective duties or obligations under this Agreement or for any delay in such performance due to: (i) any cause beyond their respective reasonable control; (ii) any act of God; (iii) any change in applicable governmental rules or regulations rendering the performance of any portion of this Agreement legally impossible; (iv) earthquake, fire, explosion, or flood; (v) strike or labor dispute, excluding strikes or labor disputes by employees and/or agents of Contractor, (vi) delay or failure to act by any governmental or military authority; or (vii) any war, hostility, embargo, sabotage, civil disturbance, riot, insurrection, or invasion. In such event, the time for performance shall be extended by an amount of time equal to the period of delay caused by such acts, and all other obligations shall remain intact.
- L. Headings. All headings herein are intended for convenience and ease of reference purposes only and in no way define, limit, or describe the scope or intent thereof, or of this Agreement, or in any way affect this Agreement.
- M. No Third-Party Rights. This Agreement shall be exclusively for the benefit of the Parties and shall not provide any third parties with any remedy, claim, liability, reimbursement, cause of action or other right.
- N. Successors and Assigns. Subject to the provision of this Agreement regarding assignment, each Party binds itself, its partners, successor's, assigns, and legal representatives to the other Party hereto, its partners, successors, assigns, and legal representatives with respect to all covenants, agreements, and obligations contained in the Contract Documents.
- O. Agreement Construction and Interpretation. Contractor represents that it has reviewed and become familiar with this Agreement. The Parties hereto agree that, if an ambiguity or question of intent or interpretation arises, this Agreement is to be construed as if the Parties had drafted it jointly, as opposed to being construed against a Party because it was responsible for drafting one or more provisions of the Agreement. In the interest of brevity, the Contract Documents may omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.
- P. Material Condition. Each term of this Agreement is material, and Contractor's breach of any item of this Agreement shall be considered a material breach of the entire Agreement and shall be grounds for termination or exercise of any other remedies available to the City at law or in equity.

- Q. Use of Singular and Plural. Words or terms used as nouns in the Agreement shall be inclusive of their singular and plural forms, unless the context of their usage clearly requires contrary meaning.

[SIGNATURES ON FOLLOWING PAGE]

IN WITNESS WHEREOF, the City and the Contractor have executed this Agreement effective as of the Effective Date first above written.

**CONTRACTOR:**

\_\_\_\_\_

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

**ATTEST:**

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

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

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

**CITY:**

**CITY OF JEFFERSON, GEORGIA**

By: \_\_\_\_\_  
Jon Howell, Mayor

**ATTEST:**

By: \_\_\_\_\_  
Wendy Wilson, City Clerk

**APPROVED AS TO FORM:**

By: \_\_\_\_\_  
Rob Alexander, City Attorney

CITY OF JEFFERSON  
CPL R21.16237.01

JEFFERSON DOWNTOWN DRAINAGE PROJECT  
FORM OF AGREEMENT

SECTION 00 500-32

**EXHIBIT A**

**CITY'S SOLICITATION DOCUMENTS**

CITY OF JEFFERSON  
CPL R21.16237.01

JEFFERSON DOWNTOWN DRAINAGE PROJECT  
FORM OF AGREEMENT

SECTION 00 500-33

**EXHIBIT B**

**BID DOCUMENTS FROM CONTRACTOR**

CITY OF JEFFERSON  
CPL R21.16237.01

JEFFERSON DOWNTOWN DRAINAGE PROJECT  
FORM OF AGREEMENT

SECTION 00 500-34

**EXHIBITS C.1 AND C.2**

**FORMS OF PERFORMANCE AND PAYMENT BONDS**

**EXHIBIT C.1**

**STATE OF GEORGIA  
COUNTY OF DEKALB**

**PERFORMANCE BOND**

**KNOW ALL MEN BY THESE PRESENTS THAT**

\_\_\_\_\_  
(as CONTRACTOR, hereinafter referred to as the “Principal”), and

\_\_\_\_\_  
(as SURETY COMPANY, hereinafter referred to as the “CONTRACTOR’S SURETY”), are held and firmly bound unto the **City of JEFFERSON**, a Georgia municipal corporation (as OWNER, hereinafter referred to as the “City”), for the use and benefit of the City, in the sum of \_\_\_\_\_ **Dollars**

(\$ \_\_\_\_\_), lawful money of the United States of America, for the payment of which the Principal and the Contractor's Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

**WHEREAS**, the Principal has entered, or is about to enter, into a certain written agreement with the City for the construction of a project known as **BID NUMBER CIP2024-001: JEFFERSON DOWNTOWN DRAINAGE PROJECT** (hereinafter referred to as “the PROJECT”), which agreement is incorporated herein by reference in its entirety (hereinafter referred to as the “CONTRACT”).

**NOW THEREFORE**, the conditions of this obligation are as follows:

1. That if the Principal shall fully and completely perform each and all of the terms, provisions and requirements of the Contract, including and during the period of any

warranties or guarantees required thereunder, and all modifications, amendments, changes, deletions, additions, and alterations thereto that may hereafter be made, and if the Principal and the Contractor's Surety shall indemnify and hold harmless the City from any and all losses, liability and damages, claims, judgments, liens, costs and fees of every description, including but not limited to, any damages for delay, which the City may incur, sustain or suffer by reason of the failure or default on the part of the Principal in the performance of any and all of the terms, provisions, and requirements of the Contract, including all modifications, amendments, changes, deletions, additions, and alterations thereto, and any warranties or guarantees required thereunder, then this obligation shall be void; otherwise to remain in full force and effect;

2. In the event of a failure of performance of the Contract by the Principal, which shall include, but not be limited to, any breach or default of the Contract:
  - a. The Contractor's Surety shall commence performance of its obligations and undertakings under this Bond no later than thirty (30) calendar days after written notice from the City to the Contractor's Surety; and
  - b. The means, method or procedure by which the Contractor's Surety undertakes to perform its obligations under this Bond shall be subject to the advance written approval of the City.

The Contractor's Surety hereby waives notice of any and all modifications, omissions, additions, changes, and advance payments or deferred payments in or about the Contract, and agrees that the obligations undertaken by this Bond shall not be impaired in any manner by reason of any such modifications, omissions, additions, changes, and advance payments or deferred payments.



The Parties further expressly agree that any action on this Bond may be brought within the time allowed by Georgia law for suit on contracts under seal.

**IN WITNESS WHEREOF**, the Principal and Contractor's Surety have hereunto affixed their corporate seals and caused this obligation to be signed by their duly authorized officers or attorneys-in-fact, as set forth below.

**CONTRACTOR:**

\_\_\_\_\_

By: \_\_\_\_\_ (signature)

\_\_\_\_\_ (printed)

Title: \_\_\_\_\_ (SEAL)

Date: \_\_\_\_\_

Attest:

\_\_\_\_\_ (signature)

\_\_\_\_\_ (printed)

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

Date: \_\_\_\_\_

**CONTRACTOR'S SURETY:**

\_\_\_\_\_

By: \_\_\_\_\_ (signature)

\_\_\_\_\_ (printed)

Title: \_\_\_\_\_ (SEAL)

Date: \_\_\_\_\_

Attest:

\_\_\_\_\_ (signature)

\_\_\_\_\_ (printed)

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

Date: \_\_\_\_\_

(ATTACH SURETY'S POWER OF ATTORNEY)

**EXHIBIT C.2**

**STATE OF GEORGIA  
COUNTY OF DEKALB**

**PAYMENT BOND**

**KNOW ALL MEN BY THESE PRESENTS THAT**

\_\_\_\_\_  
(as CONTRACTOR, hereinafter referred to as the “Principal”), and

\_\_\_\_\_  
(as SURETY COMPANY, hereinafter referred to as the “CONTRACTOR’S SURETY”), are held and firmly bound unto the **City of JEFFERSON**, a Georgia municipal corporation (as OWNER, hereinafter referred to as the “City”), for the use and benefit of any “Claimant,” as hereinafter defined, in the sum of

\_\_\_\_\_ **Dollars**

(\$\_\_\_\_\_), lawful money of the United States of America, for the payment of which the Principal and the Contractor’s Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

**WHEREAS**, the Principal was entered, or is about to enter, into a certain written agreement with the City for the construction of a project known as **BID NUMBER CIP2024-001: JEFFERSON DOWNTOWN DRAINAGE PROJECT** (hereinafter referred to as “the PROJECT”), which agreement is incorporated herein by reference in its entirety (hereinafter referred to as the “CONTRACT”).

**NOW THEREFORE**, the condition of this obligation is such that if the Principal shall promptly make payment to any Claimant, as hereinafter defined, for all labor, services, and materials used or reasonably required for use in the performance of the Contract, then this

obligation shall be void; otherwise to remain in full force and effect.

A "Claimant" shall be defined herein as any Subcontractor, person, Party, partnership, corporation, or other entity furnishing labor, services, or materials used or reasonably required for use in the performance of the Contract, without regard to whether such labor, services, or materials were sold, leased, or rented, and without regard to whether such Claimant is or is not in privity of the Contract with the Principal or any Subcontractor performing Work on the Project.

In the event of any claim made by the Claimant against the City, or the filing of a Lien against the property of the City affected by the Contract, the Contractor's Surety shall either settle or resolve the Claim and shall remove any such Lien by bond or otherwise as provided in the Contract.

The Parties further expressly agree that any action on this Bond may be brought within the time allowed by Georgia law for suit on contracts under seal.

[SIGNATURES ON FOLLOWING PAGE]

**IN WITNESS WHEREOF**, the Principal and Contractor's Surety have hereunto  
affixed their corporate seals and caused this obligation to be signed by their duly authorized  
officers, as set forth below.

**CONTRACTOR:**

\_\_\_\_\_

By: \_\_\_\_\_(signature)

\_\_\_\_\_ (printed)

Title: \_\_\_\_\_(SEAL)

Date: \_\_\_\_\_

Attest:

\_\_\_\_\_ (signature)

\_\_\_\_\_ (printed)

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

Date: \_\_\_\_\_

**CONTRACTOR'S SURETY:**

By: \_\_\_\_\_(signature)

\_\_\_\_\_ (printed)

Title: \_\_\_\_\_(SEAL)

Date: \_\_\_\_\_

Attest:

\_\_\_\_\_ (signature)

\_\_\_\_\_ (printed)

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

Date: \_\_\_\_\_

(ATTACH SURETY'S POWER OF ATTORNEY)

**EXHIBIT D.1**

**STATE OF GEORGIA  
COUNTY OF DEKALB**

**CONTRACTOR AFFIDAVIT AND AGREEMENT**

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 City of JEFFERSON, Georgia, has registered with, is authorized to use, and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91.

Furthermore, the undersigned contractor will continue to use the federal work authorization program throughout the contract period, and the undersigned contractor will contract for the physical performance of services in satisfaction of such contract only with subcontractors who present an affidavit to the contractor with the information required by O.C.G.A. § 13-10-91(b).

Contractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

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

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

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

**JEFFERSON DOWNTOWN DRAINAGE  
PROJECT**

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

CITY OF JEFFERSON, GEORGIA

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

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

Executed on \_\_\_\_\_, 2024 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

[NOTARY SEAL]

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

**EXHIBIT D.2**

**STATE OF GEORGIA  
COUNTY OF DEKALB**

**SUBCONTRACTOR AFFIDAVIT**

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 \_\_\_\_\_, a \_\_\_\_\_ company, on behalf of the City of JEFFERSON, Georgia, 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. § 13-10-9 I . Furthermore, the undersigned subcontractor will continue to use the federal work authorization programs throughout the contract period, and the undersigned subcontractor will contract for the physical performance of services in satisfaction of such contract only with sub-subcontractors who present an affidavit to the subcontractor with the information required by O.C.G.A. § 13-10-91(b). Additionally, the undersigned subcontractor will forward notice of the receipt of an affidavit from a sub-subcontractor to the contractor within five (5) business days of receipt. If the undersigned subcontractor receives notice that a sub-subcontractor was received an affidavit from any other contracted sub-subcontractor, the undersigned subcontractor must forward, within five (5) business days of receipt, a copy of the notice to the contractor.

Subcontractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

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

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

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

Executed on \_\_\_\_\_, 202\_\_ in  
\_\_\_\_\_ (city), \_\_\_\_\_ (state).

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

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

**JEFFERSON DOWNTOWN DRAINAGE  
PROJECT**

Name of Project

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

**CITY OF JEFFERSON, GEORGIA**

Name of Public Employer

SUBSCRIBED AND SWORN BEFORE  
ME ON THIS THE \_\_\_\_\_ DAY OF  
\_\_\_\_\_, 202\_\_.

\_\_\_\_\_  
NOTARY PUBLIC

[NOTARY SEAL]

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

**EXHIBIT E**

**ADDITIONAL PAYMENT TERMS**

- A. Defined Terms. Terms used in this Agreement shall have their ordinary meaning, unless otherwise defined below or elsewhere in the Contract Documents.
- (i) “Substantial Completion” means when the Work or designated portion thereof is complete in accordance with the Contract Documents so that any remaining Work includes only (1) Minor Items that can be completed or corrected within the following thirty (30) calendar days, (2) Permitted Incomplete Work that will be completed by the date agreed upon by the Parties, and (3) any Warranty Work. Substantial Completion shall require complete operation of all applicable building systems including, but not limited to, mechanical, electrical, plumbing, fire protection, fire alarm, telecom, data, security, elevators, life safety, and accessibility (if any).
  - (ii) “Minor Item” means a portion or element of the Work that can be totally complete within thirty (30) calendar days.
  - (iii) “Permitted Incomplete Work” means Work that is incomplete through no fault of the Contractor, as determined by the City in its sole discretion.
  - (iv) “Final Completion” means when the Work has been completed in accordance with terms and conditions of the Contract Documents.
- B. Payment for Work Completed and Costs Incurred. City agrees to pay the Contractor for the Work performed and costs incurred by Contractor upon certification by the Contract Administrator and the City that the Work was actually performed and costs actually incurred in accordance with this Agreement. Payment shall be based on the value of the Work completed, as provided in the Contract Documents, plus the value of materials and equipment suitably stored, insured, and protected at the construction site, and, only if approved in writing by the City (which approval shall be given at the sole discretion of the City), such materials and equipment suitably stored, insured, and protected off site at a location approved by the City in writing, less retainage (as described below). Compensation for Work performed and reimbursement for costs incurred shall be paid to the Contractor upon receipt and approval by the City of invoices setting forth in detail the Work performed and costs incurred, along with all supporting documents required by the Contract Documents or requested by the City to process the invoice. Invoices shall be submitted on a monthly basis, and such invoices shall reflect costs incurred versus costs budgeted. Each invoice shall be accompanied by an Interim Waiver and Release upon Payment (or a Waiver and Release upon final payment in the case of the invoice for final payment) procured by the Contractor from all subcontractors in accordance with O.C.G.A. § 44-14-366.

The City shall pay the Contractor within thirty (30) calendar days after approval of the invoice by City staff, less any retainage as described in Section D below. No payments

will be made for unauthorized work. Payment will be sent to the designated address by U.

S. Mail only; payment will not be hand-delivered, though the Contractor may arrange to pick up payments directly from the City or may make written requests for the City to deliver payments to the Contractor by Federal Express delivery at the Contractor's expense.

- C. Evaluation of Payment Requests. The Contract Administrator will evaluate the Contractor's applications for payment and will either issue to the City a Certificate for Payment (with a copy of the Contractor's application for payment) for such amount as the Contract Administrator determines is properly due, or notify the Contractor and City in citing of the Contract Administrator's reasons for withholding certification in whole or in part. The Contract Administrator may reject Work that does not conform to the Contract Documents and may withhold a Certificate of Payment in whole or in part, to the extent reasonably necessary to protect the City. When the reasons for withholding certification are removed, certification will be wade for amounts previously withheld.

Even following a Certificate of Payment, the City shall have the right to refuse payment of any invoice or part thereof that is not properly supported, or where requests for payment for Work or costs are in excess of the actual Work performed or costs incurred, or where the Work product provided is unacceptable or not in conformity with the Contract Documents, as determined by the City in its sole discretion. The City shall pay each such invoice or portion thereof as approved, provided that neither the approval or payment of any such invoice, nor partial or entire use or occupancy of the Project by the City, shall be considered to be evidence of performance by the Contractor to the point indicated by such invoice, or of receipt or acceptance by the City of Work covered by such invoice, where such work is not in accordance with the Contract Documents.

- D. Final Payment and Retainage. The City and Contractor shall comply with the provisions of O.C.G.A. § 13-10-80. The Contractor through each invoice may request payment of no more than ninety percent (90%) of that portion of the Work completed during the term covered by such invoice until fifty percent (50%) of the Maximum Contract Price, as may be adjusted, is due and the manner of completion of the Work and its progress are reasonably satisfactory to the City. Payment for the remaining ten percent (10%) of Work completed and covered by such invoices shall be retained by the City until Substantial Completion. Once fifty percent (50%) of the Maximum Contract Price, as may be adjusted, is due and the manner of completion of the Work and its progress are reasonably satisfactory to the City, no additional retainage shall be withheld, except as provided below. All amounts retained by the City shall be held as a lump sum until Substantial Completion of the Work, regardless of earlier completion of individual component(s) of the Work; provided, however, that, at the discretion of the City and with the written approval of the Contractor, the retainage of each subcontractor may be released separately as the subcontractor completes his or her work.

If, after discontinuing the retention, the City determines that the Work is unsatisfactory or has fallen behind schedule, retention may be resumed at the previous



level. If retention is resumed by the City, the Contractor and subcontractors shall be entitled to resume withholding retainage accordingly. At Substantial Completion of the Work and as the Contract Administrator determines the Work to be reasonably satisfactory, the City shall, within thirty (30) days after the invoice and other appropriate documentation as may be required by the Contract Documents are provided to the City, pay the retainage to the Contractor. If at that time there are any remaining incomplete Minor Items or Permitted Incomplete Work, an amount equal to 200 percent of the value of each Minor Item or Permitted Incomplete Work, as determined by the Contract Administrator in its sole discretion, shall be withheld until such item, items or work are completed. The reduced retainage shall be shared by the Contractor and subcontractors as their interests may appear.

The Contractor shall, within ten (10) days from its receipt of retainage from the City, pass through payments to subcontractors and shall reduce each subcontractor's retainage in the same manner as the Contractor's retainage is reduced by the City; provided, however, that the value of each subcontractor's work complete and in place equals fifty percent (50%) of his or her subcontract value, including approved Change Orders and other additions to the subcontract value; provided, further, that the work of the subcontractor is proceeding satisfactorily and the subcontractor has provided or provides such satisfactory reasonable assurances of continued performance and financial responsibility to complete his or her work including any warranty work as the Contractor in his or her reasonable discretion may require, including, but not limited to, a payment and performance bond. The subcontractor shall, within ten (10) days from the subcontractor's receipt of retainage from the Contractor, pass through payments to lower tier subcontractors and shall reduce each lower tier subcontractor's retainage in the same manner as the subcontractor's retainage is reduced by the Contractor; provided, however, that the value of each lower tier subcontractor's work complete and in place equals fifty percent (50%) of his or her subcontract value, including approved Change Orders and other additions to the subcontract value; provided, further, that the work of the lower tier subcontractor is proceeding satisfactorily and the lower tier subcontractor has provided or provides such satisfactory reasonable assurances of continued performance and financial responsibility to complete his or her work including any warranty work as the subcontractor in his or her reasonable discretion may require, including, but not limited to, a payment and performance bond.

Final payment of any retained amounts to the Contractor shall be made after certification by the Contract Administrator that the Work has been satisfactorily completed and is accepted in accordance with the Agreement and Contract Documents.

Neither final payment nor any remaining retainage shall become due until the Contractor submits to the Contract Administrator (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the City or City property might be responsible or encumbered (less amounts withheld by City) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance, required by the Contract Documents to remain in force after final payment, is currently in effect and will not be canceled or allowed to expire until at

least thirty (30) calendar days prior written notice has been given to the City; (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment, (5) a release or waiver of liens, claims, security interests, and encumbrances by all subcontractor's and material suppliers, and (6), if required by the Cir , other data establishing payment or satisfaction of obligations, such as receipts, to the extent and in such form as may be designated by the City. If a subcontractor or material supplier refuses to furnish a release or waiver as required by the City, the Contractor may furnish a bond satisfactory to the City to indemnify the City against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the City all money that the City may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.

Acceptance of final payment by the Contractor, a subcontractor or material supplier shall constitute a waiver of claims by that payee, except those claims previously made in writing and identified by that payee as unsettled at the time of final application for payment.

**GENERAL CONDITIONS  
FOR CITY OF JEFFERSON CONSTRUCTION CONTRACTS**

GC-1 FAMILIARITY WITH SITE

Execution of this agreement by the Contractor is a representation that the Contractor has visited the site, has become familiar with the local conditions under which the Work is to be performed, and has correlated personal observations with the requirements of this agreement.

GC-2 CONTRACT DOCUMENTS

This agreement consists of the City of JEFFERSON's invitation to bid, instructions to bidders, Contractor's bid form, construction form of agreement, Performance Bond, Payment Bond, general conditions, special provisions, specifications, plans, drawings, addenda, and written change orders.

GC-3 DEFINITIONS

The following terms as used in this agreement are defined as follows:

Change Order - a written order to the Contractor, prepared by the Engineer and issued by the City for changes in the Work within the general scope of the contract documents, adjustment of the contract price, extension of the contract time, or reservation of determination of a time extension.

City - City of JEFFERSON, Georgia, a political subdivision of the State of Georgia, acting by and through the City Council.

Day - a calendar day of twenty-four hours lasting from midnight of one day to midnight the next day.

Notice to Proceed - written communication issued by the City, or their designated representative, to the Contractor authorizing him to proceed with the Work and establishing the date of commencement and completion of the Work.

Substantial Completion - the date certified by the Engineer when all or a part of the Work, identified in the Engineer's certification, is sufficiently completed in accordance with the requirements of the contract documents so that the identified portion of the Work can be utilized for the purposes for which it is intended.

Work - all of the services specified, indicated, shown or contemplated by the contract documents, and furnishing by the Contractor of all materials, equipment, labor, methods, processes, construction and manufacturing materials and equipment, tools, plans, supplies, power, water, transportation and other things necessary to complete such services in accordance with the contract documents to insure a functional and complete facility.

GQ-4 CODES

All codes, specifications, and standards referenced in the contract documents shall be the latest additions, amendments and revisions of such referenced standards in effect as of the date of the request for proposals for this contract.

GC-5 REVIEW OF CONTRACT DOCUMENTS

Before making its proposal to the City, and continuously after the execution of the agreement, the Contractor shall carefully study and compare the contract documents and shall at once report to the Engineer any error, ambiguity, inconsistency or omission that may be discovered, including any requirement which may be contrary to any law, ordinance, rule, or regulation of any public authority bearing on the performance of the Work. By submitting its proposal, the Contractor agrees that the contract documents, along with any supplementary written instructions issued by or through the Engineer that have become a part of the contract documents appear accurate, consistent and complete insofar as can be reasonably determined. If the Contractor has reported in writing any error, inconsistency, or omission to the City, has properly stopped the effected Work until instructed to proceed, and has otherwise followed the instructions of the Engineer, the Contractor shall not be liable to the City for any damage resulting from any such error, inconsistency, or omission in the contract documents. The Contractor shall not perform any portion of the Work without the contract documents, approved plans, specifications, products and data, or samples for such portion of the Work.

GC-6 STRICT COMPLIANCE

No observation, inspection, test or approval of the City or Engineer shall relieve the Contractor from its obligation to perform the Work in strict conformity with the contract documents.

GC-7 APPLICABLE LAW

All applicable State laws, City ordinances, and rules and regulations of all authorities having jurisdiction over the construction of the project shall apply to this agreement. All Work performed within the right of way of the Georgia Department of Transportation shall be in accordance with DOT regulations, policies and procedures. The Contractor shall comply with all laws, ordinances, rules and regulations bearing on the conduct of the Work as specified and the Contractor agrees to indemnify and hold harmless the City, its officers, agents and employees, as well as the Engineer, against any claim or liability arising from or based on the violation of any law, ordinance, regulation, order or decree affecting the conduct of the Work, whether occasioned by the Contractor, his agents or employees.

GC-8 PERMITS & LICENSES

All permits and licenses necessary for the Work shall be secured and paid for by the Contractor. If any permit, license or certificate expires or is revoked, terminated, or suspended as a result of any action on the part of the Contractor, the Contractor shall not be entitled to additional compensation or time.

GC-9 TAXES

The Contractor shall pay all sales, retail, occupational, service, excise, old age benefit and unemployment compensation taxes, consumer, use and other similar taxes, as well as any other taxes or duties on the materials, equipment, and labor for the Work provided by the Contractor which are legally enacted by any municipal, City, state or federal authority, department or agency at the time bids are received, whether or not yet effective. The Contractor shall maintain records pertaining to such taxes and levies as well as payment thereof and shall make the same available to the City at all reasonable times for inspection and copying.

GC-10 DELINQUENT CONTRACTORS

The City shall not pay any claim, debt, demand or account whatsoever to any person, firm or corporation who is in arrears to the County or City for taxes. The City shall be entitled to a counterclaim and offset for any such debt in the amount of taxes in arrears, and no assignment or transfer of such debt after the taxes become due shall affect the right of the City to offset any taxes owed against said debt.

#### GC-11 LIEN WAIVERS

The Contractor shall furnish the City with evidence that all persons who have performed Work or furnished materials pursuant to this agreement have been paid in full prior to submitting its demand for final payment pursuant to this agreement. In the event that such evidence is not furnished, the City may retain sufficient sums necessary to meet all lawful claims of such laborers and materialmen. The City assumes no obligation nor in any way undertakes to pay such lawful claims from any funds due or that may become due to the Contractor.

#### GC-12 MEASUREMENT

All items of Work to be paid for per unit of measurement shall be measured and certified by the Engineer.

#### GC-13 ASSIGNMENT

The Contractor shall not assign any portion of this agreement or moneys due therefrom without the prior written consent of the City. The Contractor shall retain personal control and shall provide personal attention to the fulfillment of its obligations pursuant to this agreement.

#### GC-14 FOREIGN CONTRACTORS

In the event that the Contractor is a foreign corporation, partnership, or sole proprietorship, the Contractor hereby irrevocably appoints the Secretary of State of Georgia as its agent for service of all legal process for the purpose of this contract only.

#### GC-15 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 City, 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 City, 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.

GC-16 SUPERVISION OF WORK

The Contractor shall supervise and direct the Work using the Contractor's best skill and attention. The Contractor shall be solely responsible for all construction methods and procedures and shall coordinate all portions of the Work pursuant to the contract subject to the overall coordination of the Engineer. All Work pursuant to this agreement shall be performed in a skillful and workmanlike manner.

GC-17 RESPONSIBILITY FOR WORK

The Contractor shall not be relieved from the Contractor's obligations to perform the Work in accordance with the contract documents by the activities or duties of the Engineer, including inspections, tests or approvals required or performed pursuant to this agreement.

GC-18 RESPONSIBILITY FOR ACTS OF EMPLOYEES

The Contractor shall be responsible to the City for the acts and omissions of its employees, subcontractors, and agents as well as any other persons performing Work pursuant to this agreement.

GC-19 PAYMENT FOR LABOR AND MATERIALS

Unless otherwise provided in this agreement, the Contractor shall provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for the execution and completion of the Work.

GC-20 DISCIPLINE ON WORK SITE

The Contractor shall enforce strict discipline and good order among its employees and subcontractors at all times during the performance of the Work. The Contractor shall not employ any subcontractor who is not skilled in the task assigned to it. The Engineer may, by written notice, require the Contractor to remove from the Work any subcontractor or employee deemed by the Engineer to be incompetent.

GC-21 HOURS OF OPERATION

All Work at the construction site shall be performed during regular business hours, except upon the Engineer's prior written consent to other Work hours.

GC-22 FAMILIARITY WITH WORK CONDITIONS

The Contractor shall take all steps necessary to ascertain the nature and location of the Work and the general and local conditions which may affect the Work or the cost thereof. The Contractor's failure to fully acquaint itself with the conditions which may affect the Work, including, but not limited to conditions relating to transportation, handling, storage of materials, availability of labor, water, roads, weather, topographic and subsurface conditions, other separate contracts to be entered into by the City relating to the project which may affect the Work of the Contractor, applicable provisions of law, and the character and availability of equipment and facilities necessary prior to and during the performance of the Work shall not relieve the Contractor of its responsibilities pursuant to this agreement and shall not constitute a basis for an equitable adjustment of the contract terms. The City assumes no responsibility for

any understandings or representations concerning conditions of the Work made by any of its officers, agents, or employees prior to the execution of this agreement.

GC-23 RIGHT OF ENTRY

The City reserves the right to enter the site of the Work by such agent as it may elect for the purpose of inspecting the Work or installing such collateral Work as the City may desire.

GC-24 NOTICES

Any notice, order, instruction, claim or other written communication required pursuant to this agreement shall be deemed to have been delivered or received as follows:

- (1) Upon personal delivery to the Contractor, its authorized representative, or the Engineer on behalf of the City. Personal delivery may be accomplished by in-person hand delivery or bona fide overnight express service.
- (2) Three days after depositing in the United States mail a certified letter addressed to the Contractor, the City, or the Engineer. For purposes of mailed notices, the City's mailing address shall be 875 Main Street, JEFFERSON, Georgia 30083. The Contractor's mailing address shall be the address stated in its proposal, and the Engineer's mailing address shall be its address listed in the Notice to Begin Work.

GC-25 SAFETY

The Contractor shall take all reasonable precautions for the safety of all persons and property associated with the Work, and the Contractor shall erect and maintain, as required by existing conditions and the progress of the Work, all reasonable safeguards for the safety and protection of persons in the vicinity of the project.

GC-26 BLASTING AND EXCAVATION

The Contractor acknowledges that it is fully aware of the contents and requirements of O.C.G.A. §§ 25-9-1 through 25-9-12 concerning blasting and excavation near underground gas pipes and facilities and shall fully comply therewith.

GC-27 HIGH VOLTAGE LINES

The Contractor acknowledges that it is fully aware of the contents and requirements O.C.G.A. §§ 46-3-30 through 46-3-39 concerning safeguards against contact with high voltage lines, and the Contractor shall fully comply with said provisions.

GC-28 SCAFFOLDING AND STAGING

The Contractor acknowledges that it is the person responsible for employing and directing others to perform labor within the meaning of O.C.G.A. § 34-1-1 and agrees to comply with said provisions.

GC-29 CLEAN-UP

The Contractor shall clean up all refuse, rubbish, scrap materials, and debris caused by its operations to the end that the site of the Work shall present a neat, orderly and workmanlike appearance at all times.

#### GC-30 PROTECTION OF WORK

The Contractor shall be responsible for maintenance and protection of the Work until final completion of this agreement and acceptance of the Work as defined herein. Any portion of the Work suffering injury, damage or loss shall be considered defective and shall be corrected or replaced by the Contractor without additional cost to the City.

#### GC-31 REJECTED WORK

The Contractor shall promptly remove from the project all Work rejected by the Engineer for failure to comply with the contract documents and the Contractor shall promptly replace and re-execute the Work in accordance with the contract documents and without expense to the City. The Contractor shall also bear the expense of making good all Work of other Contractors destroyed or damaged by such removal or replacement.

#### GC-32 DEFECTIVE WORK

If the Contractor defaults or neglects to carry out any portion of the Work in accordance with the contract documents, and fails within three days after receipt of written notice from the City or the Engineer to commence and continue correction of such default or neglect with diligence and promptness, the City or the Engineer may, after three days following receipt by the Contractor of an additional written notice and without prejudice to any other remedy the City may have, make good such deficiencies and complete all or any portion of any Work through such means as the City may select, including the use of a new Contractor. In such case, an appropriate change order shall be issued deducting from the payments then or thereafter due the Contractor the cost of correcting such deficiencies. In the event the payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the City on demand.

#### GC-33 NEW MATERIALS

The Contractor warrants to the City that all materials and equipment furnished under this contract will be new unless otherwise specified, and the Contractor further warrants that all Work will be of good quality, free from faults and defects, and in conformance with the contract documents. The warranty set forth in this paragraph shall survive final acceptance of the Work.

#### GC-34 CONTRACTOR'S WARRANTY

If within one year after the date of substantial completion and final acceptance of the Work by the City, or within such longer period of time as may be prescribed by law or by the term of any applicable special warranty required by the contract documents, any of the Work is found to be defective or not in accordance with the contract documents, the Contractor shall correct such Work promptly after receipt of written notice from the City to do so. This obligation shall survive both final payment for the Work and termination of the contract.

#### GC-35 ASSIGNMENT OF MANUFACTURERS' WARRANTIES



Without limiting the responsibility or liability of the Contractor pursuant to this agreement, all warranties given by manufacturers on materials or equipment incorporated in the Work are hereby assigned by the Contractor to the City. If requested, the Contractor shall execute formal assignments of said manufacturer's warranties to the City. All such warranties shall be directly enforceable by the City.

#### GC-36 WARRANTIES IMPLIED BY LAW

The warranties contained in this agreement, as well as those warranties implied by law, shall be deemed cumulative and shall not be deemed alternative or exclusive. No one or more of the warranties contained herein shall be deemed to alter or limit any other.

#### GC-37 STOP WORK ORDERS

In the event that the Contractor fails to correct defective Work as required by the contract documents or fails to carry out the Work in accordance with contract documents, the City, or the Engineer, in writing, may order the Contractor to stop Work until the cause for such order has been eliminated. This right of the City or Engineer to stop Work shall not give rise to any duty on the part of the City or the Engineer to execute this right for the benefit of the Contractor or for any other person or entity.

#### GC-38 TERMINATION FOR CAUSE

If the Contractor is adjudged bankrupt, makes a general assignment for the benefit of creditors, suffers the appointment of a receiver on account of its insolvency, or fails to supply sufficient properly skilled Workers, materials, fails to make prompt payment to subcontractors or materialmen, disregards laws, ordinances, rules, regulations, or orders of any public authority having jurisdiction, or is otherwise guilty of a material violation of this agreement and fails within seven days after receipt of written notice to commence and continue correction of such default, neglect, or violation with diligence and promptness, the City may, after seven days following receipt by the Contractor of an additional written notice and without prejudice to any other remedy the City may have, terminate the employment of the Contractor and take possession of the site as well as all materials, equipment, tools, construction equipment and machinery thereon. The City may finish the Work by whatever methods the City deems expedient. In such case, the Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the contract price exceeds the cost of completing the Work, such excess shall be paid to the Contractor. If such costs exceed the unpaid balance, the Contractor shall pay the difference to the City on demand. This obligation for payment shall survive the termination of the contract. Termination of this agreement pursuant to this paragraph may result in disqualification of the Contractor from bidding on future City contracts.

#### GC-39 TERMINATION FOR CONVENIENCE

The City may, at any time upon 30 days written notice to the Contractor, terminate the whole or any portion of the Work for the convenience of the City. Said termination shall be without prejudice to any right or remedy of the City provided herein. In addition, in the event this agreement has been terminated due to the default of the Contractor, and if it is later determined that the Contractor was not in default pursuant to the provisions of this agreement at the time of termination, then such termination shall be considered a termination for convenience pursuant to this paragraph.

#### GC-40 TERMINATION FOR CONVENIENCE - PAYMENT

In the event that the City terminates this agreement for the convenience of the City, the City shall only be liable to the Contractor for those costs reimbursable to the Contractor plus a mark-up of ten percent on the actual fully accounted cost recovered pursuant to this paragraph. In the event that it appears that the Contractor would have sustained a loss on the entire contract had it been completed, no profit shall be included or allowed hereunder and an appropriate adjustment shall be made reducing the amount of settlement to reflect the indicated rate of loss. In the event of termination for the convenience of the City, the City shall pay the Contractor the following amounts determined by the Engineer:

- A. An amount for supplies, services, or property accepted by the City for which payment has not previously been made. The price to be paid for these items shall be equivalent to the aggregate price for such-supplies or services computed in accordance with the price specified in this agreement appropriately adjusted for any saving of freight or other charges; and
- B. The total of:
  - (1) The costs incurred in the performance of the Work terminated, including initial costs and preparatory expenses allocable thereto, but exclusive of any costs attributable to supplies or services previously paid;
  - (2) The costs of settling and paying claims arising pursuant to the termination of the Work under said contracts or orders which are properly chargeable to the terminated portion of the contract (exclusive of the amounts paid or payable on account of completed items or equipment delivered or services furnished by a subcontractor or vendor prior to the effective date of the notice of termination, which amounts shall be included in the costs payable pursuant to (A)); and
  - (3) The reasonable costs of settlement, including accounting, legal, clerical, and other expenses reasonable and necessary for the preparation of settlement claims and supporting data with respect to the terminated portion of the contract and for the termination and settlement of subcontracts thereunder, together with reasonable storage, transportation, and other costs incurred in connection with the protection or disposition of property allocable to this agreement.

#### GC-41 TERMINATION FOR CONVENIENCE - PAYMENT LIMITATIONS

In the event of termination for the convenience of the City, the total sum to be paid to the Contractor shall not exceed the contract price as reduced by the amount of payments otherwise made, by the contract price for Work not terminated, and as otherwise permitted by the contract. Except for normal spoilage, and except to the extent that the City shall have otherwise expressly assumed the risk of loss, there shall be excluded from the amounts payable to the Contractor the fair value, as determined by the Engineer, of property which is destroyed, lost, stolen or damaged so as to become undeliverable to the City or to another buyer.

#### GC-42 COST TO CURE

If the City terminates the whole or any part of the Work pursuant to this agreement, then the City may procure upon such terms and in such manner as the Engineer may deem appropriate, supplies or services similar to those so terminated, and the Contractor shall be liable to the City for any excess costs for such similar supplies or services. The Contractor shall continue the performance of this agreement to the extent not terminated hereunder.

GC-43 ATTORNEY'S FEES

Should the Contractor default pursuant to any of the provisions of this agreement, the Contractor and its surety shall pay to the City such reasonable attorney's fees as the City may expend as a result thereof and all costs, expenses, and filing fees incidental thereto.

GC-44 CONTRACTOR'S RESPONSIBILITIES UPON TERMINATION

After receipt of a notice of termination from the City, and except as otherwise directed by the Engineer, the Contractor shall:

1. Stop Work under the contract on the date and to the extent specified in the notice of termination;
2. Place no further orders or subcontracts for materials, services or facilities, except as may be necessary for completion of such portion of the Work under the agreement as is not terminated;
3. Terminate all orders and subcontracts to the extent that they relate to the performance of Work terminated by the notice of termination;
4. Assign to the City in the manner, at the times, and to the extent directed by the Engineer, all of the rights, title and interest of the Contractor under the orders and subcontracts so terminated, in which case the City shall have the right, at its discretion, to settle or pay any and all claims arising out of the termination of such orders or subcontracts;
5. Settle all outstanding liabilities and all claims arising out of such termination of orders and subcontracts, with the approval or ratification of the Engineer, to the extent the Engineer may require, which approval or ratification shall be final for all purposes;
6. Transfer title and deliver to the entity or entities designated by the City, in the manner, at the times, and to the extent, if any, directed by the Engineer, and to the extent specifically produced or specifically acquired by the Contractor for the performance of such portion of the Work as has been terminated:
  - (a) The fabricated or unfabricated parts, Work, and progress, partially completed supplies, and equipment, materials, parts, tools, dyes, jigs, and other fixtures, completed Work, supplies, and other material produced as a part of or acquired in connection with the performance of the Work terminated by the notice of termination; and
  - (b) The completed or partially completed plans, drawings, information, and other property to the Work.
7. Use its best efforts to sell in the manner, at the times, to the extent, and at the prices directed or authorized by the Engineer, any property described in Section 6 of this paragraph, provided, however, that the Contractor shall not be, required to extend credit to any buyer and further provided that the proceeds of any such transfer or disposition shall be applied in reduction of any payments to be made by the City to the Contractor pursuant to this agreement.
8. Complete performance of such part of the Work as shall not have been terminated by the notice of termination; and

9. Take such action as may be necessary, or as the Engineer may direct, for the protection and preservation of the property related to the agreement which is in the possession of the Contractor and in which the City has or may acquire an interest.

#### GC-45 RECORDS

The Contractor shall preserve and make available to the City all of its records, books, documents and other evidence bearing on the costs and expenses of the Contractor and any subcontractor pursuant to this agreement upon three days advance notice to the Contractor.

#### GC-46 DEDUCTIONS

In arriving at any amount due the Contractor pursuant to the terms of this agreement, there shall be deducted all liquidated damages, advance payments made to the Contractor applicable to the termination portion of the contract, the amount of any claim which the City may have against the Contractor, the amount determined by the Engineer to be necessary to protect the City against loss due to outstanding potential liens or claims, and the agreed price of any materials acquired or sold by the Contractor and not otherwise recovered by or credited to the City.

#### GC-47 REIMBURSEMENT OF THE CITY

In the event of termination, the Contractor shall refund to the City any amount paid by the City to the Contractor in excess of the costs reimbursable to the Contractor.

#### GC-48 TERMINATION FOR CONVENIENCE – DELAY

The Contractor shall be entitled to only those damages and that relief from termination by the City as specifically set forth in this agreement. The City or the Engineer may issue a written order requiring the Contractor to suspend, delay or interrupt all or any part of the Work for such period of time as the City may determine to be appropriate for the convenience of the City. If the performance of the Work is interrupted for an unreasonable period of time by an act of the City or Engineer in the administration of this agreement, an equitable adjustment shall be made for any increase in the Contractor's costs of performance and any increase in the time required for performance of the Work necessarily caused by the unreasonable suspension, delay, or interruption. Any equitable adjustment shall be reduced to writing and shall constitute a modification to this agreement. In no event, however, shall an equitable adjustment be made to the extent that performance of this agreement would have been suspended, delayed or interrupted by any other cause, including the fault or negligence of the Contractor. No claim for an equitable adjustment pursuant to this paragraph shall be permitted before the Contractor shall have notified the Engineer in writing of the act or failure to act involved, and no claim shall be allowed unless asserted in writing to the Engineer within ten days after the termination of such suspension, delay or interruption.

#### GC-49 COMMENCEMENT AND DURATION OF WORK

The Contractor shall commence Work pursuant to this agreement within ten days of mailing or delivery of written notice to proceed by the City. The Contractor shall diligently prosecute the Work to completion within the time specified therefore. The capacity of the Contractor's construction and manufacturing equipment and plan, sequence and method of operation and forces employed, including management and supervisory personnel, shall be such as to insure completion of the Work within the specified time. The Contractor and City hereby agree that the contract time for completion of the Work is

reasonable taking into consideration the average climatic conditions prevailing in the locality of the Work.

GC-50 TIME OF THE ESSENCE

All time limits stated in this agreement are of the essence of this contract.

OC-51 IMPACT DAMAGES

Except as specifically provided pursuant to a stop Work order or change order, the Contractor shall not be entitled to payment or compensation of any kind from the City for direct or indirect or impact damages including, but not limited to, costs of acceleration arising because of delay, disruption, interference or hindrance from any cause whatsoever whether such delay, disruption, interference or hindrance is reasonable or unreasonable, foreseeable or unforeseeable, or avoidable, provided, however, that this provision shall not preclude the recovery of damages by the Contractor for hindrances or delays due solely to fraud or bad faith on the part of the City, its agents or employees. The Contractor shall be entitled only to extensions in the time required for performance of the Work as specifically provided in the contract.

GC-52 DELAY

The Contractor may be entitled to an extension of the contract time, but not an increase in the contract price, for delays arising from unforeseeable causes beyond the control and without the fault or negligence of the Contractor or its subcontractors for labor strikes, acts of God, acts of the public enemy, acts of the state, federal or local government in its sovereign capacity, by acts of another separate contractor, or by an act of neglect of the City with the Engineer.

GC-53 INCLEMENT WEATHER

The Contractor shall not be entitled to an extension of the contract time due to normal inclement weather. Unless the Contractor can substantiate to the satisfaction of the Engineer that there was greater than normal inclement weather considering the full term of the contract using a ten year average of accumulated mean values for climatological data compiled by the U.S. Department of Commerce for Atlanta, Georgia and that such greater than normal inclement weather actually delayed the Work, the Contractor shall not be entitled to an extension of time therefore.

GC-54 NOTICE OF DELAY

The Contractor shall not receive an extension of time unless a notice of a claim is filed with the City and the Engineer within ten days of the first instance of such delay, disruption, interference or hindrance and a written statement of the claim is filed with the Engineer and the City within 20 days of the first such instance. In the event that the Contractor fails to comply with this provision, it waives any claim which it may have for an extension of time pursuant to this agreement.

GC-55 NOTICE OF DELAY - CONTENTS

The notice of delay referenced in the preceding paragraph shall include specific information concerning the nature of the delay, the date of commencement of the delay, the construction activities

affected by the delay, the person or organization responsible for the delay, the anticipated extent of the delay, and any recommended action to avoid or minimize the delay.

GC-56 PROGRESS OF WORK

To the extent that the Contractor is entitled to additional compensation for delay, an absolute condition precedent to such entitlement shall be in strict compliance with all requirements and procedures for entitlement to an extension of time herein. If the Work actually in place falls behind the currently updated and approved project network schedule, and it becomes apparent from the current schedule that Work will not be completed within the contract time, the Contractor agrees that it will, as necessary, or as directed by the Engineer, take action at no additional cost to the City to improve the progress of the Work, including increasing manpower, increasing the number of Working hours per shift or shifts per Working day, increasing the amount of equipment at the site, and any other measure reasonably required to complete the Work in a timely fashion.

GC-57 DILIGENCE

The Contractor's failure to substantially comply with the requirements of the preceding paragraph may be grounds for determination by the City or Engineer that the Contractor is failing to prosecute the Work with such diligence as will insure its completion within the time specified. In such event, the City shall have the right to furnish such additional labor and materials as may be required to comply with the schedule after 48 hours written notice to the Contractor, and the Contractor shall be liable for such costs incurred by the City.

GC-58 SET-OFFS

Any monies due to the City pursuant to the acceleration provisions of this agreement may be deducted by the City against monies due from the City to the Contractor.

GC-59 ACCELERATION - REMEDIES

The remedies of the City concerning acceleration are in addition to and without prejudice to all of the rights and remedies of the City at law, in equity, or contained in this agreement.

GC-60 TITLE TO MATERIALS

No materials or supplies shall be purchased by the Contractor or by any Subcontractor subject to any chattel mortgage or under a conditional sales contract or other agreement by which any interest is retained by the seller. The Contractor hereby warrants that it has good and marketable title to all materials and supplies used by it in the Work, and the Contractor further warrants that all materials and supplies shall be free from all liens, claims, or encumbrances at the time of incorporation in the Work.

GC-61 INSPECTION OF MATERIALS

All materials and equipment used in the construction of the project shall be subject to adequate inspection and testing in accordance with accepted standards and in accordance with the requirements of

the contract documents. Additional tests performed after the rejection of materials or equipment shall be at the Contractor's expense.

GC-62 ENGINEER'S PRESENCE DURING TESTING

All tests performed by the Contractor shall be witnessed by the Engineer unless the requirement therefore is waived in writing. The Engineer may perform additional tests on materials previously tested by the Contractor, and the Contractor shall furnish samples for this purpose as requested.

GC-63 MATERIALS INCORPORATED IN WORK

The Contractor shall furnish all materials and equipment to be incorporated in the Work. All such materials or equipment shall be new and of the highest quality available. Manufactured materials and equipment shall be obtained from sources which are currently manufacturing such materials, except as otherwise specifically approved by the Engineer.

GC-64 STORAGE OF MATERIALS

Materials and equipment to be incorporated in the Work shall be stored in such a manner as to preserve their quality and fitness for the Work and to facilitate inspection.

GC-65 PAYROLL REPORTS

The Contractor shall not be required to furnish weekly payroll reports to the Engineer on this project.

GC-66 CONTRACTORS' REPRESENTATIVE

Before beginning Work, the Contractor shall notify the Engineer in writing of one person within its organization who shall have complete authority to supervise the Work, receive orders from the Engineer, and represent the Contractor in all matters arising pursuant to this agreement. The Contractor shall not remove its representative without first designating in writing a new representative. The Contractor's representative shall normally be present at or about the site of Work while the Work is in progress. When neither the Contractor nor its representative is present at the Worksite, the superintendent, foreman, or other employee in charge of the Work shall be an authorized representative of the Contractor.

GC-67 SPECIALTY SUB-CONTRACTORS

The Contractor may utilize the services of specialty subcontractors on those parts of the project which, under normal contracting practices, are performed by specialty subcontractors. Neither the Contractor nor any subcontractor shall award Work to any subcontractor without the prior written consent of the City. The Contractor shall not award more than seventy-five percent of the Work to subcontractors.

GC-68 INSPECTION BY ENGINEERS

All Work pursuant to this agreement shall be subject to inspection by the Engineer for conformity with contract drawings and specifications. The Contractor shall give the Engineer reasonable advance notice of operations requiring, special inspection of a portion of the Work.

GC-69 WORK COVERED PRIOR TO ENGINEER'S INSPECTION

In the event that Work is covered or completed without the approval of the Engineer, and such approval is required by the specifications or required in advance by the Engineer, the Contractor shall bear all costs involved in inspection notwithstanding conformance of such portion of the Work to the contract drawings and specifications.

#### GC-70 ENGINEER'S AUTHORITY

The Engineer shall have the authority to decide all questions concerning interpretation and fulfillment of contract requirements, including, without limitation, all questions concerning the prosecution, progress, quality and acceptability of the Work. Any oral decision or instruction of the Engineer shall be confirmed in writing. All communications between the City and the Contractor shall be made through the Engineer. The Contractor shall submit to the Engineer a complete schedule of values of various portions of the Work, including quantities and unit prices, aggregating the contract price. The schedule shall subdivide the Work into component parts in sufficient detail to serve as the basis for progress payments during construction. Each item in the schedule of values shall include its proper share of overhead and profit. The schedule of values, when approved by the Engineer, shall be used only as a basis for the Contractor's monthly request for payment and shall not be used for additions to or deductions from the contract amount.

#### GC-71 PROGRESS ESTIMATES

The Contractor shall also prepare a written report for the Engineer's approval, on City forms of the total amount of value of Work performed to the date of submission. No progress estimate or payment shall be considered an approval or acceptance of any Work performed, and all estimates and payments shall be subject to correction in subsequent estimates. Progress payments shall be made for all completed activities and for suitably stored materials.

#### GC-72 PROGRESS PAYMENTS

Upon completion of each monthly estimate of Work performed and materials furnished, the Engineer shall recommend payment to the Contractor for the estimated value of such Work, materials, and equipment, less the amount of all prior payments and all liquidated damages. The Contractor will be paid 100 percent, less retainage, of the cost of materials received and properly stored but not incorporated into the Work. Payments for materials or equipment stored on the site shall be conditioned upon submission by the Contractor of bills of sale to establish the City's title to such materials or equipment. No progress estimate or payment need be made when, in the Engineer's judgment, the increment in the estimated value of Work performed and materials furnished since the preceding estimate is less than \$10,000.

#### GC-73 TIME OF PAYMENT

The Contractor will be paid on or before the 25th day following receipt of an approved estimate. When the contractor has performed in accordance with the provisions of this Agreement, the City shall pay to the contractor, within 30 days of receipt by the City 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 the City fails to pay the contractor within 60 days of the City's receipt of a pay request based upon Work completed or service provided pursuant to the contract, the City



shall pay the Contractor interest at the rate of 1/2 percent per month or pro rata fraction thereof beginning the 61st day following the City's receipt of the pay request. The contractor's acceptance of progress payments or final payment shall release all claims for interest on said payments. The provisions of this agreement are intended to supersede all provisions of the Georgia Prompt Pay Act as provided by law.

#### GC-74 RETAINAGE

The City shall retain from each progress payment ten percent of the estimated value of the Work performed until the progress payments, including retainage, total 50 percent of the contract price. Thereafter, no further retainage shall be withheld so long as the Contractor is making satisfactory progress to insure completion of the Work within the time specified therefore. The City may reinstate the ten percent retainage, in the event the Engineer determines that the Contractor is not making satisfactory progress to complete the Work within the time specified in this agreement or in the event that the Engineer provides a specific cause for such withholding.

#### GC-75 PAYMENT OF SUBCONTRACTORS

The Contractor shall promptly pay each subcontractor upon the receipt of payment from the City. Such payment shall be made from the amount paid to the Contractor pursuant to the subcontractor's Work. The Contractor shall also maintain the records of the percentage retained from payments to the Contractor pursuant to such subcontractor's Work. The Contractor shall procure agreements from each subcontractor requiring each subcontractor to pay their subcontractors, agents and employees in a similar manner.

#### GC-76 CITY'S RESPONSIBILITIES TO SUBCONTRACTORS

Neither the City nor the Engineer shall have any obligation to pay any subcontractor except as otherwise required by law.

#### GC-77 PROGRESS PAYMENTS - ACCEPTANCE OF WORK

Certification of progress payments, as well as the actual payment thereof, shall not constitute the City's acceptance of Work performed pursuant to this agreement.

#### GC-78 PAYMENTS IN TRUST

All sums paid to the Contractor pursuant to this agreement are hereby declared to constitute trust funds in the hands of the contractor to be applied first to the payment of claims of subcontractors, laborers, and suppliers arising out of the Work, to claims for utilities furnished and taxes imposed, and to the payment of premiums on surety and other bonds and on insurance for any other application.

#### GC-79 JOINT PAYMENTS

The City reserves the right to issue any progress payment or final payment by check jointly to the Contractor and any subcontractor or supplier.

#### GC-80 RIGHT TO WITHHOLD PAYMENT

The Engineer may decline to approve payment and may withhold payment in whole or in part to the extent reasonable and necessary to protect the City against loss due to defective Work, probable or actual third party claims, the Contractor's failure to pay subcontractors or material men, reasonable

evidence that the Work will not be completed within the contract time or contract price or damage to the City or any other contractor on the project.

GC-81 CERTIFICATE OF-SUBSTANTIAL COMPLETION

Upon the Contractor's submission of a request for a certificate of substantial completion, the Engineer shall inspect the Work and determine whether the Work is substantially complete. If the Work is substantially complete, the Engineer shall issue a certificate of substantial completion of the Work which shall establish the date of substantial completion, shall state the responsibilities of the City and the Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Contractor shall complete the items submitted by the Contractor as requiring correction or further Work. The certificate of substantial completion of the Work shall be submitted to the City and the Contractor for their written acceptance of the responsibilities assigned to them pursuant to such certificate.

GC-82 FINAL PAYMENT

Upon substantial completion of the Work and upon application by the Contractor and approval by the Engineer, the City shall make payment reflecting adjustments and retainage for the Work as provided in this agreement.

GC-83 COMMENCEMENT OF WARRANTIES

Warranties required by this agreement shall commence on the date of final completion of the project unless otherwise provided in the certificate of substantial completion.

GC-84 FINAL PAYMENT - WAIVER OF CLAIMS

The acceptance of the substantial completion payment shall constitute a waiver of all claims by the Contractor except those previously made in writing and identified by the Contractor as unsettled at the time of application for payment at substantial, completion and except for the retainage sums due at final acceptance. Following the Engineer's issuance of the certificate of substantial completion and the Contractor's completion of the Work pursuant to this agreement, the Contractor shall forward to the Engineer a written notice that the Work is ready for final inspection and acceptance and shall also forward to the Engineer a final application for payment. When the Engineer finds the Work acceptable and determines that the contract has been fully performed, the Engineer shall issue a certificate for payment which shall approve final payment to the Contractor.

GC-85 DOCUMENTATION OF COMPLETION OF WORK

Neither the final payment nor the remaining retainage shall become due until the Contractor submits the following documents to the Engineer:

- A. An affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the Work have been paid other otherwise satisfied;
- B. The surety's consent to final payment; and

- C. Any other data reasonably required by the City or Engineer establishing payment or satisfaction of all such obligations, including releases, waivers of liens, and documents of satisfaction of debts.

In the event that a subcontractor refuses to furnish a release or waiver as required by the City or Engineer, the Contractor may furnish a bond satisfactory to the City to indemnify the City against such loss. In the event that any lien or indebtedness remains unsatisfied after all payments are made, the contractor shall refund to the City all moneys that the City may become compelled to pay in discharging such lien or other indebtedness, including all costs and reasonable attorney's fees.

#### GC-86 GOVERNING LAW

Each and every provision of this agreement shall be construed in accordance with and governed by Georgia law. The parties acknowledge that this contract is executed in Dekalb County, Georgia and that the contract is to be performed in Dekalb County, Georgia. Each party hereby consents to the Dekalb Superior Court's sole jurisdiction over any dispute which arises as a result of the execution or performance of this agreement, and each party hereby waives any and all objections to venue in the Dekalb Superior Court.

#### GC-87 CHANGES AND EXTRA WORK

##### GC-87.1 AUTHORITY FOR CHANGES

The City may make changes in the Drawings or Specifications and in the quantities of Work to be done under the Contract.

##### GC-87.2 CHANGE ORDERS

Without invalidating the Contract, the City may at any time or from time to time, by written order, order additions, deletions, or revisions in the Work. These will be authorized by Change Orders. Upon receipt of the Change Order, Contractor shall promptly proceed with the Work involved. If any price or scope of the Work or an extension or shortening of the Contract Time is involved, an equitable adjustment will be made within the Change Order. In the event the contract price is increased by Change Order, the penal amount of the Payment and Performance Bonds shall be increased as provided for in Section GC-15. All changes in the Work authorized by Change Order shall be performed under the applicable Conditions of the Contract Documents.

##### GC-87.3 WRITTEN NOTICE

The City may, at the request of the Contractor, issue interpretations, clarifications and other instructions as to the intent of the Contract Documents, in the form of Written Notices. The City may also, at any time, make changes in the details of the Work by issuance of a Written Notice. Upon receipt of such a Written Notice containing interpretations, clarifications and other instructions, Contractor shall proceed with the Work and comply with the Written Notice unless Contractor believes that such Written Notice entitles him to a Change in Contract Price or Time or both.

Should Contractor believe that such Written Notice entitles him to change in Contract Price or Time, or both, he shall give the City notice in writing thereof within seven (7) days after receipt of the

Written Notice. Thereafter within thirty (30) days, Contractor shall document the basis for the change in Contract Price or Time. The City shall render a timely, written decision on the Contractor's request for a change in Contract Price or Time. Should the City determine that the Contractor is not entitled to a change in Contract Time or Price, the Contractor shall proceed as directed upon receipt of the City's decision. Failure to proceed shall constitute a breach of Contract and shall be a cause for the termination of the Contract.

Request for a Change Order arising out of a Written Notice will not be considered without the attachment thereto of a copy of the referenced Written Notice. No claim by Contractor will be allowed if asserted after Final Payment under this Contract.

#### GC-87.4 EXTRA WORK

Extra Work consists of new and unforeseen Work determined by the City not to be covered by any of the various items for which there is a bid price or by combination of such items.

#### GC-87.5 VARIATION IN QUANTITIES

Wherever the estimated quantities of Work to be done and materials to be furnished under this Contract are shown in any of the documents including the Proposal, they are given for use in comparing bids and the right is especially reserved except as herein otherwise specifically limited, to increase or diminish them as may be deemed reasonably necessary or desirable by the City to complete the Work contemplated by the Contract, and such increase or diminution shall in no way vitiate this Contract, nor shall any such increase or diminution give cause for claims or liability for damages.

#### GC-88 CHANGE ORDERS

##### QC-88.1 GENERAL

The Contract Price may only be changed by a Written Change Order. Each change will be set forth in a Change Order prepared by the City and approved by City. Change Orders will specify (a) all additional Work to be done and Work to be omitted, if any, in connection with the change; (b) the basis of compensation to the Contractor for additional or omitted Work; and (c) any adjustment of the time of completion of the Work. If the City determines that a change requiring additional Work will cause, delay in completion of Work, he will grant an equitable time extension for the changed Work, or a subsequent Change Order may be issued at such time as the extent of such delay can be determined.

Upon receipt of a Change Order, Contractor shall comply therewith and perform each item of Work set forth therein, furnishing all labor, material, and equipment necessary therefore, in the same manner as if such Work were originally included in the Contract. In the absence of a Change Order, Contractor shall not be entitled to payment or an extension of the time of completion on account of any changes made.

##### GC-88.2 METHODS OF PAYMENT

The value of any Work covered by a Change Order or any claim for an increase or decrease in the Contract Price shall be determined by the following method which is most advantageous to City, as determined by the City.

- 
- A. Where the Work involved is covered by unit prices contained in Contract Documents, by application of unit prices to the quantities of the items involved.
- B. By mutual acceptance of a lump sum, based on a detailed breakdown of anticipated costs plus Contractor's fee for overhead, small tools, and profit.
- C. On the basis of the actual cost of the Work plus a Contractor's fee for overhead, small tools and profit. This method of payment is herein referred to as force account Work. Contractor's fee for force account Work performed by his own forces shall be twenty percent (20%) for direct labor and payroll burdens; five percent (5%) for all purchased material; and Contractor's fee for subcontracted Work shall be as defined hereinafter.

#### GC-88.3 LUMP SUM CHANGE ORDER WORK

Contractor shall prepare an estimate of all extra and deleted Work as described by Written Notice, using established unit prices where they are stated in the Bidding Documents. Estimates for labor, bonds, insurance, materials, and equipment required shall otherwise be based on the provisions set forth hereinafter.

#### GC-88.4 FORCE ACCOUNT WORK

When authorized by a Change Order, Contractor may perform Work on a force account basis and will be paid actual costs and a fee for properly allocated charges which may include labor, bond premium, supplies and materials, equipment and subcontract billings, incurred in the performance of such force account Work. as more particularly described below:

- A. Labor: For all labor and for foremen in direct charge of the specific operations, Contractor shall receive the actual rate of wage in effect at the time the force account Work is performed for each and every hour that said laborer, and foreman, are actually engaged in such Work. Said agreed rate shall be no higher than that regularly paid the employee. A foreman shall not be used where there are fewer than two (2) laborers employed, except with the written consent of the City. Contractor shall receive the actual costs paid to or in behalf of Workmen, by reason of fringe benefits, including but not limited to Social Security contribution, unemployment, excise and payroll taxes, Workmen's compensation, health and retirement benefits, sick leave, vacation and holiday pay. Expenses of Working after hours, on holidays, or on Saturdays and Sundays shall be included to the extent authorized by the City. Subsistence and travel allowance where required by collective bargaining agreements shall be included.

The charges for labor shall include all classifications through foremen when engaged in the actual and direct performance of the Work. They shall not include charges for such overhead personnel as assistant superintendents, superintendents, office personnel, timekeepers, and maintenance mechanics.

- B. Bonds and Insurance: For bonds and insurance premiums or increases thereto necessitated by the force account Work, Contractor shall receive the actual cost to which no percent shall be added. Contractor shall furnish satisfactory evidence of the rate or rates paid for such bond and insurance.
- C. Materials: For materials accepted by the City and used as an integral part of the finished Work, Contractor shall receive the actual cost of such materials delivered on the Work, including transportation charges paid by him, exclusive of machinery rentals as hereinafter set forth.

If materials are procured by Contractor by a method which is not a direct purchase from and a direct billing by the actual supplier, the cost of such materials shall be deemed to be the lowest current wholesale price at which such materials are available in the quantities concerned and delivered to the site of the Work.

For other materials used in the construction which are not an integral part of the finished Work, such as, but not limited to, sheeting, false Work and form lumber, Contractor shall be reimbursed in the amount agreed upon by the City before such Work is begun. The salvage value of such material will be taken into consideration in determining, the amount of reimbursement.

- D. Equipment: Contractor will be paid for the use of Contractor owned or rented equipment at seventy percent (70%).of the suggested monthly rental rates listed for such equipment in the Blue Book Rental Rates for Construction Equipment (published by Equipment Guide-Book Company of Palo Alto), except as modified below, which edition shall be the latest edition in effect at the time of commencement of the force account Work. Hourly rental rates shall be calculated by dividing the listed monthly rates as modified above by 176 hours. The rental rate for equipment used in excess of eight (8) hours per day, shall be at the rate of fifty percent (50%) of the hourly rates as calculated above. The rental rates for standby equipment, when authorized by the City, shall be at the rate of fifty percent (50%) of the hourly rate for equipment in use eight (8) hours per day. No payment of rentals for standby equipment will be made for more than eight (8) hours per Working day and no payment will be made for weekend days or holidays. If it is deemed necessary by Contractor to use equipment not listed in the applicable edition of the Blue Book Rental Rates, Contractor shall furnish the necessary cost data and paid invoices to the City for its use in establishment of such rental rate(s). Equipment must be in good operating condition. The rental rates paid as above provided shall include the cost of fuel, oil, lubricants, supplies, small tools, necessary attachments, repairs and maintenance of all kinds, depreciation, storage and insurance. Equipment operators will be paid for as stipulated herein.

The rental time to be paid for equipment on the Work site shall be the time the equipment is required for the force account Work being performed. The time shall include the time required to move the equipment to the location of the force account Work and return it to the original location or to another location requiring no more time than that required to return it to its original location. Moving time will not be paid if the equipment is used at the site of the force account Work on other than such force account Work. Loading and transporting costs will be allowed, in lieu of moving time, when the equipment is moved by means other than its own power. No payment for loading and transporting will be made if the equipment is used at the site of the force account Work on other than such force account Work. Compensation will not be allowed while equipment is inoperative due to breakdown.

For the use of equipment moved in on the Work and used exclusively for Work paid for on a force account basis, providing the City has agreed to said move, Contractor will be paid the equipment use rates provided for in this clause, for the cost of transporting the equipment to the location of the Work and its return to its original location, and for the cost of loading and unloading the equipment, all in accordance with the following provisions:

1. The cost of transporting equipment shall not exceed the applicable minimum established rates by the State of Georgia Public Service commission.
2. The equipment use period shall begin at the time the equipment is unloaded at the site of the force account Work, shall include each day that the equipment is at the site of the

force account Work, excluding Saturdays and Sundays and other legal holidays unless the force account Work is performed on such days, and shall terminate at the end of the day on which the City instructs Contractor to discontinue the use of such equipment. The maximum time to be paid per day will not exceed eight (8) hours unless the equipment is in operation for a longer time.

- E. Subcontract Work: Where the Change Order applies to Work being performed under a subcontract, reimbursement, including the fee for small tools, overhead and profit for the subcontractor's Work performed on a force account basis shall be computed in precisely the same manner as if performed by Contractor as indicated herein. One additional allowance of five percent (5%) of the subcontractor's total costs will be granted to Contractor for overhead and profit regardless of the tier of the subcontractor. If the subcontractor elects to contract out change order Work to a third (or lower) level contractor or supplier of purchased equipment, he shall not be entitled to fees, overhead or profit for such third (or lower) level Work or materials. The City reserves the right to direct the Contractor to contract directly with third (or lower) level subcontractors and suppliers of purchased equipment in order to avoid paying multiple fees, overhead and profit for such third (and lower level) subcontractors and suppliers of purchased equipment. If similar Work is not being performed at the Work site, and if required by City, Contractor shall obtain three (3) competitive bids for the requirements of the Change Order and the Contract Documents from Subcontractors acceptable to the City. Selection of the Subcontractor shall be subject to the approval of the City.
- F. Compensation: The compensation as set forth above shall be received by Contractor as payment in full for Work done on a force account basis. At the end of each day, Contractor's Representative and Inspector shall compare records of the Work performed including classification of all laborers, ordered on a force account basis.
- G. Statements: No payment will be made for Work performed on a force account basis until Contractor furnishes the County itemized statements of the cost of such force account Work detailed as to the following:
1. Labor - name, classification, date, daily hours, total hours, rate, and extension of each laborer and foreman.
  2. Equipment - size, type, identification number, dates, daily hours, total hours, rental rate, and extension of each unit of machinery and equipment.
  3. Materials - quantities of supplies and materials, prices, including transportation cost and extensions.
  4. Bonds and insurance premiums.
  5. Subcontract Work - force account detail as above or progress quantities and prices of unit price or lump sum subcontracts.
  6. Payments for items under paragraphs (a) to (f) inclusive, shall be conditioned upon Contractor's presentation of original receipted invoices for materials used and transportation charges. If, however, the materials used in the force account Work are not specially purchased for such Work but are taken from Contractor's stock, then in lieu of the original invoices) the statements shall contain or be accompanied by an affidavit of

Contractor which shall certify that such materials were taken from his stock, that the price and transportation of the material as claimed represent actual cost.

- H. If, in the City's opinion, Contractor or any of his subcontractors, in performing force account Work, are not making efficient use of labor, material, or equipment and/or are proceeding in a manner which is expensive to the City, the City may request the Contractor to make more efficient use of labor, material and equipment. Contractor shall in good faith comply with such requests as are reasonable. If the Contractor fails to comply with such requests, the City may independently determine the reasonable cost of the Work and the Contractor will be entitled only to the reasonable cost so estimated by the City.

#### GC-88.5 CHANGE ORDERS LIMITED

Except as provided herein, no order, statement or conduct of the City or the Construction Program Manager shall be treated as a "Change Order" or entitle the Contractor to any adjustment hereunder of the Contract Price or Contract Time.

#### GC-88.6 NO WORK STOPPAGE

Nothing in this Article shall excuse the Contractor from proceeding with the Contract as changed.

#### GC-88.7 CONTRACT AMENDMENT

The amount payable to the Contractor under the Contract, the Contract Time, and the date required for performance of any part of the Work may be changed only by a Change Order to the Contract.

#### GC-89 DISAGREEMENT WITH ORDERS FOR CHANGE

Contractor's written acceptance of a Change Order or other order for changes shall constitute his final and binding agreement to the provisions thereof and a waiver of all claims in connection therewith, whether direct or consequential in nature. Should Contractor disagree with any order for changes, he may submit a notice of potential claim to the City, at such time as the order is set forth in the form of a Change Order. Disagreement with the provisions of an order for changes shall not relieve Contractor of his obligation under Clause GC-88, Change Orders.

#### GC-90 CHANGED CONDITIONS

Contractor shall notify the City in writing of the following conditions, hereinafter called "changed conditions," promptly upon their discovery and before they are disturbed:

- A. Subsurface or latent physical conditions at the site of Work differing materially from those represented in this Contract; or
- B. Unknown physical conditions at the Site of the Work of an unusual nature differing materially from those ordinarily encountered and generally recognized as inherent in Work of the character provided for in this Contract.

The City will promptly investigate conditions of which it is so notified or conditions discovered by it which appear to be changed conditions, and will, as soon as practicable, issue appropriate orders or instructions. If the City determines that the conditions materially differ and that they will materially



increase or decrease the costs of any portion of Work, it will issue a Change Order adjusting the compensation for such portion of Work.

GC-91 OPTIONAL CHANGE ORDER PROCEDURE

In the event that a change order is deemed necessary and is requested by the City, the Contractor, at his option, may elect to perform the necessary Work prior to the approval of the change order by the City Council. In such event, the Contractor shall proceed at his own risk that the City Council may not approve the change order.

Within thirty days following the Contractor's submission of a request for payment for the Change Order Work pursuant to this paragraph, the City shall initiate an agenda item requesting that the City Council approve and execute a written change order for the Work in question. During the pendency of the agenda item, the Contractor shall not be entitled to compensation for the change order Work performed.

If the City Council subsequently approves and executes the change order, the Contractor shall be paid the sum approved in the change order from funds reserved by the City for payment of anticipated and approved written change orders in conjunction with this contract pursuant to Part III of the bid with regard to this project. If the City Council rejects or fails to approve the change order, the Contractor shall not be entitled to compensation for the Work performed pursuant to the change order request.

Nothing contained in this contract shall prevent or discourage the Contractor from electing to obtain prior written approval of a change order by the City Council prior to initiation of Work pursuant to such change order.

The parties to this agreement recognize that the Contractor's election to proceed with a change order prior to Council approval of such change order will evidence the Contractor's desire to continue the project without interruption. In the event that the Contractor determines to await Council approval of a written change order, however, neither party to this agreement shall be entitled to damages, including delay damages and impact damages, as a result of the change order approval process.

The Contractor hereby acknowledges that thirty to sixty days are normally required in order to obtain the City Council's approval of a written change order. The Contractor further acknowledges that no agent or employee of the City has authority to bind the City to a contract or change order, and approval by the City Council is necessary prior to the City's entry into a valid and binding contract or change order.

The Contractor further acknowledges that the funds reserved by the City pursuant to Part III of the bid concerning this project do not form a portion of the contract price for this project. Said funds merely represent the City's effort to set aside funds from its general operating budget to pay approved written change orders arising from this project. The Contractor acknowledges that the City is not obligated to expend any or all of the amount designated in Part III of the bid for this project, and the Contractor agrees to make no claim to any such funds which remain unexpended and unauthorized after completion of this agreement.

Each party to this agreement hereby warrants that it has read and fully understands each and every provision of these general conditions to the parties' construction contract. Each party further agrees that these general conditions form a portion of the construction contract and are hereby incorporated therein by reference.

INDEX

<u>SUBJECT</u>	<u>PARAGRAPH</u>
Acceleration	51,59
Assignment	13
Clean Site	29
Codes	4
Commencement of Work	49
Contract Documents	2
Contractor's Representative	66
Defective Work	31, 32
Definitions	3
Extension of Time	52, 53
Familiarity with Site	1, 22
Final Payment	82, 84
Inclement Weather	53
Indemnification	15
Inspections	23, 61, 62
Jurisdiction	86
Licenses	8
Liquidated Damages	46
New Materials	33, 63
Notices	24
Payment	72, 73, 75
Payment of Subcontractors	75, 76
Payroll Reports	65
Permits	8
Progress Payments	72, 73, 77
Protection of Work	30, 64
Records Inspection	45
Retainage	11, 74
Safety	25
Service of Process	14
Stop Work Order	37
Subcontractors	67, 76
Substantial Completion	81
Supervision of Work	16, 66
Surety's Responsibility	17
Taxes	9, 10
Termination for Cause	38, 44, 47
Termination for Convenience	39, 40, 41
Time of the Essence	50
Warranties	33, 34, 35

PART 1 - GENERAL

1.01 GENERAL AND SUPPLEMENTARY CONDITIONS

- A. The requirements of the Agreement between Owner and Contractor and the General the Supplementary Conditions indicated in Division 0 are a part of and apply to all work hereunder.

1.02 PRE-CONSTRUCTION CONFERENCE

- A. Within 10 calendar days following issuance of the Written "Notice to Proceed" the architect shall schedule a conference for the purpose of reviewing the construction program with the contractor. The general contractor is encouraged to have all subcontractors present at the conference. The following issues will be addressed:
1. Introduction of all attending parties
  2. Channels and procedures for communications
  3. Requests for substitutions in accordance with the requirements of specification Section 01 100, Part 1.02 F.
  4. Issuance of RFP's (Request for Proposals) by the architect shall be addressed by the General Contractor within 7 calendar days of receipt thereof in accordance with Supplementary Conditions indicated in Paragraph 7.1.5.
  5. Change order compensation based on figures indicated in Supplementary Conditions Paragraph 7.1.7.
  6. Pre-construction submittals indicated in Supplementary Conditions Paragraph 3.19.
  7. Shop drawings, samples and other project submittals issued in accordance with the requirements of Specification Section 01 100.
  8. Job progress meeting frequency. In addition to periodic progress meetings, the City would like to schedule a public "hard hat" tour of the project site, on a Saturday, near the contract completion date.
  9. Applications for payment issued in accordance with the requirements of the General Conditions of the contract for construction and all applicable supplementary conditions in Paragraphs 9.3.4.
  10. Safety precautions and programs as directed by the General Contractor in accordance with AIA General Conditions Article 10 and part 1.07 in Section 01010.
  11. Any mock-ups required.

12. Requests for time extensions shall be issued in accordance with the requirements of Supplementary Conditions Paragraph 8.3.4.
13. Discrepancies and conflicts in the Contract Documents shall be resolved using the order of precedence indicated in the Supplementary Conditions, paragraph 1.2.7. In the event of a possible discrepancy between portions of the contract documents, the Architect shall be notified in writing by the Contractor and a clarification will be issued. The Contractor assumes an obligation to bring all possible discrepancies within the Contract Documents to the Architects attention in writing for possible resolution prior to performing any construction related thereto. If the Contractor neglects to do so, all expenses related reparations required by the Owner due to such negligence shall be borne by the Contractor. In all instances, the Architect shall be the sole interpreter of the Contract Documents.
14. The date of substantial completion shall not be achieved and the substantial completion certificate shall not be issued prior to receipt of the final official certificate of occupancy by the General Contractor.
15. Contract closeout/final payment requirements shall be clearly understood by the General Contractor. Piecemeal delivery of final closeout documents and materials is not acceptable.
16. Materials testing shall be conducted by a certified testing agency in accordance with the requirements of Section 01 400.
17. Immediately prior to substantial completion, the General Contractor shall prepare a comprehensive list of items to be corrected or completed (a punchlist) for the architects review in accordance with Paragraph 9.8.2 of the AIA General Conditions. The architect shall then add to or delete items from the list during a substantial completion inspection.
18. Permits, fees, licenses, etc..., shall be addressed in accordance with the requirements of General Conditions Section 3.7, all applicable supplementary conditions and Part 1.09 A of Section 01 010.
19. Compensation for stored material shall be as defined in Parts 6.2.1, 9.3.2, 10.2.1.2, 11.3.1.4 & 12.2.4 of the General Conditions as well as Part 9.3.2.1 of the Supplementary Conditions, Paragraph 1.03A of Section 01 010, Paragraph 1.03 A of Section 01 100 and Paragraph 2.04G of Section 01 500. Invoices for stored materials must be delivered with the applications for payment on which compensation for the stored materials has been requested. Invoices for stored materials delivered separately from the applications for payment will not be recognized until the following application for payment is received.
20. A lien waiver issued by the General Contractor shall be submitted with each application for payment. An individual lien waiver from each subcontractor will be required prior to final payment.

1.03 CONTRACTOR'S WORK AND MATERIALS STORAGE

- A. Contractor's materials storage area shall be determined at the pre-construction conference. The Contractor shall confine his storage therein and take necessary precautions to protect materials at his own expense against all weather conditions, theft and damage.
- B. All debris generated during the construction process shall be removed from the project site and adjacent property.

1.04 OVERLOADING

- A. Contractor shall be responsible for overloading any part or parts of the site beyond safe load carrying capacities.

1.05 MANUFACTURER'S DIRECTIONS

- A. Where it is required in the specifications that materials, products, processes, or equipment be installed or applied in accordance with manufacturer's instructions, directions, or specifications, it shall be construed to mean that said application or installation shall be in strict accordance with printed instructions furnished by the manufacturer of the material or system proposed for use under conditions similar to those experienced at the project.
- B. The Contractor shall notify the Utility Protection Center at 1-800-282-7411 prior to commencing with any subsurface excavations.

1.06 LAYING OUT WORK

- A. Prior to commencing work, the Contractor shall be responsible for careful comparison and review of all Architectural, Structural, Mechanical, Plumbing, Fire Protection, Electrical, Civil, Landscape and other working drawings. All drawings shall be compared with one another which in any way affect the work to be executed. Should any discrepancy be found, it shall immediately be reported to the Architect in writing for verification and adjustment.
- B. Contractor shall exercise proper precautions to verify figures and dimensions shown on the Drawings before laying out work and shall be held responsible for any error resulting from his failure to exercise such precaution. Drawings shall not be scaled for any purpose.

1.07 ACCIDENT PREVENTION

- A. Precaution shall be exercised at all times for the protection of all persons, including employees of the Contractor. Machinery equipment, openings, power lines and all other hazards shall be guarded or eliminated in accordance with the safety provisions of "The Manual of Accident Prevention in Construction" published by the Associated General Contractors of America.

1.08 PERIODIC CLEANING

- A. Throughout the construction period, maintain the site in a standard of cleanliness as described in this Section.
- B. Site and Structure
  - 1. Maintain the site and adjacent areas in a neat and orderly condition at all times.
  - 2. At least weekly inspect the site and pick up all scrap, debris and waste material and remove them to the place designated for their storage.
  - 3. At least weekly and prior to any and all inspections, sweep interior spaces clean. “Clean” for the purpose of this paragraph shall be interpreted as meaning free from material capable of being removed by reasonable effort and a hand-held broom.

#### 1.09 FINAL CLEANING

- A. “Clean” for the purpose of this Article shall be interpreted as meaning the level of cleanliness generally provided by skilled cleaners using commercial quality equipment and materials.
- B. Prior to completion of the Work, remove from the job site all tools, surplus materials, equipment, scrap, debris and waste.
  - a. Visually inspect finished surfaces and remove all traces of soil, waste materials, smudges and other foreign matter.
  - b. Remove all paint droppings, spots, stains and dirt from finished surfaces.
- C. Unless otherwise directed by the Architect, broom clean paved areas on the site and public paved areas adjacent to the site. Completely remove resultant debris.

#### 1.10 PERMITS AND REGULATIONS

- A. All work and material shall be in accordance with Safety Orders of the Division of Industrial Safety, and other applicable Federal, State, County and City Municipal laws, ordinances, rules and regulations pertaining to construction. Nothing in the contract documents shall be construed to permit work not conforming thereto. The Contractor shall consult the Architect on all issues regarding possible non-conformance. Contractor shall provide all labor, materials and equipment to complete the work as required by all applicable laws, ordinances, rules and regulations. The Contractor shall consult the Architect before making any determinations as to changes in quality, scope and/or increases or decreases in cost.
- B. The Contractor shall notify all local utility companies prior to beginning any subsurface investigations.

1.11 PROJECT COMPLETION

- A. The City Engineer shall review the project for Substantial completion. If the project is Substantially complete, as defined in the General Conditions of the Contract for Construction, the City Engineer shall issue a Certificate of Substantial Completion.
- B. When the project is substantially complete (as defined in the Agreement Between the Owner and the Contractor) and all mechanical and electrical systems are operating after having been checked by the Contractor and/or manufacturer, the Contractor shall notify the Architect in writing at least seven days before the date of request for substantial completion inspection. The Contractor shall arrange for the presence of all subcontractors whose work is involved.
  - 1. No sooner than 2 calendar days prior to the proposed date of substantial completion inspection, the Contractor shall prepare a "Punch List" for items not completed and work not complying with the requirements of the Contract Documents. The City Engineer shall add to and/or delete items from the punch list during the Substantial Completion inspection. The "Punch List" shall not be construed as a contract requirement but is intended only to assist in the completion of the project. The Contractor shall make a diligent effort to complete all work in conformance with the requirements of the Contract Documents before requesting a "Punch List".
  - 2. Correction of items noted on the "Punch List" does not relieve the Contractor from conforming with all requirements of the Contract Documents.
- C. Before final payment is made, the following items shall be delivered in satisfactory form to the Owner:
  - 1. All maintenance/operating manuals and instructions.
  - 2. All guarantees required by the individual technical specification sections.
  - 3. All other required items noted in the Contract Documents.
  - 4. All items on the Punch List shall have been completed in satisfactory order and such notice forwarded in writing to the Architect.
  - 5. All as-built drawings shall be provided by the Contractor as described in the Specifications.
  - 6. All maintenance and replacement stock material required.
  - 7. Certificate which warrants that all materials, products and assemblies incorporated in this project are totally free of asbestos, PCB, or other such hazardous material.
  - 8. Owner, after completion of project, may elect and pay to use services of an independent testing agency to test for asbestos content.

D. Final Inspection

1. When the work is completed in accordance with the Contract Documents and the requirements of Paragraphs A and B above and General and Supplementary Conditions of the contract for construction have been satisfied, the Contractor shall notify the City in writing that the work shall be ready for final inspection on a definite date, which shall be stated in such notice. The City shall receive such notification no sooner than seven calendar days prior to the date stated in such notice. The notice shall be forwarded to the City Engineer, who shall attach his endorsement as to whether or not he agrees with the Contractor's statement that the work will be ready for final inspection on the established date, but such endorsement shall not relieve the Contractor of any contractual responsibilities.
2. Final inspection shall be made by the Owner, City Engineer, and/or Consultants when the Contractor states that the project has been completed in accordance with the Contract Documents, all punch list items have been completed and a formal written request for final inspection is made as outlined above.

1.12 LIMITS OF WORK

- A. Work shall be performed as indicated on the working drawings.

1.13 OFFENSIVE BEHAVIOR

- A. A penalty of \$100.00 per event shall be levied against the General Contractor and, subsequently, deducted from the next application for payment for objectionable behavior by any of the General Contractor's forces while on the Owner's property, as determined by the Architect. This objectionable behavior shall include, but not necessarily be limited to, profanity, alcohol and/or illegal drug consumption or possession and sexual misconduct.
- B. All workmen shall be fully clothed and shall be expected to exhibit acceptable behavior. Association with the public shall be prohibited. Refer all non-project related visitors to the City Hall for assistance. Failure to comply with this requirement can subject personnel to being banned from the project site.

END OF SECTION 01 010



SECTION 01230 - ALTERNATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for alternates.

1.3 DEFINITIONS

- A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the Bidding Requirements that may be added to or deducted from the Base Bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
  - 1. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.4 PROCEDURES

- A. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
  - 1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
- B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.
- C. Execute accepted alternates under the same conditions as other work of the Contract.
- D. Schedule: A Schedule of Alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

- A. Substitution Alternate No. 1: Substitute Item #6 with Items #6A and #6B on Bid Form.

END OF SECTION 01230

PART 1 - GENERAL

1.01 PRODUCTS

- A. Products are specified by ASTM and/or other reference standard, and/or by manufacturer's name and model number or trade name. When specified only by reference standard, Contractor may select any product meeting this standard by any manufacturer. When several products or manufacturers are specified as being equally acceptable, Contractor shall have the option of choosing among those names. When one manufacturer's specific product is specified and other manufacturers are listed as being acceptable suppliers, the other manufacturers products must have the same basic properties as the specific product mentioned. Otherwise, the following substitution provisions must be observed.

1.02 SUBSTITUTIONS

- A. During bidding, the Architect shall consider written requests for substitutions received at least ten calendar days prior to the bid date. Requests received after that time shall not be considered.
1. Contractor shall submit requests for substitution on form attached to this section, which may be copied. Form shall be complete, accurate and legible.
  2. Blank substitution forms are also available at most local plan centers and at the Architect's office.
  3. If proposed substitution is accepted by Architect, such acceptance shall be set forth in an addendum or modification. Bidders shall not rely upon accepted substitutions made in any other manner.
- B. The Contractor shall be required to provide a substitution form for any change to the original documents before the decision is made whether it will be incorporated into the contract documents.
- C. Prior to award of the Contract, the Architect may consider formal requests from the Contractor for substitution of products in lieu of those specified. Requests shall be submitted in accordance with the preceding requirements. One or more of the following conditions must also be documented:
1. Substitution is required for compliance with interpretation of code requirements or insurance regulations that exist.
  2. Substitution is required due to unavailability of specified products through no fault of the Contractor.

3. Substitution is required because subsequent information disclosed an inability of specified products to perform properly or to fit in designated space.
  4. Substitution is required because manufacturer/fabricator refuses to certify or guarantee performance of specified product as required.
  5. When in the judgment of the Owner the proposed substitution is substantially in the Owner's best interest in terms of costs, time or other consideration.
- D. Should the Contractor wish to substitute another product or method for products or methods specified or shown in Contract Documents, whether or not such phrases as "or equal", "equivalent to", or "based on" are used, he shall apply in writing for review. He shall enclose such data as Architect requires to evaluate the proposed products. The Architect's decision shall be final. Contractor is responsible for special requirements of substitutions. He shall execute necessary changes in adjacent work and relocate Work as necessary due to such substitutions, and he shall be responsible for delays required for evaluation of proposed substitutions
1. Full explanation of the proposed substitution and submittal of all supporting data including technical information, catalog cuts, warranties, test results, installation instructions, operating procedures and other similar information necessary for a complete evaluation of the proposed substitution.
  2. Reasons substitution is advantageous and necessary including the benefits to the Owner of the Work in the event substitution is acceptable.
  3. The adjustment, if any, in the Contract Sum in the event the substitution is acceptable.
  4. The adjustment, if any, of time of completion of the Contract and Construction Schedule in the event the substitution is acceptable.
  5. An affidavit stating that (1) the proposed substitution conforms to and meets all the requirements of the pertinent specifications and the requirements shown on the working drawings, and (2) the Contractor accepts the warranty and correction obligations in connection with the proposed substitutions as if originally specified by the Architect. Proposals for substitution shall be submitted in triplicate to the Architect with sufficient time to allow the Architect no less than ten working days to review. No substitutions will be considered or allowed without the Contractor's submittal of complete substantiating data and information as stated herein.
- E. In submitting requests for substitution, the Contractor shall make the following representations:
1. Contractor has investigated proposed product and has determined that it is equal or superior in all respects to the specified product.

2. Contractor will provide an equal or better guarantee for proposed substitution as compared to the product specified.
  3. Contractor will coordinate installation of accepted proposed substitution into the project, making any such changes as may be required for the project to be completed in accordance with the Contract Documents.
  4. Contractor waives all claims for additional costs related to proposed substitution which become apparent during or following substitution submittal process.
  5. Cost comparison data is complete and includes all related costs under the contract:
  6. The proposed substitution satisfies Code Official's interpretations of all applicable codes.
- F. Substitutions shall not be considered if:
1. They are indicated or implied on shop drawings or product data submittals without a formal request submitted in accordance with this Article.
  2. Acceptance will require substantial revision of contract documents.

REQUEST FOR SUBSTITUTION

PROJECT: CITY OF STONE MOUNTAIN- FY 2021 SPLOST RESURFACING PROJECT

DATE: \_\_\_\_\_

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

SUBCONTRACTOR: \_\_\_\_\_

SUPPLIER: \_\_\_\_\_

1. The following required information is attached:
  - A. Product identification, manufacturer's name, address, telephone number
  - B. Manufacturer's literature, performance/test data, reference standard
  - C. Name/address of similar projects where product has been used and Date of Application

2. Comparison of proposed substitute product with specified product:

\_\_\_\_\_  
\_\_\_\_\_

3. If submitted after the date the contract agreement between the owner and contractor is signed:

- A. Data related to changes in construction schedule:

\_\_\_\_\_  
\_\_\_\_\_

- B. Accurate cost data on proposed substitution in comparison with product specified:

\_\_\_\_\_  
\_\_\_\_\_

- C. Reason for request for substitution: (Check One)

- 1) Substitution is required for compliance with interpretation of code requirements or insurance regulations that exist.
- 2) Substitution is required due to unavailability of specified products through no fault of the Contractor.

- 3) Substitution is required because subsequent information disclosed an inability of specified products to perform properly or to fit in designated space.
- 4) Substitution is required because manufacturer/fabricator refuses to certify or guarantee performance of specified product as required.
- 5) When in the judgment of the Owner the proposed substitution is substantially in the Owner's best interest in terms of costs, time or other consideration.

END OF SECTION 01 630

CONTRACTOR WARRANTY FORM

PROJECT: CITY OF JEFFERSON- JEFFERSON DOWNTOWN DRAINAGE PROJECT

LOCATION: JEFFERSON, GEORGIA

OWNER: CITY OF JEFFERSON

GENERAL CONTRACTOR:

We \_\_\_\_\_, contractor  
(Company Name)

for \_\_\_\_\_, as described in Specification Section (s)  
(list trade)

\_\_\_\_\_ do hereby warrant  
(list appropriate sections of specifications)

that all labor and materials furnished and work performed in conjunction with the above referenced project are in accordance with the Contract Documents and authorized modifications thereto, and will be free from defects due to defective materials or workmanship for a period of one year from Date of Substantial Completion and that all street signs will be free from defects due to defective materials or workmanship for a period of seven years from Date of Substantial Completion.

This warranty commences at 12:00 noon on \_\_\_\_\_ and expires at 12:00 noon on \_\_\_\_\_. Should by \_\_\_\_\_ any defect develop during the warranty period due to improper materials, workmanship or arrangement, the defect shall, upon written notice by the Owner, be repaired or replaced by the undersigned at no expense to the Owner.

Nothing in the above shall be deemed to apply to work which has been abused or neglected by the Owner.

DATE: \_\_\_\_\_ FOR: \_\_\_\_\_  
(COMPANY NAME)

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

TITLE: \_\_\_\_\_

END OF SECTION 01740



SUBCONTRACTOR WARRANTY FORM

PROJECT: CITY OF JEFFERSON – JEFFERSON DOWNTOWN DRAINAGE PROJECT

LOCATION: JEFFERSON, GEORGIA

OWNER: CITY OF JEFFERSON

GENERAL CONTRACTOR:

We \_\_\_\_\_, subcontractor  
(Company Name)

for \_\_\_\_\_, as described in Specification Section (s)  
(list trade)

\_\_\_\_\_ do hereby warrant  
(list appropriate sections of specifications)

that all labor and materials furnished and work performed in conjunction with the above referenced project are in accordance with the Contract Documents and authorized modifications thereto, and will be free from defects due to defective materials or workmanship for a period of one year from Date of Substantial Completion and that all street signs will be free from defects due to defective materials or workmanship for a period of seven years from Date of Substantial Completion.

This warranty commences at 12:00 noon on \_\_\_\_\_ and expires at 12:00 noon on \_\_\_\_\_. Should by \_\_\_\_\_ any defect develop during the warranty period due to improper materials, workmanship or arrangement, the defect shall, upon written notice by the Owner, be repaired or replaced by the undersigned at no expense to the Owner.

Nothing in the above shall be deemed to apply to work which has been abused or neglected by the Owner.

DATE: \_\_\_\_\_ FOR: \_\_\_\_\_  
(COMPANY NAME)

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

TITLE: \_\_\_\_\_

END OF SECTION 01 741

SECTION 02 4100  
DEMOLITION

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Selective demolition of built site elements.

1.02 RELATED REQUIREMENTS

- A. Section 31 1000 - Site Clearing: Vegetation and existing debris removal.
- B. Section 31 2200 - Grading: Topsoil removal.
- C. Section 31 2323 - Fill: Fill material for filling holes, pits, and excavations generated as a result of removal operations.
- D. Section 31 2323 - Fill: Filling holes, pits, and excavations generated as a result of removal operations.

PART 3 EXECUTION

2.01 SCOPE

- A. Remove paving and curbs as required to accomplish new work.
- B. Remove manholes and manhole covers, curb inlets and catch basins.

2.02 GENERAL PROCEDURES AND PROJECT CONDITIONS

- A. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
  - 1. Obtain required permits.
  - 2. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
  - 3. Provide, erect, and maintain temporary barriers and security devices.
  - 4. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
  - 5. Do not close or obstruct roadways or sidewalks without permit.
  - 6. Conduct operations to minimize obstruction of public and private entrances and exits; do not obstruct required exits at any time; protect persons using entrances and exits from removal operations.
  - 7. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon or limit access to their property.
- B. Do not begin removal until receipt of notification to proceed from Owner.
- C. Protect existing structures and other elements that are not to be removed.
  - 1. Provide bracing and shoring.
  - 2. Prevent movement or settlement of adjacent structures.
  - 3. Stop work immediately if adjacent structures appear to be in danger.

- D. Partial Removal of Paving and Curbs: Neatly saw cut at right angle to surface.

2.03 EXISTING UTILITIES

- A. Coordinate work with utility companies; notify before starting work and comply with their requirements; obtain required permits.
- B. Protect existing utilities to remain from damage.
- C. Do not disrupt public utilities without permit from authority having jurisdiction.
- D. Locate and mark utilities to remain; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.

2.04 DEBRIS AND WASTE REMOVAL

- A. Remove debris, junk, and trash from site.
- B. Leave site in clean condition, ready for subsequent work.
- C. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION

SECTION 03 1000  
CONCRETE FORMING AND ACCESSORIES

## PART 1 GENERAL

## 1.01 SECTION INCLUDES

- A. Formwork for cast-in place concrete, with shoring, bracing and anchorage.
- B. Cast-in-place concrete, including concrete for the following, and other items indicated on the Drawings:
  - 1. Foundations, walls, piers, footings, mats
  - 2. Floors, roofs, slabs on grade
  - 3. Grout for reinforced masonry
  - 4. Equipment pads and bases
- C. Concrete curing and finishing
- D. Control joints, expansion and contraction joints.
- E. Form stripping.

## 1.02 RELATED REQUIREMENTS

- A. Section 03 2000 - Concrete Reinforcing.
- B. Section 03 3000 - Cast-in-Place Concrete.
- C. Section 31 2316 - Excavation: Shoring and underpinning for excavation.

## 1.03 REFERENCE STANDARDS

- A. ACI 117 - Specifications for Tolerances for Concrete Construction and Materials 2010 (Reapproved 2015).
- B. ACI 347R - Guide to Formwork for Concrete 2014, with Errata (2017).

## 1.04 SUBMITTALS

- A. Shop Drawings: Indicate pertinent dimensions, materials, bracing, and arrangement of joints and ties.

## 1.05 QUALITY ASSURANCE

## PART 2 PRODUCTS

## 2.01 FORMWORK - GENERAL

- A. Provide concrete forms, accessories, shoring, and bracing as required to accomplish cast-in-place concrete work.
- B. Design and construct concrete that complies with design with respect to shape, lines, and dimensions.

- C. Comply with applicable state and local codes with respect to design, fabrication, erection, and removal of formwork.

## 2.02 WOOD FORM MATERIALS

- A. Form Materials: At the discretion of the Contractor.

## 2.03 FORMWORK ACCESSORIES

- A. Form Release Agent: Capable of releasing forms from hardened concrete without staining or discoloring concrete or forming bugholes and other surface defects, compatible with concrete and form materials, and not requiring removal for satisfactory bonding of coatings to be applied.
  1. Composition: Colorless, reactive, water-based or solvent-based compound.
  2. Do not use materials containing diesel oil or petroleum-based compounds.

## PART 3 EXECUTION

### 3.01 EXAMINATION

- A. Verify lines, levels and centers before proceeding with formwork. Ensure that dimensions agree with drawings.

### 3.02 EARTH FORMS

- A. Earth forms are not permitted.

### 3.03 ERECTION - FORMWORK

- A. Erect formwork, shoring and bracing to achieve design requirements, in accordance with requirements of ACI 301.
- B. Provide bracing to ensure stability of formwork. Shore or strengthen formwork subject to overstressing by construction loads.

### 3.04 APPLICATION - FORM RELEASE AGENT

- A. Apply form release agent on formwork in accordance with manufacturer's recommendations.

### 3.05 FORM REMOVAL

- A. Do not remove forms or bracing until concrete has gained sufficient strength to carry its own weight and imposed loads.

END OF SECTION

SECTION 03 2000  
CONCRETE REINFORCING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Reinforcing steel for cast-in-place concrete.
- B. Supports and accessories for steel reinforcement.

1.02 RELATED REQUIREMENTS

- A. Section 03 1000 - Concrete Forming and Accessories.
- B. Section 03 3000 - Cast-in-Place Concrete.

1.03 REFERENCE STANDARDS

- A. ACI 301 - Specifications for Structural Concrete 2016.
- B. ACI SP-66 - ACI Detailing Manual 2004.
- C. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement 2020.
- D. ASTM A1064/A1064M - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete 2018a.
- E. CRSI (DA4) - Manual of Standard Practice 2009.

1.04 SUBMITTALS

- A. Shop Drawings: Comply with requirements of ACI SP-66. Include bar schedules, shapes of bent bars, spacing of bars, and location of splices.
- B. Manufacturer's Certificate: Certify that reinforcing steel and accessories supplied for this project meet or exceed specified requirements.

1.05 QUALITY ASSURANCE

- A. Perform work of this section in accordance with ACI 301.

PART 2 PRODUCTS

2.01 REINFORCEMENT

- A. Reinforcing Steel: ASTM A615/A615M, Grade 60 (60,000 psi).
- B. Steel Welded Wire Reinforcement (WWR): Galvanized, deformed type; ASTM A1064/A1064M.
  - 1. Form: Flat Sheets.
- C. Reinforcement Accessories:

1. Tie Wire: Annealed, minimum 16 gauge, 0.0508 inch.

2.02 FABRICATION

- A. Fabricate concrete reinforcing in accordance with CRSI (DA4) - Manual of Standard Practice.
- B. Welding of reinforcement is not permitted.

PART 3 EXECUTION

3.01 PLACEMENT

- A. Place, support and secure reinforcement against displacement. Do not deviate from required position.
- B. Comply with applicable code for concrete cover over reinforcement.

3.02 FIELD QUALITY CONTROL

- A. An independent testing agency, as specified in Section 01 4000 - Quality Requirements, will inspect installed reinforcement for compliance with contract documents before concrete placement.

END OF SECTION

SECTION 03 3000  
CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Joint devices associated with concrete work.
- B. Miscellaneous concrete elements, including manholes.
- C. Concrete curing.

1.02 RELATED REQUIREMENTS

- A. Section 03 1000 - Concrete Forming and Accessories: Forms and accessories for formwork.
- B. Section 03 2000 - Concrete Reinforcing.
- C. Section 07 9200 - Joint Sealants: Products and installation for sealants and joint fillers for saw cut joints and isolation joints in slabs.
- D. Section 32 1313 - Concrete Paving: Sidewalks, curbs and gutters.

1.03 REFERENCE STANDARDS

- A. ACI 117 - Specifications for Tolerances for Concrete Construction and Materials 2010 (Reapproved 2015).
- B. ACI 211.1 - Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete 1991 (Reapproved 2009).
- C. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing Concrete 2000 (Reapproved 2009).
- D. ACI 305R - Guide to Hot Weather Concreting 2010.
- E. ACI 306R - Guide to Cold Weather Concreting 2016.
- F. ACI 308R - Guide to External Curing of Concrete 2016.
- G. ACI 318 - Building Code Requirements for Structural Concrete and Commentary 2014 (Errata 2018).
- H. ACI 347R - Guide to Formwork for Concrete 2014, with Errata (2017).
- I. ASTM C33/C33M - Standard Specification for Concrete Aggregates 2018.
- J. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens 2021.
- K. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete 2021a.
- L. ASTM C143/C143M - Standard Test Method for Slump of Hydraulic-Cement Concrete 2020.



- M. ASTM C260/C260M - Standard Specification for Air-Entraining Admixtures for Concrete 2010a (Reapproved 2016).
- N. ASTM C330/C330M - Standard Specification for Lightweight Aggregates for Structural Concrete 2017a.
- O. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete 2019.
- P. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete 2019.
- Q. ASTM C685/C685M - Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing 2017.
- R. ASTM C1240 - Standard Specification for Silica Fume Used in Cementitious Mixtures 2020.
- S. ASTM C1602/C1602M - Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete 2012.

#### 1.04 SUBMITTALS

- A. Product Data: Submit manufacturers' data on manufactured products showing compliance with specified requirements and installation instructions.
  - 1. For curing compounds, provide data on method of removal in the event of incompatibility with floor covering adhesives.
- B. Mix Design: Submit proposed concrete mix design.
  - 1. Indicate proposed mix design complies with requirements of ACI 301, Section 4 - Concrete Mixtures.
  - 2. Indicate proposed mix design complies with requirements of ACI 318, Chapter 5 - Concrete Quality, Mixing and Placing.
- C. Test Reports: Submit report for each test or series of tests specified.

#### 1.05 QUALITY ASSURANCE

- A. Perform work of this section in accordance with ACI 301 and ACI 318.
- B. Follow recommendations of ACI 305R when concreting during hot weather.
- C. Follow recommendations of ACI 306R when concreting during cold weather.

### PART 2 PRODUCTS

#### 2.01 FORMWORK

- A. Comply with requirements of Section 03 1000.

#### 2.02 REINFORCEMENT MATERIALS

- A. Comply with requirements of Section 03 2000.

#### 2.03 CONCRETE MATERIALS

- A. Cement: ASTM C150/C150M, Type I - Normal Portland type.

- B. Fine and Coarse Aggregates: ASTM C33/C33M.
- C. Lightweight Aggregate: ASTM C330/C330M.
- D. Fly Ash: ASTM C618, Class F.
- E. Silica Fume: ASTM C1240, proportioned in accordance with ACI 211.1.
- F. Water: ASTM C1602/C1602M; clean, potable, and not detrimental to concrete.

#### 2.04 ADMIXTURES

- A. Do not use chemicals that will result in soluble chloride ions in excess of 0.1 percent by weight of cement.
- B. Air Entrainment Admixture: ASTM C260/C260M.
- C. High Range Water Reducing and Retarding Admixture: ASTM C494/C494M Type G.
- D. High Range Water Reducing Admixture: ASTM C494/C494M Type F.

#### 2.05 CONCRETE MIX DESIGN

- A. Proportioning Normal Weight Concrete: Comply with ACI 211.1 recommendations.
- B. Concrete Strength: Establish required average strength for each type of concrete on the basis of field experience or trial mixtures, as specified in ACI 301.
  - 1. For trial mixtures method, employ independent testing agency acceptable to Engineer for preparing and reporting proposed mix designs.
- C. Admixtures: Add acceptable admixtures as recommended in ACI 211.1 and at rates recommended or required by manufacturer.
- D. Normal Weight Concrete:
  - 1. Compressive Strength, when tested in accordance with ASTM C39/C39M at 28 days: 3,000 pounds per square inch.
  - 2. Fly Ash Content: Maximum 15 percent of cementitious materials by weight.
  - 3. Silica Fume Content: Maximum 5 percent of cementitious materials by weight.
  - 4. Water-Cement Ratio: Maximum 40 percent by weight.
  - 5. Maximum Slump: 3 inches.
  - 6. Maximum Aggregate Size: 5/8 inch.

#### 2.06 MIXING

- A. On Project Site: Mix in drum type batch mixer, complying with ASTM C685/C685M. Mix each batch not less than 1-1/2 minutes and not more than 5 minutes.
- B. Transit Mixers: Comply with ASTM C94/C94M.
- C. Adding Water: If concrete arrives on-site with slump less than suitable for placement, do not add water that exceeds the maximum water-cement ratio or exceeds the maximum permissible slump.

### PART 3 EXECUTION

#### 3.01 EXAMINATION

- A. Verify lines, levels, and dimensions before proceeding with work of this section.

#### 3.02 PREPARATION

- A. Verify that forms are clean and free of rust before applying release agent.

#### 3.03 PLACING CONCRETE

- A. Place concrete in accordance with ACI 304R.
- B. Notify Engineer not less than 24 hours prior to commencement of placement operations.
- C. Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken.
- D. Ensure reinforcement, inserts, waterstops, embedded parts, and formed construction joint devices will not be disturbed during concrete placement.
- E. Place concrete continuously without construction (cold) joints wherever possible; where construction joints are necessary, before next placement prepare joint surface by removing laitance and exposing the sand and sound surface mortar, by sandblasting or high-pressure water jetting.

#### 3.04 SLAB JOINTING

- A. Locate joints as indicated on drawings.
- B. Anchor joint fillers and devices to prevent movement during concrete placement.
- C. Isolation Joints: Use preformed joint filler with removable top section for joint sealant, total height equal to thickness of slab, set flush with top of slab.
- D. Saw Cut Contraction Joints: Saw cut joints before concrete begins to cool, within 4 to 12 hours after placing; use 3/16 inch thick blade and cut at least 1 inch deep but not less than one quarter (1/4) the depth of the slab.

#### 3.05 CONCRETE FINISHING

- A. Repair surface defects, including tie holes, immediately after removing formwork.
- B. Unexposed Form Finish: Rub down or chip off fins or other raised areas 1/4 inch or more in height.
- C. Concrete Slabs: Finish to requirements of ACI 302.1R, and as follows:
  - 1. Other Surfaces to Be Left Exposed: Trowel as described in ACI 302.1R, minimizing burnish marks and other appearance defects.

#### 3.06 CURING AND PROTECTION

- A. Comply with requirements of ACI 308R. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.

- B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
  - 1. Normal concrete: Not less than seven days.
  - 2. High early strength concrete: Not less than four days.

### 3.07 FIELD QUALITY CONTROL

- A. Contractor to retain an independent testing agency to perform field quality control tests.
- B. Provide free access to concrete operations at project site and cooperate with appointed firm.
- C. Submit proposed mix design of each class of concrete to inspection and testing firm for review prior to commencement of concrete operations.
- D. Tests of concrete and concrete materials may be performed at any time to ensure compliance with specified requirements.
- E. Compressive Strength Tests: ASTM C39/C39M, for each test, mold and cure three concrete test cylinders. Obtain test samples for every 100 cubic yards or less of each class of concrete placed.
- F. Take one additional test cylinder during cold weather concreting, cured on job site under same conditions as concrete it represents.
- G. Perform one slump test for each set of test cylinders taken, following procedures of ASTM C143/C143M.

### 3.08 DEFECTIVE CONCRETE

- A. Test Results: The testing agency shall report test results in writing to Engineer and Contractor within 24 hours of test.
- B. Defective Concrete: Concrete not complying with required lines, details, dimensions, tolerances or specified requirements.
- C. Repair or replacement of defective concrete will be determined by the Engineer. The cost of additional testing shall be borne by Contractor when defective concrete is identified.
- D. Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction of Engineer for each individual area.

END OF SECTION

SECTION 31 1000  
SITE CLEARING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Clearing and protection of vegetation.
- B. Removal of existing debris.

1.02 RELATED REQUIREMENTS

- A. Section 01 7000 - Execution and Closeout Requirements: Project conditions; protection of bench marks, survey control points, and existing construction to remain; reinstallation of removed products.
- B. Section 02 4100 - Demolition: Removal of built elements and utilities.
- C. Section 31 2200 - Grading: Topsoil removal.
- D. Section 31 2323 - Fill: Filling holes, pits, and excavations generated as a result of removal operations.

PART 2 PRODUCTS -- NOT USED

PART 3 EXECUTION

3.01 SITE CLEARING

- A. Minimize production of dust due to clearing operations; do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.

3.02 EXISTING UTILITIES AND BUILT ELEMENTS

- A. Coordinate work with utility companies; notify before starting work and comply with their requirements; obtain required permits.
- B. Protect existing utilities to remain from damage.
- C. Do not disrupt public utilities without permit from authority having jurisdiction.
- D. Protect existing structures and other elements that are not to be removed.

3.03 VEGETATION

- A. Scope: Remove trees, shrubs, brush, and stumps in areas to be covered by building structure, paving, playing fields, lawns, and planting beds.
- B. Do not remove or damage vegetation beyond the limits indicated on drawings.
- C. Install substantial, highly visible fences at least 3 feet high to prevent inadvertent damage to vegetation to remain:
  - 1. At vegetation removal limits.

- D. In areas where vegetation must be removed but no construction will occur other than pervious paving, remove vegetation with minimum disturbance of the subsoil.
- E. Vegetation Removed: Do not burn, bury, landfill, or leave on site, except as indicated.
  - 1. Chip, grind, crush, or shred vegetation for mulching, composting, or other purposes; preference should be given to on-site uses.
  - 2. Trees: Sell if marketable; if not, treat as specified for other vegetation removed; remove stumps and roots to depth of 18 inches.
  - 3. Sod: Re-use on site if possible; otherwise sell if marketable, and if not, treat as specified for other vegetation removed.
- F. Restoration: If vegetation outside removal limits or within specified protective fences is damaged or destroyed due to subsequent construction operations, replace at no cost to Owner.

### 3.04 DEBRIS

- A. Remove debris, junk, and trash from site.
- B. Leave site in clean condition, ready for subsequent work.
- C. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION

SECTION 31 2200  
GRADING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Removal of topsoil.
- B. Rough grading the site for site structures.
- C. Finish grading.

1.02 RELATED REQUIREMENTS

- A. Section 31 1000 - Site Clearing.
- B. Section 31 2316 - Excavation.
- C. Section 31 2316.13 - Trenching: Trenching and backfilling for utilities.
- D. Section 31 2323 - Fill: Filling and compaction.
- E. Section 32 9219 - Seeding: Finish ground cover.
- F. Section 32 9223 - Sodding: Finish ground cover.

1.03 SUBMITTALS

- A. Project Record Documents: Accurately record actual locations of utilities remaining by horizontal dimensions, elevations or inverts, and slope gradients.

PART 2 PRODUCTS

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that survey bench mark and intended elevations for the Work are as indicated.
- B. Verify the absence of standing or ponding water.

3.02 PREPARATION

- A. Identify required lines, levels, contours, and datum.
- B. Stake and flag locations of known utilities.
- C. Provide temporary means and methods to remove all standing or ponding water from areas prior to grading.

### 3.03 ROUGH GRADING

- A. Remove topsoil from areas to be further excavated, re-landscaped, or re-graded, without mixing with foreign materials.
- B. Do not remove topsoil when wet.
- C. Remove subsoil from areas to be further excavated, re-landscaped, or re-graded.
- D. Do not remove wet subsoil , unless it is subsequently processed to obtain optimum moisture content.
- E. When excavating through roots, perform work by hand and cut roots with sharp axe.
- F. Stability: Replace damaged or displaced subsoil to same requirements as for specified fill.
- G. Remove and replace soils deemed unsuitable by classification and which are excessively moist due to lack surface water control.

### 3.04 SOIL REMOVAL

- A. Stockpile topsoil to be re-used on site; remove remainder from site.
- B. Stockpile subsoil to be re-used on site; remove remainder from site.
- C. Stockpiles: Use areas designated on site; pile depth not to exceed 8 feet; protect from erosion.

### 3.05 FINISH GRADING

- A. Before Finish Grading:
  - 1. Verify building and trench backfilling have been inspected.
  - 2. Verify subgrade has been contoured and compacted.
- B. Remove debris, roots, branches, stones, in excess of 1/2 inch in size. Remove soil contaminated with petroleum products.
- C. In areas where vehicles or equipment have compacted soil, scarify surface to depth of 3 inches.
- D. Place topsoil in areas where seeding are indicated.
- E. Place topsoil where required to level finish grade.
- F. Place topsoil during dry weather.
- G. Remove roots, weeds, rocks, and foreign material while spreading.
- H. Near plants spread topsoil manually to prevent damage.
- I. Fine grade topsoil to eliminate uneven areas and low spots. Maintain profiles and contour of subgrade.
- J. Lightly compact placed topsoil.
- K. Maintain stability of topsoil during inclement weather. Replace topsoil in areas where surface water has eroded thickness below specifications.



3.06 TOLERANCES

- A. Top Surface of Subgrade: Plus or minus 0.10 foot (1-3/16 inches) from required elevation.
- B. Top Surface of Finish Grade: Plus or minus 0.04 foot (1/2 inch).

3.07 REPAIR AND RESTORATION

- A. Existing Facilities, Utilities, and Site Features to Remain: If damaged due to this work, repair or replace to original condition.
- B. Trees to Remain: If damaged due to this work, trim broken branches and repair bark wounds; if root damage has occurred, obtain instructions from Engineer as to remedy.
- C. Other Existing Vegetation to Remain: If damaged due to this work, replace with vegetation of equivalent species and size.

3.08 FIELD QUALITY CONTROL

- A. See Section 31 2323 for compaction density testing.

3.09 CLEANING

- A. Remove unused stockpiled topsoil and subsoil. Grade stockpile area to prevent standing water.
- B. Leave site clean and raked, ready to receive landscaping.

END OF SECTION

SECTION 31 2316  
EXCAVATION

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Excavating for footings, slabs-on-grade, paving, and site structures.
- B. Trenching for utilities outside the building to utility main connections.
- C. Temporary excavation support and protection systems.

1.02 RELATED REQUIREMENTS

- A. Section 31 1000 - Site Clearing: Vegetation and existing debris removal.
- B. Section 31 2200 - Grading: Soil removal from surface of site.
- C. Section 31 2200 - Grading: Grading.
- D. Section 31 2316.13 - Trenching: Excavating for utility trenches outside the building to utility main connections.
- E. Section 31 2323 - Fill: Fill materials, backfilling, and compacting.

1.03 REFERENCE STANDARDS

- A. 29 CFR 1926 - U.S. Occupational Safety and Health Standards current edition.

1.04 SUBMITTALS

- A. Project Record Documents: Record drawings at project closeout according to 01 7000 - Execution and Closeout Requirements. Show locations of installed support materials left in place, including referenced locations and depths, on drawings.
- B. Field Quality Control Submittals: Document visual inspection of load-bearing excavated surfaces.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Bedding and Fill to Correct Over-Excavation:
  - 1. See Section 31 2323 for bedding and corrective fill materials at general excavations.
  - 2. See Section 31 2316.13 for bedding and corrective fill materials at utility trenches.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that survey bench mark and intended elevations for the work are as indicated.

- B. Survey existing adjacent structures and improvements and establish exact elevations at fixed points to act as benchmarks.
- C. Determine the prevailing groundwater level prior to excavation. If the proposed excavation extends less than 1 foot into the prevailing groundwater, control groundwater intrusion with perimeter drains routed to sump pumps, or as directed by Engineer. If the proposed excavation extends more than 1 foot into the prevailing groundwater, control groundwater intrusion with a comprehensive dewatering procedures, or as directed by Geotechnical Engineer.

### 3.02 PREPARATION

- A. Identify required lines, levels, contours, and datum locations.
- B. See Section 31 1000 for clearing, grubbing, and removal of existing debris.
- C. Locate, identify, and protect utilities that remain and protect from damage.
- D. Notify utility company to remove and relocate utilities.
- E. Protect bench marks, survey control points, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.
- F. Protect plants, lawns, rock outcroppings, and other features to remain.
- G. Grade top perimeter of excavation to prevent surface water from draining into excavation. Provide temporary means and methods, as required, to maintain surface water diversion until no longer needed, or as directed by Engineer.

### 3.03 EXCAVATING

- A. Excavate to accommodate new structures and construction operations.
  - 1. Excavate to the specified elevations.
  - 2. Excavate to the length and width required to safely install, adjust, and remove any forms, bracing, or supports necessary for the installation of the work.
  - 3. Cut utility trenches wide enough to allow inspection of installed utilities.
  - 4. Hand trim excavations. Remove loose matter.
- B. Notify Engineer of unexpected subsurface conditions and discontinue affected Work in area until notified to resume work.
- C. Do not interfere with 45 degree bearing splay of foundations.
- D. Provide temporary means and methods, as required, to remove all water from excavations until directed by Engineer. Remove and replace soils deemed suitable by classification and which are excessively moist due to lack of dewatering or surface water control.

### 3.04 FILLING AND BACKFILLING

- A. Do not fill or backfill until all debris, water, unsatisfactory soil materials, obstructions, and deleterious materials have been removed from excavation.

### 3.05 REPAIR

- A. Correct areas that are over-excavated and load-bearing surfaces that are disturbed; see Section 31 2323.

3.06 FIELD QUALITY CONTROL

- A. Provide for visual inspection of load-bearing excavated surfaces by Engineer before placement of foundations.

3.07 CLEANING

- A. Stockpile excavated material to be re-used in area designated on site in accordance with Section 31 2200.
- B. Remove excavated material that is unsuitable for re-use from site.
- C. Remove excess excavated material from site.

3.08 PROTECTION

- A. Divert surface flow from rains or water discharges from the excavation.
- B. Prevent displacement of banks and keep loose soil from falling into excavation; maintain soil stability.
- C. Protect open excavations from rainfall, runoff, freezing groundwater, or excessive drying so as to maintain foundation subgrade in satisfactory, undisturbed condition.
- D. Protect bottom of excavations and soil adjacent to and beneath foundation from freezing.
- E. Keep excavations free of standing water and completely free of water during concrete placement.

END OF SECTION

SECTION 31 2316.13  
TRENCHING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Backfilling and compacting for utilities outside the building to utility main connections.

1.02 RELATED REQUIREMENTS

- A. Section 03 3000 - Cast-in-Place Concrete.
- B. Section 31 2200 - Grading: Site grading.
- C. Section 31 2316 - Excavation: Building and foundation excavating.
- D. Section 31 2323 - Fill: Backfilling at building and foundations.

1.03 DEFINITIONS

- A. Finish Grade Elevations: Indicated on drawings.

1.04 REFERENCE STANDARDS

- A. AASHTO M 147 - Standard Specification for Materials for Aggregate and Soil-Aggregate Subbase, Base and Surface Courses 2017.

1.05 SUBMITTALS

- A. Compaction Density Test Reports.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. When necessary, store materials on site in advance of need.

PART 3 EXECUTION

2.01 EXAMINATION

- A. Verify that survey bench marks and intended elevations for the work are as indicated.

2.02 PREPARATION

- A. Identify required lines, levels, contours, and datum locations.
- B. Locate, identify, and protect utilities that remain and protect from damage.
- C. Notify utility company to remove and relocate utilities.
- D. Protect bench marks, survey control points, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

- E. Grade top perimeter of trenching area to prevent surface water from draining into trench. Provide temporary means and methods, as required, to maintain surface water diversion until no longer needed, or as directed by the Engineer.

#### 2.03 TRENCHING

- A. Notify Engineer of unexpected subsurface conditions and discontinue affected Work in area until notified to resume work.
- B. Slope banks of excavations deeper than 4 feet to angle of repose or less until shored.
- C. Do not interfere with 45 degree bearing splay of foundations.
- D. Cut trenches wide enough to allow inspection of installed utilities.
- E. Hand trim excavations. Remove loose matter.
- F. Remove excavated material that is unsuitable for re-use from site.
- G. Remove excess excavated material from site.
- H. Provide temporary means and methods, as required, to remove all water from trenching until directed by the Engineer. Remove and replace soils deemed unsuitable by classification and which are excessively moist due to lack of dewatering or surface water control.
- I. Determine the prevailing groundwater level prior to trenching. If the proposed trench extends less than 1 foot into the prevailing groundwater, control groundwater intrusion with perimeter drains routed to sump pumps, or as directed by the Engineer.

#### 2.04 PREPARATION FOR UTILITY PLACEMENT

- A. Cut out soft areas of subgrade not capable of compaction in place. Backfill with general fill.
- B. Compact subgrade to density equal to or greater than requirements for subsequent fill material.
- C. Until ready to backfill, maintain excavations and prevent loose soil from falling into excavation.

#### 2.05 BACKFILLING

- A. Backfill to contours and elevations indicated using unfrozen materials.
- B. Employ a placement method that does not disturb or damage other work.
- C. Systematically fill to allow maximum time for natural settlement. Do not fill over porous, wet, frozen or spongy subgrade surfaces.
- D. Maintain optimum moisture content of fill materials to attain required compaction density.
- E. Slope grade away from building minimum 2 inches in 10 feet, unless noted otherwise. Make gradual grade changes. Blend slope into level areas.
- F. Correct areas that are over-excavated.
  - 1. Other areas: Use general fill, flush to required elevation, compacted to minimum 97 percent of maximum dry density.
- G. Compaction Density Unless Otherwise Specified or Indicated:

1. Under paving, slabs-on-grade, and similar construction: 97 percent of maximum dry density.

H. Reshape and re-compact fills subjected to vehicular traffic.

#### 2.06 FIELD QUALITY CONTROL

- A. Perform compaction density testing on compacted fill in accordance with ASTM D1556, ASTM D2167, or ASTM D6938.
- B. If tests indicate work does not meet specified requirements, remove work, replace and retest.
- C. Frequency of Tests shall be in accordance with Georgia DOT procedures.

#### 2.07 CLEANING

- A. Leave unused materials in a neat, compact stockpile.
- B. Remove unused stockpiled materials, leave area in a clean and neat condition. Grade stockpile area to prevent standing surface water.
- C. Leave borrow areas in a clean and neat condition. Grade to prevent standing surface water.

END OF SECTION

SECTION 31 2323  
FILL

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Filling, backfilling, and compacting .
- B. Backfilling and compacting for utilities outside the building to utility main connections.
- C. Filling holes, pits, and excavations generated as a result of removal (demolition) operations.

1.02 RELATED REQUIREMENTS

- A. Section 03 3000 - Cast-in-Place Concrete.
- B. Section 31 2200 - Grading: Removal and handling of soil to be re-used.
- C. Section 31 2200 - Grading: Site grading.
- D. Section 31 2316 - Excavation: Removal and handling of soil to be re-used.
- E. Section 31 2316.13 - Trenching: Excavating for utility trenches outside the building to utility main connections.

1.03 DEFINITIONS

- A. Finish Grade Elevations: Indicated on drawings.

1.04 SUBMITTALS

- A. Materials Sources: Submit name of imported materials source.
- B. Compaction Density Test Reports.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. When necessary, store materials on site in advance of need.
- B. When fill materials need to be stored on site, locate stockpiles where indicated.
  - 1. Separate differing materials with dividers or stockpile separately to prevent intermixing.
  - 2. Prevent contamination.
  - 3. Protect stockpiles from erosion and deterioration of materials.

PART 3 EXECUTION

2.01 EXAMINATION

- A. Verify that survey bench marks and intended elevations for the Work are as indicated.
- B. Identify required lines, levels, contours, and datum locations.



- C. Verify areas to be filled are not compromised with surface or ground water.

## 2.02 PREPARATION

- A. Scarify and proof roll subgrade surface to a depth of 6 inches to identify soft spots.
- B. Cut out soft areas of subgrade not capable of compaction in place. Backfill with general fill.
- C. Compact subgrade to density equal to or greater than requirements for subsequent fill material.
- D. Until ready to fill, maintain excavations and prevent loose soil from falling into excavation.

## 2.03 FILLING

- A. Fill to contours and elevations indicated using unfrozen materials.
- B. Fill up to subgrade elevations unless otherwise indicated.
- C. Employ a placement method that does not disturb or damage other work.
- D. Systematically fill to allow maximum time for natural settlement. Do not fill over porous, wet, frozen or spongy subgrade surfaces.
- E. Maintain optimum moisture content of fill materials to attain required compaction density.
- F. Slope grade away from building minimum 2 inches in 10 feet, unless noted otherwise. Make gradual grade changes. Blend slope into level areas.
- G. Correct areas that are over-excavated.
  - 1. Other areas: Use general fill, flush to required elevation, compacted to minimum 95 percent of maximum dry density.
- H. Compaction Density Unless Otherwise Specified or Indicated:
- I. Reshape and re-compact fills subjected to vehicular traffic.
- J. Maintain temporary means and methods, as required, to remove all water while fill is being placed as required, or until directed by the Engineer. Remove and replace soils deemed unsuitable by classification and which are excessively moist due to lack of dewatering or surface water control.

## 2.04 FIELD QUALITY CONTROL

- A. Soil Fill Materials:
  - 1. Perform compaction density testing on compacted fill in accordance with ASTM D1556, ASTM D2167, or ASTM D6938.
  - 2. Evaluate results in relation to compaction curve determined by testing uncompacted material in accordance with ASTM D698 ("standard Proctor"), ASTM D1557 ("modified Proctor"), or AASHTO T 180.
  - 3. If tests indicate work does not meet specified requirements, remove work, replace and retest.
  - 4. Frequency of Tests shall be in accordance with Georgia DOT procedures.

2.05 CLEANING

- A. Remove unused stockpiled materials, leave area in a clean and neat condition. Grade stockpile area to prevent standing surface water.

END OF SECTION

SECTION 32 1216  
ASPHALT PAVING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Aggregate base course.
- B. Double course bituminous concrete paving.

1.02 RELATED REQUIREMENTS

- A. Section 31 2200 - Grading: Preparation of site for paving and base.
- B. Section 31 2323 - Fill: Compacted subgrade for paving.

1.03 REFERENCE STANDARDS

- A. AASHTO M 147 - Standard Specification for Materials for Aggregate and Soil-Aggregate Subbase, Base and Surface Courses 2017.
- B. AI MS-2 - Asphalt Mix Design Methods 2015.
- C. AI MS-19 - Basic Asphalt Emulsion Manual 2008.
- D. ASTM C136/C136M - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates 2019.
- E. ASTM D946 - Standard Specification for Penetration-Graded Asphalt Cement for Use in Pavement Construction 2009a.

1.04 QUALITY ASSURANCE

- A. Perform Work in accordance with Georgia DOT Standards.
- B. Mixing Plant: Complying with Georgia DOT Standards.
- C. Obtain materials from same source throughout.

1.05 FIELD CONDITIONS

- A. Environmental Limitations: Do not apply asphalt materials if subgrade is wet or excessively damp, if rain is imminent or expected before time required for adequate cure, or if the following conditions are not met:
  - 1. Prime Coat: Minimum surface temperature of 60 deg F.
  - 2. Tack Coat: Minimum surface temperature of 60 deg F.
  - 3. Slurry Coat: Comply with weather limitations in ASTM D 3910.
  - 4. Asphalt Base Course: Minimum surface temperature of 40 deg F and rising at time of placement.
  - 5. Asphalt Surface Course: Minimum surface temperature of 60 deg F at time of placement.
- B. Do not place asphalt when ambient air or base surface temperature is less than 45 degrees F, or surface is wet or frozen.

## PART 2 PRODUCTS

### 2.01 REGULATORY REQUIREMENTS

- A. Comply with applicable code for paving work on public property.

### 2.02 MATERIALS

- A. Asphalt Cement: ASTM D946.
- B. Aggregate for Base Course: In accordance with Georgia DOT Standards.
- C. Aggregate for Binder Course: In accordance with Georgia DOT Standards.
- D. Aggregate for Wearing Course: In accordance with Georgia DOT Standards.

### 2.03 ASPHALT PAVING MIXES AND MIX DESIGN

- A. Hot-Mix Asphalt: Dense, hot-laid, hot-mix asphalt plant mixes approved by authorities having jurisdiction; designed according to procedures in AI MS-2, "Mix Design Methods for Asphalt Concrete and Other Hot-Mix Types"; and complying with the following requirements:
  - 1. Provide mixes with a history of satisfactory performance in geographical area where Project is located.
  - 2. Base Course: 2" 12.5mm Superpave.
  - 3. Surface Course: 1" 4.75mm Superpave.
- B. Base Course: 3.0 to 6 percent of asphalt cement by weight in mixture in accordance with AI MS-2.
- C. Binder Course: 4.5 to 6 percent of asphalt cement by weight in mixture in accordance with AI MS-2.
- D. Wearing Course: 5 to 7 percent of asphalt cement by weight in mixture in accordance with AI MS-2.

## PART 3 EXECUTION

### 3.01 EXAMINATION

- A. Verify that compacted subgrade is dry and ready to support paving and imposed loads.
- B. Verify gradients and elevations of base are correct.
- C. Proof-roll subgrade below pavements with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.
  - 1. Completely proof-roll subgrade in one direction, repeating proof-rolling in direction perpendicular to first direction]. Limit vehicle speed to 3 mph.
  - 2. Proof roll with a loaded 10-wheel, tandem-axle dump truck weighing not less than 15 tons.
  - 3. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by Architect, and replace with compacted backfill or fill as directed.
- D. Proceed with paving only after unsatisfactory conditions have been corrected.

3.02 BASE COURSE

- A. Place and compact base course.

3.03 PREPARATION - PRIMER

- A. Apply primer on aggregate base or subbase at uniform rate of 0.15 to 0.50 gal/sq yd.
  1. If prime coat is not entirely absorbed within 24 hours after application, spread sand over surface to blot excess asphalt. Use enough sand to prevent pickup under traffic. Remove loose sand by sweeping before pavement is placed and after volatiles have evaporated.
  2. Protect primed substrate from damage until ready to receive paving.

3.04 PREPARATION - TACK COAT

- A. Apply tack coat in accordance with manufacturer's instructions.

3.05 PLACING ASPHALT PAVEMENT - DOUBLE COURSE

- A. Machine place hot-mix asphalt on prepared surface, spread uniformly, and strike off. Place asphalt mix by hand to areas inaccessible to equipment in a manner that prevents segregation of mix. Place each course to required grade, cross section, and thickness when compacted.
  1. Place hot-mix asphalt surface course in single lift.
  2. Spread mix at minimum temperature of 250 deg F.
  3. Begin applying mix along centerline of crown for crowned sections and on high side of one-way slopes unless otherwise indicated.
  4. Regulate paver machine speed to obtain smooth, continuous surface free of pulls and tears in asphalt-paving mat.
- B. After first strip has been placed and rolled, place succeeding strips and extend rolling to overlap previous strips. Complete a section of asphalt base course before placing asphalt surface course.
  1. Promptly correct surface irregularities in paving course behind paver. Use suitable hand tools to remove excess material forming high spots. Fill depressions with hot-mix asphalt to prevent segregation of mix; use suitable hand tools to smooth surface.
- C. Compact pavement by rolling to specified density. Do not displace or extrude pavement from position. Hand compact in areas inaccessible to rolling equipment.
- D. Perform rolling with consecutive passes to achieve even and smooth finish, without roller marks.

3.06 TOLERANCES

- A. Flatness: Maximum variation of 1/4 inch measured with 10 foot straight edge.
- B. Compacted Base Course Thickness: Within 1/2 inch of specified or indicated thickness.
- C. Compacted Surface Course Thickness: Within 1/4 inch of specified or indicated thickness.

3.07 PROTECTION

- A. Immediately after placement, protect pavement from mechanical injury for 1 days or until surface temperature is less than 140 degrees F.

END OF SECTION

SECTION 33 0561  
CONCRETE MANHOLES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Monolithic concrete manholes with masonry transition to lid frame, covers, anchorage, and accessories.
- B. Modular precast concrete manhole sections with tongue-and-groove joints with masonry transition to lid frame, covers, anchorage, and accessories.
- C. Masonry manhole sections with masonry transition to lid frame, covers, anchorage, and accessories.

1.02 RELATED REQUIREMENTS

- A. Section 03 3000 - Cast-in-Place Concrete.
- B. Section 33 4211 - Stormwater Gravity Piping.
- C. Section 33 4230 - Stormwater Drains.

1.03 REFERENCE STANDARDS

- A. ASTM A48/A48M - Standard Specification for Gray Iron Castings 2003 (Reapproved 2021).
- B. ASTM C260/C260M - Standard Specification for Air-Entraining Admixtures for Concrete 2010a (Reapproved 2016).
- C. ASTM C270 - Standard Specification for Mortar for Unit Masonry 2019.
- D. ASTM C478/C478M - Standard Specification for Circular Precast Reinforced Concrete Manhole Sections 2020.
- E. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete 2019.

1.04 SUBMITTALS

- A. Product Data: Provide manhole covers, component construction, features, configuration, and dimensions.
- B. Shop Drawings: Indicate manhole locations, elevations, piping sizes and elevations of penetrations.

PART 2 PRODUCTS

2.01 MANHOLES

- A. Manhole Sections: Reinforced precast concrete in accordance with ASTM C478/C478M, with resilient connectors complying with ASTM C923/C923M.
- B. Concrete: As specified in Section 03 3000.

- C. Concrete Brick Units: ASTM C1634 or ASTM C55 Grade N, cored, normal weight; nominal modular size of .
- D. Reinforcement: Formed steel wire, galvanized finish, wire diameter as indicated on drawings.
- E. Concrete Reinforcement: As specified in Section 03 3000.

## 2.02 COMPONENTS

- A. Cover: Removable, closed cover design; cover molded with identifying name.

## 2.03 CONFIGURATION

- A. Shaft Construction: Concentric with concentric cone top section; lipped male/female dry joints; sleeved to receive pipe sections.
- B. Shape: Cylindrical.
- C. Clear Inside Dimensions: As indicated.
- D. Design Depth: As indicated.
- E. Clear Lid Opening: As indicated.
- F. Pipe Entry: Provide openings as indicated.

## PART 3 EXECUTION

### 3.01 EXAMINATION

- A. Verify items provided by other sections of Work are properly sized and located.
- B. Verify that built-in items are in proper location, and ready for roughing into Work.
- C. Verify excavation for manholes is correct.

### 3.02 PREPARATION

- A. Coordinate placement of inlet and outlet pipe or duct sleeves required by other sections.

### 3.03 MANHOLES

- A. Place concrete base pad, trowel top surface level.
- B. Place manhole sections plumb and level, trim to correct elevations, anchor to base pad.
- C. Cut and fit for pipe.
- D. Grout base of shaft sections to achieve slope to exit piping. Trowel smooth. Contour as required.
- E. Coordinate with other sections of work to provide correct size, shape, and location.

END OF SECTION



SECTION 33 4211  
STORMWATER GRAVITY PIPING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Stormwater drainage piping.
- B. Stormwater pipe accessories.

1.02 RELATED REQUIREMENTS

- A. Section 03 3000 - Cast-in-Place Concrete: Concrete for cleanout base pad construction.
- B. Section 31 2316 - Excavation: Excavating of trenches.
- C. Section 31 2316.13 - Trenching: Excavating, bedding, and backfilling.
- D. Section 31 2323 - Fill: Bedding and backfilling.
- E. Section 33 0561 - Concrete Manholes.
- F. Section 33 4230 - Stormwater Drains.

1.03 REFERENCE STANDARDS

- A. ASTM C76 - Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe 2020.
- B. ASTM C443 - Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets 2020.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordination: Coordinate the installation of stormwater gravity piping with size, location and installation of stormwater drains according to Section 33 4230.
- B. Preinstallation Meeting: Conduct a preinstallation meeting one week prior to the start of the work of this section; require attendance by all affected installers.
- C. Sequencing: Ensure that utility connections are achieved in an orderly and expeditious manner.

1.05 SUBMITTALS

- A. Product Data: Provide data indicating pipe, pipe accessories.
- B. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- C. Manufacturer's Installation Instructions: Indicate special procedures required to install Products specified.
- D. Field Quality Control Submittals: Document results of field quality control testing.
- E. Project Record Documents:

1. Record location of pipe runs, connections, and invert elevations.
2. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

## PART 2 PRODUCTS

### 2.01 STORMWATER PIPE MATERIALS

- A. Provide products that comply with applicable code(s).
- B. Concrete Pipe: Reinforced, ASTM C76 (ASTM C76M), Class III with Wall type A; mesh reinforcement; inside nominal diameter of specified inches, bell and spigot end joints.
- C. Reinforced Concrete Pipe Joint Device: ASTM C443 (ASTM C443M) rubber compression gasket joint.

### 2.02 BEDDING AND COVER MATERIALS

- A. Bedding: As specified in GDOT Standards and Specifications.
- B. Cover: As specified in GDOT Standards and Specifications.

## PART 3 EXECUTION

### 3.01 TRENCHING

- A. See Section 31 2316 - Excavation and Section 31 2323 - Fill for additional requirements.
- B. Backfill around sides and to top of pipe with cover fill, tamp in place and compact, then complete backfilling.

### 3.02 INSTALLATION

- A. Install pipe, fittings, and accessories in accordance with manufacturer's instructions. Seal watertight.
- B. Lay pipe to slope gradients noted on layout drawings; with maximum variation from true slope of 1/8 inch in 10 feet.
- C. Connect to utility/municipal system.

### 3.03 FIELD QUALITY CONTROL

- A. If tests indicate Work does not meet specified requirements, remove Work, replace and retest at no cost to Owner.

### 3.04 PROTECTION

- A. Protect pipe and bedding cover from damage or displacement until backfilling operation is in progress.

END OF SECTION

SECTION 33 4230  
STORMWATER DRAINS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Precast concrete catch basins.
- B. Concrete masonry unit catch basins.
- C. Cast-in-place concrete catch basins.
- D. Cast-in-place concrete base pad.
- E. Prefabricated drop inlets.
- F. Frames and grates.

1.02 RELATED REQUIREMENTS

- A. Section 03 3000 - Cast-in-Place Concrete.
- B. Section 31 2316 - Excavation.
- C. Section 31 2323 - Fill.
- D. Section 33 0561 - Concrete Manholes.
- E. Section 33 4211 - Stormwater Gravity Piping.

1.03 REFERENCE STANDARDS

- A. AASHTO HB - Standard Specifications for Highway Bridges 2002, with Errata (2005).
- B. ACI 301 - Specifications for Structural Concrete 2016.
- C. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing Concrete 2000 (Reapproved 2009).
- D. ACI 305R - Guide to Hot Weather Concreting 2010.
- E. ACI 306R - Guide to Cold Weather Concreting 2016.
- F. ASTM C33/C33M - Standard Specification for Concrete Aggregates 2018.
- G. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete 2021a.
- H. ASTM C139 - Standard Specification for Concrete Masonry Units for Construction of Catch Basins and Manholes 2017.
- I. ASTM C150/C150M - Standard Specification for Portland Cement 2021.
- J. ASTM C270 - Standard Specification for Mortar for Unit Masonry 2019.
- K. ASTM C478/C478M - Standard Specification for Circular Precast Reinforced Concrete Manhole Sections 2020.

- L. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete 2019.
- M. ASTM C923/C923M - Standard Specification for Resilient Connectors Between Reinforced Concrete Manhole Structures, Pipes, and Laterals 2020.
- N. ASTM C990 - Standard Specification for Joints for Concrete Pipe, Manholes and Precast Box Sections Using Preformed Flexible Joint Sealants 2009 (Reapproved 2019).

#### 1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordination: Installation of stormwater drains with piping and other structures.
  - 1. See Section 33 4211 for stormwater gravity piping.
  - 2. See Section 33 0561 for concrete manholes.

#### 1.05 SUBMITTALS

- A. Product Data: Weight rating for catch basins, drop inlets, trench drains, and frame and grates.
- B. Shop Drawings: Indicate stack assembly, invert elevations, opening sizes, and pipe angles.
- C. Project Record Documents:

#### 1.06 QUALITY ASSURANCE

- A. Designer Qualifications: Perform design under direct supervision of a Professional Engineer experienced in design of this type of work and licensed in the State in which the Project is located.
- B. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with at least three years of documented experience.
- C. Installer Qualifications: Company specializing in installing work of the type specified in this section, and with at least three years of documented experience and approved by manufacturer.
- D. Documents at Project Site: Maintain one copy of manufacturer's instructions, assembly drawings, and shop drawings at the project site.
- E. Perform work of this section in accordance with ACI 301 and ACI 318.
  - 1. Maintain one copy of each document on site.
- F. Follow recommendations of ACI 305R when concreting during hot weather.
- G. Follow recommendations of ACI 306R when concreting during cold weather.

### PART 2 PRODUCTS

#### 2.01 CATCH BASINS

- A. Weight Rating: H 10 according to AASHTO HB.
- B. Precast Concrete Catch Basins: Comply with ASTM C478/C478M, reinforced.
  - 1. Wall Thickness: 6 inches (152 mm).
  - 2. Base Thickness: 12 inches (305 mm).
  - 3. Reinforcement: Formed steel wire, galvanized finish, wire diameter as indicated on drawings.

4. Joint Sealant: Comply with ASTM C990.
5. Resilient Connectors: Comply with ASTM C923/C923M.
- C. Cast-In-Place Concrete Catch Basins: Comply with ASTM C94/C94M, reinforced.
  1. Wall Thickness: 6 inches (152 mm).
- D. Cast-In-Place Concrete Base Pads: Comply with ASTM C94/C94M, reinforced.
  1. Thickness: 12 inches.
  2. Width: Match outside catch basin diameter.
  3. Length: Match outside catch basin diameter.
- E. Cast-In-Place Concrete Materials: See Section 03 3000.
- F. Grade Adjustments:
  1. Concrete Bricks: ASTM C1634 or ASTM C55 Grade N, cored, normal weight; .
- G. Frames and Grates: Steel, checkerboard pattern, .

## 2.02 DROP INLETS

- A. Weight Rating: H 10 according to AASHTO HB.
- B. Frames and Grates: Galvanized steel support, steel grate, checkerboard pattern, match drain opening size.

## 2.03 ACCESSORIES

- A. Steps: Formed fiber-reinforced plastic rungs; 3/4 inch diameter. Formed integral with manhole sections.

## PART 3 EXECUTION

### 3.01 EXAMINATION

- A. Verify items provided by other sections of work are properly sized and located.
- B. Verify built-in items are in proper location and ready for roughing into work.
- C. Verify excavation location and depth are correct.

### 3.02 EXCAVATION AND FILL

- A. Hand trim excavation for accurate placement to indicated elevations.
- B. Backfill with cover fill, tamp in place and compact, then complete backfilling.

### 3.03 INSTALLATION

- A. Establish elevations and pipe inverts for inlets and outlets as indicated in drawings.
- B. Precast Concrete Catch Basins:
  1. Place base section plumb and level.
  2. Install joint sealant uniformly around section lip.
  3. Overlay additional sections on joint sealant.
  4. Install cone or lid plumb and level on joint sealant.
- C. Cast-In-Place Concrete Base Pad:

1. Form bottom of excavation walls clean and smooth to correct limits.
  2. Install reinforcement in maximum lengths. Offset end laps in both directions. Splice laps with tie wire.
  3. Place concrete in accordance with ACI 304R.
  4. Float base pad top surface level.
- D. Cast-In-Place Concrete Catch Basins:
1. Form catch basin on concrete base pad plumb and level.
  2. Coordinate placement of embedded items with erection of concrete formwork and placement of form accessories.
  3. Install reinforcement in maximum lengths. Offset end laps in both directions. Splice laps with tie wire.
  4. Place concrete in accordance with ACI 304R.
  5. Float catch basin top surface level.
- E. Prefabricated Drop Inlets or Trench Drains:
1. Place base section plumb and level.
  2. Install according to manufacturer's instructions.
  3. Secure installation brackets.
- F. Grade Adjustments:
1. Lay brick or masonry units uniformly on mortar bed with full head joints, running bond. Top with mortar, plumb and level.
  2. Place adjacent materials tight and smooth following design grades.
- G. Frames and Grates:
1. Place frame plumb and level.
  2. Mount frame on prefabricated drop inlets or trench drains according to manufacturer's instructions.
  3. Place grate in frame securely.
- 3.04 FIELD QUALITY CONTROL
- A. See Section 00 701 General Conditions for additional requirements.
- B. Perform field inspection for pipe invert elevations.
- C. If inspections indicate work does not meet specified requirements, adjust work and reinspect at no cost to Owner.

END OF SECTION

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**SPECIAL PROVISION**

**Section 150—Traffic Control**

---

**150.01 GENERAL**

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. 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.

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.

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.

The Worksite Traffic Control Supervisor (WTCS) shall have a copy of Part VI 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>.

**A. WORKER SAFETY APPAREL**

All workers, including emergency responders, within the right-of-way who are exposed either to traffic (vehicles using the highway for purpose of travel) or to work vehicles and construction equipment within the TTC zone shall wear high-visibility safety apparel that meets the Performance Class 2 or 3 requirements of the ANSI/ISEA 107-2004 publication entitled "American National Standard for High-Visibility Safety Apparel and Headwear", or equivalent revisions, and labeled as meeting the ANSI 107-2004 standard performance for Class 2 or 3 risk exposure. Emergency and incident responders and law enforcement personnel within the TTC zone may wear high-visibility safety apparel that meets the performance requirements of the ANSI/ISEA 207-2006 publication entitled "American

National Standard for High-Visibility Public Safety Vests”, or equivalent revisions, and labeled as ANSI 207-2006, in lieu of ANSI/ISEA 107-2004 apparel. Firefighters or other emergency responders working within the right-of-way and engaged in emergency operations that directly expose them to flame, fire, heat, and/or hazardous material may wear retroreflective turn-out gear that is specified and regulated by other organizations, such as the National Fire Protection Association.

## **B. WORKSITE TRAFFIC CONTROL SUPERVISOR**

ALL HIGHWAYS (ADDITIONAL REQUIREMENTS BELOW FOR INTERSTATES): The Contractor shall designate a qualified individual as the Worksite Traffic Control Supervisor (WTCS) who shall be responsible for selecting, installing and maintaining all traffic control devices in accordance with the Plans, Specifications, Special Provisions and the MUTCD. A written resume documenting the experience and credentials of the WTCS shall be submitted and accepted by the Engineer prior to beginning any work that involves traffic control. 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 VI of the MUTCD. In addition to the WTCS all other individuals making decisions regarding traffic control shall meet the training requirements of the Part VI of the MUTCD.

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.

The 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 his duties shall be considered as non-performance under Subsection 150.08.

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 supervision, the Engineer may allow the Contractor’s Project Superintendent to serve as the WTCS as long as satisfactory results are obtained.



### **CERTIFIED WORKSITE TRAFFIC CONTROL SUPERVISOR**

ADDITIONAL REQUIREMENTS FOR INTERSTATE AND LIMITED ACCESS HIGHWAYS: In addition to the requirements above, the WTCS shall have a minimum of one year's experience directly related to work site traffic control in a supervisory or responsible capacity. 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.

Any work performed on the interstate or limited access highway right-of-way that requires traffic control shall be supervised by the 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 150.08.

The WTCS shall perform, as a minimum, weekly traffic control inspections on all interstate and limited access highways. The inspection shall be reported to the Engineer on a TC-1 report. The Engineer will furnish a blank copy of the TC-1 report to the Contractor prior to the beginning of any work on the interstate or limited access right-of-way.

### **C. TRAFFIC CONTROL DEVICES**

All traffic control devices used during the construction of a project shall meet the Standards utilized in the MUTCD, and shall comply with the requirements of these Specifications, Project Plans, and Special Provisions. All devices shall be tested at NCHRP Test Level III. Reference is made to Subsections 104.05, 107.07, and 107.09.

### **D. REFLECTORIZATION REQUIREMENTS**

All rigid fluorescent orange construction warning signs (black on fluorescent orange) shall meet the reflectorization and color requirements of ASTM Type VII, VIII, IX or X regardless of the mounting height.

Portable signs which have flexible sign blanks shall meet the reflectorization and color requirements of ASTM Type VI.

Warning signs (W3-1a) for stop conditions that have rumble strips located in the travelway shall be reflectorized with ASTM Type IX fluorescent yellow sheeting.

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.

CHANNELIZATION DEVICES: Channelization devices shall meet the requirements of ASTM Type III or IV high intensity sheeting.

### **E. 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 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. Guardrail 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.

#### **F. 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 [Subsection 104.05](#) throughout the construction period. All unacceptable traffic control devices shall be replaced within 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 calendar days after time charges are stopped or pay items are complete. If traffic control devices are left in place for more than ten 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.

#### **G. 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	24 hours
Holidays, 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.

#### **H. 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 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 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 not longer necessary for the satisfactory progress of the Work. Bypasses and detours shall meet the minimum requirements of Section 150.02.B.4.

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 laneage 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 copies of the above details shall be submitted to the Engineer for approval at least 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.

## **150.02 TEMPORARY TRAFFIC CONTROL (TTC) ZONES:**

### **A. DEVICES AND MATERIALS:**

In addition to the other provisions contained herein, work zone traffic control shall be accomplished using the following means and materials:

**1. Portable Advance Warning Signs**

Portable advance warning signs shall be utilized as per the requirements of the temporary traffic control plans. All signs shall meet the requirements of the MUTCD and shall be NCHRP 350 crashworthy compliant.

**2. Arrow Panels**

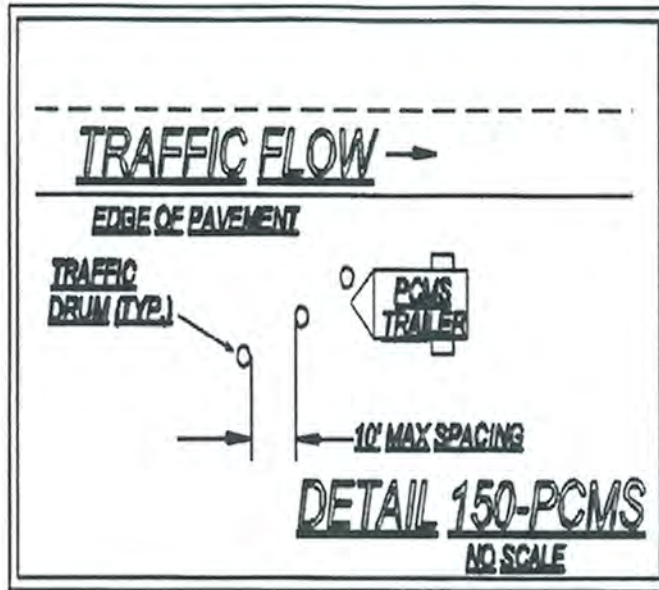
Portable sequential or flashing arrow panels as shown in the Plans or Specifications for use on Interstate or multi-lane highway lane closure only, shall be a minimum size of 48" high by 96" wide with not less than 15 lamps used for the arrow. The arrow shall occupy virtually the entire size of the arrow panel and shall have a minimum legibility distance of one mile. The minimum legibility distance is that 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. 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 sequential or flashing 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 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.

**3. Portable Changeable Message Signs**

Portable changeable message signs meeting the requirements of [Section 632](#) and the MUTCD. Any PCMS in use that is not protected by positive barrier protection shall be delineated by a minimum of three drums that meet the requirement of Section 150.05.A.1. The drum spacing shall not exceed a maximum of ten (10') feet as shown in [Detail 150-PCMS](#). 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.

**4. Channelization Devices**

Channelization devices shall meet the standards of the MUTCD and Subsection 150.05.

**5. Temporary Barrier**

Temporary barrier shall meet the requirements of Sections 622.

**6. Temporary Traffic Signals**

Temporary traffic signals shall meet the requirements of Section 647 and the MUTCD.

**7. Pavement Marking**

Pavement marking incorporated into the work shall comply with Subsections 150.04.A and 150.04.B.

**8. 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 can not occur. To assure 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.

## **9. 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 based on the following requirements:

**INTERMEDIATE SURFACES:** 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 150.08 will be assessed for any intermediate surface in place for greater than 45 days without rumble strips.

**FINAL SURFACES:** 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 150.08.

Prior to the removal of any rumble strips located in the travelway, stop ahead (W3-1a) warning signs shall be double indicated ahead of the stop condition. These warning signs shall be a minimum of 48 inches by 48 inches. The reflectorization of the warning signs shall be as required by Subsection 150.01.D. 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" (W3-1a) 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.

- 10. GUARDRAIL:** 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:

**MULTI-LANE HIGHWAYS:** From the time that the existing guardrail or temporary positive barrier protection is removed the Contractor has fourteen (14) calendar 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 (20') feet. 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.

**ALL OTHER HIGHWAYS:** From the time that the existing guardrail is removed or from the time that temporary positive barrier protection is removed the Contractor has thirty (30) calendar 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 (20') feet. The maximum length of rail that can be removed at any time without being replaced with positive barrier protection is a total of 1000 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 above by giving written notification to the Contractor via the TC-1 traffic control report.

**ALL HIGHWAYS:** The contractor shall install new guardrail such that traffic exposure to fixed objects is minimized. Within the same work day, temporary attenuators, as defined in Subsection 150.05.B, 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 forty-eight (48) hours. No separate payment will be made for truck mounted attenuators.

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.

Failure to comply with the above time and quantity restrictions shall be considered as non-compliance under Section 150.08.



- 11. 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 bars, 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 bars, stop signs, advanced warning signs, the rumble strips and the flashing beacons shall be included in the price bid for Lump-Sum-Traffic Control 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 bars shall be considered as incidental to the price bid for Lump Sum-Traffic Control. 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.

## **B. WORK ZONE RESTRICTIONS:**

### **1. Interstate**

The Contractor shall 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, unless such areas are separated by at least one-half mile of distance.

### **2. Non-Interstate Divided Highways**

The Contractor shall 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, unless such 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 shall not simultaneously perform work on opposite sides of the roadway when the work is within 12 feet of the travel-way, unless such 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 shall 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 shall 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.

### **4. All Highways:**

- a. There shall be no reduction in the total number of available traffic lanes that existed prior to construction except as specifically allowed by the Contract and as approved by the Engineer.
- b. Travelway Clearances: All portions of the work shall maintain the following minimum requirements:

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

Vertical: The overhead clearance shall not be reduced to less than fifteen (15) feet 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 (16) feet provided a flagger operation for one-way traffic is utilized to restrict access to the work area by over-width loads. The minimum horizontal clearance shall be restored before the flagging operation is removed.

- c. Highway Work Zone: 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 (Detail 150-HWZ-1) 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 HWZ-2 sign shall be placed a minimum of six hundred (600') feet in advance of the Highway Work Zone and shall not be placed more than one thousand (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 ROADWAYS: 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.

For limited access (interstate) highways and controlled access multi-lane divided highways the posted speed limit shall be reduced as required below.

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 to ensure that the maximum spacing of the reduced speed limit signs shall be no greater than one (1) mile apart. Existing speed limit signs shall be covered or removed. On multi-lane divided highways the speed limit signs shall be double indicated when the reduced speed is in use.

When any one or more of the following conditions exist and the existing speed limit is 65 mph or 70 mph, the speed limit shall be reduced by 10 mph. If the existing speed limit is 60 mph, the speed limit should be reduced by 5 mph. If the existing speed limit is 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 10 mph:

- a) Lane closure(s) of any type and any duration.
- b) The difference in elevation exceeds two inches adjacent to a travel lane as shown in Subsection 150.06, Detail 150-B, Detail 150-C.
- c) Any areas where equipment or workers are within ten feet of a travel lane.
- d) Temporary portable concrete barriers located less than two (2') feet 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.

As 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.

Reduced speed zones shall, as a minimum, be signed as per Detail 150-HWZ-1. Interim signs shall meet the requirements of 150.03 D. Additional signs may be necessary to adjust for actual field conditions.

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.

**5. 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.

**6. INSTALLATION/REMOVAL OF WORK AREA SIGNAGE:**

No payment will be made for Traffic Control-Lump Sum until the Work has actually started on the project. The installation of traffic control signage does not qualify as the start of work. Advanced warning signs shall not be installed until the actual beginning of work activities. Any permanent mount height signs installed as the work is preparing to start shall be covered until all signs are installed unless all signs are installed within seven (7) calendar days after beginning installation.

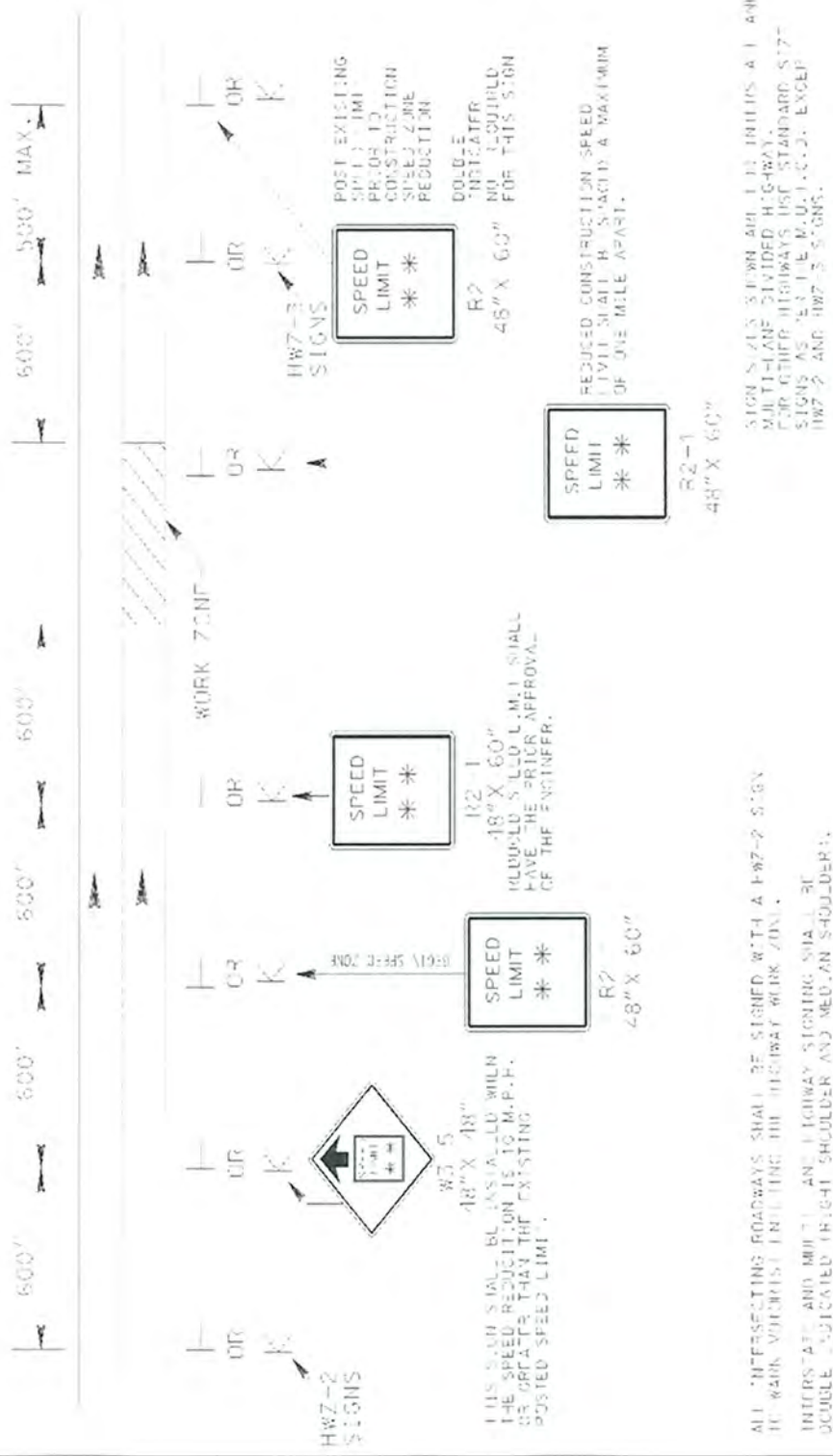
All temporary traffic control devices shall be removed as soon as practical when these devices are no longer needed. When work is suspended for short periods of time, temporary traffic control devices that are no longer appropriate shall be removed or covered.

All construction warning signs shall be removed within seven (7) calendar days after time charges are stopped or pay items are complete. If traffic control devices are left in place for more than ten (10) calendar days after completion of the Work, the Department shall have the right to remove such devices, claim possession thereof, and deduct the cost of such removal from any monies due, or which may become due, the Contractor.

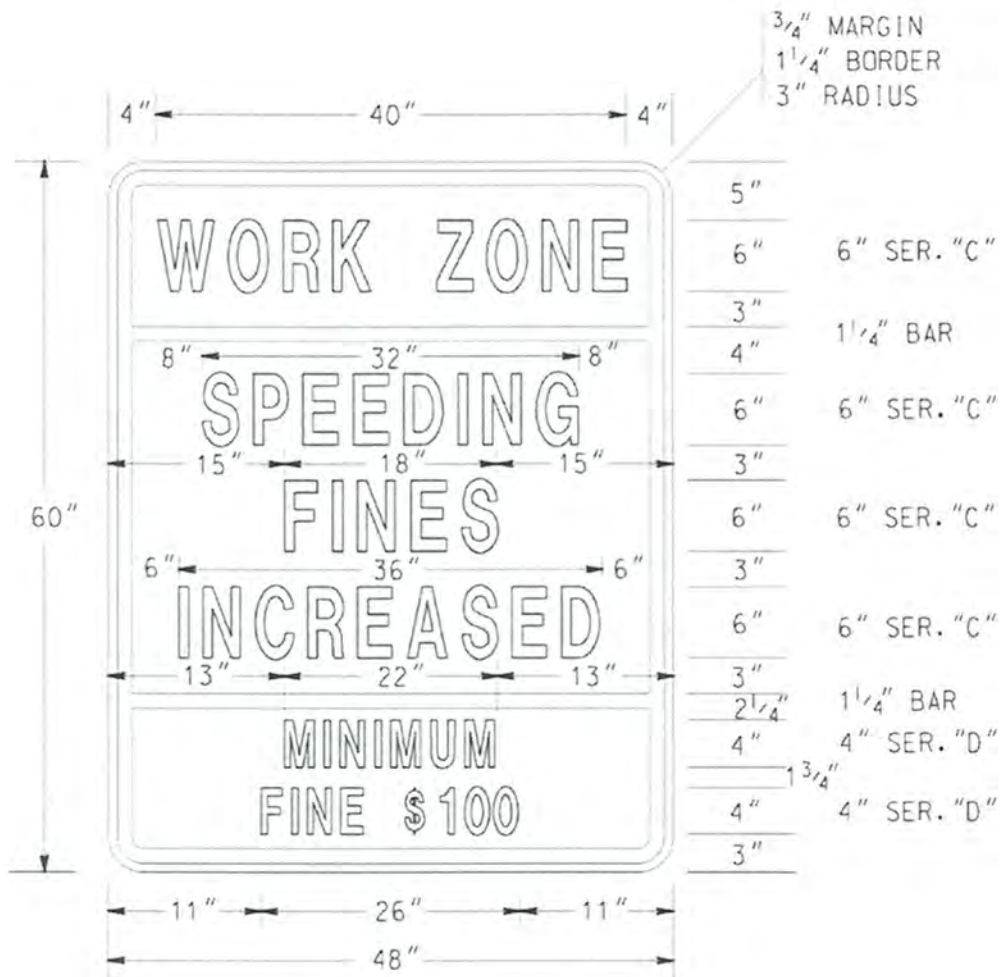
PUNCHLIST WORK: Portable signs shall be utilized to accomplish the completion of all punchlist items. The portable signs shall be removed daily. All permanent mount height signs shall be removed prior to the beginning of the punchlist work except "Low/Soft Shoulder" signs and any signs that have the prior written approval of the Engineer to remain in place while the punchlist 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 Section 150.08.

SPEED LIMIT REDUCTION FOR HIGHWAY WORK ZONE  
 INTERSTATE AND MULTI-LANE DIVIDED HIGHWAY SIGNING SHALL BE  
 DOUBLE INDICATED (RIGHT SHOULDER AND MEDIAN SHOULDER)



DETAIL 150-HWZ 1



COLORS

TOP PANEL

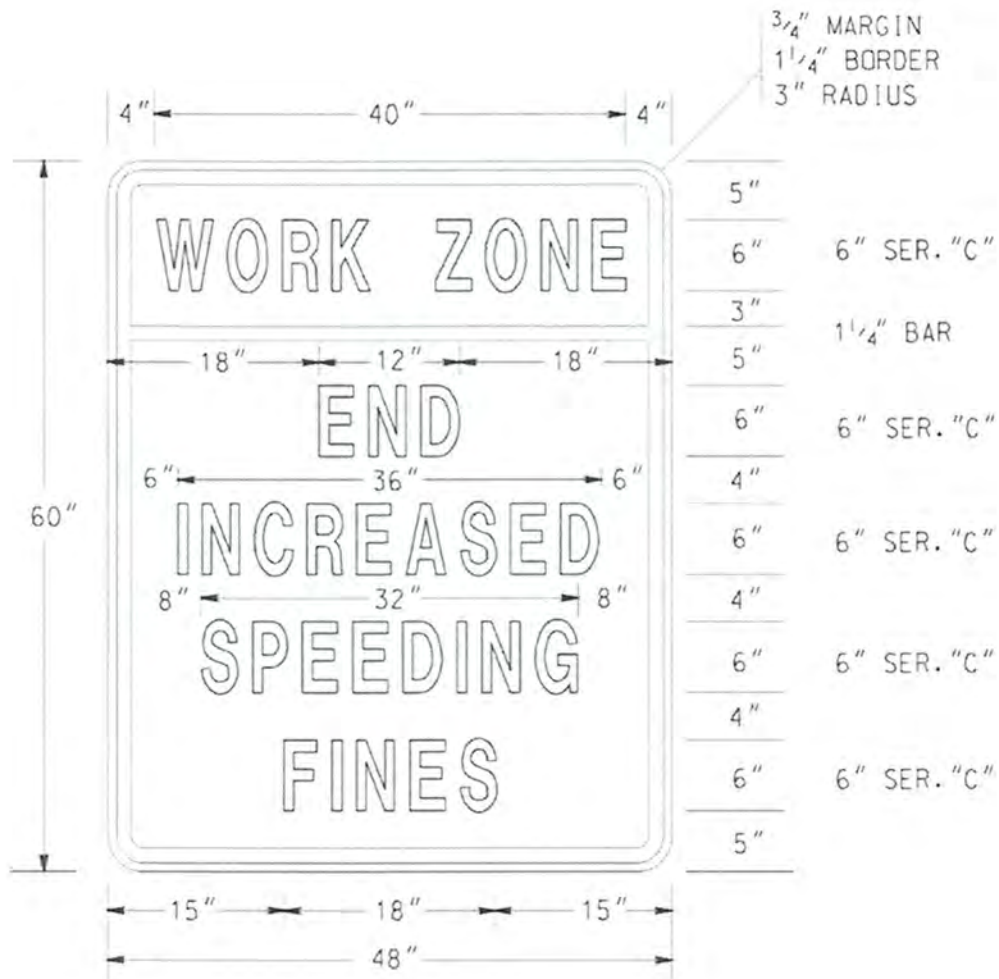
LEGEND & BORDER - BLACK (NON-REFL)  
 BACKGROUND - FLUORESENT ORANGE  
 (ASTM TYPE VII, VIII, IX or X)

MIDDLE & BOTTOM PANELS

LEGEND & BORDER - BLACK (NON-REFL)  
 BACKGROUND - WHITE (ASTM TYPE III OR IV REFL SHEETING)

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

(ASTM TYPE VII, VIII, IX or X)

BOTTOM PANEL

LEGEND & BORDER - BLACK (NON-REFL)

BACKGROUND - WHITE (ASTM TYPE III OR IV REFL SHEETING)

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. LANE CLOSURES:

### 1. Approval/Restrictions

All lane closures of any type or duration shall have the prior approval of the Engineer.

- a. The length of 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 a lane closure based upon field conditions however the length of a workzone should be held to the minimum length required to accomplish the Work. 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.
- b. Lane closures that require same direction traffic to be split around the Work Area will not be approved for roadways with posted speeds of 35 mph or greater, excluding turn lanes.
- c. For Interstate, Limited Access and Multi-lane Divided Highways, a 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 mile ahead. The Portable Changeable Message Sign (PCMS) shall be placed on the outside shoulder in accordance with Detail 150-PCMS. This is in addition to the other traffic control devices required by Standard 9106.
- d. The following are lane restrictions to lane closures relative to Atlanta Braves home games:
  - 1) Interstate lane closures on and within I-285 shall be prohibited for a minimum period of 3 hours before the game begins and continue until 2 hours after the game has ended for all Atlanta Braves home games.
  - 2) Restriction shall apply in the direction of game influenced traffic on I-75, I-85, GA 400, and I-20 within I-285. Such restrictions may be lessened or waived in the opposing direction of travel.
  - 3) Projects requiring lane closures on other roadways within the I-285 perimeter located near the Atlanta Braves stadium shall be extended the same hours of restriction.

### 2. Removal Of Lane Closures

To provide the greatest possible convenience to the public in accordance with Subsection 107.07, 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.

### **3. Exit And Entrance Ramps**

On multilane highways where traffic has been shifted to the inside lanes, the exit and entrance ramps shall have channelization devices 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 shall 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, channelization device spacing shall be decreased to 10 feet for 200 feet in advance of the temporary gore, and be decreased to 10 feet for the first 100 feet of the temporary gore.

### **4. Lane Drop/Lane Closure**

The first seven (7) calendar days of any lane closure shall be signed and marked as per Standard 9106 or 9107. However, lane closures that exist for a duration longer than seven (7) calendar days may be signed and marked as per the details in Standard 9121, 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 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.

### **5. Termination Area**

The transition to normal or full width highway at the end of a lane closure shall be a maximum of 150 feet.

## **D. TRAFFIC PACING METHOD:**

### **1. Pacing Of Traffic**

With prior approval from the Engineer, traffic may be paced allowing the Contractor up to ten (10) minutes maximum to work in or above all lanes of traffic for the following purposes:

- a. Placing bridge members or other bridge work.
- b. Placing overhead sign structures.
- c. Other work items requiring interruption of traffic.

The Contractor shall provide a uniformed police officer with patrol vehicle and blue flashing light for each direction of pacing. The police 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 police 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 police vehicle has passed.

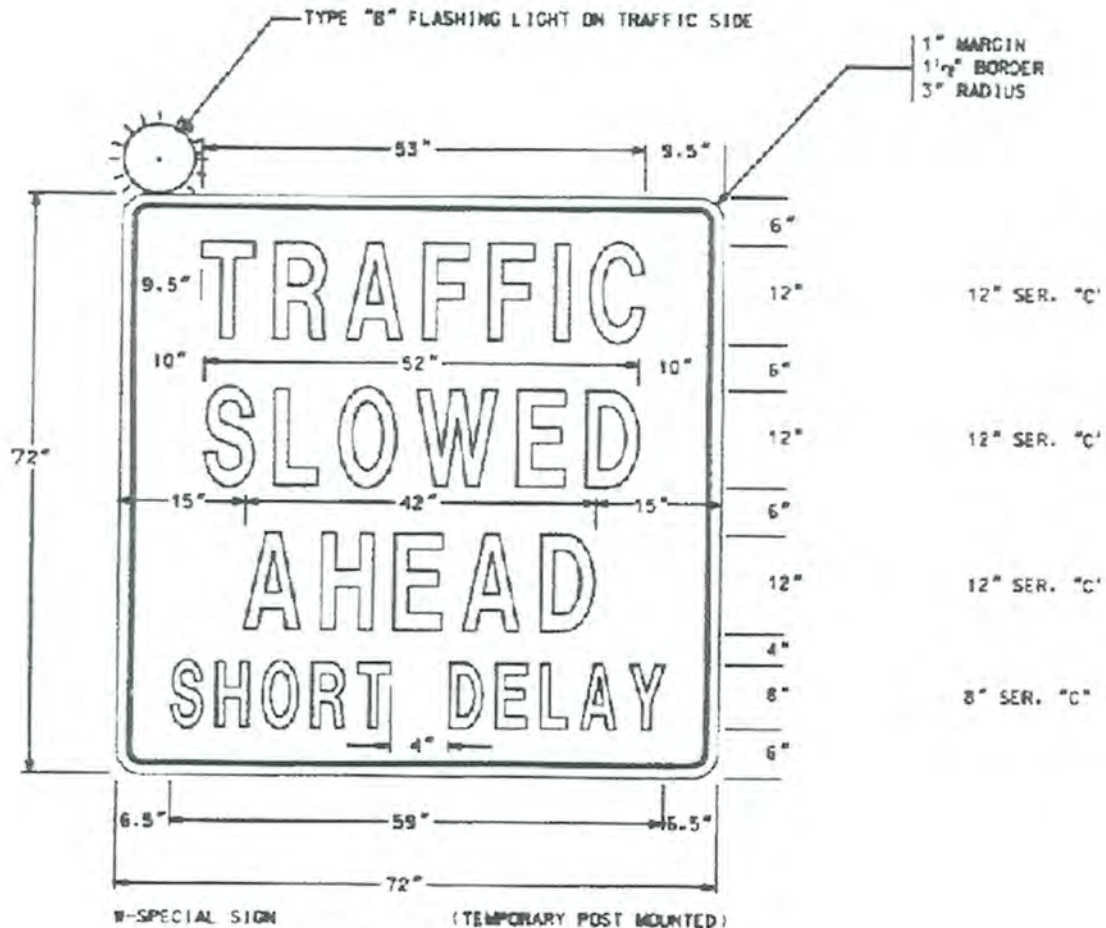
Pilot vehicles shall travel at a safe pace speed, desirably not less than 20 mph interstate and 10 mph non-interstate. The Contractor shall provide a vehicle to

proceed in front of the police vehicle and behind the other traffic in order to inform the Contractor's work force when all vehicles have cleared the area.

Traffic will not be permitted to stop during pacing except in extreme cases as approved by the Engineer.

**2. 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 erect and cover a W-special sign (72 inch x 72 inch) with a Type "B" flashing light, with the legend "TRAFFIC SLOWED AHEAD SHORT DELAY" (See Detail 150-A). A portable changeable message sign may be used in lieu of the W-special sign. On divided highways this sign shall be double indicated. A worker with a two-way radio shall be posted at the sign, and upon notice that the traffic is to be paced shall turn on the flashing light and reveal the sign. When traffic is not being paced, the flashing light shall be turned off and the sign covered or removed. W-special signs are reflectorized black on orange, Series "C" letter and border of the size specified.



SIGN SHALL HAVE BLACK LEGEND AND BORDER ON ORANGE REFLECTORIZED BACKGROUND

DETAIL 150-A

## **E. CONSTRUCTION VEHICLE TRAFFIC**

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.

## **F. ENVIRONMENTAL IMPACTS TO THE TEMPORARY TRAFFIC CONTROL (TTC) PLAN**

The Contractor shall ensure that dust, mud, and other debris from construction activities do not interfere with normal traffic operations or adjacent properties. All outfall ditches, special ditches, critical storm drain structures, erosion control structures, retention basins, etc. shall be constructed, where possible, prior to the beginning of grading operations so that the best possible drainage and erosion control will be in effect during the grading operations, thereby keeping the roadway areas as dry as possible.

Areas within the limits of the project which are determined by the Engineer to be disturbed or damaged due either directly or indirectly from the progress or the lack of progress of the work shall be cleaned up, redressed, and regressed. All surplus materials shall be removed and disposed of as required. Surplus materials shall be disposed of in accordance with Section 201 of the Specifications.

## **G. EXISTING STREET LIGHTS**

Existing street lighting shall remain lighted as long as practical and until removal is approved by the Engineer.

## **H. NIGHTWORK**

Adequate temporary lighting shall be provided at all nighttime work sites where workers will be immediately adjacent to traffic.

## **I. CONSTRUCTION VEHICLES IN THE WORKZONE**

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.

## **J. ENCROACHMENTS ON THE TRAVELED-WAY**

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 travelway. These items shall be stored in a location, in so far as practical, where they will not be subject to a vehicle running off the road and striking them.

## **K. 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 150.01.E. 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 48 inches.

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. The inspection of TTC for pedestrian traffic shall be included as part of the TC-1 report.

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

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

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

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

A width of sixty (60") inches, 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 Detail A-3. Ramps shall also include a detectable warning surface in accordance with Detail A-4. 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.

#### **L. TRAFFIC SIGNALS**

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 Lump Sum- Traffic Control. The contractor becomes responsible for the maintenance of these traffic signals from the time that the system is modified until final acceptance. The maintenance of traffic signals that are not a part of the work and are not in conflict with any portion of the work shall not be the responsibility of the contractor.

When construction operations necessitate an existing traffic signal to be out of service, the Contractor shall furnish off-duty police officers to regulate and maintain traffic control at the site. Off-duty police officers should be used to regulate and maintain traffic control at signal sites when lane closures or traffic shifts block or restrict movements causing interference with normal road user flows and will not allow the activated traffic signal to guide the traffic through the signal site.

#### **M. 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.

#### **N. Signalized Intersections**

Off duty police 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. This work is considered incidental and shall be included in the overall price bid for traffic control.

### **150.03 SIGNS:**

#### **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 [Section 150.08](#).

**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. The bottom of all interim signs shall be mounted at least seven (7') feet above the level of the pavement edge when the signs are used for long-term stationary operations as defined by Section 6G.02 of the MUTCD. Special Conditions under Subsection 150.11 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 150.11. Portable signs shall be used for all punchlist work. All portable signs and sign mounting devices utilized in work shall be NCHRP 350 compliant. Portable interim signs shall be mounted a minimum of one (1') foot above the level of the pavement edge for directional traffic of two (2) lanes or less and a minimum of seven (7') feet for directional traffic of three (3) or more lanes. Signs shall be mounted at the height recommended by the manufacturer's crashworthy testing requirements. Portable interim signs which are mounted at less than seven (7') feet in height may have two 18 inch x 18 inch fluorescent red-orange or orange-red warning flags mounted on each sign.

All regulatory 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.

Any permanent mount height interim sign that is designed to fold in half to cover a non-applicable message on the sign shall have reflectorized material on the folded over portion of the sign. The reflectorized material shall be orange in color with a minimum of ASTM Type I engineering grade sheeting with a minimum area of six inches by six inches (6" x 6") facing the direction of traffic at all times when the sign is folded.

Interim signs may be either English or metric dimensions.

## **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 150.03.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 a 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 Expressway" and Part 2F "Guide Signs Freeways" of the MUTCD, except that the minimum size of all letters and numerals in the names and places, streets and highways on all signs shall be 16 inches Series "E" initial upper-case and 12 inches lower-case. 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 desired 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. MATERIALS- INTERIM SIGNS:**

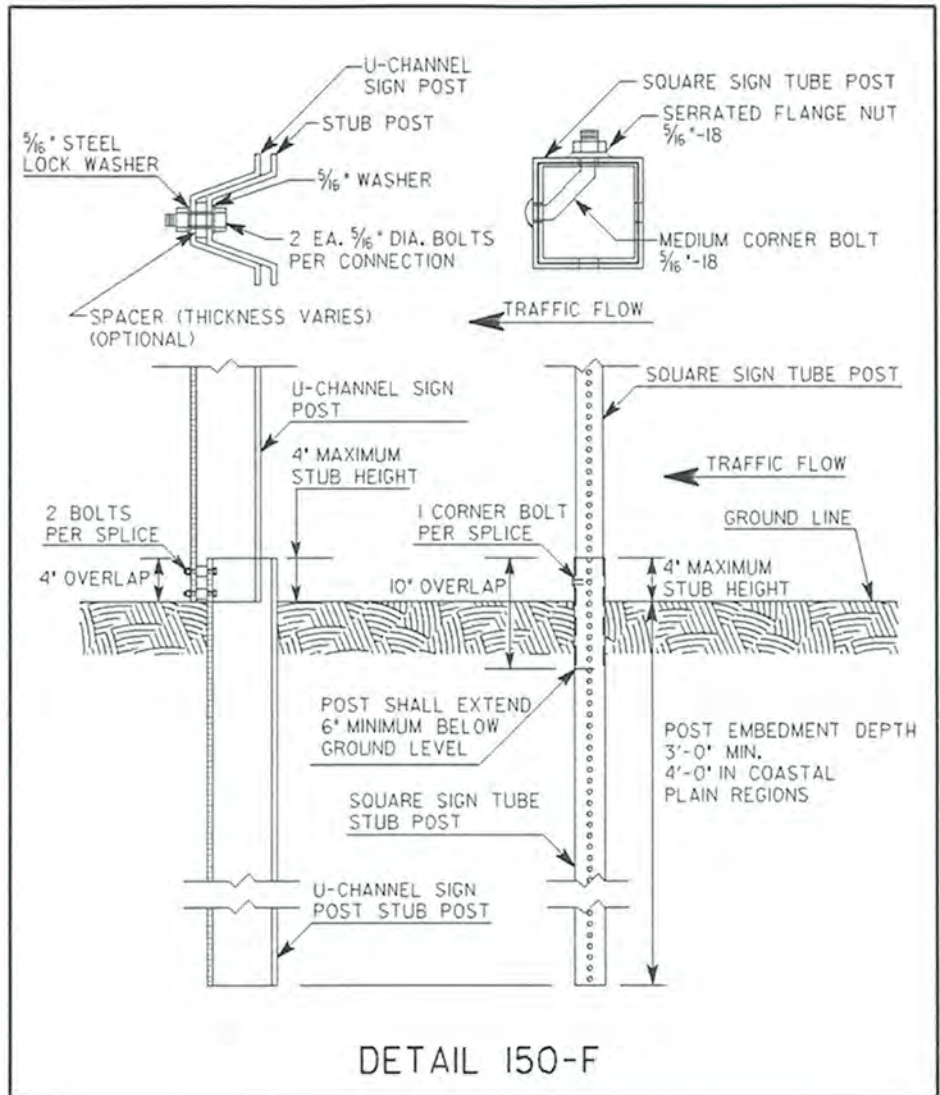
### **1. Posts**

Permanent mounting height of seven (7') feet- Posts for all interim signs shall meet the requirements of Section 911 except that green or silver paint may be used in lieu of galvanization for steel posts or structural shape posts. Within the limits of a single project, all metal posts shall be the same color. Wood posts are not required to be pressure treated. Ground mounted sign(s) greater than nine (9) square feet shall be mounted on two posts.

Interim posts may be either metric or English in dimensions.

Posts for all interim signs shall be constructed to yield upon impact unless the posts are protected by guardrail, portable barrier, impact attenuator or other type of positive barrier protection. Unprotected posts shall meet the breakaway requirements of the "1994 AASHTO Standard Specifications for Structural Support for Highway Signs, Luminaries and Traffic Signals". Unprotected interim posts shall be spliced as shown in Detail 150-F 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.



- 2. Sign Blanks And Panels- Permanent mounting height of seven (7') feet-**  
All sign blanks and panels shall conform to Section 912 of the Specifications except that blanks and panels may be ferrous based or other metal alloys. Type 1 and Type 2 sign blanks shall have a minimum thickness of 0.08 inches regardless of the sign type used. Alternative sign blank materials (composites, poly carbonates, fiberglass reinforced plastics, recycled plastics, etc.) shall have a letter of approval from the Office of Materials and Research 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. The back side of sign panels shall be painted orange to prevent rust if other metals are used in lieu of aluminum. Plywood blanks or panels will not be permitted. The use of flexible signs will not be permitted for permanent mount height signs.

Interim blanks and panels may be either metric or English in dimensions.

- 3. Portable Sign Mounting Devices, Portable Sign Blanks-**  
All portable sign mounting devices and sign blanks utilized in the work shall be NCHRP 350 Test Level III compliant. All portable sign mounting devices and sign blanks shall be from the Qualified Products List. Any sign or sign mounting device shall have an identifying decal, logo, or manufacturer's stamping that clearly identifies the device as NCHRP 350 compliant. The required decal, logo or manufacturer's stamping shall not be displayed on the message face of the sign. The Contractor may be required to provide certification from the Manufacturer as proof of NCHRP 350 compliance. All portable signs shall be mounted according to height requirements of Subsection 150.03.D.

## **G. SIGN VISIBILITY AND OFFSETS**

All existing, interim and new permanent signs shall be installed so as to be completely visible 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. Any sign installed behind W-beam or T-beam guardrail with non-breakaway posts shall be installed with the leading edge of the sign a minimum of four feet and three inches (4'3") behind the face of the guardrail with five feet (5') of clearance being desirable. 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.

## **H. ADVANCE WARNING SIGNS:**

- 1. All Type Of Highways**  
Advance warning signs shall be placed ahead of the work area in accordance with Part VI 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.

Advanced Warning Signs on State Routes shall be a minimum dimension of 48 inches x 48 inches. 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 workzone 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 punchlist 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 60" X 36" and the G20-2 sign shall be 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 1/2 mile, 1 mile and 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 50 MPH or less, the 1/2 mile, 1 mile and 2 mile signs should be eliminated especially in urban areas.

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

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

**RAMP WORK ON LIMITED ACCESS HIGHWAYS:** The workzone 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 accel/decel lane adjacent to the mainline traveled way. Portable advance warning signs (W20-1; 1500ft. /1000 ft. /500ft.) 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 48 inch X 48 inch "RAMP WORK AHEAD" sign along the right shoulder of the mainline traveled way prior to the beginning of the taper for the decel lane. The "RAMP WORK AHEAD" sign shall be mounted at seven (7') feet in height. Differences in elevation shall be in compliance with the requirements of Subsection 150.06 prior to the removal of the portable (W20-1) advanced warning signs from the mainline.

The G20-1 sign shall be eliminated on limited access highways when the work involves only ramp work, bridge reconstruction, bridge painting, bridge joint repairs, guardrail and anchor replacement or other site specific work which is confined to a short section of limited access highway.

#### **I. PORTABLE CHANGEABLE MESSAGE SIGN**

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 and the MUTCD. 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.

#### **J. 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.

## **K. RUMBLE STRIP SIGNAGE**

Signage for rumble strips located in the travelway shall be as required in Subsection 150.01.C and Subsection 150.02.A.9.

## **L. LOW/SOFT SHOULDER SIGNAGE**

Low or soft shoulder signs shall be utilized in accordance with the following conditions:

### **CONSTRUCTION/RECONSTRUCTION PROJECTS:**

"LOW/SOFT SHOULDER" signs shall be erected when a difference in elevation exceeds one (1") inch but does not exceed three (3") inches between the travelway and any type of shoulder unless the difference in elevation is four (4') feet or greater from the edge of the traveled way.

The spacing of the signs shall not exceed one (1) mile and the signs shall be placed immediately past each crossroad intersection. The "Low/Soft" 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 orange with black borders and meet the reflectorization requirements of Subsection 150.01.D.

"SHOULDER DROP-OFF" (W8-9a) signs shall be used when a difference in elevation, less than four (4') feet from the traveled way, exceeds three (3") inches and is not protected by positive barrier protection. These warning signs shall be placed in advance of the drop-off.

For a continuous drop-off condition, the W8-9a) signs shall, as a minimum, be spaced in accordance with the above requirements for "Low/soft shoulder" signs.

### **PROJECTS CONSISTING PRIMARILY OF ASPHALTIC CONCRETE RESURFACING ITEMS:**

"LOW/SOFT SHOULDER" signs shall be erected when a difference in elevation exceeds one (1") inch but does not exceed three (3") inches between the travelway and any type of shoulder unless the difference in elevation is four (4') feet or greater from the edge of the traveled way.

SHOULDER BUILDING INCLUDED IN THE CONTRACT: "Low/Soft Shoulder" signs shall be erected as per the requirement of Standards 9102, 9106, and 9107. "Shoulder Drop-off" signs (W8-9a) shall be erected as per the requirements of the MUTCD. These signs shall be maintained until the conditions requiring their installation have been eliminated. The Contractor shall remove all interim warning signs before final acceptance.

SHOULDER BUILDING NOT INCLUDED IN THE CONTRACT: The Department will furnish the "Low/Soft Shoulder" signs, "Shoulder Drop-off" signs and the posts. The signs shall be erected to meet the minimum requirements of Subsection 150.03. The Contractor shall include the cost of furnishing installation hardware (bolts, nuts, and



washers), erection and maintenance of the signs in the bid price for Traffic Control-Lump Sum. The Contractor shall maintain the signs until final acceptance. The Department will remove the signs.

LAU/LAR PROJECTS SHOULDER BUILDING NOT INCLUDED IN THE CONTRACT: The Contractor will furnish, install and maintain LOW/SOFT SHOULDER signs (yellow with black borders, ASTM Type III or IV) at the appropriate spacing, until Final Acceptance of the project by the Department. After Final Acceptance by the Department the signs will become the property and responsibility of the local government.

**M. BUMP SIGNAGE:**

MULTI-LANE DIVIDED HIGHWAYS: A bump sign (W8-1) shall be utilized when a transverse joint in the pavement structure has a vertical difference in elevation of three quarters (3/4") of an inch or greater in depth with no horizontal taper to ramp the traffic from one elevation to the other. This condition typically occurs at approach slabs during pavement milling operations and at transverse joints in asphaltic pavement lifts.

TWO-LANE TWO-WAY HIGHWAYS: A bump sign (W8-1) shall be utilized when a transverse joint in the pavement structure has a vertical difference in elevation that exceeds one and three quarters (1-3/4") inches in depth with no horizontal taper to ramp the traffic from one elevation to the other. This includes 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.

**N. PEDESTRIAN SIGNAGE:**

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. Signs and other devices mounted lower than seven (7) feet above the temporary pedestrian walkway shall not project more than four (4) inches into the accessible pedestrian facilities. Signs and other devices shall be placed such that they do not narrow any pedestrian passage to less than 48 inches.

## 150.04 PAVEMENT MARKINGS

### A. GENERAL

Full pattern pavement markings in accordance with Section 652 and 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. No passing zones shall be marked to conform to Subsection 150.04.E. 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 judgement of the Engineer due to wear, weathering, or construction activities, they shall be restored immediately.

#### 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. MATERIALS

All traffic striping applied under this Section shall be a minimum four inches in width or as shown in plans and shall conform to the requirements of Section 652, except as modified herein. Raised pavement markers (RPMs) shall meet the requirements of Section 654. 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.

### C. INSTALLATION AND REMOVAL OF PAVEMENT MARKINGS:

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.

REMOVAL: Markings no longer applicable shall be removed in accordance with Subsection 656.3.05.

THE ELIMINATION OF CONFLICTING PAVEMENT MARKINGS BY OVERPAINTING WITH UNAPPROVED PAINT OR ANY TYPE OF LIQUID ASPHALT IS NOT ACCEPTABLE.

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.

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. Subsection 400.3.06.C 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.

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 150.08.

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 Subsection 656.3.05.

#### **D. RAISED PAVEMENT MARKERS**

Raised pavement markers (RPMs) are required as listed below for all asphaltic concrete pavements before the roadway is open to traffic. On the final surface, RPM's shall be placed according to the timeframes specified in 150.04 E. for full pattern pavement markings except Interstate Highways where RPM's shall be placed and/or maintained when the roadway is open to traffic. When Portland Cement Concrete is an intermediate or final surface and is open to traffic, one 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.

**1. Interstate Highways**

Retro-reflective raised pavement markers (RPM's) shall be placed and/or maintained on intermediate pavement surfaces on all interstate highways that are open to traffic. This includes all resurfacing projects along with widening and reconstruction projects. The spacing and placement shall be as required for MULTI-LANE DIVIDED HIGHWAYS.

**2. Multi-Lane Divided Highways**

Retro-reflective raised pavement markers (RPMs) shall be placed and/or maintained on intermediate pavement surfaces on all multi-lane divided highways that are opened to traffic when these roadways are being widened or reconstructed. Two lane-two way roadways that are being widened to a multi-lane facility, whether divided or undivided, are included in this provision. Projects consisting primarily of asphalt resurfacing items or shoulder widening items are excluded from this requirement. The RPMs shall be placed as follows:

a. SUPPLEMENTING LANE LINES

80 foot center on skip lines with curvature less than three degrees. (Includes tangents)

40 foot centers on solid lines and all lines with curvature between three degrees and six degrees.

20 foot centers on curves over six degrees.

20 foot centers on lane transitions or shifts.

b. SUPPLEMENTING RAMP GORE LINES

20 foot centers, two each, placed side by side.

c. OTHER LINES

As shown on the plans or directed by the Engineer.

**3. Other Highways**

On other highways under construction RPMs shall be used and/or maintained on intermediate pavement surfaces as follows:

a. SUPPLEMENTING LANE LINES AND SOLID LINES

40 foot centers except on lane shifts. (When required in the Plans or Contract.)

20 foot centers on lane shifts. (Required in all cases.)

b. SUPPLEMENTING DOUBLE SOLID LINES

40 foot centers (one each beside each line) except on lane shifts. (When required in the Plans or Contract.)

20 foot centers on lane shifts. (Required in all cases.)

**E. 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

All interim skip (broken) stripe shall conform to Section 652 except that stripes shall be at least two feet long with a maximum gap of 38 feet. On curves greater than six degrees, a one-foot stripe with a maximum gap of 19 feet shall be used. In lane shift areas solid lines will be required. Interim skip lines shall be replaced with markings in full compliance with Section 652 prior to expiration of the 14 calendar day period.

Interim raised pavement markers may be substituted for the interim skip (broken) stripes. If raised pavement markers are substituted for the two foot interim skip stripe, three markers spaced at equal intervals over a two foot 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 Research 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 fourteen (14) calendar days as an interim marker. Any flexible reflective markers in use shall be from the qualified products list (QPL).

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 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 24" x 30") at the beginning and at intervals not to exceed ½ mile within each no-passing zone. A post or portable mounted PASS WITH CARE regulatory sign (R4-1 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 conform to the requirements of the MUTCD and shall be NCHRP 350 compliant. 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. EDGELINES

1) Bituminous Surface Treatment Paving

Edgelines 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 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, edgelines shall be placed within 30 calendar days of the time that the final surface was placed.

2) All Other Types of Pavement

Edgelines will not be required on intermediate surfaces that are in use for a period of less than 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, edgelines shall be placed within 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**

a. UNDIVIDED HIGHWAYS (INCLUDES PAVED CENTER TURN LANE)

1) Centerlines and No-Passing Barrier-Full Pattern centerlines and no-passing barriers shall be restored before opening to traffic.

2) Lanelines- Interim skip (broken) stripe as described in Subsection 150.04E.1.a. may be used for periods not to exceed three calendar days. Skiplines are not permitted in lane shift areas. Solid lines shall be used.

3) Edgelines- Edgelines shall be placed on intermediate and final surfaces within three calendar days of obliteration.

b. DIVIDED HIGHWAYS (GRASS OR RAISED MEDIAN)

- 1) Lanelines- 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.
- 2) Centerline/Edgeline- 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**

a. Same as Subsection 150.04.E.2 except as noted in (b) below.

b. EDGELINES-

- 1) Asphaltic Concrete Pavement- Edgelines shall be placed on intermediate and final surfaces prior to opening to traffic.
- 2) Portland Cement Concrete Pavement- Edgelines 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 (25') feet 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:**

FINAL SURFACE: School zones, railroads, stop bars, 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.

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 150.11, Special Conditions, or as directed by the Engineer these markings may be eliminated.



## **F. MOBILE OPERATIONS**

When pavement markings (centerlines, lane lines, and edgelines) 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.

### **1. All Roadways**

All vehicles shall be equipped with the official slow moving vehicle symbol sign. All vehicles shall have a minimum of two 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.

### **2. Two-Lane Two-Way Roadways**

#### **a. Lead Vehicles**

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 typically operate in the caution mode.

#### **b. Work Vehicles**

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.

#### **c. Protection Vehicles**

A protection vehicle may follow the cone work vehicle when the cones are being placed and may follow when the cones are being removed.

### **3. MULTI-LANE ROADWAYS**

A lead vehicle may be used but is not required. The work vehicle placing cones shall follow directly behind the work vehicle applying the markings. A protection vehicle that does not function as a work vehicle should follow the cone work vehicle when traffic cones are being placed. A protection vehicle should follow the cone work vehicle when the cones are being removed from the roadway. Protection vehicles shall display a sign on the rear of the vehicle with the legend PASS ON LEFT (RIGHT).

**INTERSTATES AND LIMITED ACCESS ROADWAYS:** A protection vehicle shall follow the last work vehicle at all times and shall be equipped with a truck mounted attenuator that is certified for impacts not less than 62 mph in accordance with NCHRP350 Test Level Three (3).

## 150.05 CHANNELIZATION

### A. GENERAL

Channelization shall clearly delineate the travelway through the work zone and alert drivers and pedestrians to conditions created by work activities in or near the travelway. Channelization shall be done in accordance with the plans and specifications, the MUTCD, and the following requirements.

All Channelization Devices utilized on any project shall be NCHRP 350 compliant. Any device used on the Work shall be from the Qualified Products List. All devices utilized on the work shall have a decal, logo, or manufacturer's stamping that clearly identifies the device as NCHRP 350 compliant. The Contractor may be required to furnish certification from the Manufacturer for any device to prove NCHRP 350 compliance.

#### 1. Types of Devices Permitted for Channelization in Construction Work Zones:

##### a. DRUMS:

- 1) DESIGN: Drums shall meet the minimum requirement of the MUTCD and shall be reflectorized as required in Subsection 150.01.D. The upper edge of the top reflectorized stripe on the drum shall be located a minimum of 33 inches above the surface of the roadway. A minimum drum diameter of 18 inches shall be maintained for a minimum of 34 inches above the roadway.
- 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) TRANSITION TAPERS FOR LANE CLOSURES: Drums shall be used on all transition tapers. The minimum length for a merging taper for a lane closure on the travelway 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 ½ L.

The length of a closed lane or lanes, excluding the transition taper(s), shall be limited to a total of two (2) miles. Prior approval must be obtained from the Engineer before this length can be increased.

Night time conditions: When a merge taper exists into the night all drums located in the taper shall have, for the length of the taper only, a six (6") inch fluorescent orange (ASTM Type VI, VII, VIII, IX or X) reflectorized top stripe on each drum. The top six-inch stripe may be temporarily attached to the drum while in use in a taper. The Engineer may allow the fluorescent orange reflectorized six (6") inch 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 top stripe permanently attached shall not be used for any other conditions.

Multiple Lane Closures:

- (a) A maximum of one lane at a time shall be closed with each merge taper.
  - (b) A minimum tangent length of 2 L shall be installed between each individual lane closure taper.
- 4) LONGITUDINAL CHANNELIZATION: Drums shall be spaced as listed below for various roadside work conditions except as modified by

Subsection 150.06. Spacing shall be used for situations meeting any of the conditions listed as follows:

(a) 40 FOOT SPACING MAXIMUM

- (1) For difference in elevation exceeding two inches.
- (2) For heeled sections no steeper than 4:1 as shown in Subsection 150.06, Detail 150-E.

(b) 80 FOOT SPACING MAXIMUM

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

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

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

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.

b. VERTICAL PANELS

- 1) DESIGN: All vertical panels shall meet the minimum requirements of the MUTCD. All vertical panels shall have a minimum of 270 square inches of retro-reflective area facing the traffic and shall be mounted with the top of the reflective panel a minimum of 36" above the roadway.
- 2) APPLICATION: Lane encroachment by the drum on the travelway should permit a remaining lane width of ten feet. When encroachment reduces the travelway to less than ten feet, vertical panels shall be used to restore the travelway to ten feet or greater. No other application of vertical panels will be permitted.

c. CONES

- 1) DESIGN: All cones shall be a minimum of 28 inches in height regardless of application and shall meet the requirement of the MUTCD. Reflectorization may be deleted from all cones.

- 2) APPLICATION: For longitudinal channelizing only, cones will be permitted for daylight closures or minor shifts. (Drums are required for all 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 hours.

d. BARRICADES

DESIGN: Type III barricades shall meet the minimum requirements of the MUTCD and shall be reflectorized as required in Subsection 150.01.D. The Contractor has the option of choosing Type III barricades from the Qualified Products List 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 signs are attached to generic barricades or to barricades from the Qualified Products List (QPL) that have not been crash tested with signs attached then the responsibility for crashworthiness and the liability for mounting these signs to the barricades are assumed by the Contractor and the Contractor shall certify that the barricades are crashworthy under FHWA workzone guidelines for NCHRP 350 crashworthy compliance. Any generic barricades used in the work shall be stamped or stenciled to show compliance with NCHRP 350. The use of Type I and Type II barricades will not be permitted.

- 1) APPLICATION: Type III barricades shall be placed as required by the plans, the Standards, and as directed by the Engineer. All signs mounted on barricades shall be mounted to comply with the requirements of the MUTCD and NCHRP 350 Test Level III. NCHRP 350 crashworthy compliance may require that rigid signs be mounted separate from the Type III barricade.

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.

e. WARNING LIGHTS:

- 1) DESIGN: All warning lights shall meet the requirements of the MUTCD.
- 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. Flashing lights are not required for advance warning signs in Subsection 150.03.H.
  - (b) Type C Steady-Burn lights shall be used as shown in the Plans, the Standards, and as directed by the Engineer. Steady-burn lights are not required on drums for merging tapers that exist into the night.

f. TEMPORARY BARRIERS

- 1) DESIGN: Temporary barriers shall meet the requirements of Sections 620.
- 2) APPLICATION: Temporary barriers shall be placed as required by the plans, standards, and as directed by the Engineer. When Temporary barrier is located 20 feet or less from a travel lane, yellow reflectors shall be fixed to the top of the barrier at intervals not greater than 40 feet in the longitudinal section and 20 feet in the taper section and shall be mounted approximately two inches above the barrier. If both lanes of a two-lane two-way roadway are within 20 feet or less of the barrier then the reflectors shall be installed for both directions of traffic.

The reflectors shall be 100 square inches (ASTM Type VII or VIII) 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 gap in the barrier sections.

Approach end of Temporary barrier shall be flared or protected by an impact attenuator (crash cushion) or other approved treatment in accordance with Construction Details/Standards and Standard Specifications.

On interstate or other controlled access highways where lane shifts or crossovers cause opposing traffic to be separated by less than 40 ft., portable barrier shall be used as a separator.

**B. PORTABLE IMPACT ATTENUATORS:**

**1. DESCRIPTION**

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

**2. MATERIALS**

Materials used in the Attenuator shall meet the requirements of Section 648 for Portable Impact Attenuators.

**3. CONSTRUCTION**

Portable Impact Attenuator Unit/Arrays installation shall conform to the requirements of Section 648, Manufacturer's recommendations and Georgia Standard 4960 and shall be installed at locations designated by the Engineer, and/or as shown on the plans.

## **C. TEMPORARY GUARDRAIL ANCHORAGE- Type 12:**

### **1. DESCRIPTION**

This work consists of the furnishing, installation, maintenance and removal or Temporary Guardrail Anchorage- Type 12 used for Portable Barrier or temporary guardrail end treatment.

### **2. MATERIALS**

Materials used in the Temporary Guardrail Anchorage- Type 12 shall meet the requirements of Subsection 641.2 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.

### **3. CONSTRUCTION**

Installation of the Temporary Guardrail Anchorage- Type 12 shall conform to the requirements of the Plans, current Georgia Standards and Subsection 641.3 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.

## **150.06 DIFFERENCES IN ELEVATION BETWEEN TRAVEL LANES AND SHOULDERS (SEE SUBSECTION 150.06.G FOR PROJECTS CONSISTING PRIMARILY OF ASPHALTIC CONCRETE RESURFACING ITEMS)**

Any type of work such as paving, grinding, trenching, or excavation that creates a difference in elevation between travel lanes or between the travelway and the shoulder shall not begin until the Contractor is prepared and able to continuously place the required typical section to within two inches (2") of the existing pavement elevation. For any areas that the two inches minimum difference in elevation cannot be accomplished the section shall be healed as shown in Detail 150-E. 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.

A maximum of sixty (60) calendar days shall be allowed for conditions to exist that require any section or segment of the roadway or ramp to continue to require a healed section as described by Detail 150-E. Failure to meet this requirement shall be considered as non-performance of Work under Subsection 150.08.

When trenching or excavation for minor roadway or shoulder widening is required, all operations at one site shall be completed to the level of the existing pavement in the same work day.

Any channelization devices utilized in the work shall conform to the requirements of Subsection 150.05 and to the placement and spacing requirements in Details 150-B, 150-C, 150-D, and 150-E shown in this section.

Any construction activity that reduces the width of a travel lane shall require the use of a W-20 sign with the legend "LEFT/RIGHT LANE NARROWS". Two 24" x 24" red or red/orange flags may be mounted above the W-20 sign. The W-20 sign shall be located on the side of the travelway that has been reduced in width just off the travelway edge of pavement. The W-20 sign shall be a minimum of 500 feet in advance of any channelization devices that encroach on the surface of travelway. A portable changeable message sign may be used in lieu of the W-20 sign.

#### **GENERAL/TIME RESTRICTIONS:**

##### **A. STONE BASES, SOIL AGGREGATE BASE AND SOIL BASES**

###### **1. All Highways**

Differences in elevation of more than two inches between surfaces carrying or adjacent to traffic will not be allowed for more than a 24-hour period. A single length of excavated area that does not exceed 1000 feet in total length may be left open as a start up area for periods not to exceed 48 hours provided the Contractor can demonstrate the ability to continuously excavate and backfill in a proficient manner. Prior approval of the Engineer shall be obtained before any startup area may be allowed.

###### **2. LIMITED ACCESS HIGHWAY RAMPS (INTERSTATES):**

On projects that include ramp rehabilitation work, one ramp at a time may be excavated for the entire length of the ramp from the gore point of the ramp with the interstate mainline to the intersection with the crossing highway. This single ramp may remain excavated with a vertical difference in elevation greater than two (2") inches for a maximum of fourteen (14) calendar days with drums spaced at twenty (20') feet intervals as shown in Detail 150-B and a buffer space accepted under Section 150.06.F. After fourteen (14) calendar days the section shall be healed as required for all other highways. This area will be allowed in addition to the 1000 feet allowed for all other highways.

##### **B. ASPHALT BASES, BINDERS AND TOPPING**

###### **1. DIFFERENCES IN ELEVATION BETWEEN THE SURFACES OF ADJACENT TRAVELWAYS**

Travel lanes shall be paved with a plan that minimizes any difference in elevation between adjacent travel lanes. The following limitations will be required on all work:

- a. Differences of two inches (2") or less may remain for a maximum period of fourteen (14) calendar days.
- b. Differences of greater than two inches (2") shall be permitted for continuous operations only.



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 150.08.

## **2. Differences in Elevation Between Asphalt Travelway and Paved Shoulders**

Differences in elevation between the asphalt travelway and asphalt paved shoulders shall not be allowed to exist beyond the maximum durations outlined below for the conditions shown in Details 150-B, 150-C, 150-D, and 150-E:

Detail 150-B conditions shall not be allowed for more than 24 hours. A single length that does not exceed 1000 feet in total length may be left open for periods not to exceed 48 hours provided the Contractor can demonstrate the ability to continuously pave in a proficient manner. Prior approval of the Engineer shall be obtained before any section is allowed to exceed 24 hours. Any other disturbed shoulder areas shall be healed as in Detail 150-E.

Detail 150-C conditions will not be allowed for more than 48 hours.

Detail 150-D conditions will not be allowed for more than 30 calendar days.

Detail 150-E conditions will not be allowed for more than 60 calendar days.

Failure to meet these requirements shall be considered as non-performance of Work under Subsection 150.08.

## **C. PORTLAND CEMENT CONCRETE**

Work adjacent to a Portland Cement Concrete traveled way which involves the following types of base and shoulders shall be accomplished according to the time restrictions outlined for each type of base or shoulder. Traffic control devices shall be in accordance with Subsection 150.05.

### **1. Cement Stabilized Base**

Work adjacent to the traveled way shall be healed as per Detail 150-E 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-B.

## **2. Asphaltic Concrete Base**

When an asphaltic concrete base is utilized in lieu of a cement stabilized base the asphaltic concrete base shall be healed as per Detail 150-E within forty-eight (48) hours after the placement of each section of asphaltic concrete base. For the first forty eight hours traffic control shall be in compliance with Detail 150-B.

## **3. Concrete Paved Shoulders**

Concrete paved shoulders shall be placed within sixty (60) calendar days after the removal of each section of existing shoulder regardless of the type of base materials being placed on the shoulders. During the placement period, traffic control devices shall be in accordance with the appropriate detail based on the depth of the change in elevation. Differences in elevation of more than two inches between the travel way and the shoulder will not be allowed for more than a 24-hour period. A single length of excavated area that does not exceed 1000 feet in total length may be left open as a start up area for periods not to exceed 48 hours provided the Contractor can demonstrate the ability to continuously excavate and backfill in a proficient manner. Prior approval of the Engineer shall be obtained before any startup area may be allowed. Any other disturbed shoulder areas shall be healed as in Detail 150-E.

## **4. Asphaltic Concrete Shoulders**

A difference in elevation that meets the requirements of Detail 150-B shall not be allowed to exist for a period greater than forty-eight (48) hours. After the removal of the existing shoulder the section or segment of travelway may be healed with stone as per Detail 150-E for a maximum of fourteen (14) calendar days. Asphaltic concrete shoulders shall be placed within two (2") inches or less of the traveled way surface within fourteen (14) calendar days after the removal of the stone healed section or the removal of each section of the existing shoulder. The two (2") inches or less difference in elevation shall not remain in existence for a period that exceeds thirty (30) calendar days unless the paved shoulder is utilized as a detour for the traveled way. During the placement period, traffic control shall be in accordance with the appropriate detail based on the depth of the change in elevation.

The Contractor may propose an alternate plan based on Subsection 150.06.F. Failure to meet the above requirements and time restrictions shall be considered as non-performance of Work under Subsection 150.08.

## **D. MISCELLANEOUS ELEVATION DIFFERENTIALS FOR EXCAVATIONS ADJACENT TO THE TRAVELWAY**

Drainage structures, utility facilities, or any other work which results in a difference in elevation adjacent to the travelway shall be planned and coordinated to be performed in such a manner to minimize the time traffic is exposed to this condition. The excavation should be back filled to the minimum requirements of Detail 150-E as soon as practical. Stage construction such as plating or backfilling the incomplete work may be required. The difference in elevation shall not be allowed to exist for more than five (5) calendar days under

any circumstances. Failure to correct this condition shall be considered as non-performance of Work under Subsection 150.08.

## **E. CONDUIT INSTALLATION IN PAVED AND DIRT SHOULDERS**

The installation of conduit and conduit systems along the shoulders of a traveled way shall be planned and installed in a manner to minimize the length of time that traffic is exposed to a difference in elevation condition. The following restrictions and limitations shall apply:

### **1. Differences in Elevation of Two (2") Inches or Less**

The shoulder may remain open when workers are not present. When workers are present the shoulder shall be closed and the channelization devices shall meet the requirements of Subsection 150.05. The difference in elevation on the shoulder shall remain for a maximum period of fourteen (14) calendar days.

### **2. Differences in Elevation Greater Than Two (2") Inches**

The shoulder shall be closed. The shoulder closure shall not exceed twenty-four (24) hours in duration unless the Special Conditions in Subsection 150.11 modifies this restriction or the Engineer allows the work to be considered as a continuous operation.

Failure to meet these requirements shall be considered as non-performance of Work under Subsection 150.08.

## **F. MODIFICATIONS TO TIME RESTRICTIONS**

The Contractor may propose any alternate temporary traffic control plan that utilizes a portion of the travel lane as a "buffer space". This buffer space may allow for an enhanced work area that will allow for the placement of materials to proceed at a pace that could not be achieved with the time restriction requirements outlined in Section 150.06.A, 150.06.B, and 150.06.C. The Contractor may propose modified time restrictions based on the use of the buffer space. Any proposed modifications in the time duration allowed for the differences in elevations to exist shall be reviewed by the Engineer as a component of the overall TTC plan. No modifications shall be made until the proposed plan is accepted by the Engineer. The Engineer shall have no obligation to consider any proposal which results in an increase in cost to the Department.

For the travel lane described in each of the details 150-B, 150-C, 150-D and 150-E it is presumed that the pavement marking edgeline (yellow or white solid stripe) is located at the very edge of the travel lane surface. A buffer space (temporary paved shoulder) that utilizes a portion of the travel lane should be six (6') feet in width desirable but shall not be less than four (4') feet in width. Any remaining travel lane(s) shall not be less than ten (10') feet in width. Modifications to drum spacing shown in the details above will not be allowed.

If the proposed shifting of the traffic to obtain a buffer space and maintain a minimum travel lane(s) of ten (10') feet requires the use of any existing paved shoulders then the cost of maintenance and repair of the existing paved shoulder(s) shall be the responsibility of the Contractor. The Contractor is responsible for the costs of maintenance and repairs even if the existing paved shoulder(s) is to be removed in a later stage of the work. Existing shoulders that have rumble strips shall have the rumble strips removed before the shoulder can be utilized as part of the travel lane. The cost of the removal of the rumble strips shall be done at no cost to the Department even if the shoulder is to be removed in a later stage of the work.

Any modifications to the staging and time restrictions that are approved as part of the TTC plan shall be agreed to in writing. Failure to meet these modifications shall be considered as non-performance of the Work under Subsection 150.08.

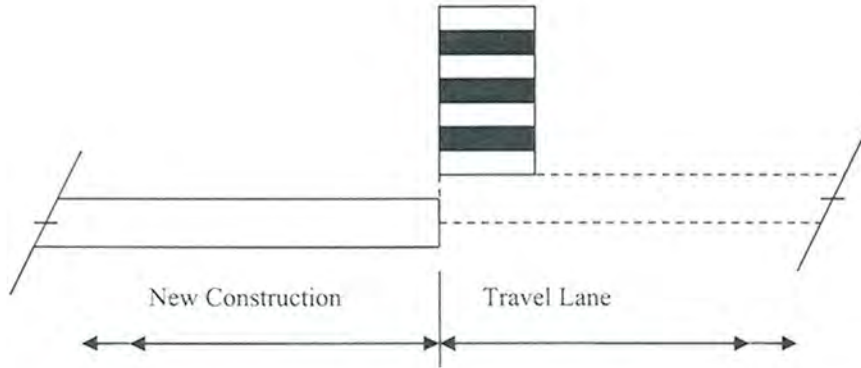
## **G. ASPHALTIC CONCRETE RESURFACING PROJECTS**

**SHOULDER CONSTRUCTION INCLUDED AS A PART OF THE CONTRACT:** When the placement of asphaltic concrete materials creates a difference in elevation greater than two (2") inches between the earth shoulder (grassed or un-grassed) and the edge of travelway or between the earth shoulder and a paved shoulder that is less than four (4') feet in width, the Contractor shall place and maintain drums in accordance with the requirements of Subsection 150.05A.1.a.4). When the edge of the paved surface is tapered with a 30-45 degree wedge, drums may be spaced at 2.0 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.

**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 (2") inches between the earth shoulder (grassed or un-grassed) and the edge of travelway or between the earth shoulder and a paved shoulder that is less than four (4') feet in width, the Contractor shall notify the Engineer, in writing, when the resurfacing work including all punchlist items has been completed.

See Subsection 150.03.1 for the requirements for "LOW/SOFT SHOULDERS" and "SHOULDER DROP-OFF" signage.

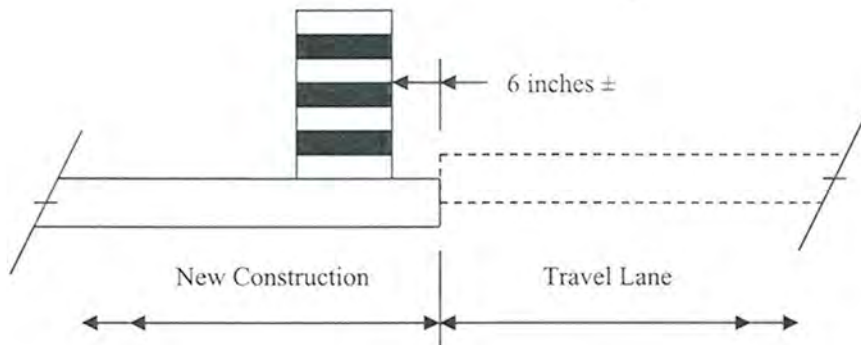
<p>Location of drums when Elevation Difference exceeds 4 inches. Drums spaced at 20 foot intervals.  <b>Note:</b> If the travel way width is reduced to less than 10 feet by the use of drums, vertical panels shall be used in lieu of drums.</p>	
--	--



ELEVATION DIFFERENCE GREATER THAN 4 INCHES

DETAIL 150-B

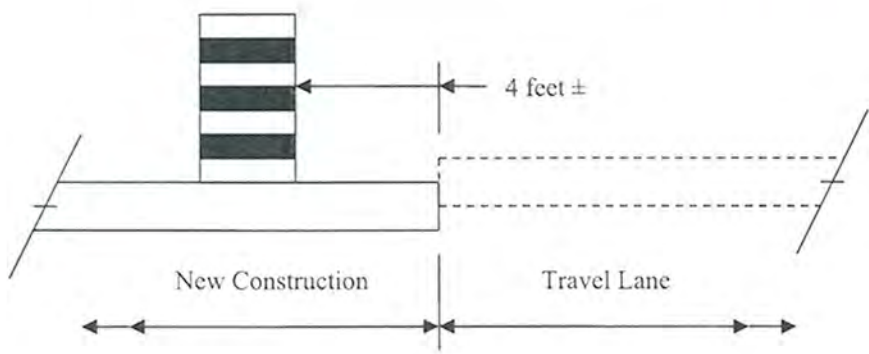
Drums spaced at 40 foot intervals.	Location of drums when Elevation Difference is 2+ inches to 4 inches.
------------------------------------	---



ELEVATION DIFFERENCE 2+ to 4 inches

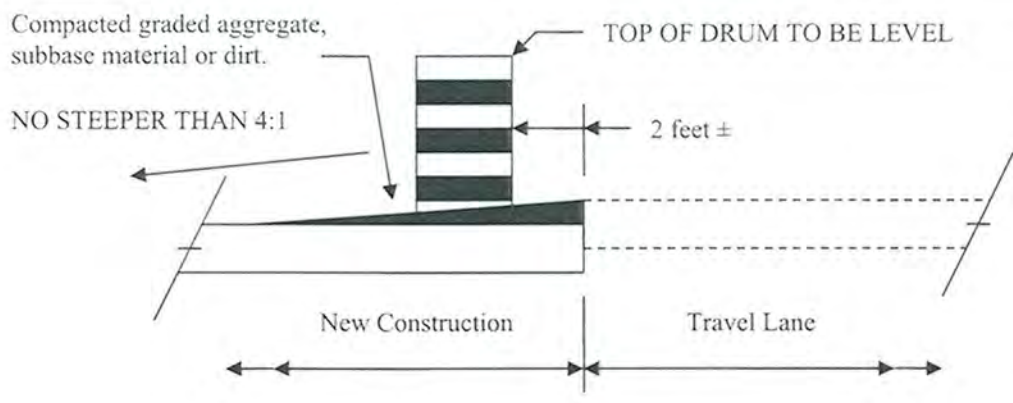
DETAIL 150-C

Drums spaced at 80 foot intervals.	Location of drums when Elevation Difference is 2 inches or less.
------------------------------------	--



ELEVATION DIFFERENCE OF 2 INCHES OR LESS  
DETAIL 150-D

	Location of drums immediately after completion of healed sections spaced at 40 foot intervals.
--	--



HEALED SECTION  
DETAIL 150-E

## **150.07 FLAGGING AND PILOT CARS:**

### **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  
Southern Safety Services  
Construction Safety Consultants  
Ivey Consultants  
American Traffic Safety Services Association (ATSSA)

Certifications from other agencies will be accepted only if their training program has been approved by any one of the organizations listed above.

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 high-visibility clothing in compliance with Subsection 150.01.A. The apparel background (outer) material color shall be fluorescent orange-red, fluorescent yellow-green, or a combination of the two as defined in the ANSI standard. The retroreflective material shall be orange, yellow, white, silver, yellow-green, or a fluorescent version of these colors, and shall be visible at a minimum distance of one thousand (1000) feet. The retroreflective safety apparel shall be designed to clearly identify the wearer as a person. They shall use a Stop/Slow paddle meeting the requirements of the MUTCD for controlling traffic. The Stop/Slow paddles shall have a shaft length of seven (7) feet minimum. The Stop/Slow paddle shall be retro-reflectorized 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. The flag shall, as a minimum, be 24" inches square and red or red/orange in color. For night work, the vest shall have reflectorized stripes which meet the requirements of the MUTCD.

### **D. FLAGGER WARNING SIGNS**

Signs for flagger traffic control shall be placed in advance of the flagging operation in accordance with the MUTCD. In addition to the signs required by the MUTCD, 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 will 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.

#### **F. 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 150.02.A.8. 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.

### **150.08 ENFORCEMENT**

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 Subsection 105.15, 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	\$200
\$100,000	\$1,000,000	\$500
\$1,000,000	\$5,000,000	\$1,000
\$5,000,000	\$20,000,000	\$1,500
\$20,000,000	\$40,000,000	\$2,000
\$40,000,000	\$-----	\$3,000

**150.09 MEASUREMENT**

**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 25 (twenty-five) percent of the Lump Sum price will be made. For each progress payment thereafter, the total of the Project percent complete shown on the last pay statement plus 25 (twenty-five) percent will be paid (less previous payments), not to exceed one hundred (100) percent.

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. 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.

#### **C. TEMPORARY BARRIER**

Temporary Barrier shall be measured as specified in [Sections 622](#).

#### **D. CHANGEABLE MESSAGE SIGN, PORTABLE**

Changeable Message Sign, Portable will be measured as specified in [Section 632](#).

#### **E. 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.

#### **F. TRAFFIC SIGNAL INSTALLATION- TEMPORARY**

Traffic Signal Installation- Temporary will be measured as specified in [Section 647](#).

#### **G. FLASHING BEACON ASSEMBLY**

Flashing Beacon Assemblies will be measured as specified in [Section 647](#).

#### **H. 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.

#### **I. PAVEMENT MARKINGS**

Pavement markings will be measured as specified in Section 150.

**J. 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.

**K. 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.

**L. 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.

**150.10 PAYMENT:**

When shown in the Schedule of Items in the Proposal, the following items will be paid for separately.

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 ____ Inch, (Color) .....	per Linear Mile
Item No. 150. Traffic Control, Skip Traffic Stripe, Thermoplastic _____ Inch, (Color) .....	per Linear Mile
Item No. 150. Traffic Control, Pavement Arrow with Raised Reflectors .....	per Each
Item No. 150. Traffic Control, Raised Pavement Markers-All Types.	per Each

Item No. 150. Interim Ground Mounted Special Guide Signs ..... Foot	per Square
Item No. 150. Interim Overhead Special Guide Signs ..... Foot	per Square
Item No. 150. Remove & Reset Existing Special Guide Signs, Ground Mount, Complete in Place .....	per Each
Item No. 150. Remove & Reset, Existing Special Guide Signs, Overhead, Complete in Place .....	per Each
Item No. 150. Traffic Control, Portable Impact Attenuator.....	per Each
Item No. 150. Traffic Control, Pavement Markers, Words and Symbols .....	per Square
Foot	
Item No. 150. Traffic Control, Pavement Arrow (Painted) with Raised Reflectors .....	per Each
Item No. 150. Traffic Control, Workzone Law Enforcement.....	per Hour
Item No. 150. Modify Special Guide Sign, Ground Mount..... Foot	per Square
Item No. 150. Modify Special Guide Sign, Overhead..... Foot	per Square
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. 620. Temporary Barrier.....	per Linear Foot
Item No. 632. Changeable Message Sign, Portable .....	per Each
Item No. 641. Temporary Guardrail Anchorage, Type 12 .....	per Each
Item No. 647. Traffic Signal Installation, Temp .....	Lump Sum
Item No. 647. Flashing Beacon Assembly, Structure Mounted .....	per Each
Item No. 647. Flashing Beacon Assembly, Cable Supported .....	per Each