

**INVITATION TO BID
FOR
FC-8742, ANNUAL CONTRACT FOR STREET
MICRO-SURFACING ACTIVITES**



City of Atlanta

**Richard Mendoza
Commissioner
Department of Public Works**

**Adam L. Smith, Esq., CPPO, CPPB, CPPM,
CPP, CIPC, CISCC, CIGPM, CPPC
Chief Procurement Officer
Department of Procurement**



CITY OF ATLANTA

Kasim Reed
Mayor

SUITE 1900
55 TRINITY AVENUE, SW
ATLANTA, GA 30303
(404) 330-6204 Fax: (404) 658-7705
Internet Home Page: www.atlantaga.gov

DEPARTMENT OF PROCUREMENT
Adam L. Smith, Esq., CPPO, CPPB, CPPM,
CPP, CIPC, CISCC, CIGPM, CPPC
Chief Procurement Officer
asmith@atlantaga.gov

February 15, 2016

ATTENTION INTERESTED BIDDERS:

Your firm is hereby invited to submit to the City of Atlanta (the "City"), Department of Procurement (the "DOP"), a Bid for **FC-8742, Street Micro Surfacing Activities**. This solicitation will require the successful Bidder to provide labor, materials, and equipment for placing micro-surfacing materials for filling ruts and resurfacing existing paved public right-of-way roadways within the City of Atlanta.

A **Pre-Bid Conference** will be held on **Tuesday, March 1, 2016, at 11:00 A.M. EST**, at 55 Trinity Avenue, S.W., Suite 1900 (1st Floor), City Hall South, Atlanta, Georgia 30303. The purpose of the Pre-Bid Conference is to provide Bidders with detailed information regarding the Procurement process and to address questions and concerns. There will be representatives from the Department of Public Works, Risk Management, Office of Contract Compliance and the Ethics Office available at the conference to discuss this project and to answer any questions. Attendance at the Pre-Bid Conference is strongly encouraged.

Bidders will be allowed to ask questions during the Pre-Bid Conference. However, please note that oral answers to questions during the Pre-Bid Conference are not authoritative. Authoritative responses to all written questions will be published and made available to all proponents in the form of an addendum. The deadline to submit questions in writing is **Friday, March 4, 2016, at 1:00 P.M. EST**.

Your response to this Invitation to Bid ("ITB") must be received by designated staff of the Department of Procurement at 55 Trinity Avenue, S.W., Suite 1900 (1st Floor), City Hall South, Atlanta, Georgia 30303, **no later than 2:00 P.M. EST, on Wednesday, March 30, 2016**.

****ABSOLUTELY NO BIDS WILL BE ACCEPTED AFTER 2:00 P.M. EST****

Bids will be publicly opened and read at 2:01 P.M. EST on the respective due date at 55 Trinity Avenue, S.W., Suite 1900 (1st Floor), City Hall South, Atlanta, Georgia 30303.

This Bid is being made available by electronic means. If accepted by such means, then the Bidder acknowledges and accepts full responsibility to insure that no changes are made to the Bid. In the event of conflict between a version of the Bid in the Bidder's possession and the version maintained by DOP, the version maintained by the DOP shall govern.

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Invitation to Bid
FC-8742, Street Micro Surfacing Activities
February 15, 2016
Page 2

You are required to email and confirm receipt of your business name, contact person, address, phone number, fax number, email address and the project number to James E. Crenshaw, Contracting Officer, Senior, at jecrenshaw@atlantaga.gov to be placed on the Plan Holders List. Failure to do so will prevent you from receiving any addenda that are issued and may deem you non-responsive.

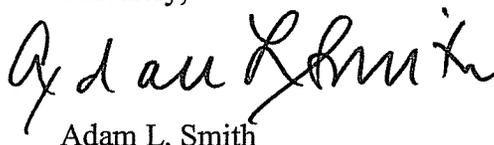
The bid document may also be obtained from the Department of Procurement, Plan Room, 55 Trinity Avenue, S.W., Suite 1900 (1st Floor), City Hall South, Atlanta, Georgia 30303, at a cost of \$100.00 per package, beginning on February 15, 2016. All purchased solicitation documents include a solicitation package, scope of work booklet and full size drawings (if applicable).

If you have any questions regarding this project, please contact James E. Crenshaw, Contracting Officer, Senior, at (404) 865-8816 or by email at jecrenshaw@atlantaga.gov. Any questions regarding the procedure for purchasing a copy of the document or obtaining a copy of the Plan Holders List should be directed to the Plan Room at (404) 330-6204.

The City reserves the right to cancel any and all solicitations and to accept or reject, in whole or in part, any and all bids when it is for good cause and in the best interest of the City.

Thank you for your interest in doing business with the City.

Sincerely,

A handwritten signature in black ink that reads "Adam L. Smith". The signature is written in a cursive style with a large initial "A".

Adam L. Smith

ALS/JEC/MSG

TABLE OF CONTENTS

FC-8742, Annual Contract for Street Micro-Surfacing Activities

Part I

Section 1	Information and Instructions to Proponents
Section 2	Required Submittals
	<ul style="list-style-type: none">▪ Form 1: Illegal Immigration Reform and Enforcement Act▪ Form 2: Contractor Disclosure▪ Form 3: Bid Bond▪ Form 4.1: Certification of Insurance Ability▪ Form 4.2: Certification of Bonding Ability▪ Form 5: Acknowledgement of Addenda▪ Form 6: Bidder Contact Directory▪ Form 7: Reference List▪ Form 8: Required Submittal Checklist

Part II

Draft Annual Construction Services Agreement

Exhibit A	General Scope of Services
Exhibit A.1	Compensation and Fee Schedule
Exhibit A.2	Draft Task Order Form
Exhibit B	Legislation (Not Applicable)
Exhibit C	Supplemental Conditions and Technical Specifications
Exhibit D	Additional Contract Documents
	Bidder Qualifications
	<ul style="list-style-type: none">▪ Experience Statement▪ Low Tier Experience Statement▪ Work In Progress▪ Safety and Health History Form▪ Resumes of Key Personnel▪ Summary of Quality Control Program▪ Work in Progress
Appendix A	Office of Contract Compliance Requirements
Appendix B	Insurance & Bonding Requirements
Appendix C	Local Bidder Preference Program

PART I

Section 1 – Instructions to Bidders

INSTRUCTIONS TO BIDDERS

1. SOLICITATION/NOT AN OFFER

This solicitation does not constitute an offer by the City of Atlanta (the “City”) to enter into an agreement and is not an offer that can be accepted by the Bidder to form an agreement. No language contained anywhere in this solicitation should be construed or interpreted to convey an offer to enter into agreement with the City. The terms of this solicitation are to be considered as a whole. However, no terms may be considered in whole or in part to constitute an offer to enter into an agreement with the City.

This solicitation is only an invitation for offers from interested Bidders and no offer shall bind the City.

This solicitation is an invitation for the Bidder to make an offer to the City in the form of a Bid. No offer made in response to the terms and conditions of this solicitation may include any terms and conditions which can bind the City to any contractual Agreement until such time as the Agreement has first been awarded by the City to the most responsible and responsive bidder whose bid meets the material requirements and criteria set forth in the solicitation and is accepted and fully executed and sealed by agents of the City designated on the signature page of the Agreement included in the solicitation. The term of your offer must conform to all applicable federal and local laws, including all ordinances of the City and all requirements of the solicitation.

YOUR OFFER IS A FIRM OFFER AND MAY NOT BE WITHDRAWN EXCEPT AS AUTHORIZED IN THE CODE OF ORDINANCES OF THE CITY OF ATLANTA.

Your response to this solicitation is a firm offer, which the City may accept or reject in whole or in part without any further action on your part. The acceptance of your offer by the City will form an Agreement, which is enforceable against you. **Your offer may not be withdrawn except under the terms and conditions specified in the Procurement and Real Estate Code of the City of Atlanta as codified in Part 5, Chapter 5 of the Code of Ordinances of the City of Atlanta or OCGA 36-91-52.**

2. RECEIPT AND OPENING OF BIDS

Sealed Bids for **FC-8742, Annual Contract for Street Micro-Surfacing Activities** will be received by designated staff of the Department of Procurement, Suite 1900, City Hall South, 55 Trinity Avenue, S.W., Atlanta, Georgia 30303, **no later than 2:00 P.M., EST**, (as verified by the Bureau of National Standards), on **Wednesday, March 30, 2016**.

ABSOLUTELY NO BID WILL BE ACCEPTED AFTER 2:00 P.M. EST

All Bids received by the time and date established above will be opened and publicly read.

3. PREPARATION OF BIDS

All Bids must be submitted on bid document forms supplied by the City and shall be subject to all requirements of the Agreement Documents. All Bids must be regular in every respect and no interlineations, excisions, or special conditions shall be made or included in the Bid by the Bidder.

Lump sum, unit price, and extensions of unit prices must be entered in the appropriate spaces provided on the Bid Schedule/Bid Form. Unit prices shall include an appropriate allocation of overhead and other indirect costs so that the summation of unit price extensions and lump sum items represents the total bid amount. In the case of any Bid item for which a fixed amount predetermined by the City has already been entered on the Bid Schedule, the amount so entered shall be conclusive of all Bidders as the price for such item, and shall not be revised unless the City directs a change in the Scope of Work affecting the item to which such amount relates.

The City may consider as irregular any conditional bid or any Bid on which there is an alteration of, or departure from, the Bid Schedule hereto attached and at its option may reject the same.

Erasures or other changes in the Bids must be explained or noted over the signature of the Bidder. Failure to do so shall render the Bidder as non-responsive and cause rejection of the Bid.

Failure to execute the Bid Schedule/Bid Form documents may render the Bidder as non-responsive and cause rejection of the Bid.

4. GEORGIA UTILITY CONTRACTOR'S LICENSE (Not Applicable)

The Bidder shall provide a Bidder's Georgia Utility Contractor's License Number on the outside of the Sealed Envelope. A Utility Contractor's License number held by a Subcontractor or issued by another state does NOT fulfill this requirement in lieu of the Bidder's Georgia Utility Contractor's License. Failure to provide the Bidder's Georgia Utility Contractor License Number on the outside of the sealed envelope will result in a rejection of the Bid at the Opening. The Bidder is required to submit the certificate included in Exhibit D, Additional Contract Documents.

5. HOW TO SUBMIT BIDS

The Bid and required submittals, including the Bid Schedule, the Bid Documentation, the Bid Form, the acknowledgment of each Addendum, the Bid Bond Guarantee, the Power of Attorney for the attorney-in-fact signing the Bid Guarantee, the Affidavit, Office of Contract Compliance forms/certificates, and other documents as required in these Agreement documents may be photocopied for submission of Bids. **Submit (1) original**

and seven (7) copies of the Bid and required attachments. In addition to the hard copy submittals, each Bidder shall submit two (2) digital versions of its Bid in Adobe Portable Document Format (PDF) on Compact Discs (CDs). CD One (1) version should be a duplicate of the hard copy of the Bid with no deviations in order or layout of the hard copy Bid. CD Two (2) should be a redacted version of your hard copy Bid. Please refer to the Georgia Open Records Act (O.C.G.A. Section 50-18-72) for those items of documents that can be redacted.

The City assumes no liability for differences in information contained in a Bidder's printed Bid and that contained on the CDs. In the event of a discrepancy, the City will rely upon the information contained in the Bidder's printed material (Hard Copy). Each CD should be labeled with the Project Number, Project Name and the CD Number.

The complete package of Bid documents shall be enclosed in envelopes (outer and inner), both of which shall be sealed and clearly labeled with the project name and numbers, name of Bidder and date and time of bid opening in order to guard against premature opening of the Bid.

Bids must be addressed to:

Adam L. Smith, Esq., CPPO, CPPB, CPPM,
CPP, CIPC, CISCC, CIGPM, CPPC
Chief Procurement Officer
Department of Procurement
55 Trinity Avenue, Suite 1900
Atlanta, GA 30303-0307

6. EXECUTION OF BIDDING DOCUMENTS

Bidders shall submit their Bids, together with the bid guarantee and all forms which the Bidder is required to sign, executed in the appropriate manner as set forth below:

- a. If the Bidder is a corporation, all documents requiring execution by the Bidder shall be signed by the president or vice-president of the corporation, whose signature shall be attested by the secretary or assistant secretary of the corporation and the corporate seal affixed.
- b. If the Bidder is an individual, he or she shall sign the documents and his or her signature shall be notarized by a notary public.
- c. If the Bidder is an individual doing business under a trade name, all documents shall be signed by the Bidder whose signature shall be followed by either, "doing business as," or "trading as," followed by the trade name of the Bidder's business, and notarized by a notary public.

- d. If the Bidder is a partnership, all forms shall be executed by placing the name of the partnership followed by "By: (the name of the partner executing)" followed by the word "Partner," and notarized by a notary public.
- e. If the Bidder is a joint venture, each party to the joint venture shall execute the Bidding Documents in the manner set forth in items a, b, c, or d of this article of the Instructions to Bidders as appropriate for this type of organization.

If the Bidder is a Joint Venture, all other documents in the Bidding Documents shall be executed by one of the parties to the joint venture, as provided by Article 4 of the Joint Venture Statement, in the same manner as the executed said Joint Venture Statement.

7. FAILURE TO BID

Your failure to respond to this Invitation to Bid may result in the removal of your company from the City's Bid list.

8. ERRORS IN BIDS

Bidders and their authorized representatives are expected to fully familiarize themselves with the conditions, requirements, and Specifications before submitting Bid. Failure to do so will be at the Bidder's own risk. In case of error in extension or prices in the Bid, the unit prices(s) shall govern.

9. DISQUALIFICATION OF BIDDERS

Any of the following may be considered as sufficient for disqualification of a Bidder and the rejection of the Bid:

- a. Submission of more than one Bid for the same work by an individual, firm, partnership or Corporation under the same or different name(s);
- b. Evidence of collusion among Bidders;
- c. Previous participation in collusive bidding on Work for the City;
- d. Submission of an unbalanced Bid, in which the prices quoted for same items are out of proportion to the prices for other items;
- e. Lack of competency of Bidder (the Agreement will be awarded only to a Bidder(s) rated as capable of performing the Work; the City may declare any Bidder ineligible at any time during the process of receiving Bids or awarding the Agreement where developments arise which, in the opinion, the City adversely affect the Bidder's responsibility; however, the Bidder will be given an opportunity by the City to present additional evidence before final action is taken;

- f. Lack of responsibility as shown by past Work judged from the standpoint of workmanship and progress; financial irresponsibility, including but not limited to, leaving retainage in City account;
- g. Uncompleted Work for which the Bidder is committed by Agreement, which in the judgment of the City, might hinder or prevent the prompt completion of Work under this Agreement if awarded to such Bidder; and
- h. Being in arrears on any existing or prior contracts with the City or in litigation with the City thereon or having defaulted on a previous contract with the City.

10. REJECTION OF BIDS

Bids may be considered irregular and may be rejected if they show omissions, alterations of forms, addition not called for, conditions limitations, unauthorized alternate Bids or other irregularities of any kind. The City reserves the right to waive any informalities or irregularities of Bids.

11. FAILURE TO PERFORM

If for any reason the Contractor fails to perform any of the Work required by the Specifications, or if the Work performed is not as specified, the City reserves the absolute right to have such Work performed by other persons and deduct the cost thereof from the Bid price of the company under Agreement.

12. BID SCHEDULE (REQUIRED SUBMITTAL)

Unit prices shall include an appropriate allocation of overhead, other indirect costs and profits so that the summation of unit price extensions and lump sum items represents the total Bid amount. In the case of any Bid item for which a fixed amount predetermined by the City has already been entered on the Bid Schedule, the amount so entered shall be conclusive of all Bidders as the price for such item, and shall not be revised unless the City directs a change in the Scope of the Work affecting the item to which such amounts relates. Award will be based on the total fixed unit cost for all items aggregated.

13. BID GUARANTEE (REQUIRED SUBMITTAL)

Bidders are required to furnish a Bid Guarantee in the amount of five percent (5%) of the total Bid amount. Bidders offering alternative Bids shall provide a guaranty for the largest total Bid amount. At the option of the Bidder, the guaranty may be a certified check payable to the order of the City or a bid bond in the form attached. The bid bond shall be secured by a guaranty or a surety company listed in the latest issue of U.S. Treasury Circular 570. The amount of such bid bond shall be within the maximum amount specified for such company in Circular 570. No Bid shall be considered unless it is accompanied by the required guaranty. Bid Guarantee shall insure the execution of the Agreement and the furnishing of the performance and payment bonds and insurance by the successful Bidder as required by

the Agreement Documents. The Bid Guarantee of the Bidders submitting the five (5) lowest total Bid amounts for the Agreement will be retained either until the successful Bidder has signed the Agreement and furnished performance and payment bonds and certificates of insurance, or until the ninetieth (90th) calendar day after the Bid opening date, whichever is sooner. Other Bid Guarantees will be returned within ten (10) calendar days after the Bid opening date. Bid Guarantees being held pending the signing of the Agreement and furnishing other documents will be returned within three (3) calendar days thereafter. Each Bidder agrees that if it is awarded the Agreement and fails within the time stipulated to execute the Agreement and to furnish the other documents required, the City will retain the Bid Guarantee as liquidated damages and not as a penalty.

Attorneys-in-fact who sign bid bonds must file with the bond a certified and effectively dated copy of their power of attorney.

14. STATEMENT OF BIDDER'S QUALIFICATIONS (REQUIRED SUBMITTAL)

The statement of Bidder's Qualifications must be filled out completely, signed by the Bidder, and notarized.

The City shall have the right to require such additional information, as it deems necessary to evaluate the ability of the Bidder to successfully perform the Work.

The City reserves the right to reject any Bidder who does not satisfy the City as to his ability to successfully perform the Work, previous pre-qualification notwithstanding.

The cause for rejection shall include:

- a. Non-compliance of the Bidder with the requirements of an equal employment opportunity in contracting program as may be prescribed by ordinance;
- b. Non-compliance by the Bidder with the requirements of a minority and female business enterprise participation program as may be prescribed;
- c. Inadequate quality, availability and adaptability of the supplies or services to the particular use required; or
- d. Unacceptable number and scope of conditions attached to the Bid by the Bidder, if any.

15. AFFIDAVIT (REQUIRED SUBMITTAL)

Affidavits must be filled in completely, signed by the Bidder, and notarized. Violation of the statements set forth in this affidavit may be grounds for rejection of Bid, or termination of Agreement by the City, as appropriate, as well as other appropriate remedies as provided by local, state, and federal statutes.

16. EQUAL BUSINESS OPPORTUNITY PROGRAM (REQUIRED SUBMITTAL)

The Bidder shall complete the Equal Business Opportunity (“**EBO**”) Program documents in accordance with the instructions included in Appendix A, Requirements of the Office of Contract Compliance and shall properly execute the documents.

A determination by the City that misstatements have been made by the Bidder in this document shall cause rejection of Bid or termination of Agreement, as appropriate and shall be grounds for other remedies available under City ordinances, and state or federal statutes.

17. AUTHORIZATION TO TRANSACT BUSINESS (REQUIRED SUBMITTAL)

Each Bidder must submit with its Bid documentation that demonstrates it is duly authorized to conduct business in the State of Georgia. If the Contractor is a corporation or corporations combined to form a joint venture, the corporation or members of the joint venture team, prior to Agreement execution, must submit documentary evidence from the Secretary of State that the corporation is in good standing and that the corporation is authorized to transact business in the State of Georgia.

18. BUSINESS NON-DISCRIMINATION POLICY

The City prefers to do business with firms or institutions that include representation of minorities and women at all levels.

19. EQUAL EMPLOYMENT OPPORTUNITY (“EEO”) IN PURCHASING AND CONTRACTING

To be eligible for award of this Agreement, the Bidder(s) must certify and fully comply with the requirements, terms, and conditions of the section on EEO.

20. CONTRACT EMPLOYMENT REPORT

Upon award of an Agreement with the City, the successful Bidder must submit a Contract Employment Report (“**CER**”) and supplemental information as required to comply with the paragraph, “Monitoring of EEO Policy, Requirements of the Office of Contract Compliance”.

21. FIRST SOURCE JOBS POLICY EMPLOYMENT AGREEMENT (REQUIRED SUBMITTAL LOCATED IN APPENDIX A)

The Bidder shall acknowledge and implement the First Source Jobs Policy.

22. BID FORM; BID DATA; CHECKLIST (REQUIRED SUBMITTALS)

The Bidder must complete and execute these sections of the Bidding documents.

23. WAGE RATES OF CITY OF ATLANTA FUNDED CONSTRUCTION PROJECTS

Contractor is Responsible for all Federal and State government wage requirements.

24. PRE-BID INSPECTION

The Bidder shall make itself familiar with all of the Agreement documents and other instructions before submitting its Bid, in order that no misunderstanding shall exist in regard to the nature and character of the Work to be done. No allowance shall be made for any claims that the Bid is based on incomplete information as to the nature and character of the site or the Work involved.

The Contractor, by execution of the Agreement, shall in no way be relieved of any obligation under it due to its failure to receive or examine any form or legal instrument and the City shall be justified in rejecting any claims based on facts regarding that which the Contractor should have known as a result thereof.

25. ADDENDA AND INTERPRETATIONS

All questions by prospective Bidders as to the interpretations of the Bidding Documents must be submitted in writing to: James E. Crenshaw, Contracting Officer, Senior, City of Atlanta, Department of Procurement, 55 Trinity Avenue, S.W. Suite 1900, Atlanta, Georgia 30303, or faxed to (404) 865-8504 or emailed to jecrenshaw@atlantaga.gov, and must be received by **Friday, March 4, 2016 at 1:00 P.M. EST**. Every interpretation made to a Bidder will be in the form of an addendum to the Bidding Documents, and when issued, will be on file in the Department of Procurement. In addition, all addenda will be mailed to each person holding Bidding Documents, but it shall be the Bidder's responsibility to make inquiry as to the addenda issued. All such addenda shall become part of the Agreement and all Bidders shall be bound by such addenda, whether or not received by the Bidders.

The City shall not be bound by any information, explanation, clarification, or any interpretation, oral or written, by whosoever made, that is not incorporated into an addendum to the Bidding Documents. No response shall be made to inquiries received later than **1:00 P.M. EST on Friday, March 4, 2016**.

26. PROHIBITED CONTACTS

Any questions regarding this ITB should be submitted in writing to City's contact person, **James E. Crenshaw**, Contracting Officer, Senior, Department of Procurement, 55 Trinity Avenue, SW, Suite 1900, Atlanta, Georgia 30303-0307 or e-mail jecrenshaw@atlantaga.gov. All Bidders and representatives of any Bidder are strictly

prohibited from contacting any other City employees or any third-party representatives of City on any matter having to do with this ITB. All communications by any Bidder concerning this ITB must be made to the City's contact person, or any other City representatives designated by the Chief Procurement Officer in writing.

27. PRE-BID CONFERENCE

A Pre-bid Conference will be held on **Tuesday, March 1, 2016, at 11:00 A.M. EST**, in Suite 1900, Department of Procurement, 55 Trinity Avenue, S.W., Atlanta, Georgia 30303. At that time, the general requirements of the project will be discussed. Any additional questions raised by Bidders will be discussed. Any additional questions raised by Bidders will be discussed. It is **strongly** encouraged that all Bidders attend the Pre-bid Conference.

General requirements of the project will be discussed at the Pre-bid Conference. Also discussed will be questions regarding preparation and submission of Bids and general contractual requirements. Bidders will be allowed to ask questions. **Oral answers to questions during the Pre-bid Conference will not be authoritative.**

It should be emphasized that nothing stated or discussed during the course of this Conference or the Site Visit shall be considered to modify, alter or change the requirements of the Bidding Documents, unless it shall be subsequently incorporated into an addendum to the Bidding Documents.

28. TIME FOR RECEIVING BIDS

Sealed Bids for this project will be received by designated staff of the Department of Procurement, Suite 1900, City Hall South, 55 Trinity Avenue, S.W., Atlanta, GA 30303, no later than 2:00 P.M. EST, (as verified by the Bureau of National Standards) on **Wednesday March 30, 2015. ABSOLUTELY NO BIDS WILL BE RECEIVED AFTER 2:00 P.M. EST ON THE RESPECTIVE DATE.** All Bids received by the time and date set forth will be opened publicly and read at **2:01 P.M. EST** in the Department of Procurement Bid Conference Room, Suite 1900, at the aforementioned address.

Bids received prior to the advertised hour of opening will be kept secured and sealed. The contracting officer whose duty it is to open them will decide when the specified time has arrived, and no Bid received thereafter will be considered, except that when a Bid arrives by mail after the time fixed for opening, but before the reading of all other Bids is completed, and it is shown to the satisfaction of the City that the non-arrival on time was due solely to delay in the mail for which the Bidder was not responsible, such Bid will be received and considered.

29. BID MODIFICATION AND WITHDRAWAL

Bids may be modified after they have been submitted, but only before the Bid opening date and time. Modifications must be signed by the Bidder and must be received by the City no later than the Bid opening time and date. Modifications should not reveal the total Bid

amount, but should identify the addition and subtraction or other modification in a manner in which the prices will not be known by the City until the sealed Bid is opened.

Bids may be withdrawn after they have been submitted, but only before the Bid opening date and time. Withdrawn bids may be resubmitted, but only in the manner in which the Bid was originally submitted. Withdrawals must be signed as stipulated above for modification. Bids may not be withdrawn between the Bid opening time and one hundred and eighty (180) calendar days thereafter, except as may be agreed upon by a written agreement between the Bidder and the City.

30. BID EVALUATION

- a. Each Bid timely received and in the City's hands at the time set forth for the Bid opening shall constitute an offer to perform the Agreement on the terms and conditions thereof, in strict accordance with the Agreement documents, and all other requirements, all for the Bid total. For good cause and valuable consideration, the sufficiency of which is acknowledged by submittal of a Bid, each Bidder promises and agrees that its Bid shall be irrevocable for a period of *one hundred eighty (180) calendar days* after the Bid opening and will not be withdrawn or modified during that time. The City may accept any Bid by giving the Bidder Written Notice of acceptance during that time. If necessary, the period of time specified may be extended by written agreement between the City and the Bidder or Bidders concerned.
- b. After the Bids have been opened and before any award is made, the City will evaluate the Bid process, the Bid total, the supplements to the Bid form, Bidder's experience, financial data, Local Preference Program, proposed Subcontractors and equipment manufacturers and other data relating to Bidders' responsibility and qualifications to perform the Agreement satisfactorily.
- c. All extension of the unit prices shown and the subsequent addition of extended amounts may be verified by the City. In the event of a discrepancy between the unit price bid and the extension, the unit price will be deemed intended by the Bidder and the extension shall be adjusted. In the event of a discrepancy between the sum of the extended amounts and the bid total, the sum of the extended amounts shall govern.
- d. Bidder may be required to submit, in writing, the addresses of any proposed Subcontractors or equipment manufacturers listed on the Bid, and to submit other material information relative to proposed Subcontractors or Equipment manufacturers. The City reserves the right to disapprove any proposed Subcontractor or equipment manufacturers whose technical or financial ability or resources or whose experience are deemed inadequate.
- e. The City reserves the right to reject any Bid where any bid price(s) appears to be unbalanced, and to reject any or all Bids, or parts thereof, if it determines, in its sole discretion, that such rejection is in the best interest of the City. Where only a single responsible and responsive Bid is received, the City may in its sole discretion, elect to conduct a price or cost analysis of the Bid. Such Bidder shall cooperate with such analysis

and provide such supplemental information as may be required. The determination whether to enter into an Agreement with such sole Bidder shall be solely within the City's discretion and not dependent upon performance of a price or cost analysis.

- f. Bids will be evaluated on the basis of determining the lowest Bid total of a Bidder, not including alternates, whose Bid is responsive to the Invitation to Bid and who is determined to be technically, financially and otherwise responsible to perform the Agreement satisfactorily, and to meet all other requirements of the Bidding Documents relating thereto. Any Bid may be rejected if it is determined by the City to be non-responsive, provided, however, that the City reserves the right to waive any irregularities or technicalities which it determines, within its sole discretion, to be minor in nature and in the interest of the public. Furthermore, any Bid may be rejected if it is determined by the City, in its sole discretion, that the bidder is not capable of performing the Agreement satisfactorily based upon review of its experience and technical and financial capabilities, or the failure of such bidder to provide information requested relating to such determination. Additionally, the City reserves the right to disqualify Bids, before and after the bid opening, upon evidence of collusion with intent to defraud or other illegal practices upon the part of any Bidder(s).
- g. The City intends to award the Agreement at the earliest practicable date to the lowest responsive, responsible Bidder(s), provided that the Bid is within the funds available for the project. In addition, the City reserves the right to reject any and/or all Bids if it determines, in its sole discretion, that the public interest will be best served by doing so.
- h. A Pre-award Conference may be conducted with the apparent low Bidder(s) to review general requirements of the Bidding Documents.

31. AWARD CRITERIA

Award will be made after evaluating the prices, responsiveness and responsibility of each Bidder.

- a. The **responsiveness** of a Bidder is determined by the following:
 - 1. A timely and effective delivery of all services, materials, documents, and/or other information required by the City;
 - 2. The completeness of all material, documents and/or information required by the City; and
 - 3. The notification of the City of methods, services, supplies and/or equipment that could reduce cost or increase quality.
- b. The **responsibility** of a Bidder is determined by the following:
 - 1. The ability, capacity and skill of the Bidder to perform the Agreement or provide the Work required;

2. The capability of the Bidder to perform the Agreement or provide the Work promptly, or within the time specified without delay or interference;
3. The character, integrity, reputation, judgment, experience and efficiency of the Bidders;
4. The quality of performance of previous contracts or work;
5. The previous existing compliance by the Bidder with laws and ordinances relating to the Agreement or Work;
6. The sufficiency of the financial resources and ability of the Bidder to perform Agreement or provide the Work;
7. The compliance of the Bidder with the requirements of Division II, Equal Employment Opportunity (EEO), and Division 12, Minority and Female Business Enterprises, of the City's Department of Procurement;
8. The quality, availability and adaptability of the supplies or contractual Work to the particular use required; and
9. The successful Bidder shall assume full responsibility for the conduct of his agents and/or employees during the time such agents or employees are on the premises for the purpose of performing the Work herein specified.

32. SURETY BONDS

Regarding submission of surety bonds prior to or subsequent to the Bid submission, the following requirements pertain:

- a. Any surety bond submitted in accordance with the Bid or Agreement requirements must be issued by a corporate surety company satisfactory to the City and authorized to act as such in the State of Georgia;
- b. Such bonds shall conform to the forms provided with the Bid Documents and be completed in accordance with the instructions thereon; and
- c. In accordance with Georgia law, and upon award of the Agreement, separate performance and payment bonds shall be required of the successful Bidder, each in an amount not less than the total amount payable under the Agreement.

The performance bond shall remain in effect for one (1) year after final acceptance of the Work or the guaranty period under the Agreement, whichever is the larger.

The payment bond shall remain in effect for the period required under Georgia law for the payment bonds on public construction agreements. Reference is made to the bond forms and the Agreement Documents for additional particulars of the terms required in the bonds. In the case of any inconsistency between the Bond Forms and Georgia law, the law shall control. Finally, alterations, extension of the time allowed for performance, extra and additional Work, and other changes authorized under the Agreement may be made without notice to or consent of the surety or sureties.

33. POWER OF ATTORNEY

Attorneys-in-fact who sign agreement bonds must file with each bond a certified copy of their power of attorney with the appropriate effective date.

34. INSURANCE REQUIREMENTS

The Contractor shall procure and maintain during the life of this Agreement, Workmen's Compensation, Public Liability, Property Damage, Automobile Liability insurance and any other insurance necessary to satisfy the requirements of the Agreement Documents.

35. LAWS AND REGULATIONS

The Bidder's attention is directed to the fact that all applicable state laws, municipal ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the Agreement throughout, to the extent that such requirements do not conflict with federal laws or regulations, and they will be deemed to be included in the Agreement the same as though therein written out in full.

Bidder's attention is directed to the following laws and regulations:

- a. Wages under this Agreement must not be less than the minimum wage rates specified for Atlanta-funded projects as set forth in these documents;
- b. Applicable provisions of the Occupational Safety and Health Act (“**OSHA**”) must be observed during Work under this Agreement; and
- c. Appendix A – Requirements of the Office of Contract Compliance.

36. AGREEMENT TERMS

The terms of this Agreement shall be for a period of one (1) year with the option to renew for two (2) additional one (1) year periods.

37. LIQUIDATED DAMAGES

The performance of the Work under Agreement within the specified time is essential to the City's economic interests. The attention of potential Bidders is directed to the provisions of

the Agreement Documents, which establish the basis for liquidated damages to be paid to the City in the event that the Work is not completed on schedule.

38. EXECUTION OF AGREEMENT

Subsequent to the award and within five (5) days after the prescribed forms are presented for signature, the successful Bidder shall execute and deliver to the City **seven (7) copies** of the City-Contractor Agreement as included in the Agreement Documents and provide performance and payment bonds and insurance certificates. The failure of the successful Bidder to execute the City-Contractor Agreement and to supply the required bonds within five (5) days after the prescribed forms are presented for signature, or within such extended period as the City may grant, based upon reasons determined sufficient by the City, shall constitute a default, and the Bidder shall forfeit the Bid Guarantee and the City may either award the Agreement to the next lowest responsive Bidder or re-advertise for Bids, and may proceed against the bid bond of the defaulted Bidder. If a more favorable Bid is received by re-advertising, the defaulting Bidder shall have no claim against the City for a refund.

39. PRE-CONSTRUCTION CONFERENCE

A pre-construction conference may be held with the successful Bidder(s) and all known Subcontractors at a time and place set by the City.

40. SUBSTITUTIONS

Whenever a material, article, or piece of equipment is identified on the Plans or in the Specifications by reference to manufacturers' or vendors' names, trade names, catalog numbers, etc., it is intended to establish a standard, and any material, article, or equipment of other manufacturers and vendors which will perform adequately the duties imposed by the general design will be considered equally acceptable, provided the material, or equipment so proposed is, in the opinion of the Engineer, of equal substance and function. It shall not be purchased or installed by the Contractor without the Engineer's written approval.

Whenever the design is based on a specific product of a particular manufacturer or manufacturers, the manufacturer(s) will be shown on the Drawings and/or listed in the Specifications. Any item other than those so designated shall be considered a substitution.

If the manufacturer is named in the Drawings and/or detailed specifications as an approved manufacturer, products of that manufacturer meeting all Specification requirements are acceptable.

Approval of any substitution will be made under the following provisions:

- a. If the term "OR EQUAL" follows the names of approved manufacturers, then other manufacturers desiring approval may submit the product to the Engineer for

approval during the bidding phase. The manufacturer should include the following items in this pre-submittal:

1. Descriptive literature, including information on materials used, minimum design standards features, manufacturing processes and facilities, and similar information, which will indicate experience and expertise in the manufacture of the product being evaluated;
 2. Performance specifications applicable to the manufacturer's standard design, which indicate the level of performance to be expected from the product;
 3. A complete set of submittal Drawings of similar equipment that has been completed and placed into operation;
 4. A list of existing installations of equipment similar in type and size;
 5. Evidence of technical ability of the manufacturer to design and manufacture Equipment and systems meeting project requirements. Evidence submitted shall include, at a minimum, descriptions of engineering and manufacturing staff capabilities;
 6. Information required to satisfy specified experience requirements or a copy of the bond to be submitted in lieu of experience;
 7. A complete description of field service capabilities, including the location of field service facilities which would serve the proposed facility and the number and qualifications of personnel working from that location;
 8. A complete list of all requirements of the Drawings and Specifications with which the manufacturer cannot conform, including reasons why alternate features are considered equivalent; and
 9. All other information necessary to fully evaluate the product for consideration.
- b. This pre-submittal shall reach the Engineer no later than three (3) weeks prior to the Bid date. Manufacturers will be advised of approval or rejection in writing no later than fourteen (14) days prior to the Bid date. Rejected submittals may be supplemented with additional information and resubmitted no later than one (1) week prior to the bid date. Manufacturers making supplementary submittals will be advised of approval or rejection in writing no later than three (3) days prior to the bid date.

NOTE: Bids based on equipment, which has not received the approval of the Engineer, will render the Bidder as non-responsive and cause rejection of the Bid.

- c. If the term "EQUAL TO" precedes the names of approved manufacturers in the Specifications, the Contractor may, after receiving the Notice to Proceed, submit Shop Drawings on the substitute product for the approval of the Engineer in accordance with General Condition 28.

Any Bidder intending to furnish substitute products is cautioned to verify that the item being furnished will perform the same functions and have the same capabilities as the item specified. The Bidder shall include in his bid the cost of accessory items, which may be required by the substitute product and any architectural, structural, mechanical, piping, electrical or other modifications required to accommodate the substitution.

Approval of the Engineer is dependent on his determination that the product offered is essentially equal in function, performance, quality of manufacture, ease of maintenance, reliability, service life and other criteria to that on which the design is based, and will require no major modifications to structures, electrical systems, control systems, or piping systems.

41. ILLEGAL IMMIGRATION REFORM AND ENFORCEMENT ACT

Each Bidder must complete and submit a Contractor's Affidavit attached hereto as Form 1; Illegal Immigration Reform and Enforcement Act Forms with its bid. This ITB is subject to the Illegal Immigration Reform and Enforcement Act of 2011 (the "ACT"). Pursuant to the Act, the Bidder must provide with its proposal proof of its registration with and continuing and future participation in the E-Verify Program established by the United States Department of Homeland Security. Under state law, the City cannot consider any proposal which does not include a complete Contractor's Affidavit. It is not the intent of this notice to provide detailed information or legal advice concerning the Illegal Immigration Reform and Enforcement Act. All bidders/proponents intending to do business with the City are responsible for independently apprising themselves and complying with the requirements of that law and its effect on City procurements and their participation in those procurements. For additional information on the E-Verify program or to enroll in the program, go to: <https://e-verify.uscis.gov/enroll>.

42. AWARD LIMITATIONS

The City reserves, at its sole discretion, the option to award to multiple Bidders. The award(s) will be based on the Scope of Work in its entirety or by components. Multiple awards may be made on the total Scope of Work or to components of the Scope of Work.

+++ END OF INSTRUCTIONS TO BIDDERS +++

PART I

Section 2 – Required Submittals

PART 1 – SECTION 2: REQUIRED SUBMITTAL FORMS

All Respondents, including, but not limited to, corporate entities, limited liability companies, joint ventures, or partnerships, that submit a Proposal or Bid in response to this solicitation must fill out all forms in their entirety, and all forms must be signed, notarized or sealed with the corporate seal (if applicable), as required per each form's instructions.

If Respondent intends to be named as a Prime Contractor(s) with the City, then Respondent must fill out all the forms listed in this solicitation document; otherwise, Respondent may be deemed non-responsive.

Required Submittal (FORM 1)

Illegal Immigration Reform and Enforcement Act Forms (Page 1 of 3)

INSTRUCTIONS TO BIDDERS:

All Bidders must comply with the Illegal Immigration Reform and Enforcement Act of 2011, O.G.G.A § 13-10-90, et seq. (IIREA). IIREA was formerly known as the Georgia Security and Immigration Compliance Act or GSICA. Bidders must familiarize themselves with IIREA and are solely responsible for ensuring compliance. Bidders must not rely on these instructions for that purpose. They are offered only as a convenience to assist Bidders in complying with the requirements of the City's procurement process and the terms of this ITB.

1. The attached Contractor Affidavit must be filled out COMPLETELY and submitted with the Bid prior to Bid due date.
2. The Contractor Affidavit must contain an active Federal Work Authorization Program (E-Verify) User ID Number and Date of Registration.
3. Where the business structure of a Bidder is such that Bidder is required to obtain an Employer Identification Number (EIN) from the Internal Revenue Service, Bidder must complete the Contractor Affidavit on behalf of, and provide a Federal Work Authorization User ID Number issued to, the Bidder itself. Where the business structure of a Bidder does not require it to obtain an EIN, each entity comprising Bidder must submit a separate Contractor Affidavit.

Example 1, ABC, Inc. and XYZ, Inc. form and submit a Bid as Happy Day, LLC. Happy Day, LLC must enroll in the E-verify program and submit a single Contractor Affidavit in the name of Happy Day, LLC which includes the Federal Work Authorization User ID Number issued to Happy Day, LLC.

Example 2, ABC, Inc. and XYZ, Inc. execute a joint venture agreement and submit a Bid under the name Happy Day, JV. If, based on the nature of the JV agreement, Happy Day, JV. is not required to obtain an Employer Identification Number from the IRS, the Bid submitted by Happy Day, JV must include both a Contractor Affidavit for ABC, Inc. and a Contractor Affidavit for XYZ, Inc.

4. All Contractor Affidavits must be executed by an authorized representative of the entity named in the Affidavit.
5. All Contractor Affidavits must be duly notarized.
6. All Contractor Affidavits must be submitted with the Bidder's Response to the ITB.
7. Subcontractor and sub-subcontractor affidavits are not required at the time of Bid submission, but will be required at contract execution or in accordance with the timelines set forth in IIREA.

Required Submittal (FORM 1)

Illegal Immigration Reform and Enforcement Act Forms (Page 2 of 3)

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

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

Federal Work Authorization User Identification Number

Date of Authorization

Name of Contractor: _____

Name of Project: _____

Name of Public Employer: City of Atlanta

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

Executed on _____, _____, 20__ in _____ (city), _____ (state)

Signature of Authorized Officer or Agent

Printed name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE
ME ON THIS THE ____, DAY OF _____, 20____

NOTARY PUBLIC
My Commission Expires: _____

Required Submittal (FORM 1)

Illegal Immigration Reform and Enforcement Act Forms (Page 3 of 3)

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

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

Federal Work Authorization User Identification Number

Date of Authorization

Name of Subcontractor: _____

Name of Project: _____

Name of Public Employer: City of Atlanta

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

Executed on _____, _____, 20__ in _____ (city), _____ (state)

Signature of Authorized Officer or Agent

Printed name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE
ME ON THIS THE ____, DAY OF _____, 20____

NOTARY PUBLIC
My Commission Expires: _____

Required Submittal (FORM 2)
Contractor Disclosure Affidavit (Page 1 of 7)

DEFINITIONS FOR THE PURPOSES OF THIS DISCLOSURE AFFIDAVIT

“Affiliate”	Any legal entity that, directly or indirectly through one of more intermediate legal entities, controls, is controlled by or is under common control with the Respondent or a member of Respondent.
“Contractor”	Any person or entity having a contract with the city.
“Control”	The controlling entity: (i) possesses, directly or indirectly, the power to direct or cause the direction of the management and policies of the controlled entity, whether through the ownership of voting securities or by contract or otherwise; or (ii) has direct or indirect ownership in the aggregate of fifty one (51%) or more of any class of voting or equity interests in the controlled entity.
“Respondent”	Any individual or entity that submits a Bid in response to a solicitation. If the Respondent is an individual, then that individual must complete and sign this Disclosure Affidavit where indicated. If the Respondent is an entity, then an authorized representative of that entity must complete and sign this Disclosure Affidavit where indicated. If the Respondent is a newly formed entity (formed within the last three years), then an authorized representative of that entity must complete and sign this Disclosure Affidavit where indicated, and each of the members or owners of the entity must also complete and sign separate Disclosure Affidavits where indicated.

Instructions: Provide the following information for the entity or individual completing this Statement (the “Individual/Entity”).

A. Basic Information:

1. Name of Individual/Entity responding to this solicitation:

2. Name of the authorized representative for the responding Entity:

B. Individual/Entity Information:

1. Principal Office Address:
2. Telephone and Facsimile Numbers:
3. E-Mail Address:
4. Name and title of Contact Person for the Individual/Entity:
5. Is the individual/Entity authorized to transact business in the state of Georgia?

Yes (Attach Certificate of Authority to transact business in Georgia from Georgia Secretary of State.)

No

Required Submittal (FORM 2)
Contractor Disclosure Affidavit (Page 2 of 7)

C. Questionnaire

If you answer "YES" to any of the questions below, please indicate the name(s) of the person(s), the nature, and the status and/or outcome of the information, indictment, conviction, termination, claim or litigation, the name of the court and the file or reference number of the case, as applicable. Any such information should be provided on a separate page, attached to this form and submitted with your Bid.

1. Please describe the general development of the Respondent's business during the past ten (10) years, or such shorter period of time that the Respondent has been in business.

2. Are there any lawsuits, administrative actions or litigation to which Respondent is currently a party or has been a party (either as a plaintiff or defendant) during the past ten (10) years based upon fraud, theft, breach of contract, misrepresentation, safety, wrongful death or other similar conduct? **YES** **NO**

3. If "yes" to question number 2, were any of the parties to the suit a bonding company, insurance company, an owner, or otherwise? If so, attach a sheet listing all parties and indicate the type of company involved. **YES** **NO**

4. Has the Respondent been charged with a criminal offense within the last ten (10) years? **YES** **NO**

5. Has the Respondent received any citations or notices of violation from any government agency in connection with any of Respondent's work during the past ten (10) years (including OSHA violations)? Describe any citation or notices of violation which Respondent received. **YES** **NO**

6. Please state whether any of the following events have occurred in the last ten (10) years with respect to the Respondent. If any answer is yes, explain fully the circumstances surrounding the subject matter of the affirmative answer:

(a) Whether Respondent, or Affiliate currently or previously associated with Respondent, has ever filed a petition in bankruptcy, taken any actions with respect to insolvency, reorganization, receivership, moratorium or assignment for the benefit of creditors, or otherwise sought relief from creditors? **YES** **NO**

(b) Whether Respondent was subject of any order, judgment or decree not subsequently reversed, suspended or vacated by any court permanently enjoining Respondent from engaging in any type of business practice? **YES** **NO**

(c) Whether Respondent was the subject of any civil or criminal proceeding in which there was a final adjudication adverse to Respondent which directly arose from activities conducted by Respondent. **YES** **NO**

Required Submittal (FORM 2)
Contractor Disclosure Affidavit (Page 3 of 7)

7. Has any employee, agent or representative of Respondent who is or will be directly involved in the project, in the last ten (10) years:
- (a) directly or indirectly, had a business relationship with the City? **YES** **NO**
- (b) directly or indirectly, received revenues from the City? **YES** **NO**
- (c) directly or indirectly, received revenues from conducting business on City property or pursuant to any contract with the City? **YES** **NO**
8. Whether any employee, agent, or representative of Respondent who is or will be directly involved in the project has or had within the last ten (10) years a direct or indirect business relationship with any elected or appointed City official or with any City employee? **YES** **NO**
9. Whether Respondent has provided employment or compensation to any third party intermediary, agent, or lobbyist to directly or indirectly communicate with any City official or employee, or municipal official or employee in connection with any transaction or investment involving your firm and the City? **YES** **NO**
10. Whether Respondent, or any agent, officer, director, or employee of your organization has solicited or made a contribution to any City official or member, or to the political party or political action committee within the previous five (5) years? **YES** **NO**
11. Has the Respondent or any agent, officer, director, or employee been terminated, suspended, or debarred (for cause or otherwise) from any work being performed for the City or any other Federal, State or Local Government? **YES** **NO**
12. Has the Respondent, member of Respondent's team or officer of any of them (with respect to any matter involving the business practice or activities of his or her employer been notified within the five (5) years preceding the date of this offer that any of them are the target of a criminal investigation, grand jury investigation, or civil enforcement proceeding? **YES** **NO**
13. Please identify any Personal or Financial Relationships that may give rise to a conflict of interest as defined below *[Please be advised that you may be ineligible for award of contract if you have a personal or financial relationship that constitutes a conflict of interest that cannot be avoided]*:
- (a) Personal relationships: executives, board members and partners in firms submitting offers must disclose familial relationships with employees, officers and elected officials of the City of Atlanta. Familial relationships shall include spouse, domestic partner registered under section 94-133, mother, father, sister, brother, and natural or adopted children of an official or employee. **YES** **NO**
- (b) Financial relationships: Respondent must disclose any interest held with a City employee or official, or family members of a City employee or official, which may yield, directly or indirectly, a monetary or other material benefit to the Respondent or the Respondent's family members. Please describe: **YES** **NO**

Required Submittal (FORM 2)
Contractor Disclosure Affidavit (Page 4 of 7)

D. REPRESENTATIONS

Anti-Lobbying Provision. All respondents, including agents, employees, representatives, lobbyists, attorneys and proposed partner(s), subcontractor(s) or joint venturer(s), will refrain, under penalty of the respondent's disqualification, from direct or indirect contact for the purpose of influencing the selection or creating bias in the selection process with any person who may play a part in the selection process.

Certification of Independent Price Determination/Non-Collusion. Collusion and other anticompetitive practices among Bidders are prohibited by city, state and federal laws. All Respondents shall identify a person having authority to sign for the Respondent who shall certify, in writing, as follows:

“I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm, or person submitting an or offer for the same supplies, labor, services, construction, materials or equipment to be furnished or professional or consultant services, and is in all respects fair and without collusion or fraud. I understand collusive bidding is a violation of city, state and federal law and can result in fines, prison sentences, and civil damages awards. By signing this document, I agree to abide by all conditions of this solicitation and offer and certify that I am authorized to sign for this Respondent.”

Certify Satisfaction of all Underlying Obligations. (If Applicable) If a Contract is awarded through this solicitation, then such Contractor should know that before final payment is made to a Contractor by the City, the Contractor shall certify to the City in writing, in a form satisfactory to the City, that all subcontractors, material men suppliers and similar firms or persons involved in the City contract have been paid in full at the time of final payment to the Contractor by the City or will be paid in full utilizing the monies constituting final payment to the Contractor.

Confidentiality . Details of the Bids will not be discussed with other respondents during the selection process. Respondent should be aware, however, that all Bids and information submitted therein may become subject to public inspection following award of the contract. Each respondent should consider this possibility and, where trade secrets or other proprietary information may be involved, may choose to provide in lieu of such proprietary information, an explanation as to why such information is not provided in its Bid. However, the respondent may be required to submit such required information before further consideration.

Equal Employment Opportunity (EEO) Provision. All bidders or Proponents will be required to comply with sections 2-1200 and 2-1414 of the City of Atlanta Code of Ordinances, as follows: During the performance of the agreement, the Contractor agrees as follows:

- a. The Contractor shall not discriminate against any employee, or applicant for employment, because of race, color, creed, religion, sex, domestic relationship status, parental status, familial status, sexual orientation, national origin, gender identity, age, disability, or political affiliation. As used here, the words "shall not discriminate" shall mean and include without limitation the following:

Required Submittal (FORM 2)
Contractor Disclosure Affidavit (Page 5 of 7)

Recruited, whether by advertising or other means; compensated, whether in the form of rates of pay, or other forms of compensation; selected for training, including apprenticeship; promoted; upgraded; demoted; downgraded; transferred; laid off; and terminated.

The Contractor agrees to and shall post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officers setting forth the provisions of the EEO clause.

- b. The Contractor shall, in all solicitations or advertisements for employees, placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, creed, religion, sex, domestic relationship status, parental status, familial status, sexual orientation, national origin, gender identity, age, disability, or political affiliation.
- c. The Contractor shall send to each labor union or representative of workers with which the Contractor may have a collective bargaining agreement or other contract or understanding a notice advising the labor union or workers' representative of the Contractor's commitments under the equal employment opportunity program of the City of Atlanta and under the Code of Ordinances and shall post copies of the notice in conspicuous places available to employees and applicants for employment. The Contractor shall register all workers in the skilled trades who are below the journeyman level with the U.S. Bureau of Apprenticeship and Training.
- d. The Contractor shall furnish all information and reports required by the contract compliance officer pursuant to the Code of Ordinances, and shall permit access to the books, records, and accounts of the Contractor during normal business hours by the contract compliance officer for the purpose of investigation so as to ascertain compliance with the program.
- e. The Contractor shall take such action with respect to any subcontractor as the city may direct as a means of enforcing the provisions of paragraphs (a) through (h) herein, including penalties and sanctions for noncompliance; provided, however, that in the event the Contractor becomes involved in or is threatened with litigation as a result of such direction by the city, the city will enter into such litigation as is necessary to protect the interest of the city and to effectuate the equal employment opportunity program of the city; and, in the case of contracts receiving federal assistance, the Contractor or the city may request the United States to enter into such litigation to protect the interests of the United States.
- f. The Contractor and its subcontractors, if any, shall file compliance reports at reasonable times and intervals with the city in the form and to the extent prescribed by the contract compliance officer. Compliance reports filed at such times directed shall contain information as to employment practices, policies, programs and statistics of the Contractor and its subcontractors.

Required Submittal (FORM 2)
Contractor Disclosure Affidavit (Page 6 of 7)

- g. The Contractor shall include the provisions of paragraphs (a) through (h) of this equal employment opportunity clause in every subcontract or purchase order so that such provisions will be binding upon each subcontractor or vendor.
- h. A finding, as hereinafter provided, that a refusal by the Contractor or subcontractor to comply with any portion of this program, as herein provided and described, may subject the offending party to any or all of the following penalties:
 - (1) Withholding from the Contractor in violation all future payments under the involved contract until it is determined that the Contractor or subcontractor is in compliance with the provisions of the contract;
 - (2) Refusal of all future bids for any contract with the City of Atlanta or any of its departments or divisions until such time as the Contractor or subcontractor demonstrates that there has been established and there shall be carried out all of the provisions of the program as provided in the Code of Ordinances;
 - (3) Cancellation of the public contract;
 - (4) In a case in which there is substantial or material violation of the compliance procedure herein set forth or as may be provided for by the contract, appropriate proceedings may be brought to enforce those provisions, including the enjoining, within applicable law, of Contractors, subcontractors or other organizations, individuals or groups who prevent or seek to prevent directly or indirectly compliance with the policy as herein provided.

Prohibition on Kickbacks or Gratuities/Non-Gratuity. The undersigned acknowledges the following prohibitions on kickbacks and gratuities:

- a. It is unethical for any person to offer, give or agree to give any employee or former employee a gratuity or an offer of employment in connection with any decision, approval, disapproval, recommendation, preparation or any part of a program requirement or a purchase request, influencing the content of any specification or procurement standard, rendering of advice, investigation, auditing or in any other advisory capacity in any proceeding or application, request for ruling, determination, claim or controversy or other particular matter pertaining to any program requirement or a contract or subcontract or to any solicitation or Bid therefor.
- b. It is unethical for any employee or former employee to solicit, demand, accept or agree to accept from another person a gratuity or an offer of employment in connection with any decision, approval, disapproval, recommendation, preparation or any part of a program requirement or a purchase request, influencing the content of any specification or procurement standard, rendering of advice, investigation, auditing or in any other advisory capacity in any proceeding or application, request for ruling, determination, claim or controversy or other particular matter pertaining to any program requirement or a contract or subcontract or to any solicitation or Bid therefor.
- c. It is also unethical for any payment, gratuity or offer of employment to be made by or on behalf of a subcontractor under a contract to the prime Contractor or higher tier subcontractor or any person associated therewith as an inducement for the award of a subcontract or order.

Required Submittal (FORM 2)
Contractor Disclosure Affidavit (Page 7 of 7)

Declaration

Under penalty of perjury, I declare that I have examined this Disclosure Affidavit and Questionnaire and all attachments to it, if applicable, and, to the best of my knowledge and belief all statements contained herein and in any attachments, if applicable, are true, correct and complete.

I certify that this offer is made without prior understanding, agreement, or connection with any corporation, firm, or person submitting an offer for the same supplies, services, construction, or professional or consultant services, and is in all respects fair and without collusion or fraud. I understand collusive bidding is a violation of city, state and federal law and can result in fines, prison sentences, and civil damages awards. I agree to abide by all conditions of this solicitation and offer and certify that I am authorized to sign for this Respondent.

Sign here if you are an individual:

Printed Name: _____

Signature: _____

Date: _____, 20__

Subscribed and sworn to or affirmed by _____ **(name) this** ____ **day of** _____, 20__.

Notary Public of _____ (state)
My commission expires: _____

Sign here if you are an authorized representative of a responding entity or partnership:

Printed Name of Entity or Partnership: _____

Signature of authorized representative: _____

Title: _____

Date: _____, 20__

Subscribed and sworn to or affirmed by _____ **(name), as the**

(title) of _____ **(entity or partnership name)**
this ____ **day of** _____, 20__.

Notary Public of _____ (state)
My commission expires: _____

Required Submittal (FORM 4.1)

Certification of Insurance Ability Instructions:

Bidders **MUST** submit a **completed copy of this form executed by their insurance company.**
Failure to submit completed form will result in the Bidder being deemed non-responsive.

I, _____ [*insert an individual's name*], on behalf of _____ [*insert insurance company full name*], a _____ [*insert type of entity LLC, LLP, corporation, etc.*](“**Insurer**”), hereby represent and certify each of the following to the City of Atlanta, a municipal corporation of the State of Georgia (“**City**”) on this _____ day of _____, 20____ [*insert date*]:

- (a) Insurer is licensed by the Insurance and Safety Fire Commissioner of the State of Georgia to transact insurance business in the State of Georgia;
- (b) Insurer has reviewed the Agreement attached to the solicitation for Project Number **FC- 8742, Annual Contract for Street Micro-Surfacing Activities** (“**Project**”) and its corresponding **Appendix B for Insurance and Bonding Requirements;**
- (c) Insurer certifies that if, as of the date written above, _____ (“**Bidder**”) was selected as the successful Bidder for the Project, Insurer would provide insurance to Bidder for this Project in accordance with the terms set forth in the corresponding **Appendix B for Insurance Requirements;** and

PLEASE NOTE: If this Form 4.1 is executed by an Attorney-in-Fact, then Insurer must attach a copy of a duly executed Power-of-Attorney evidencing such authority in addition to correctly completing this Form 4.1. If Bidder is unable to provide City with insurance that comply with the terms of the corresponding Appendix for Insurance Requirements within ten (10) days of receiving notice of intent to award the Project from the City, the City may, in its sole discretion, retain Bidder’s security submitted with its offer and/or disqualify Bidder from further consideration for the award of the Agreement.

By executing this certification, Insurer represents that all of the information provided by Insurer herein is true and correct as of the date set forth above.

Insurer: [*insert company name on line provided below*]

Authorized Signatory

By: _____

Print Name: _____

Title: _____

Notary Public of _____ (state)

My commission expires: _____

Required Submittal (FORM 4.2)

Certification of Bonding Ability Instructions:

Bidders **MUST** submit a **completed copy of this form executed by their surety**. Failure to submit completed form will result in the Bidder being deemed non-responsive.

I, _____ [*insert an individual's name*], on behalf of _____ [*insert surety company full name*], a _____ [*insert type of entity LLC, LLP, corporation, etc.*](“**Surety**”), hereby represent and certify each of the following to the City of Atlanta, a municipal corporation of the State of Georgia (“**City**”) on this _____ day of _____, 20____ [*insert date*]:

- (a) Surety is licensed by the Insurance and Safety Fire Commissioner of the State of Georgia to transact surety business in the State of Georgia;
- (b) Surety has reviewed the Agreement attached to the solicitation for Project Number **FC- 8742, Annual Contract for Street Micro-Surfacing Activities** (“Project”) and its corresponding **Appendix B for Insurance and Bonding Requirements**;
- (c) Surety certifies that if, as of the date written above, _____ (“**Bidder**”) was selected as the successful Bidder for the Project, Surety would provide bonding to Bidder for this Project in accordance with the corresponding **Appendix B for Insurance and Bonding Requirements**; and
- (d) **Surety only:** The Surety states that Bidder’s uncommitted bonding capacity (not taking into account this Project) is approximately \$ _____(U.S.). Surety’s statement set forth in this Section (d) does not represent a limitation of the bonding capacity of Bidder or that Bidder will have the bonding capacity noted above at the time of contract execution for this Project.

PLEASE NOTE: If this Form 4.2 is executed by an Attorney-in-Fact, then Surety must attach a copy of a duly executed Power-of-Attorney evidencing such authority in addition to correctly completing this Form 4.2. If Bidder is unable to provide City with bonds that comply with the terms of the corresponding Appendix for Insurance Requirements within ten (10) days of receiving notice of intent to award the Project from the City, the City may, in its sole discretion, retain Bidder’s security submitted with its offer and/or disqualify Bidder from further consideration for the award of the Agreement.

By executing this certification, Surety represents that all of the information provided by Surety herein is true and correct as of the date set forth above.

Surety: [*insert company name on line provided below*]

By: _____

Print Name: _____

Title: _____

Notary Public of _____ (state)

My commission expires: _____

Required Submittal (FORM 5)

Acknowledgment of Addenda

Bidders should sign below and return this form with their Bid(s) to the Department of Procurement, 55 Trinity Avenue, City Hall South, Suite 1900, Atlanta, Georgia 30303, as acknowledgment of receipt of certain Addenda.

This is to acknowledge receipt of the following **Addenda** for **FC- 8742, Annual Contract for Street Micro-Surfacing Activities;**

-

1. _____;
2. _____;
3. _____; and
4. _____.

Dated the _____ day of _____, 20__.

Corporate Bidder:

[Insert Corporate Name]

By: _____

Print Name: _____

Title: _____

Corporate Secretary/Assistant
Secretary (Seal)

Non-Corporate Bidder:

[Insert Bidder Name]

By: _____

Print Name: _____

Title: _____

Notary Public (Seal)
My Commission Expires: _____

Required Submittal (FORM 6)

Bidder Contact Directory¹

NAME	POSITION/TITLE	MAILING ADDRESS	OFFICE PHONE	CELL PHONE	EMAIL ADDRESS AND FAX NUMBER

¹ The purpose of the Bidder Contact Directory is to provide the City with a centralized, easily identified source of important contacts and other information regarding each of the business entities constituting a Bidder. This Bidder Contact Directory should include the names, positions/titles, firms, mailing addresses, phone and fax numbers and e-mail addresses for each of the following as it pertains to each of the firms in a Bidder's team:

1. At least two (2) individuals, one primary the other(s) secondary, authorized to represent the firm for purposes of this ITB; and
2. Bidder's Key Personnel (as appropriate) as listed on Form F.

Required Submittal (FORM 7)

Reference List

Each Bidder must provide a list of at least five (5) references using the below- referenced format. The City is interested in reviewing references that are able to attest to a Bidder's performance ability and credibility in a particular industry or trade.

Reference: Name
 Address
 City, State, Zip
 Phone
 Fax

Project Title:

Contact Person: _____

Direct Telephone: _____

Email Address: _____

Date(s) of Project: _____

Description of Services:

Total Amount of Contract Including Change Orders:

Bidder's Role and Responsibilities:

Current Completion Status:

(Use the Same Format to Provide the Additional References)

Required Submittal “Unless a Bidder Elects to Submit an Alternative Form of Payment”
(FORM 3)

Bid Bond (Page 1 of 2)

KNOW ALL MEN BY THESE PRESENTS, THAT WE _____

hereinafter called the PRINCIPAL, and _____

hereinafter called the SURETY, a corporation chartered and existing under the laws of the State of _____, and duly authorized to transact Surety business in the State of Georgia, are held and firmly bound unto the City of Atlanta, Georgia (**OBLIGEE**), in the penal sum of either: [i] _____ Dollars and Cents (\$_____); or [ii] 5% of PRINCIPAL’S Bid amount for **PROJECT NUMBER FC-___**; _____, good and lawful money of the United States of America, to be paid upon demand of the OBLIGEE, to which payment well and truly to be made we bind ourselves, our heirs, executors, administrators and assigns, jointly and severally and firmly by these presents.

WHEREAS the PRINCIPAL has submitted to the OBLIGEE, for **PROJECT NUMBER FC-8742**, **Annual Contract for Street Micro-Surfacing Activities** a Bid;

WHEREAS the PRINCIPAL desires to file this Bond in accordance with law, in lieu of a certified Bidder’s check otherwise required to accompany this Bid;

NOW THEREFORE: The conditions of this obligation are such that if the Bid be accepted, the PRINCIPAL shall within ten (10) calendar days after receipt of written notification from the CITY of the award of the Contract execute a Contract in accordance with the Bid and upon the terms, conditions and prices set forth therein, in the form and manner required by the City of Atlanta, Georgia, and execute sufficient and satisfactory Performance and Payment Bonds payable to the OBLIGEE, each in the amount of one hundred percent (100%) of the total Contract price in form and with security satisfactory to said OBLIGEE, then this obligation to be void; otherwise, to be and remain in full force and virtue in law; and the SURETY shall upon failure of the PRINCIPAL to comply with any or all of the foregoing requirements within the time specified above immediately pay to the OBLIGEE, upon demand the amount hereof in good and lawful money of the United States of America, not as a penalty but as liquidated damages.

In the event suit is brought upon this Bond by the OBLIGEE and judgment is recovered, the SURETY shall pay all costs incurred by the OBLIGEE in such suit, including attorney’s fees to be fixed by the Court.

PLEASE NOTE: If this Form 3 is executed by an Attorney-in-Fact, then Surety must attach a copy of a duly executed Power-of-Attorney evidencing such authority in addition to correctly completing this Form 3.

Required Submittal "Unless a Bidder Elects to Submit an Alternative Form of Payment"
(FORM 3)

Bid Bond (Page 2 of 2)

This Bid Bond is for the Penal Sum of:

[i] _____ Dollars and Cents (\$ _____), being in the amount of 5% of the CONTRACT Sum; or
[ii] 5% of PRINCIPAL'S Bid amount for **PROJECT NUMBER FC- 8742, Annual Contract for Street Micro-Surfacing Activities.** The money payable on this Bond shall be paid to the OBLIGEE, for the failure of the Bidder to execute a CONTRACT within ten (10) days after receipt of the Contract form and at the same time furnish a Payment Bond and Performance Bond.

IN TESTIMONY THEREOF, the PRINCIPAL and SURETY have caused these presents to be duly signed and sealed this _____ day of _____ 20__.

Corporate Bidder:
[Insert Corporate Name]

Signature: _____
Print Name: _____
Title: _____

Corporate Secretary/Assistant Secretary
(Seal)

Non-Corporate Bidder:
[Insert Bidder Name]

Signature: _____
Print Name: _____
Title: _____

Notary Public (Seal)

My Commission Expires: _____

SURETY:

Signature: _____
Attorney-in-Fact: _____
Print Name: _____

Required Submittal (FORM 8)

Required Submittal Checklist

The following submittals shall be completed and submitted with each Bid see table below “Required Bid Submittal Check Sheet.” Please verify that these submittals are in the envelope before it is sealed. *Disclaimer:* It is each Bidders sole responsibility to ensure that their Bid to the City is inclusive of all required submittal documents outlined on the below-referenced checklist; as well as within other parts of the solicitation document.

Submit one (1) Original Bid, signed and dated, and seven (7) complete copies of the Original Bid including all required attachments.

In addition to the hard copy submissions, each Bidder shall submit two (2) digital versions of its Bid Submission in Adobe Portable Document Format (“PDF”) on compact disk (CDs). CD One (1) version should be a duplicate of the hard copy of the Bid with no deviations in order or layout of the hard copy Bid. CD Two (2) version should be a redacted version of the hard copy Bid Submission. Please refer to the Georgia Open Records Acts (O.C.G.A. § 50-18-72) for information not subject to public disclosure.

The City assumes no liability for differences in information contained in the Bidder’s printed Bid Submission and that contained on the CDs. In the event of a discrepancy, the City will rely upon the information contained in the Bidder’s printed material (Hard Copy). Each CD should be labeled with the Project Number, Project Name, and the CD Number.

Item Number	Required Bid Submittal Check Sheet	Check <input type="checkbox"/>
1	Part I, Section 1 – Instruction to Bidders (Bid Guarantee Included)	
2	<p>Part I, Section 2 – All Required Submittal Forms (if any of the required submittal documents are not submitted or are incomplete within your Bid submittal package, your firm may be deemed non-responsive).</p> <p><u>Required Submittals include but are not limited to:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Form 1; Illegal Immigration Reform and Enforcement Act <input type="checkbox"/> Form 2; Contractor Disclosure Form <input type="checkbox"/> Form 3; Bid Bond <input type="checkbox"/> Form 4.1; Certification of Insurance Ability <input type="checkbox"/> Form 4.2; Certification of Bonding Ability <input type="checkbox"/> Form 5; Acknowledgement of Addenda <input type="checkbox"/> Form 6; Bidder Contact Directory <input type="checkbox"/> Form 7; Reference List <input type="checkbox"/> Form 8; Required Submittal Checklist <p>Exhibit G</p> <p><u>Bidder’s Qualifications</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Form A – Experience Statement <input type="checkbox"/> Form B – Lower Tier Experience Statement <input type="checkbox"/> Form C – Preliminary Contract Schedule <input type="checkbox"/> Form D – Project Organization and Work Plan <input type="checkbox"/> Form E – Safety Program <input type="checkbox"/> Form F – Resumes of Key Personnel <input type="checkbox"/> Form G – Summary of QC Program <input type="checkbox"/> Form H – Work in Progress 	
3	<input type="checkbox"/> Appendix A Office of Contract Compliance (Required Submittals Forms 1-5)	
3A	Separate Sealed Envelope <input type="checkbox"/> Bid Schedule	
4	Bidder’s Official Company Name: Company Physical Address:	
5	President/Vice President/Owner Name: Title: _____ Office Telephone Number: _____ Direct Cell Telephone Number: _____ Email Address: _____	
6	Primary Point-of-Contact Concerning ITB: _____ Title: _____ Office Telephone Number: _____ Direct Cell Telephone Number: _____ Email Address: _____	

PART II

PART II

Draft Annual Construction Services Agreement

FC-8742, Annual Contract for Street Micro-Surfacing Activities

ANNUAL CONSTRUCTION SERVICES DRAFT AGREEMENT

THIS CONSTRUCTION SERVICES AGREEMENT ("Agreement") is entered into effective this _____ day of _____, 201____, (the "Effective Date") by and between THE CITY OF ATLANTA ("Owner" or the "City"), and _____ ("Contractor").

The City and Contractor agree as follows:

1. DEFINITIONS

The following terms have the meaning assigned:

"Agreement Documents" means this Agreement and its Exhibits, Appendices, Task Orders, Change Orders, Documentation, Drawings, and Specifications, including

Construction Services Agreement
Exhibit A- General Scope of Services
Exhibit A.1- Compensation and Fee Schedule
Exhibit A.2- Task Orders
Exhibit B- Legislation
Exhibit C- Supplement Conditions and Technical Specifications
Exhibit D- Additional Contract Documents
Appendix A- Office of Contract Compliance
Appendix B- Insurance and Bonding Requirements

"Agreement Term" has the meaning set forth in Article 2, unless otherwise expressly amended or changed, pursuant to the City's authorized approval in conformance with the City of Atlanta Code of Ordinances and applicable law.

"Changes" has the meaning set forth in Article 8.

"Change Order" has the meaning set forth in Article 8.

"City Representative" has the meaning set forth in Article 6.

"Claim" means any demand, contention, or assertion seeking additional time or money under the terms of this Agreement. Claims by the Contractor must be made in writing and contain all of the following or such Claims are released: (a) a narrative statement describing the amount and bases of the Claim; (b) the precise number of days claimed as a result of any delay; and (c) a detailed calculation of the precise amount of additional compensation claimed with all required supporting Documentation.

"Documentation" has the meaning set forth in Article 4.

"Drawings" include, without limitation: all renderings, technical and design drawings, specifications, plans, layouts, diagrams, illustrations, descriptions, calculations, schedules, graphs, performance charts, shop drawings; as-built drawings; all graphic or pictorial material needed to show locations, dimensions, elevations, sections, and details; all documents necessary to fix and describe the size, quality and composition of the Project (or parts thereof); supplier operating and maintenance manuals, recommended spare parts lists, documents required to support permitting and licensing, and any other data pertinent to operation of the Project.

"Emergency Work" has the meaning set forth in Article 2.

"Final Completion" means that point in time where the City has confirmed to the Contractor in writing that the Services required by a Task Order have achieved Substantial Completion, Contractor has completed all punch-list items associated with a Task Order, and Contractor has provided all Documentation required by the Agreement Documents and Task Orders for Final Completion.

"Final Payment" means the final amount of compensation due under a Task Order or this Agreement (as applicable) and shall not become due until Contractor satisfies all of the requirements of Article 9.

"Minimum Quantity" means one dollar (\$1.00) in United States Currency, which is the minimum amount of Services that shall be ordered by the City pursuant to this Agreement.

"Project" means or refers to the Project(s) specifically identified in Task Orders issued pursuant to this Agreement.

"Services" means the specific tasks and activities to be performed by Contractor as identified in a Task Order issued pursuant to this Agreement, as well as all ancillary and incidental tasks and activities not expressly identified in a Task Order but which are reasonably necessary to be performed in order to complete the tasks and activities expressly identified in a Task Order.

"Standard" has the meaning set forth in Article 6.

"Substantial Completion" as applicable to a Task Order, means that point in time in which the Services that are the subject of a Task Order are capable of being used for their intended purpose and comply with all of the requirements of Article 9, the Specifications, and the other Agreement Documents.

"Total Sum" means the total maximum amount of compensation for which all Task Orders may potentially be issued pursuant to this Agreement. Contractor's entitlement to payment under this Agreement shall not exceed the Total Sum.

"Work" means all the Services specified, indicated, shown, or contemplated by the Agreement Documents and applicable Task Orders, as well as the furnishing by Contractor of all materials, equipment, labor, methods, processes, construction, manufacturing, tools, plants, design, supplies, power, water, transportation and any other things necessary or incidental to complete such Services in accordance with the Agreement Documents and applicable Task Orders that will ensure a functional and complete Project(s).

"Task Order" means an order executed by the City, substantially in the form and substance provided in **Exhibit A** to this Agreement that specifies the Services to be provided by Contractor to the City, the agreed amount of payment for such Services, and the time limitations for completing the Services.

"Task Order Commencement Date" means the date identified in a notice to proceed and/or a Task Order issued by the City, which instructs the Contractor to start the performance of Services required by a Task Order. The times for Substantial Completion and Final Completion will be measured from the Task Order Commencement Date.

"Work Product" has the meaning set forth in Article 6.

2. SERVICES.

2.1 In General. The City desires to obtain from Contractor the Services described generally on **Exhibit A** attached and as further described on Task Orders (individually, a "Task Order" and, collectively, the "Task Orders") that may be executed from time to time between the Parties, pursuant to this Agreement.

The Services to be provided by Contractor are those ordered by the City that are reflected in a Task Order executed by the City. Contractor agrees to provide to City the Services per the Agreement Documents and each Task Order issued by the City. Each Task Order will include at least the following:

- a reference to this Agreement;
- the Task Order Commencement Date;
- the required dates of Substantial and/or Final Completion of the Services, as applicable;
- the Services to be provided by the Contractor;
- required deliverables and submittals;
- the amounts payable and payment schedule for the Services; and
- any additional provisions applicable to the Services.

Except as provided for Emergency Work, no Task Order will become effective until it has been executed by an authorized representative of the City. A Task Order issued pursuant to this Agreement will be substantially in the form of **Exhibit A.2** hereto. All approved Task Orders shall be incorporated by reference into this Agreement.

2.1.1 Emergency Work. In some cases, the City may require emergency Services to be performed by the Contractor, which pose an imminent threat to the public health, safety, general welfare ("Emergency Work"). In such cases, the City's Authorized Representative shall notify the Contractor by email or other written communication the type and scope of work needed under the circumstances. Once notified, Contractor shall immediately mobilize and begin Services, as is necessary to remediate the emergency conditions. Payment for such Services shall be in accordance with Option 1, pursuant to Section 4.1.1.

2.1.2 Authorization. If applicable, this Agreement is authorized by legislation adopted by the City, which is attached as **Exhibit B**.

2.2. The sum of payments by City under each Task Order shall be specified by a Maximum Payment Amount (the Task Order Maximum Payment Amount) applicable to the services to be performed under such task order.

2.3 Task Orders under this Agreement may be issued by City without further legislative approval under Code section 2-1111, if the legislation authorizing this Agreement provides for such issuance. In such circumstances, the Task Order may be executed by the City's Chief Procurement Officer, head of the affected using agency or other appropriate designee on behalf of City. City, at its sole discretion, may unilaterally issue Task Orders for Services for which charges are established in this Agreement. Contractor shall promptly proceed with the Services set forth in any such Task Order. If City solicits a proposal from Contractor for a Task Order, Contractor shall submit its proposal with a Task Order containing all the necessary terms and executed by Contractor. Task Orders may be issued or executed during the term of this Agreement that contain a service performance period that extends beyond the term; provided, however, that no Task Order may be issued or executed under this Agreement subsequent to the expiration or termination of the term.

2.4 City makes no representations or warranties about the quantity of services that will be requested or charges that will be paid under this Agreement. Any quantity of Services or amount of charges set forth in this Agreement are estimates only.

2.5 Initial Term. The initial term of this Agreement will be 1 year. This Agreement shall commence on the Effective Date and end on [_____]. The initial term of the Agreement and any renewal term(s) are collectively referred to as the "Term".

2.6 Renewal Terms. City shall have the right in its sole discretion to renew this Agreement for [2] additional one-year terms. If City desires to exercise an option to renew, it will submit legislation authorizing such renewal for

consideration by City's Council and Mayor prior to the expiration of the prior term. The legislation will establish that the date of such renewal will be the day immediately following the expiration day of the prior term.

If such legislation is enacted, City will notify service provider of such renewal, at which time service provider shall be bound to provide Services during such renewal term, without the need for the parties to execute any further documents evidencing such renewal, it being acknowledged by service provider that its initial execution of this Agreement is deemed its agreement to continue to provide Services during any renewal term.

3. COMPENSATION

3.1 Compensation for Services will be based upon agreed unit prices as set forth in the fee schedule attached as **Exhibit A.1**. No payment to Contractor shall exceed Annual Maximum Payment Amount; Task Order Maximum Payment Amount; the Total Sum; or the hourly rates, materials, reimbursable expenses and other payment terms identified in Exhibit A.1. All costs of items associated with the Work and incidentals necessary for the proper and timely completion of the Work shall be considered as included in the unit prices attached as **Exhibit A.1**. Payment for all Work in accordance with the unit prices identified in **Exhibit A.1** shall be full compensation for all labor, materials, equipment, methods, processes, construction manufacturing, tools, plants, designs, supplies, power, water transportation and any other things necessary or incidental to furnish, install, construct, and test the Work covered under the applicable unit price. The unit prices set forth in Exhibit A.1 are inclusive of all taxes, levies, duties and assessments of every nature in connection with the Services ("Taxes"). Services for which there is no price schedule set forth in **Exhibit A.1** shall be considered incidental to the Work and no compensation shall be allowed.

3.2 Contractor acknowledges and agrees that if the quantities originally contemplated under the Agreement Documents are materially changed so that application of such unit prices to quantities of the Work performed will cause substantial inequity to the City, the applicable unit prices shall be equitably adjusted pursuant to Article 8. For purposes of this Article 3.2, a change in quantities may be considered material if such change is greater than or equal to forty percent (40%) more than the quantities set forth in the Agreement Documents.

3.3 No money shall be paid by the City upon any claim, debt, demand or account whatsoever, to any person, firm, or corporation who is in arrears to the City for taxes, or any other debt or claim, and the City shall be entitled to counterclaim and/or offset any such debt, claim, demand or account in the amount of taxes so in arrears or other debts or claims of the City, and no assignment or transfer of such debt, claim, demand, or account after the said taxes are due or after any such debt or claim is asserted by the City, shall affect the right of the City to so offset the said taxes, debts, or other obligations against the same. Contractor agrees that the City shall be allowed to setoff and recoup any claim or demand that it may have against Contractor (or any of its constituent members if Contractor is a joint venture) whether such claim or demand is liquidated or unliquidated. Contractor further agrees that in the event it assigns or sells any amounts due or to become due under this Agreement, notice to the City of such assignment or sale shall not affect the City's rights of setoff or recoupment against Contractor for claims subsequently arising from this Agreement or any other contract with the City. Any assignee or purchaser of any amounts due Contractor under this Agreement shall be bound to these provisions and shall assume the risk of subsequently arising claims of setoff or recoupment.

4. TERMS OF PAYMENT

4.1 Payment to the Contractor will be made according to one of the following methods identified in this Article 4. Task Orders issued pursuant to this Agreement will identify the method of payment selected by the City. Selection of the applicable payment options identified in Articles 4.1.1 and 4.1.2 is in the City's sole discretion. In the event that a Task Order does not expressly state the procedure for payment selected by the City, then Contractor will be entitled to payment in accordance with Article 4.1.1. Contractor shall prepare and submit to City invoices for payment for all Services in accordance with the Task Order, which shall include such detail and format as the City may reasonably require.

Payment Methods

4.1.1 Option 1, Payment Upon Final Completion: Subject to the City's right to offset payment and its rights to withhold payment set forth in Article 4.4, Contractor shall be entitled to full payment for a Task Order sixty (60) days after achieving Final Completion of the Services required by a Task Order based upon a lump sum, based upon time and materials and calculated from the labor and materials categories set forth in **Exhibit A**. Contractor agrees to execute such payment application forms and release of claim forms as the City may require as a condition precedent to the City's obligation to make any payment to Contractor.

4.1.2 Option 2, Progress Payments: If the City elects to pay Contractor in accord with this Article 4.1.2, then upon issuance of a Task Order, Contractor shall submit to the City monthly invoices for Services performed. Each invoice shall be accompanied by a payment application identifying the applicable Task Order, such time sheets, daily reports, receipted invoices, invoices with check vouchers attached, Contractor's interim and final releases of lien and bond rights (as applicable), Contractor's sub-tier contractor interim and final releases of lien and bond rights (as applicable), Contractor's verification of quantities delivered pursuant to Task Order(s), all Drawings required by a Task Order, all documents, work product, and information required by the Specifications, and such other records as the City may reasonably request for the purpose of verifying the accuracy of the invoice (collectively "Documentation"). Subject to the City's right to offset payment and its rights to withhold payment set forth in Article 4.4, payment to Contractor will be made less applicable retention within thirty (30) days of receipt of all supporting Documentation required by the Agreement Documents. Contractor agrees to execute such payment application forms and release of claim forms as the City may require as a condition precedent to the City's obligation to make any payment.

4.2 This Article 4 completely supersedes the Georgia Prompt Pay Act as it relates to Owner payments and any modifications or successors to the Georgia Prompt Pay Act to the fullest extent allowed by law. Contractor acknowledges and agrees that payment shall be in accordance with the provisions of this Agreement and expressly waives its right to assert entitlement under O.C.G.A. § 13-1-11, *et. seq.* to the full extent permitted by law. Should the City fail to issue payment for undisputed amounts within ninety (90) days of approval, annual interest on the payment amount may accrue at the Prime Rate, plus one percent (1%). The Prime Rate shall be based on that published in the Wall Street Journal on the first business day of January or June, whichever has most recently passed, of the current year.

4.3 The City may decline to approve payment and may withhold any payment, in whole or in part because of: (a) defective work not remedied; (b) third party claims filed or reasonable evidence indicating probable filing of such claims; (c) failure of the contractor to promptly make payments to sub-tier contractors; (d) reasonable evidence that the Work cannot be completed for the Total Sum; (e) reasonable evidence that the Services will not be completed within the time required by a Task Order; (f) failure to carry out the Services in accordance with the requirements of the Agreement documents; (g) failure to comply with the insurance and bonding requirements of the Agreement Documents; (h) Contractor's insolvency or reasonable evidence that contractor fails to pay its debts as they come due; (i) liquidated damages due in accordance with article 9; or (j) a material failure of the contractor to comply with any of the requirements of the agreement documents. No full or partial payment of any invoice or any use of Services constitutes acceptance of any Services.

4.4 Any Disputes concerning payment shall be resolved in accordance with Article 16.

5. CONTRACTOR'S ACCOUNTING RECORDS AND THE CITY'S RIGHT OF AUDIT

Contractor shall keep full and detailed accounts and exercise such controls as may be necessary for proper financial management under this Agreement. The City shall be afforded reasonable access to Contractor's records, books, correspondence, instructions, drawings, receipts, subcontracts, purchase orders, memoranda, records of delivered quantities, daily reports, job cost reports, and such other data relating to this Agreement during normal

business hours at the location where such documents are stored by Contractor. The Contractor shall preserve all such related documentation for a period of two (2) years after the expiration of the Agreement Term. The City shall have the right to audit the books and records related to this Agreement at any time. Contractor shall provide access to its books and records associated with this Agreement within 72 hours of the City's provision of written notice to Contractor.

6. OBLIGATIONS OF THE CONTRACTOR

6.1 Contractor will perform all Services in a timely and professional manner, consistent with the Standard. Contractor shall not be deemed to be an agent of the City for any purpose but shall in all events be an independent contractor exercising control over its Services and the manner in which they are performed.

6.2 Contractor will not perform any Services until the City directs Contractor in writing to proceed. Unless otherwise specified in a Task Order, the execution of a Task Order by the City shall constitute notice and authorization to Contractor to proceed in strict accordance with the Agreement Documents.

6.3 Contractor will perform Services under this Agreement with the highest degree of skill and diligence normally practiced by contractors performing the same or similar services as are being performed by Contractor under this Agreement and under any Task Order in accordance with all applicable federal, state, local laws, ordinances, rules, regulations, and lawful orders ("Standard"). Contractor shall be solely responsible for all construction means, methods, techniques, sequences, and procedures and shall coordinate all portions of the Work under the Agreement Documents.

6.4 Contractor shall enforce strict discipline, professionalism, and good order among Contractor's employees and sub-tier contractors. The City may, after provision of written notice to Contractor, require Contractor to remove from the Work any employee the City deems incompetent, unprofessional, or otherwise objectionable, including any employee of Contractor's sub-tier contractors.

6.5 Unless otherwise provided in the Agreement Documents, Contractor shall secure and will provide all permits, licenses, and other applicable legal documents required for Contractor's performance of the Work required by the Agreement Documents. In no event will Contractor's failure to timely secure permits, licenses, and/or other applicable legal documents serve as a basis for a Claim under this Agreement.

6.6 Key Personnel and Key Subcontractors. The following persons are identified by the Contractor as its key personnel that will provide the Work and Services required by the Agreement Documents:

6.6.1 Key Personnel:

(a) _____;

(b) _____; and

(c) _____.

6.6.2 Key Subcontractors:

(a) _____;

(b) _____; and

(c) _____.

6.6.3 Contractor shall not transfer, reassign or replace Key Personnel and/or Key Subcontractors identified in Articles 6.6.1 and 6.6.2, except as the result of retirement, voluntary resignation, involuntary termination for cause in Contractor's sole discretion, illness, disability, or death, during the term of this Agreement without the prior written approval from the City.

6.7 Suspension of the Work. The City may, by written notice to Contractor, suspend at any time the performance of any or all of the Work to be performed under this Agreement. Contractor shall be entitled to request an extension of time pursuant to Article 8 in the event the City issues a suspension notice per this Article 6.7. Unless the suspension notice directs otherwise, upon receipt of a suspension notice Contractor must:

6.7.1 immediately discontinue suspended Work on the date and to the extent specified in the notice;

6.7.2 place no further orders or subcontracts for materials, services or facilities with respect to suspended Work, other than to the extent required in the notice; and

6.7.3 take any other reasonable steps to minimize costs associated with the suspension.

6.8 The City shall designate to the Contractor in writing a representative(s) (the "City Representative") who shall serve as primary interface and the single-point of communication for the provision of Services; have day-to-day interaction with Contractor to address issues relating to this Agreement; and to the extent provided under applicable laws and the City's Code of Ordinances, have the authority to execute any additional documents or Change Orders on behalf of City. Any Work, document, or item to be submitted or prepared by Contractor hereunder shall be subject to the review of the City Representative. The City Representative may disapprove, if in the City Representative's sole opinion the Service, Documentation, Drawing or item is not in accordance with the requirements of the Agreement Documents or sound professional principles, or is impractical, uneconomical or unsuited for the purposes for which the Service, document or item is intended. If any of the said items or any portion thereof are so disapproved, Contractor shall revise and/or correct the Work so that it meets the approval of the City Representative at no additional cost to the City. The "City Representative" may also be referred to as the "City Engineer."

6.9 Contractor shall diligently perform the Services required by a Task Order within the time required by the Task Order notwithstanding any disputes or disagreements with City. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as City may otherwise direct pursuant to this Agreement. Contractor's failure or refusal to work through disputes in accordance with this Article 6.9 shall be deemed a material default under this Agreement, which will entitle the City to immediately rely upon Contractor's sureties to cure said default.

6.10 Except as otherwise expressly provided in this Agreement, all Drawings, Documentation, reports, information, data, specifications, computer programs, technical reports, operating manuals and similar work or other documents, all deliverables, and other work product prepared or authored by Contractor or any of its sub-tier contractors exclusively for the City under this Agreement, and all intellectual property rights associated with the foregoing items (collectively, the "Work Product") shall be and remain the sole and exclusive property of the City. Any of Contractor's or its sub-tier contractors' works of authorship comprised within the Work Product (whether created alone or in concert with City or a third party) shall be deemed to be "works made for hire" and made in the course of Services rendered and, whether pursuant to the provisions of Section 101 of the U.S. Copyright Act or other applicable law, such Work Product shall belong exclusively to City. Contractor and its sub-tier contractors grant the City a non-exclusive, irrevocable, global, perpetual, transferable, fully paid up, royalty free license to all Work Product not exclusively developed for City under this Agreement.

6.10.1 If any of the Work Product is determined not to be a work made for hire, Contractor hereby assigns to the City, worldwide and in perpetuity, all rights, including proprietary rights, copyrights, and related rights, and all extensions and renewals of those rights, in the Work Product. If Contractor has any rights to the Work Product that

cannot be assigned to City, Contractor unconditionally and irrevocably waives the enforcement of such rights and irrevocably grants to City during the term of such rights an exclusive, irrevocable, perpetual, transferable, global, fully paid and royalty-free license, with rights to sublicense through multiple levels of sub-licensees, to reproduce, make, have made, create derivative works of, distribute, publicly perform and publicly display by all means, now known or later developed, such rights.

6.10.2 The City shall have the sole and exclusive right to apply for, obtain, register, hold and renew, in its own name or for its own benefit, all patents, copyrights, applications and registrations, renewals and continuations and all other appropriate protection.

6.10.3 To the extent exclusive title or complete and exclusive ownership rights in any Work Product created by Contractor may not originally vest in City by operation of applicable law, Contractor shall immediately upon request, unconditionally and irrevocably assign, transfer and convey to the City all rights, title and interest in the Work Product.

6.10.4 Without any additional cost to the City, Contractor and its personnel shall promptly give City all reasonable assistance and execute all documents the City may reasonably request to enable the City to perfect, preserve, enforce, register and record its rights in all Work Product. Contractor irrevocably designates City as Contractor's agent and attorney-in-fact to execute, deliver and file, if necessary, any documents necessary to give effect to the provisions of this Article 6.10 and to take all actions necessary, in Contractor's name, with the same force and effect as if performed by Contractor.

6.11 Contractor shall take all reasonable precautions for the safety of, and shall provide all reasonable protection to prevent damage, injury, or loss to: (a) all employees on the Work and all other persons who may be affected thereby; (b) all the Work and materials to be incorporated therein, whether in storage or not, under the care, custody, or control of Contractor or any of Contractor's sub-tier contractors; (c) other property at the site where the Work is being performed or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction; and (d) the Work of the City or other separate contractors.

6.11.1 Contractor shall give all notices and comply with all applicable laws, ordinances, rules, regulations, and lawful orders of any public authority bearing on the safety of persons or property or their protection from damage, injury, or loss.

6.11.2 Contractor shall erect and maintain, as required by existing conditions and the progress of the Work, all reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent utilities.

6.11.3 When the use or storage of explosives or other hazardous materials or equipment is necessary for the execution of the Work, Contractor shall exercise the utmost care and shall carry on such activities under the supervision of properly qualified personnel.

6.11.4 Contractor shall promptly remedy all damage or loss to any property caused in whole or in part by Contractor, any subcontractor, any sub-tier contractor or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable, except damage or loss attributable solely to the acts or omissions of the City and not attributable to the fault or negligence of Contractor. The foregoing obligations of Contractor are in addition to Contractor's obligations under Article 7 and **Exhibit A** or other provisions of the Agreement Documents.

6.11.5 Contractor shall not load or permit any part of the Work to be loaded so as to endanger its safety.

6.11.6 In any emergency affecting the safety of persons or property, Contractor shall act, at Contractor's discretion, to prevent threatened damage, injury or loss.

6.11.7 Contractor acknowledges that it is fully aware of appropriate and safe procedures regarding blasting, including the contents and requirements of Official Code of Georgia Annotated § 25-9-1 through § 25-9-12, Blasting or Excavating Near Underground Gas Pipes and Facilities, any amendments thereto and rules and regulations issued pursuant thereto, and Contractor shall fully comply therewith. Contractor agrees and acknowledges that any failure on its part to adhere to appropriate procedures and said laws, rules and regulations shall not only be a violation of law but shall also be a breach of Agreement.

6.11.8 Contractor acknowledges that it is fully aware of appropriate and safe procedures regarding high voltage lines, including the contents and requirements of Official Code of Georgia Annotated § 46-3-30 through § 46-3-39, Safeguards Against Contact with High Voltage Lines, any amendments thereto and rules and regulations issued pursuant thereto, and Contractor shall fully comply therewith. Contractor agrees that any failure on its part to adhere to appropriate procedures and said laws, rules and regulations shall not only be a violation of the law but shall also be a breach of Agreement.

6.11.9 Contractor acknowledges and agrees that it is the entity responsible under the law and that it is the entity employing or directing others to perform labor within the meaning of Official Code of Georgia Annotated § 34-1-1, Labor and Industrial Relations. It acknowledges and agrees likewise that it will comply with said law.

6.11.10 Contractor shall protect all Work, including but not limited to, excavations and trenches, from rain water, surface water, and backup of drains and sewers. Contractor shall furnish all labor, pumps, shoring, enclosures, and equipment necessary to protect and keep the Work free of water.

6.11.11 The provisions, terms and conditions of this Article 6 are in no way intended to limit the general requirements or the applicability of laws relating to Work conditions, safety or accident prevention and no specific provision or combination of specific provisions in any provision of Article 6 or in any other parts of the Agreement Documents shall be deemed to limit the obligations or responsibility of Contractor contained in general provisions with respect thereto or in laws, statutes, acts, rules or regulations which are applicable to Contractor but which are not specifically referred to in any part of the Agreement Documents.

7. INSURANCE AND BONDING

The Contractor shall procure and maintain, at its own cost, during the term of this Agreement the Insurance and Bonds Required by **Appendix B**.

8. CHANGES AND CLAIMS

8.1 Owner shall have the right at any time during the progress of the Work to increase or decrease the Services required by a Task Order or the time required for delivery of the Services (a "Change") pursuant to this Agreement. Any modification to a Task Order or this Agreement shall be set forth in a Change Form executed by the City and the Contractor, which documents the parties' mutual agreement as to the effect of the Change, the modification of the scope of the Task Order, and/or the amount of time required by a Task Order. It is expressly agreed that, except in an emergency endangering life or property, no additions or changes to the Work shall be made except upon written order of Owner, and Owner shall not be liable to Contractor for any extra labor, materials, or equipment furnished without such written order. No officer, employee, or agent of Owner is authorized to direct any extra or changed work by verbal order nor is Contractor authorized to proceed with any Work upon verbal order that results in a modification to the time or price of a Task Order.

8.2 The unit prices set forth in **Exhibit A.1** shall not be subject to modification pursuant to this Article. Except as provided by applicable law, in no event will a Change Order exceed the Total Sum authorized by the City pursuant to this Agreement.

8.3 Subject to the limitations set forth in Article 17, Contractor shall provide written notice to the City of any Claim within seven (7) calendar days of the occurrence of the event giving rise to the Claim, as well as (a) a narrative statement describing the amount and bases of the Claim; (b) the precise number of days claimed as a result of any delay or impact to the Work; and (c) a detailed calculation of the precise amount of additional compensation claimed with all required supporting Documentation. The failure of the Contractor to file any Claim within the time limits prescribed herein or in the form or manner as required hereby shall be deemed a material prejudice to the interests of the City and shall constitute a waiver and release of the Claim and the right to file or thereafter prosecute the same.

9. TIME

9.1 The Parties acknowledge that TIME IS OF THE ESSENCE for performance of the obligations required by this Agreement.

9.2 Contractor shall commence Work and proceed diligently with the Services, in accordance with the time specified by a Task Order. Contractor shall achieve Substantial Completion and Final Completion of the Services required by a Task Order within the times set forth in a Task Order.

9.2.1 When Contractor believes that the Services that are the subject of a Task Order are substantially complete, Contractor shall prepare a list of items and deliverables to be completed or corrected. The City may review the list of items and deliverables to be completed or corrected prepared by the Contractor and review the Services within a reasonable time after receipt of written notice from the Contractor and modify this list to include additional items. After Contractor has completed or corrected items necessary for achieving Substantial Completion it shall notify the City in writing. Thereafter, the City will review the Services and notify the Contractor in writing whether the Services have achieved Substantial Completion, as applicable.

9.2.2 If applicable, upon achieving Substantial Completion of the Services, as required by a Task Order, the Contractor will identify all punch-list items necessary for achieving Final Completion of the Work and provide this information to the City. After completion of all punch-list items and delivery of all Documentation necessary for Final Completion of a Task Order, the Contractor shall forward written notice to the City that the Services are ready for final review and acceptance and shall also forward a final application for payment. When the City finds that the Services are acceptable and fully completed in accordance with the Agreement Documents, the City will issue a certificate for Final Payment that will approve the Final Payment due the Contractor under an applicable Task Order.

9.2.3 Neither Final Payment nor retention shall become due until the Contractor submits to the City the following: (a) an affidavit that all payrolls and other indebtedness connected with the Work have been paid or otherwise satisfied; (b) consent of Contractor's surety to Final Payment; and (c) any Drawings and Documentation required by a Task Order.

9.2.4 The acceptance of Final Payment by Contractor shall constitute a complete waiver and release of all claims against the City by Contractor.

9.3 In the event Contractor fails to achieve either Substantial Completion or Final Completion within the time required by a Task Order, then Contractor or its sureties shall pay to the City the following amounts upon demand:

Applicable Range of Estimated Task Order Amount	Substantial Completion Liquidated Damages	Final Completion Liquidated Damages
0 to \$50,000	Not Applicable	Up to \$250 per day
\$50,000.01 - \$100,000	Not Applicable	Up to \$250 per day
\$100,000.01 - \$250,000	Not Applicable	Up to \$250 per day
\$250,000.01 - \$500,000	Not Applicable	Up to \$250 per day
\$500,000.01 - \$1,000,000	Not Applicable	Up to \$250 per day
Over \$1,000,000.00	Not Applicable	Up to \$250 per day

9.3.3 The amounts set forth in Articles 9.3.1 and 9.3.2 shall be referred to herein as "Liquidated Damages." The amount of such charges is hereby agreed upon as a reasonable estimate of the probable loss of the City in the event Contractor fails to achieve the Substantial Completion and/or the Final Completion requirements of Task Orders. The Liquidated Damages are fixed per this Article 9 because of the difficulty of ascertaining the exact amount of losses the City will actually incur as a result of Contractor's delayed completion of a Task Order.

9.4 No payment(s) made, payment application(s) approved, partial use of the Services, or complete use of the Work by the City shall be deemed an acceptance of Services that do not conform to the requirements of the Agreement Documents.

10. FAILURE TO PERFORM AND TERMINATION FOR DEFAULT.

10.1 If Contractor (a) fails or refuses to proceed with or to perform its Work in accordance with the Agreement Documents, (b) fails or refuses to perform properly or abide by any terms, covenants, conditions or provisions contained in this Agreement or (c) fails or refuses to obey laws, ordinances, regulations or other codes of conduct, Owner shall have the right to terminate Contractor's right to proceed under this Agreement. If Owner determines that Contractor has not remedied and cured the default or defaults in its performance within seven (7) calendar days following receipt by Contractor of written notice of said default or defaults or such shorter period as the circumstances may justify, in which case such shorter period shall be identified in Owner's written notice, then Owner may, at its option, without releasing or waiving its rights and remedies against the Contractor's sureties and without prejudice to any other right it may be entitled to hereunder or by law, terminate Contractor's right to proceed under a Task Order or this Agreement and take possession of the Work and all materials, tools, equipment and appliances of Contractor, take assignment of all of Contractor's subcontracts and purchase orders, and complete Contractor's Work by whatever means, methods or agency which Owner may, in its sole discretion, choose. In the event that Contractor's right to proceed has been terminated, Contractor agrees that it shall not be entitled to receive any further payment until after the Work has been completed. Moreover, all monies expended and all of the costs, losses, damages and extra expenses, including all management, administrative and other direct and indirect expenses (including attorneys' fees, arbitrator's fees, filing fees, expert fees, and all other costs and expenses associated with the default) incurred by Owner incident to such completion, shall be deducted from any amounts otherwise due or to become due the Contractor, and if such expenditures, together with said costs, losses, damages and extra expenses, exceed the

unpaid balance of the Task Order Maximum Payment Amount, Contractor and its surety agree to pay promptly to Owner, on demand, the full amount of such excess, including costs of collection, attorneys' fees and interest thereon at the maximum legal rate of interest until paid.

10.2 Owner's determination of Contractor's default or defaults and Owner's decision as to Contractor's failure to remedy and cure said default or defaults upon notification of their existence, made by Owner under the belief that a default or defaults existed under the terms hereof and that Contractor failed to remedy and cure said default or defaults, shall be conclusive (a) as to Owner's right to proceed as herein provided, and (b) as to Contractor's surety's obligation to perform the obligations assumed under Contractor's performance and/or payment bond. The liability of Contractor hereunder shall extend to and include the full amount of any and all sums paid, expenses and losses incurred, damages sustained and obligations assumed by Owner under the belief that such payments or assumptions were necessary or required (a) in completion of the Work and in providing labor, materials, equipment, supplies and other items therefor or re-letting the Agreement and (b) in settlement, discharge or compromise of any claims, demands, suits and judgments pertaining to or arising out of the Work hereunder. A sworn itemized statement thereof or the checks or other evidence of payment shall be *prima facie* evidence of the fact and extent of Contractor's liability.

10.3 In the event Contractor is in default, Owner shall have the right to supplement Contractor's forces without terminating this Agreement for default and deduct the cost of the same from any amounts otherwise due Contractor.

10.4 In the event any termination for default is found to be wrongful or improper, Contractor agrees that its sole and exclusive remedy is to have the termination treated as a termination for convenience in accordance with Article 11, Termination for Convenience.

10.5 In addition to the bases for termination of this Agreement under Articles 10.1 and 10.2, the City may, at its option, terminate this Agreement for cause immediately by providing written notice to Contractor if Contractor engages in behavior that is dishonest, fraudulent, or constitutes a conflict of interest with Contractor's obligations under this Agreement or is in violation of any of the City's Ethics Ordinances. Contractor shall immediately notify the City in writing, specifically disclosing any and all potential or actual conflicts of interest, which arise or may arise during the Term of this Agreement. City shall make a written determination as to whether a conflict of interest actually exists and the actions to be taken to resolve the conflict of interest.

11. Termination For Convenience; Termination For Lack Of Appropriations.

11.1 Termination For Convenience. The City shall have the right to terminate this agreement or a Task Order without cause upon seven (7) calendar days' written notice to Contractor. In the event of such termination for convenience, Contractor's recovery against Owner shall be limited to Services performed through the date of termination, calculated on a percent complete basis, together with any retainage withheld, if applicable, plus reasonable close-out and termination costs approved by the Owner, less the amount of prior payments to the Contractor, and Contractor shall not be entitled to any other and further recovery against Owner, including, but not limited to, anticipated profit on work not performed. In no event shall Contractor be entitled to a "cost-plus" recovery from Owner.

11.2 TERMINATION For Lack Of Appropriations. If, during any year of this Agreement, legislation establishing a Total Sum for the following year is not enacted, this Agreement will terminate in its entirety on the last day of the Agreement term for which a total sum has been legislatively authorized; provided, however, that Task Orders funded out of a previously legislatively authorized total sum amount may continue beyond such termination date. Furthermore, at any time during the term of this Agreement, City shall be entitled to terminate the Agreement for lack of appropriations or sufficient funding under the agreement upon providing thirty (30) days written notice to Contractor that the sufficient funding is not present to perform the Services under this Agreement. If the City

terminates the Agreement pursuant to this provision, Contractor's recovery against Owner shall be in accordance with Section 11.1, above.

12. FORCE MAJEURE

Any delay in performance caused by terrorist attacks, insurrections, storms, fires, hurricanes, tornadoes, earth quakes, or other acts of God ("Force Majeure Event") shall excuse the performance of both parties for the duration the Force Majeure Event is in effect. If the Contractor is delayed at any time in the progress of the Work by a Force Majeure Event, then Contractor will be entitled to seek a Change Order in accordance with the requirements of Article 8. Any extension of Contract Time on account of a Force Majeure Event shall be net of any delays caused by or due to the fault or negligence of Contractor. The Contractor shall cooperate in good faith with the City to minimize the impact of any such occurrence. No extension of time shall be granted unless the Force Majeure Event causes a delay to a Substantial Completion Date, and such delay is proven by an independent critical path analysis of the effected work activities. Contractor shall not be entitled to any compensation for a Force Majeure Event delay. Contractor's sole remedy for Force Majeure Event delay shall be a time extension.

13. WARRANTY

Contractor warrants to the City that all materials and equipment furnished under this Agreement will be new and of workmanlike quality unless otherwise specified, and that all Work will be of good quality, free from faults and defects and in conformance with the Agreement Documents. All Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. If required by City, Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment. This warranty is not limited by any other provision of the Agreement Documents. The Warranties set forth in this Article and elsewhere in the Agreement Documents shall survive Final Completion of any Work done and the Agreement Term. All warranties are in addition to the rights, remedies, and redress that the City has at law or in equity, and none of Contractor's warranties shall be deemed a sole or exclusive remedy to the City.

13.2 If within one (1) year from the expiration of the Agreement Term or Final Completion of a Task Order (whichever timeframe is longer), 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 Agreement Documents ("Warranty Period"), any of the Work is found to be defective or not in accordance with the Agreement Documents, Contractor shall correct it promptly after receipt of a written notice from the City to do so. This obligation shall survive both Final Payment for the Work or designated portion thereof and termination of the Agreement. Contractor acknowledges that the Warranty Period provides a period during which Contractor has a duty to repair and does not in any way limit Contractor's liability for Work that is not in accordance with the Agreement Documents, including any that may be discovered more than one (1) year after the date of Final Completion of a Task Order or expiration of the Agreement Term.

13.3 Without limiting the responsibility or liability of Contractor under the Agreement, all warranties given by manufacturers on materials or equipment incorporated in the Work are hereby assigned by Contractor to the City at no additional cost to the City. If requested, Contractor shall execute enforceable formal assignments of said manufacturer's warranties to the City at no additional cost to the City. Contractor shall not obtain any materials or equipment under warranties, which do not run directly to the benefit of the City, and all such warranties shall be directly enforceable by the City.

13.4 The foregoing warranties, and those contained elsewhere in the Agreement Documents or implied by law, shall be deemed cumulative and not alternative or exclusive. No one or more of them shall be deemed to alter or limit any other.

14. CORRECTION OF THE WORK

The Contractor shall promptly correct Work rejected by the City or Work failing to conform to the requirements of the Agreement Documents, whether discovered before or after Substantial Completion of a Task Order and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Owner's, Owner's consultants, or a design professionals' services and expenses made necessary thereby, shall be at the Contractor's expense. If the Contractor fails to correct defective or non-conforming Work within seventy-two (72) hours from receipt of the City's written notice, then the City shall have the right to correct the defective or non-conforming work at Contractor's expense.

15. INDEMNIFICATION

15.1 To the fullest extent permitted by law, the Contractor shall indemnify, defend, and hold harmless the Owner and from and against any and all claims, damages, losses, demands, judgments and costs of suit or defense, including attorneys' fees, and reimburse Owner for any expense, damage or liability incurred by Owner whether for personal injury, property damage, direct or consequential damage, or economic loss arising or alleged to have arisen from the acts or omissions of Contractor, a subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to any party or person. This indemnity obligation shall include, but not be limited to, claims made or lawsuits filed by employees of Contractor or employees of anyone for whose acts Contractor may be liable, and claims made or lawsuits filed by employees of Owner. The foregoing indemnification does not apply to claims arising out of the sole negligence of Owner. Contractor further agrees to reimburse Owner for all costs and expenses, including attorneys' fees, expert witness fees, and/or consultant fees incurred to enforce these indemnity obligations.

15.2 Contractor will save and keep all Projects related to this Agreement free from all mechanics' liens and all other liens by reason of its Work or of any materials or other things used by it therein. If Contractor fails to remove any lien by bonding it, or otherwise, Owner, among other remedies, may retain sufficient funds out of any money due or thereafter to become due by Owner to Contractor to pay the same and all costs incurred by reason thereof, and may pay said lien or liens and Owner's costs associated with the lien or liens including reasonable attorneys' fees out of any funds at any time in the hands of Owner owing to Contractor. Contractor agrees that it shall be obliged to bond off any claim of lien of any of its subcontractors or suppliers notwithstanding any claim or argument as to non-payment or an alleged prior breach by Owner as an alleged result of non-payment. Contractor's obligation to bond off all liens of its subcontractors and suppliers is absolute and unconditional, and Contractor's failure to bond off any lien shall be deemed a material breach and default of this Agreement. Contractor's performance and/or payment bond sureties shall be obliged to bond all liens filed by subcontractors and suppliers of Contractor in the event that Contractor fails for any reason whatsoever to bond any such lien filed after ten (10) days written notice from Owner to Contractor demanding the bonding of such lien(s). Contractor understands and agrees that it shall ensure that its own subcontractors and suppliers have the same obligations as Contractor under this Article.

15.3 Contractor shall indemnify and hold City, harmless from and against any losses, liabilities, damages, demands and claims, and all related costs (including reasonable attorneys' fees and costs of investigation, litigation, settlement, judgment, interest and penalties) arising from claims or actions based upon any of the Work, Services, materials or methodologies used by Contractor (or any Contractor agent, subcontractor, sub-tier contractor or representative), or the City's use thereof (or access or other rights thereto) in connection with the Work, infringes or misappropriates the intellectual property rights of a third party. If any Work, Services, materials, or methodologies provided by Contractor hereunder is held to constitute, or in the City's reasonable judgment is likely to constitute, an infringement or misappropriation, the City may direct that Contractor: (i) procure the right for the City to continue using such Work, Services, or methodologies; (ii) replace such Work, Services, materials or methodologies with a

non-infringing equivalent, provided that such replacement does not result in a degradation of the functionality, performance or quality of the Work; (iii) modify such Work, Services, materials or methodologies, or have such Work, Services, materials or methodologies modified, to make them non-infringing, provided that such modification does not result in a degradation of the functionality, performance or quality of the Work, Services, materials or methodologies; or (iv) create a feasible workaround that would not have any adverse impact on City.

16. DISPUTE RESOLUTION

16.1 At the City's sole election, any Claim arising out of or related to the Agreement shall be subject either to binding arbitration or litigation at the City's option. Prior to arbitration or litigation, the parties shall endeavor to resolve Claims or disputes in accordance with the terms of this Agreement.

16.2 If Claims are not resolved by negotiation, mediation, or otherwise, and the Owner elects arbitration, the arbitration shall be held in Atlanta, Georgia and shall be in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association currently then in effect or such other similar rules and organization as the Owner may elect. The demand for arbitration shall be in writing and filed with the appropriate organization selected by the Owner and shall be served on the Contractor. The agreement to arbitrate shall be specifically enforceable under applicable law in any court having jurisdiction thereof. In any arbitration or litigation, the arbitrators or the Court shall have the jurisdiction to award the City costs, arbitrator fees, expert fees, and attorneys' fees, and the arbitrators or the Court shall award all such fees to the City if it is the prevailing party.

16.3 Except at Owner's sole discretion and with its consent, no arbitration arising out of or relating to the Agreement shall include, by consolidation or joinder or in any other manner, any other person or entity, including but not limited to any of Contractor's subcontractors and suppliers, and any other separate contractors or suppliers. The Owner's consent or election to allow consolidation or joinder shall not constitute consent to arbitration of any Claim not subject to arbitration pursuant to this Contract.

16.4 Any award rendered by an arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

16.5 If the Owner does not elect arbitration, any Claims shall be resolved in Fulton County, Georgia Superior Court. Contractor hereby submits to jurisdiction and venue in Fulton County, Georgia, and waives all defenses based on a lack of jurisdiction and/or venue. Contractor acknowledges that this Agreement was negotiated, at least in part, in Fulton County, Georgia. In any arbitration or litigation, the arbitrators or the Court shall have the jurisdiction to award the City costs, arbitrator fees, expert fees, and attorneys' fees, and the arbitrators or the Court shall award all such fees to the City if it is the prevailing party.

17. EXTENSIONS OF TIME AND DELAY

Contractor shall not be entitled to payment or compensation of any kind from the City for indirect, impact, or delay damages, including but not limited to costs of delay, disruption, interference, ripple effect, unforeseen site conditions, loss of anticipated profits, impact or hindrance from any cause whatsoever (collectively "Delay Damages"), whether such delay, disruption, interference, ripple effect, unforeseen site conditions, impact or hindrance be reasonable or unreasonable, foreseeable or unforeseeable, or avoidable or unavoidable. Contractor expressly waives and releases any Claim for Delay Damages and agrees that Contractor's sole and exclusive remedy for any delay shall be an extension of time to perform the Work and Services required the Agreement Documents, which shall be administered in accordance with the requirements of Article 8.

18. MISCELLANEOUS

18.1 The law of the state of Georgia will govern the validity of this Agreement, its interpretation and performance, and any other claims related to it.

18.2 If any of the provisions contained in the Agreement Documents are held for any reason to be invalid, illegal, or unenforceable in any respect, such invalidity, illegality, or unenforceability will not affect any other provision, and the Agreement Documents will be construed as if such invalid, illegal, or unenforceable provision had never been contained herein.

18.3 Contractor shall not sell, transferor, or assign any or all of its respective rights and obligations under this Agreement to a third party without the City's written consent. Any attempted sale, transfer, or assignment of the rights or obligations of this Agreement shall be void and of no effect.

18.4 Articles 1, 4, 5, 7, 8, 9, 10, 11, 15, 16, 17, 18, 19, and 20 shall survive termination of this Agreement.

18.5 The Drawings or other Instruments of Service prepared by Contractor or its sub-tier contractors shall be owned by the City and may be used by the City on projects other than the Project(s) performed in connection with a Task Order issued per this Agreement.

18.6 Except as otherwise provided herein, all notices and other communications required or permitted to be given under this Agreement, including its Exhibits and Task Orders, shall be in writing, addressed to the parties at their respective addresses as provided below, and may be delivered in person, sent by overnight express mail or courier service, or by facsimile, or by certified mail postage prepaid, return receipt requested. The addresses of each party are as follows:

City of Atlanta:

Contractor:

Dept. of Public Works

55 Trinity Ave, SW

Suite 4700

Atlanta, GA 30303

Each party may from time to time change its address for receipt of notices by sending notice thereof in the manner provided herein to the other Party.

18.7 The failure of the City to insist upon or enforce strict performance of any provision of this Agreement or to exercise any right under the Agreement Documents shall not be construed as a waiver or relinquishment of the City's right to assert or rely upon any such provision or right and/or any other requirement of the Agreement Documents.

18.8 The Agreement Documents constitute the entire agreement and supersede all prior written or oral understandings, and may only be changed by a written amendment to the Agreement executed by both the City and the Contractor.

18.9 Contractor acknowledges and agrees that it may be adequately compensated in money damages for any Claims arising from performance of the Agreement Documents. Accordingly, Contractor waives and releases any right to assert a claim for *quantum meruit*, unjust enrichment, and any other equitable or quasi-contractual claim for relief that may be available under applicable law.

18.10 During the performance of this Agreement, Contractor agrees to comply with all provisions of Part 2, Chapter 2, Article X, Division 11, including Section 2-1441 through 2-1460 of the Code of Ordinances of the City of Atlanta, the Equal Business Opportunity ("EBO") Program as may be hereafter amended.

18.11 No presumption of any applicable law relating to the interpretation of contracts against the drafter shall apply to this Agreement.

18.12 Contractor is an independent contractor of the City and nothing in this Agreement shall be deemed to constitute Contractor and the City as partners, joint venturers, or be construed as requiring or permitting the sharing of profits or losses. Except as expressly provided in Article 6.10, nothing in this Agreement shall be deemed to constitute Contractor and the City as principal and agent and neither party has the authority to represent or bind or create any legal obligations for or on behalf of the other party.

18.13 Contractor acknowledges that this Agreement and any changes to it by amendment, modification, Change Order or other similar document may have required or may require the legislative authorization of the City's Council and approval of the Mayor. Under Georgia law, Contractor is deemed to possess knowledge concerning the City's ability to assume contractual obligations and the consequences of Contractor's provision of goods or Services to the City under an unauthorized contract, amendment, modification, Change Order or other similar document, including the possibility that the Contractor may be precluded from recovering payment for such unauthorized goods or Services. Accordingly, Contractor agrees that if it provides goods or Services to the City under a contract that has not received proper legislative authorization or if Contractor provides goods or Services to the City in excess of the any contractually authorized goods or Services, as required by the City's Charter and Code, the City may withhold payment for any unauthorized goods or Services provided by Contractor. Contractor assumes all risk of non-payment for the provision of any unauthorized goods or Services to the City, and it waives and releases all claims to payment or to other remedies for the provision of any unauthorized goods or Services to the City, however characterized, including, without limitation, all remedies at law or equity.

19. CONFIDENTIAL INFORMATION

Contractor agrees to preserve as strictly confidential all Confidential Information for two (2) years following the expiration or termination of this Agreement; provided, however, that Contractor's obligation for Confidential Information that constitutes trade secrets pursuant to applicable law will continue for so long as such Confidential Information continues to constitute a trade secret under applicable law. Any Confidential Information that may be deemed Sensitive Security Information by the Department of Homeland Security or any other similar Confidential Information related to security will be considered trade secrets. Upon request by City, Contractor will return any trade secrets to City. Contractor agrees to hold the Confidential Information of the City in trust and confidence and will not disclose it to any person, or use it (directly or indirectly) for its own benefit or the benefit of any other person other than in the performance of its obligations under this Agreement. Contractor will be entitled to disclose any Confidential Information if compelled to do so pursuant to: (i) a subpoena; (ii) judicial or administrative order; or (iii) any other requirement imposed upon it by applicable law. Prior to making such a disclosure, to the extent allowed pursuant to applicable law, the Contractor shall provide the City with thirty six (36) hours prior notice by facsimile of its intent to disclose, describing the content of the information to be disclosed and providing a copy of the pleading, instrument, document, communication or other written item compelling disclosure or, if not in writing, a detailed description of the nature of the communication compelling disclosure with the name, address, phone number and facsimile number of the person requesting disclosure.

20. ETHICS IN CONTRACTS

20.1 Gratuities and Kickbacks. In accordance with the City of Atlanta's Code of Ordinances, Section 2-1484, as may be amended, it shall be unethical for any person to offer, give or agree to give any employee or former

employee or for any employee or former employee to solicit, demand, accept or agree to accept from another person a gratuity or an offer of employment in connection with any decision, approval, disapproval, recommendation, preparation or any part of a program requirement or a purchase request, influencing the content of any specification or procurement standard, rendering of advice, investigation, auditing or in any other advisory capacity in any proceeding or application, request for ruling, determination, claim or controversy or other particular matter pertaining to any program requirement or a contract or subcontract or to any solicitation or proposal therefor. Additionally, it shall be unethical for any payment, gratuity or offer of employment to be made by or on behalf of a subcontractor under a contract to the prime contractor or higher tier subcontractor or any person associated therewith as an inducement for the award of a subcontract or order.

20.2 Fraud and misrepresentations. Any written or oral information provided by Contractor directly or indirectly related to the performance of the Work required by this Agreement constitutes material representations upon which the City relies for the requirements of the Agreement and compliance with local, state and federal rules and regulations. Contractor agrees to immediately notify the City of any information provided to the City that it knows and/or believes to be false and/or erroneous and immediately provide correct information to the City and take corrective action. Contactor further agrees to immediately notify the City of any actions or information that it believes would constitute fraud or intentional misrepresentations to the City in the performance of this Agreement, whether or not such information actually constitutes fraud and/or intentional misrepresentations, by contacting the Integrity Line 1-800-884-0911. Contractor agrees to place signage provided by the City regarding the Integrity Line at the location to which Contractor's employees report to perform the Work required by this Agreement. Contractor acknowledges and agrees that a finding of fraud or other impropriety on the part of the Contractor or any of its subcontractors may result in suspension or debarment; and the City may pursue any other actions or remedies that the City may deem appropriate. Contractor agrees to include this clause in its subcontracts and take appropriate measures to ensure compliance with this provision.

[Signatures on the following pages.]

The parties hereto by authorized representatives have executed this Agreement as of the Effective Date.

The City of Atlanta

Mayor

Attest:

Municipal Clerk (Seal)

Recommended:

Chief Procurement Officer:

Commissioner:

Department of Public Works

Approved as to form:

City Attorney

Signature Block Options for Contractor:

Corporate signature:

[Insert Corporate Name]

By: _____

Name: _____

Title: _____

Corporate Secretary/Assistant

Secretary (Seal)

Limited Liability Company:

[Insert LLC Name]

By: _____

Name: _____

Title: _____

_____ Notary Public (Seal)

My Commission Expires: _____

DRAFT

DRAFT

EXHIBIT A

GENERAL SCOPE OF SERVICES

SCOPE OF WORK, SCHEDULE OF QUANTITIES, AND PRICES

1.0 SCOPE OF WORK

The scope of work for this project consists of providing all labor, materials, and equipment for placing Micro-surfacing material for filling ruts and surfacing existing paved public right-of-way roadways within the City of Atlanta. The length of the roadway improvements is approximately 200,000 Square Yards

2.0 TERM

The successful bidder shall commence work with adequate force and equipment on a date to be specified in a written order from the City of Atlanta, and shall complete the work within 365 consecutive calendar days with the option to renew for two (2) one (1) year renewals.

3.0 UNIT & LUMP SUM PRICES

Unit and Lump Sum prices quoted in the Schedule of Unit & Lump Sum Prices form shall be firm all-inclusive prices. Payment of the Unit and/or Lump Sum prices shall constitute full payment for performance of the corresponding work and shall cover all costs of whatever nature incurred by the CONTRACTOR in accomplishing the Work in accordance with the provisions of this Contract.

4.0 QUANTITIES

The quantities where noted in the Schedule of Unit & Lump Sum Prices, are approximations subject to variations as stated in 5.0 and no claim shall be made for deficiency or over-run, actual or relative. Payment will be made for the actual quantities of each Schedule of Unit Prices item incorporated into the work in accordance with the Contract requirements based on the unit prices established in the Schedule.

5.0 PERFORMANCE AND PAYMENT SECURITIES

The cost of the Performance and Payment Bonds are to be distributed through the various items of work.

6.0 ADJUSTMENTS

All prices are fixed for the duration of the Contract and are not subject to escalation for any cause. Payment of the Total Contract Price shall constitute full payment for performance of the Work and covers all costs of whatever nature incurred by CONTRACTOR in accomplishing the Work in accordance with the provisions of the Contract.

The CITY reserves and shall have the right to make such adjustments in the work as may be necessary or desirable to complete the work originally intended in an acceptable

manner.

Unless otherwise specified herein, the CITY may make such adjustments in the work which may increase or decrease the originally awarded contract quantities. Adjustments shall not invalidate the Contract nor release the Surety, and the CONTRACTOR agrees to accept payment for such adjustments as if the altered work had been a part of the original Contract. The adjustments which are for work within the general scope of the Contract shall be covered by Change Order issued by the ENGINEER. Change Orders for altered work shall include extensions of Contract time where, in the ENGINEER'S opinion, such extensions are commensurate with the amount and difficulty of added work.

If the CITY and the CONTRACTOR are unable to agree on a unit adjustment for any contract item that requires a change order, the CITY reserves the right to terminate the Contract with respect to the item and make other arrangements for its completion.

All Change Orders shall require consent of the CONTRACTOR'S Surety and an increase of the Performance and Payment Bonds.

Adjustments shall not increase the total cost of the project, based on the originally estimated quantities and the unit prices bid. Should it become necessary for the best interest of the CITY to make changes in excess of those herein specified, the same shall be covered by Change Order.

7.0 DEPARTMENT SUBMITTALS

Within fifteen (15) days of Contract award but before site mobilization, whichever is earlier, the following documents shall be submitted:

1. Contract Schedule;
2. Safety and Health Plan;
3. Quality Control Plan;
4. Environmental Compliance Plan.

8.0 Georgia Department of Transportation (GDOT) Standard Specifications

All references to GDOT Standard Specifications and Special Provisions can be found at <http://www.dot.ga.gov/doingbusiness/theSource/Pages/specifications.aspx>.

EXHIBIT A.1

COMPENSATION AND FEE SCHEDULE

**CITY OF ATLANTA
DEPARTMENT OF PUBLIC WORKS**

**ANNUAL CONTRACT
FOR
STREET MICRO-SURFACING MAINTENACNE ACTIVITIES
FC- 8742**

SCHEDULE OF UNIT & LUMP SUM PRICES

ITEM NO.	APPROXIMATE QUANTITY	ITEM WITH UNIT OR LUMP SUM PRICE WRITTEN IN WORDS	UNIT PRICE IN FIGURES		AMOUNT	
			DOLLARS	CENTS	DOLLARS	CENTS
SP 1-1		Miscellaneous Modification (Cash Allowance) _____			\$50,000	00
		LUMP SUM				
150-1000	LUMP SUM	Traffic Control _____				
		LUMP SUM				
413-1000	20,000	G.L. BITUM TACK COAT, AT _____				
		PER GALLON				
428-1000	210,000	MICROSURFACING TYPE 2 _____				
		PER SQUARE YARD				
428-1001	50,000	MICROSURFACING TYPE 2 LEVELING _____				
		PER SQUARE YARD				
407-1000	20,000	JOINT AND/OR CRACK SEALING TYPE-M _____				
		PER LINEAR FOOT				
407-1001	40,000	JOINT AND/OR CRACK SEALING TYPE-S _____				
		PER LINEAR FOOT				

EXHIBIT A.2

DRAFT TASK ORDER

SCHEDULE OF UNIT PRICES FOR CONSTRUCTION SERVICES FOR EXHIBIT 1 TO TASK ORDER FORM

Date of Issue: _____

Issued to: _____

Project Location: _____

Project/Contract: **FC-8742, Annual Contract for Street Micro-Surfacing Maintenance Activities**

Purchase Order No: _____

ITEMIZED SCOPE OF WORK:

COA – ITEM #	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
			Work Order Total:		

EXHIBIT B

LEGISLATION
(to be inserted at time of contract execution)

EXHIBIT C

SUPPLEMENTAL CONDITIONS & TECHNICAL SPECIFICATIONS

Exhibit C.

TABLE OF CONTENTS

Technical Specifications

Section 150	Traffic Control
Section 407	Asphalt-Rubber Joint and Crack Seal
Section 413	Bituminous Track Coat
Section 424	Bituminous Surface Treatment
Section 428	Micro Surfacing
Section 824	Cationic Asphalt Emulsion

Special Provisions

Section 109	Measurement and Payment
Section 150	Traffic Control
Section Prov	Miscellaneous Modifications (Cash Allowance)
Section SC-1	Work Hour Restrictions
Section SC- 2	Holiday Work Restrictions

TECHNICAL SPECIFICATIONS

SECTION 150 – TRAFFC CONTROL

01 DESCRIPTION

Work under this section shall consist of traffic control for micro-surfacing projects.

02 MATERIALS

Materials for this work shall meet the requirements of Georgia Department of Transportation (GDOT) Standard Specification. Please refer to Special Provisions Section 150 – Traffic Control.

03 CONSTRUCTION

- A. Construction of this item shall conform to the technical requirements, including testing, of Section 150 of the Georgia Department of Transportation Standard Specifications.
- B. Uniformed Police Officer's shall be provided at all signalized intersections to provide traffic control during micro-surfacing activities.

04 METHOD OF MEASUREMENT

Traffic control shall be provided on all projects.

05 BASIS OF PAYMENT

- A. Traffic control shall be paid as a lump sum item. All costs associated with signage, mobilization, demobilization, coordination, and personnel shall be included in the unit price..
- B. Payment will be as a percentage of projects completed, up to the lump sum amount.

END OF SECTION

SECTION 413 – BITUMINOUS TACK COAT

01 DESCRIPTION

Work under this section shall consist of furnishing and applying a bituminous tack coat on a prepared road surface. It also includes cleaning the road surface.

02 MATERIALS

Materials for this work shall meet the requirements of Section 413 Bituminous Tack Coat of the Georgia Department of Transportation Standard Specifications.

03 CONSTRUCTION

Construction of this item shall conform to the technical requirements, including testing, of Section 413 of the Georgia Department of Transportation Standard Specifications.

04 METHOD OF MEASUREMENT

Bituminous materials for Tack Coat applied and accepted, will be measured for payment in accordance with the applicable provisions of Sub-Section 109.02 of the Georgia Department of Transportation Standard Specifications.

05 BASIS OF PAYMENT

- a. The accepted quantity of bituminous material will be paid for at the contract unit price per gallon for Bituminous Tack Coat of the type and grade approved by the Engineer, complete in place and accepted. This price shall be payment in full for preparing and cleaning, for furnishing, hauling and applying all material, and for all incidentals necessary to complete the work.
- b. Payment will be made under (refer to Form A.1):

Item 413-1000 - Bituminous Tack Coat - Per Gallon

END OF SECTION

Section 424—Bituminous Surface Treatment

424.1 General Description

This work includes placing one or more applications of bituminous material and aggregate on a previously prepared base or pavement.

424.1.01 Definitions

- **Single Surface Treatment:** One application of bituminous material that is covered with aggregate.
- **Double Surface Treatment:** A bituminous material application that is covered with aggregate of the size specified in the proposal followed by a second bituminous material application that is covered with a second specified size aggregate.
- **Triple Surface Treatment:** A bituminous material application that is covered with a specified size aggregate followed by subsequent applications of bituminous material that are covered with successively smaller size nominal aggregates.

424.1.02 Related References

A. Standard Specifications

[Section 105—Control of Work](#)
[Section 800—Coarse Aggregate](#)
[Section 820—Asphalt Cement](#)
[Section 824—Cationic Asphalt Emulsion](#)

B. Referenced Documents

[QPL 65](#)

424.1.03 Submittals General Provisions 101 through 150.

424.2 Materials

A. Bituminous Material

Select the bituminous material from any type and grade listed in the materials table below. Notify the Engineer at least 10 days before ordering the bituminous material. The Engineer must approve the bituminous material choice. For a list of latex sources, see [QPL 65](#).

Ensure that materials meet the requirements of the following Specifications:

Material	Section
Asphalt Cement, Performance Grade PG 58-22 or PG 64-22*	820.2.01
Cationic Asphalt Emulsion, Grade CRS-2h or CRS-3*	824.2.01
Coarse Aggregate, Class A Crushed Stone or Crushed Slag, Group I or II	800.2.01
* Use PG 64-22 or CRS-3 only at the Engineer's direction. (See Subsection 424.3.05.B.)	

B. Aggregates

The size and group of aggregates used in the surface treatment are specified in the Proposal under the appropriate Line Item.

Section 424—Bituminous Surface Treatment

Do not use unconsolidated limerock unless provided for in the Plans or Proposal. Use Class B aggregates only where the surface treatment is used for shoulder construction or where it is to be overlaid with asphaltic concrete.

424.2.01 Delivery, Storage, and Handling

General Provisions 101 through 150.

424.3 Construction Requirements

424.3.01 Personnel

General Provisions 101 through 150.

424.3.02 Equipment

Have the Engineer approve equipment types and quantities before using equipment on the Project. Ensure that the equipment used to construct the surface treatment:

- Produces work that complies with the standards in this section
- Is on the Project and in proper working order before construction begins

A. Aggregate Spreader

The Department will inspect annually the aggregate spreader before it is used in the work. If the spreader is approved, the Department will attach an equipment certification sticker to the spreader.

Use a self-propelled aggregate spreader that can apply aggregate at the desired rate uniformly and accurately without corrugation, overlaps, or excess deficient areas.

Ensure that the spreader can spread courses to the required widths. Provide spreaders to promptly cover the full width of the asphalt application.

B. Pressure Distributor

The Department will inspect annually the pressure distributor before it is used in the work. If the distributor is approved, the Department will attach an equipment certification sticker to the distributor. The pressure distributor should be equipped as follows:

1. Mount the pressure distributor on pneumatic tires wide enough to prevent damage to the road surface.
2. Design, equip, maintain, and operate the distributor so that the bituminous material will be heated and applied evenly throughout the length of the spray bars. Ensure that it maintains a constant, uniform pressure on the nozzles.
3. Install screens between the tank and the nozzles and clean them frequently to prevent clogging.
4. Use an adjustable distributor that can deliver controlled amounts of bituminous material from 0.04 to 1.0 gal/yd², ± 0.02 gal/yd² (0.18 to 4.53 L/m², ± 0.10 L/m²) up to 24 ft (7.2 m) wide without atomization, streaking, or pulsation in the flow.
5. Use a distributor equipped with the following:
 - A tachometer and thermometers to indicate the application rate and the temperature of the tank contents
 - Measuring devices to accurately indicate the amount of bituminous material, in gallons (liters), in the distributor before and after each application
 - Full circulating spray bars that can be adjusted laterally to conform to a stringline and capable of vertical and horizontal adjustment.
 - A positive shut-off control to prevent dripping bituminous material on the roadway

Section 424—Bituminous Surface Treatment

- A distributor tank equipped with a sample valve in a safe and convenient location to obtain bituminous material samples
- C. Heating Equipment** Ensure that heating equipment will heat and maintain the bituminous material uniformly at the temperature required. Provide an accurate thermometer.
- D. Smooth-Wheeled Rollers** Use self-propelled, tandem-type smooth-wheeled rollers that can be alternated with pneumatic-tired wheels. The rollers shall weigh from 3 to 8 tons (3 to 7 Mg). Ensure that the roller weights within these limits can properly compact the materials.
- E. Pneumatic-Tired Rollers** Use self-propelled pneumatic-tired rollers with treads that will not disturb the aggregates. Rollers with pneumatic-tired wheels that can be alternated with a steel drum are also permitted.
- F. Power Broom and Power Blower** Provide at least one power broom and one power blower, or a combination power broom and blower, that can remove dust or loose materials from the road surface.

424.3.03 Preparation

Firmly compact, finish, and prime new bases. Ensure that the bases conform to the lines, grades, and cross sections within the tolerances specified.

A. Removing Foreign Material

Use power brooms, power blowers, hand brooms, or other means to remove loose material, dust, dirt, clay, and other materials that prevent bituminous materials from adhering to the base.

Take special care to clean the outer edges thoroughly. Where necessary, use a motor grader blade to remove excess material off the paving edge.

B. Condition of Prime

Check the condition of prime as follows:

1. Ensure the prime is cured before placing the mat course.
2. Repair the prime if it is loose, soft, unbonded, removed, or damaged.
3. Remove concentrations of excess prime.
4. Perform additional rolling with a pneumatic-tired roller before surface treatment when directed by the Engineer.

424.3.04 Fabrication

General Provisions 101 through 150.

424.3.05 Construction

A. Observing Seasonal and Weather Limitations

Apply bituminous surface treatment and corresponding bituminous materials only between the dates given in [Table 1](#), below. The dates are given by zones shown on the [Georgia Geographic Map](#), below. No exceptions are permitted except as authorized by the Engineer.

Section 424—Bituminous Surface Treatment

Table 1—Surface Treatment Seasonal Restrictions

Zone	Asphalt Cement	Emulsified Asphalt
1	May 1–September 15	April 10–September 15
2	April 15–October 5	April 1–October 5
3	April 10–October 20	March 25–October 20
4	April 1–November 1	March 15–November 1

Do not apply asphalt cement to a wet surface or when the temperature is below 65 °F (18 °C). Never apply emulsions if the temperature is below 55 °F (13 °C).

NOTE: If hot mix asphaltic concrete will be applied over the surface treatment, the Engineer may waive the seasonal and temperature limitations providing that traffic is not permitted on the surface treatment until it is covered with hot mix asphaltic concrete.



Georgia Department of Transportation Geographical Map For Surface Treatment and Slurry Seal

Section 424—Bituminous Surface Treatment

B. Using PG 64-22 or CRS-3

Only use PG 64-22 or CRS-3 when directed by the Engineer due to a problem with excessive aggregate pickup during high ambient temperature.

C. Observing Sequence of Operations and Quantities of Materials

The sequence of operations and quantities of materials are shown in [Table 2 \(Table 2—metric\)](#).

The Engineer will determine the material quantities to be used during construction and may change the minimum or maximum application rate of any course during construction if the total quantities are within the amounts shown in [Table 2 \(Table 2—metric\)](#). Any deviation, or minus from the table quantities, will require a negotiated adjustment of the Contract price, which will be authorized by an approved Supplemental Agreement.

D. Heating Bituminous Material

Evenly heat the entire mass of bituminous material for each application under positive control. While the material is being applied, maintain it within the specified temperature range

Section 424—Bituminous Surface Treatment – Table 2

Application	Type Construction									
	Single				Double			Triple		
1st appl.		#89	#7	#6		#7	#6		#6	#5
Stone Sizes 2nd appl.						#89	#7		#7	#7
3rd appl.									#89	#89
	Control Tolerance				Control Tolerance			Control Tolerance		
1st Application Bituminous Materials (gal/yd ²) PG 58-22 or PG 64-22	± .02	.17-.19	.18-.25	.22-.30	± .02	.20-.27	.26-.34	± .02	.20-.30	.24-.34
CRS-2h, CRS-3	± .02	.20-.22	.21-.29	.25-.35	± .02	.23-.32	.30-.40	± .02	.23-.35	.28-.40
1st Application Stone (ft ³ /yd ²)	± .03	.14-.18	.18-.26	.30-.42	± .03	.18-.26	.30-.42	± .03	.30-.42	.41-.53
2nd Application Bituminous Materials (gal/yd ²) PG 58-22 or PG 64-22					± .02	.18-.24	.24-.31	± .02	.20-.27	.20-.27
CRS-2h, CRS-3					± .02	.21-.28	.28-.36	± .02	.23-.32	.23-.32
2nd Application Stone (ft ³ /yd ²)					± .03	.14-.18	.18-.26	± .03	.18-.26	.18-.26
3rd Application Bituminous Materials (gal/yd ²) PG 58-22 or PG 64-22								± .02	.18-.24	.18-.24
CRS-2h, CRS-3								± .02	.21-.28	.21-.28
3rd Application Stone (ft ³ /yd ²)								± .03	.14-.18	.14-.18
Total Bituminous Materials (gal/yd ²) PG 58-22 or PG 64-22	± .02	.17-.19	.18-.25	.22-.30	± .03	.38-.51	.50-.65	± .04	.58-.81	.62-.85
CRS-2h, CRS-3	± .02	.20-.22	.21-.29	.25-.35	± .03	.44-.60	.58-.76	± .04	.67-.95	.72-1.0
Total Stone (ft ³ /yd ²)	± .03	.14-.18	.18-.26	.30-.42	± .04	.32-.44	.48-.68	± .05	.62-.86	.73-.97

Notes:

- The bituminous material and stone for each application may be varied by the Engineer, at no increase in cost, outside of the minimum or maximum shown in the table provided the total of the materials is within the limits of the total minimum and total maximum of all courses.
- Maintain the control tolerances shown above or stop the work until the necessary corrections are made.
- Apply at least one seal coat to the mat course on the same day when multiple applications are specified.

Section 424—Bituminous Surface Treatment – Table 2 (Metric)

Application	Type Construction									
	Single				Double			Triple		
1st appl.		#89	#7	#6		#7	#6		#6	#5
Stone Sizes 2nd appl.						#89	#7		#7	#7
3rd appl.									#89	#89
	Control Tolerance				Control Tolerance			Control Tolerance		
1st Application Bituminous Materials (L/m ²) PG 58-22 or PG 64-22	± .09	.77-.86	.82-1.13	1.00-1.36	± .09	.91-1.22	1.18-1.54	± .09	.91-1.36	1.09-1.54
CRS-2h, CRS-3	± .09	.91-1.00	.95-1.31	1.13-1.58	± .09	1.04-1.45	1.36-1.81	± .09	1.04-1.58	1.27-1.81
1st Application Stone (m ³ /m ²)	± .001	.005-.0060	.0060-.009	.01-.014	± .001	.006-.009	.01-.015	± .001	.01-.014	.14-.018
2nd Application Bituminous Materials (L/m ²) PG 58-22 or PG 64-22					± .09	.82-1.09	1.09-1.40	± .09	.91-1.22	.91-1.22
CRS-2h, CRS-3					± .09	.95-1.26	1.27-1.63	± .09	1.04-1.45	1.04-1.45
2nd Application Stone (m ³ /m ²)					± .001	.005-.006	.006-.009	± .001	.006-.009	.006-.009
3rd Application Bituminous Materials (L/m ²) PG 58-22 or PG 64-22								± .09	.82-1.09	.82-1.09
CRS-2h, CRS-3								± .09	.95-1.27	.95-1.27
3rd Application Stone (m ³ /m ²)								± .001	.005-.006	.005-.006
Total Bituminous Materials (L/m ²) PG 58-22 or PG 64-22	± .09	.77-.86	.82-1.13	1.00-1.36	± .14	1.72-2.31	2.26-2.94	± .18	2.63-3.67	2.81-4.53
CRS-2h, CRS-3	± .09	.91-1.00	.95-1.31	1.13-1.58	± .14	1.99-2.72	2.63-3.44	± .18	3.04-4.30	3.26-4.53
Total Stone (m ³ /m ²)	± .001	.005-.006	.006-.009	.01-.014	± .0013	.011-.015	.016-.024	± .0016	.021-.029	.025-.033

Notes:

- The bituminous material and stone for each application may be varied by the Engineer, at no increase in cost, outside of the minimum or maximum shown in the table provided the total of the materials is within the limits of the total minimum and total maximum of all courses.
- Maintain the control tolerances shown above or stop the work until the necessary corrections are made.
- Apply at least one seal coat to the mat course on the same day when multiple applications are specified.

Section 424—Bituminous Surface Treatment

E. Applying Bituminous Material

The following are temperatures at which bituminous material shall be applied.

Bituminous Material	Asphalt Cement	CRS-2h	CRS-3
Application temperature °F (°C)	275–350 (135– 175)	140– 180 (60– 80)	140– 180 (60– 80)

NOTE 1: Do not store emulsified asphalts at temperatures exceeding 150 °F (65 °C) for any extended time.

NOTE 2: Do not place bituminous surface treatment on fresh asphaltic concrete, except for paved shoulders, until the asphaltic concrete has been in place at least 30 days.

The Engineer will designate the maximum area to which bituminous material may be applied at one time. Apply the material as follows:

1. After applying the bituminous material to the section, immediately cover it with the correct application rate of aggregate before beginning the next section. Do not apply the bituminous material to the full width of the pavement unless the aggregate spreader can immediately cover the full width of the applied material.

NOTE: Never allow bituminous material to chill, set up, dry, or reach a condition that impairs the retention of cover aggregate before the aggregate is applied.

2. When a longitudinal joint is necessary:
 - Do not overlap the applications more than 4 in (100 mm).
 - Do not leave any area uncovered.
 - Never allow excess quantities of bituminous materials to build up.
3. On curves that require widening:
 - a. Shoot the extra width on the outside first.
 - b. Shoot the normal width with the distributor and follow the inside paving edge.
4. Ensure that the spray of bituminous material is uniform at all times. If the spray is not uniform:
 - a. Stop the work.
 - b. Change equipment, personnel, or methods to attain the required uniformity.
 - c. Apply bituminous material at one-half the width of the roadway, if necessary.
5. If streaking develops:
 - a. Stop the distributor and correct the problem before proceeding.
 - b. Use a hand hose or a hand pouring pot to cover the streaked areas at approximately the same application rate of bituminous material.
6. If a part of the work cannot be reached by the distributor, treat it by hand hoses with nozzles.
7. Protect curbs, gutters, handrails, and other structures from discoloration by the bituminous material. Remove bituminous material that is sprayed or spilled on these structures.
8. Ensure that the bituminous material joins neatly in place by beginning and ending the asphalt application from a heavy paper or tight trough that is longer than the width of the treatment being applied. Place it to catch and hold the surplus material.
9. When cleaning and emptying the distributor, empty it where the bituminous material can be covered with dirt and completely disposed of without damaging the Rights-of-Way.

Section 424—Bituminous Surface Treatment

F. Spreading Aggregates

Spread the aggregates as follows:

1. Ensure that aggregates do not contain free moisture when spread.
2. Apply aggregate immediately after applying bituminous materials.
3. Uniformly spread the aggregate at the specified rate without corrugations, overlaps, excess, or deficient areas.
4. Move the spreader at a uniform speed, regardless of the grade.
5. Ensure that the distance that the aggregate free falls remains constant during spreading.
6. Remove corrugations. Operate the spreader to prevent overlap of aggregates. If overlap occurs, remove the excess aggregate before rolling.
7. Ensure a uniform aggregate spread by hand spotting and brooming as necessary.

G. Rolling

Select a rolling pattern and speed that will thoroughly key the aggregate into the bituminous material. The Engineer must approve the pattern and speed.

If a steel wheel roller will fracture the aggregate, use pneumatic-tired rollers only.

H. Brooming

Use a revolving broom as necessary, supplemented by hand brooming, to remove or redistribute excess stone. Take care not to unseat bonded stone when brooming.

I. Controlling Traffic

Do not allow traffic on an individual course until the bituminous material has cooled or set enough to ensure that the aggregates will not be loosened, dislodged, or whipped off by slow-moving traffic.

When traffic is permitted back on the course, the Engineer will determine the speeds and specify the control devices to limit the speed. Continue this control until the Engineer permits the road to be opened for general traffic.

424.3.06 Quality Acceptance

General Provisions 101 through 150.

424.3.07 Contractor Warranty and Maintenance

Maintain and protect the surface course as specified in [Section 105](#) until the Project has been accepted. Make repairs as the Engineer directs. The cost of maintenance, protection, and repair is included in the Unit Prices Bid for the Item for which they apply.

424.4 Measurement

The area to be measured is the number of square yards (meters) of each type surface treatment completed and accepted.

424.4.01 Limits

The length is measured along the surface. The width is specified on the Plans, plus or minus any authorized changes. Irregular areas are measured by the surface square yard (meter) within the lines shown on the Plans or authorized changes.

424.5 Payment

The accepted area of surface treatment will be paid for at the Contract Unit Price per square yard (meter) complete for each type and stone size specified.

Section 424—Bituminous Surface Treatment

Payment will be made under:

Item No. 424	Single surface treatment stone size__group__	Per square yard (meter)
Item No. 424	Double surface treatment stone size__and __ group__	Per square yard (meter)
Item No. 424	Triple surface treatment stone sizes __, __ and __, group__	Per square yard (meter)

424.5.01 Adjustments

If a supplemental agreement is approved, payments will be adjusted as per the Contract Unit Price.

END OF SECTION

Section 428—Micro Surfacing

428.1 Description

This work covers the materials, equipment, construction, and application procedures for placing micro-surfacing material for filling ruts and surfacing existing paved surfaces. Properly proportion, mix, and spread all ingredients on the paved surface according to this Specification and as directed by the Engineer.

428.1.01 Definitions

General Provisions 101 through 150.

428.1.02 Related References

A. Standard Specifications

[Section 413—Bituminous Prime](#)

[Section 424—Bituminous Surface Treatment](#)

[Section 824—Cationic Asphalt Emulsion](#)

B. Referenced Documents

[GDT 125](#)

428.1.03 Submittals

A. Invoices

When the Department requests, furnish formal written invoices from a supplier for all materials used in production of micro surfacing. Show the following on the invoice(s):

- Date shipped
- Quantity in tons (megagrams)

Purchase LRA-modified emulsion from a supplier who will provide copies of invoices upon the Department's request.

B. Mix Design

Submit the proposed mix design for approval at least two weeks before beginning the mixing operations. As a minimum, the design shall include the following:

- Aggregate test properties
- Aggregate target gradation
- Results of [Table 1](#) mixture design properties
- Design percent asphalt residue based on dry weight of the aggregate
- Mineral filler percentages based on dry weight of the aggregate
- Quantitative effects of moisture content on the unit weight of the aggregate (bulking effect)

Submit to the Office of Materials and Research (OMR) representative samples of each ingredient to be used in the micro-surfacing mixture for design verification at least two weeks before beginning mixing operations. Include information about sources, type of materials, and project number.

Do not begin micro-surfacing work until the OMR has approved the micro-surfacing design and accepted the mixture.

The Engineer's acceptance of the design is solely for quality control and does not release the Contractor from performing acceptable work under this Specification. Ensure the mixture has sufficient working life to allow for proper placement at the existing ambient temperature and humidity. Redesign the mixture if a constituent must be replaced, or gradation changed, in order to produce an acceptable mixture. Proportion the constituents to produce a uniform mixture meeting the requirements of [Table 1](#)

Section 428—Micro Surfacing

Table 1—Mixture Design Properties

Micro-Surfacing		Type I	Type II
Mixture Control Tolerances	Grading Requirements	Percent Passing	Percent Passing
0%	3/8-inch (9.5 mm)	100	100
6%	No. 4 (4.75 mm)	90-100	60-95
5%	No. 8 (2.36 mm)	65-90	45-75
4%	No. 50 (300 m)	20-45	15-35
3%	No. 200 (75 m)	5-15	5-15
	Design Requirements	Range	Range
0.5%	Residual AC, %	6.0-9.0	6.0-9.0
N/A	Mineral Filler, %	0.5-3.0	0.5-3.0
Design Requirements – Micro Surfacing Type I and Type II			
Test No.	Description		Specification
AASHTO T-245 (Modified)	Flow		6-16
AASHTO T-245 (Modified)	Min. Stability, lb (kg), 50 Blow Marshall		1800 (8000)
ISSA TB-100	Wet Track Abrasion Loss (Maximum)	6-day soak	1 lb/yd ² (538 g/m ²)
		1-hour soak	1.5 lb/yd ² (807 g/m ²)
ISSA TB-147A or 147C	Vertical Displacement (Maximum)		10%
ISSA TB-109	Excess Asphalt by LWT (Maximum)		1 lb/yd ² (538 g/m ²)
ISSA TB-113	Mixing Time Test @ 100F (38 C) (Minimum)		45 Seconds
ISSA TB-139	Set Time Test (Minimum)	@ 30 minutes	12 kg-cm
		@ 60 minutes	20 kg-cm
ISSA TB-102	Water Resistance Test @ 30 Minutes		No Discoloration
ISSA TB-114	Wet Stripping Test (Minimum Retained)		90%
ISSA TB-115	System Compatibility		Pass

Note 1: Base percent residual asphalt and percent mineral filler on weight of the dry aggregate.

Note 2: Maintain the gradation and percent residual asphalt as shown on the micro-surfacing design or as established by the Engineer within the listed Mixture Control Tolerances. Meet mix control tolerances or make immediate adjustments to bring the gradation and percent residual asphalt back within tolerances, or the work will not be allowed to continue.

Note 3: Modify procedures stated in AASHTO T-245 for determining Flow and Marshall Stability to permit air drying of the mixture at 70 - 77 F (21 - 25 C) for 3 days before reheating and fabricating Marshall specimens.

428.2 Materials

The materials to be used and their specifications are listed below:

A. Aggregate

Use aggregate in micro-surfacing that meets the requirements of [Subsection 802.2.02](#).

Section 428—Micro Surfacing

EXCEPTION: Aggregate shall be manufactured from Group II, Class A or B crushed stone or slag, and the Sand Equivalent Value shall not be less than 65 when tested according to AASHTO T-176.

Ensure that aggregates shipped to the project are uniform and do not require blending or pre-mixing at the storage area before use. Aggregates must meet the appropriate gradation as shown in [Table 1](#).

B. Mineral Filler

Use mineral filler that is Portland cement or hydrated lime which meets the following requirements:

Portland cement	Section 830 and 883
Hydrated Lime	Section 882 and 883

C. Cationic Asphalt Emulsion

Ensure that the emulsified asphalt is a cationic type CSS-1h(LRA) or CSS-1P that meets the requirements for CSS-1h of [Section 824](#), modified to waive the cement-mixing test.

D. Latex Rubber Additive (LRA)

Ensure the LRA is a natural latex or an unvulcanized styrene-butadiene rubber in an emulsified latex form. Provide certification from the LRA manufacturer that the LRA meets the following requirements:

Rubber Solids content, Minimum %, ASTM D 1417	60 (by weight)
Brookfield Viscosity, cps Maximum, ASTM D 1417	5000
Total Ash, Maximum %, ASTM D 297	3.5

Co-mill the LRA and the special emulsifiers with the asphalt cement while manufacturing the emulsified asphalt to produce a homogeneous mixture. Add the LRA in the necessary proportions to result in 3% neat latex by weight of residual asphalt cement in the emulsion. Ensure the LRA modified emulsified asphalt, when left undisturbed for 24 hours, shows no separation of emulsion and LRA and no color striations, but has a uniform color throughout. Ensure that the residue from the LRA modified emulsified asphalt has a minimum softening point of 135 °F (60 °C) when tested according to AASHTO T-53.

EXCEPTION: The maximum test temperature shall not exceed 350F (176C) and the duration shall not exceed 20 minutes.

Formulate the emulsified asphalt to allow the paving mixture to cure at a rate that will permit traffic on the pavement within 1 hour after application without damaging the pavement surface.

E. Bituminous Tack Coat

Use a cationic asphalt emulsion CSS-1h or CQS-1h for the bituminous tack coat that meets [Section 824](#) and is diluted according to [Subsection 428.3.05.D](#).

F. Water

Use water for the micro-surfacing mixture that is potable and free of contaminants detrimental to the mixture.

G. Other Additives

Provide other additives as required to control the set time of the mixture in the field.

Section 428—Micro Surfacing

428.2.01 Delivery, Storage, and Handling

A. Aggregate Storage

Store or stockpile mineral aggregates in a manner that will prevent segregation, mixing of the various materials or sizes, and contamination with foreign materials. Do not use construction equipment on, or to ramp the stockpiled aggregate. Pass the aggregate over a scalping screen immediately before transferring it to the micro-surfacing mixing machine to remove oversized material.

B. Storage of Bituminous Material

Ensure that the bituminous storage is adequate to meet the requirements of the production rate. Always keep clean all equipment used to store and handle bituminous material and operate it in such a manner to prevent contamination with foreign matter.

428.3 Construction Requirements

428.3.01 Personnel

General Provisions 101 through 150.

428.3.02 Equipment

Obtain the Engineer's approval for all equipment, tools, and machines used to perform this Work. Do not attempt work with malfunctioning equipment. The Engineer may stop the work if equipment and tools are not sufficient to place the materials satisfactorily.

A. Mixing Equipment

Blend the paving mixture using a self-propelled micro-surfacing mixing machine that is:

- A continuous flow mixing unit
- Able to accurately deliver and proportion the aggregate, LRA-modified emulsion, mineral filler, field control additives, and water to a revolving multi-blade, twin shafted mixer
- Able to Discharge the mixed product on a continuous flow.

EXCEPTION: Blending the paving mixture may be accomplished with a truck mounted micro-surfacing mixing machine that meets the above specification, except for continuous flow, when placing the mixture on short streets or projects that are less than one-half mile (800 m) in length.

For streets or projects less than one-half mile (800 m) in length, individual truck-mounted units may be used for placement of micro-surfacing. For streets or projects one-half mile (800 m), or greater, in length, place micro-surfacing mixture with a machine that is equipped as follows:

- Has self-loading devices that load raw materials while continuing to lay micro-surfacing, thereby minimizing construction joints
- Has opposite side driving stations to optimize longitudinal alignment
- Allows the operator to have full hydrostatic control of the forward and reverse speed while applying micro-surfacing material

Thoroughly blend the mixture so that no uncoated aggregate is visible upon discharge from the mixing unit or in samples taken from the roadway.

1. Water Pressure System

Use a mixing machine equipped with a water pressure system and nozzle-type spray bar to provide a water spray ahead of and outside the spreader box when required.

Section 428—Micro Surfacing

2. Proportioning Devices

Use a machine equipped with individual volume or mass controls or other gauging devices for measuring and proportioning each material added to the mix. Properly calibrate, mark, and positively interlock each material control device. Ensure that the aggregate feed to the mixer is equipped with a revolution counter or similar device to determine the amount of emulsion used at any time. Before beginning the work, calibrate each mixing unit and provide a copy of the calibration worksheet to the Engineer. Once calibrated, do not change the aggregate and emulsion flows without the Engineer's approval. The water and additive may be adjusted in the field to control the mix properties to produce an acceptable mix.

3. Emulsion Pump

The emulsion pump shall be a heated, positive displacement type pump.

4. Spreading Equipment

Uniformly spread the micro-surfacing mixture using a mechanical-type spreader box attached to the mixer, equipped with paddles or other devices to agitate and spread the materials throughout the box. Use paddles that are designed to maintain sufficient turbulence in the mixture to prevent the material from setting-up in the box or causing side buildup and lumps. Provide a front seal to prevent loss of the mixture at the road contact surface. Provide an adjustable rear seal to act as a strike-off. Maintain the spreader to prevent the loss of the paving mixture during surfacing super-elevated curves. Design and operate the spreader box and rear strike-off to achieve a uniform consistency and produce a free flow of material to the rear strike-off without causing skips, lumps, or tears in the finished surface. Use a spreader box capable of lateral movement or with side-shift abilities to ensure proper alignment with the roadway.

B. Auxiliary Equipment

Provide a pressure distributor, power-broom, and power blower which meets requirements of [Subsection 424.3.02](#). Provide suitable crack and surface cleaning equipment, barricading equipment, hand tools, and other support equipment necessary to perform the work.

428.3.03 Preparation

General Provisions 101 through 150.

428.3.04 Fabrication

General Provisions 101 through 150.

428.3.05 Construction

A. General

Produce, transport, and place the specified materials according to these specifications and as approved by the Engineer. Produce a finished micro-surfacing that has a uniform texture free from excessive scratch marks, tears, or other surface irregularities. Ensure that the cured mixture fully adheres to the underlying surface. Based on a visual examination or test results, the Engineer may reject any work due to poor workmanship, loss of texture, raveling, or apparent instability.

B. Weather Limitations

Spread the micro-surfacing mixture only when:

- The ambient temperature for 48 hours immediately prior to placement has been at least 50 °F (10 °C).
- The current pavement surface and the ambient temperature is at least 50 °F (10 °C) and rising. Supply a surface temperature thermometer and a sling psychrometer and take temperature and humidity measurements as directed by the Engineer.
- The weather is not foggy or rainy.
- There is no forecast of temperatures below 32 °F (0 °C) within 48 hours from the time of placement.

Section 428—Micro Surfacing

Whenever the relative humidity exceeds 80 percent or the weather is overcast, the placement of micro-surfacing will be at the discretion of the Engineer.

C. Surface Preparation

Before applying the micro-surfacing mixture, thoroughly clean all cracks and the area to be surfaced to the Engineer's satisfaction.

D. Tack Coat

Use a tack coat which consists of cationic asphalt emulsion CSS-1h or CQS-1h. Dilute it at the rate of one part emulsion and three parts water, and apply with an asphalt distributor. The application rate is 0.05 to 0.10 gal/yd² (0.23 to 0.45 L/m²) of diluted emulsion per square yard (meter). Apply the tack coat according to [Section 413](#). If the surface course is placed within 30 days of the leveling course or if the Engineer determines that excessive tracking of material is evident, a tack coat will not be required between the leveling and surface course.

E. Application

Pre-wet the surface by spraying water ahead of and outside of the spreader box at a rate that dampens the surface without allowing water to flow freely ahead of the spreader box.

Spread the paving mixture on the prepared surface to produce a uniform finished surface. Take care when filling ruts to restore the designed profile of the pavement cross section. Excess crowning or overfilling of the rut area is not permitted. Use squeegees and lutes to spread the mixture in areas inaccessible to the spreader box and areas requiring hand spreading. Carry a sufficient amount of material at all times in all parts of the spreader box to ensure complete coverage.

Make adjustments to the additive, if necessary, to provide a slower setting time during hand spreading. If hand spreading is necessary, pour the mixture in a small windrow along one edge of the surface to be covered and uniformly spread with a hand squeegee or lute. Provide a smooth, neat seam where two passes meet. Immediately remove excess material from the ends of each run.

F. Traffic Control

Do not allow traffic on the micro-surfacing mixture until it has cured sufficiently to prevent pick up or marring of the surface. Repair any damage done by traffic to the mixture at no expense to the Department.

G. Rut Filling and Leveling (Scratch) Course

When required on the Plans, provide micro-surfacing materials to fill ruts, utility cuts, depressions in the existing surface, etc. before the final surface course is placed. When ruts are no more than 1/2 inch (13 mm) in depth, construct the leveling/scratch course using a full width spreader box with a steel strike-off. Fill ruts deeper than 1/2 inch (13 mm) independently with a rut-filling spreader box, 6 ft (1.8 m) in width, or as directed by the Engineer. Place and open to traffic the rut filling and leveling (scratch) course at least 24 hours before surfacing.

H. Workmanship

Excessive buildup, uncovered areas, or unsightly appearance are not permitted on longitudinal or transverse joints. Place longitudinal joints on lane lines. Excessive overlap is not permitted. Ensure straight lines along the roadway centerline, lane lines, shoulder, or edge lines. Keep lines at intersections straight to provide a neat and uniform appearance.

1. **Finished Surface:** Ensure that the finished micro-surfacing has a uniform texture free of excessive scratch marks, tears, or other surface irregularities. Excessive tear marks are considered 4 marks that are 1/2 inch (13 mm) wide or wider and 6 inches (150 mm) or more long per 100 square yards (85 meters), or any marks 1 inch (25 mm) wide or wider or 4 inches (100 mm) long. Ensure that

the edges of the micro-surfacing appear neat and that longitudinal alignment is parallel to the roadway centerline.

2. **Joints and Seams:** Produce neat and uniform longitudinal and transverse joints. Construct transverse joints as butt-type joints. Place longitudinal joints on lane lines when possible. Do not

Section 428—Micro Surfacing

allow gaps between applications. Joints are acceptable if there is no more than a 1/2 inch (13 mm) vertical space for longitudinal joints nor more than 1/4 inch (6 mm) for a transverse joint between the pavement surface and a 4 ft (1.2 m) straightedge placed perpendicular on the joint.

3. **Areas the Mixing Machine Cannot Reach:** Surface these areas using hand tools to provide complete and uniform coverage. Clean and lightly dampen the area to be hand worked before placing the mix. Ensure areas that require handwork produce a finished surface that is uniform in texture, dense, and has a neat appearance similar to that produced by the spreader box. Micro-surfacing material required to repair deficiencies due to unsatisfactory workmanship and the work required to mix and place the materials according to the Specifications, will be provided at no expense to the Department.

428.3.06 Quality Acceptance

Take two samples of mixture for determining quality acceptance for each day of operation. Test the second sample only if the results of the first sample are outside mixture control tolerances. Test the samples according to [GDT 125](#). The deviation in test results from the Job Mix Formula will be used to determine compliance with the mixture control tolerances. If more than one sample is tested, the average deviation shall be used to determine compliance.

A mixture adjustment period will be provided during the first two days of operation. If the average deviation of sample results for the first day are outside the mixture control tolerances, you may adjust equipment settings to provide a mixture within the tolerances. Samples will be taken the second day (after equipment changes, if any, have been made) and the average deviation in test results will be calculated. If the average deviation of test results for the second day is within mixture control tolerances, mixture quality will be accepted for the first two days of operation. If the average deviation from the second day is not within mixture control tolerances for percent residual asphalt content, a 2% reduction in unit price will be assessed for each 0.1 percent the residual asphalt content is outside the mixture control tolerances for each of the first two days that tolerances were exceeded.

A. Emulsified Asphalt

Maintain the percent residual asphalt and gradation as shown on the micro-surfacing design, or as established by the Engineer, within the Mixture Control Tolerances listed in [Table 1](#).

After the adjustment period, a 2% reduction in unit price will be applied for each 0.1 percent the residual asphalt content is outside the Mixture Control Tolerance given in [Table 1](#) for the day's production represented by the sample. The average deviation of the samples will be used to determine conformance to the Mixture Control Tolerance. Do not continue to operate and place materials outside the mixture control tolerances. Adjust the placement operation as necessary to maintain production within the tolerances given.

B. Aggregate Application Rate

Control the target spread rate for micro-surfacing to within plus or minus 2 lbs/yd² (1 kg/m²) of the spread rate specified in the Proposal based on the weight of dry aggregate. Mix placed in excess of the upper spread rate tolerance will not be paid for. The unit price will be reduced by 5% for each pound (0.5 kg) of aggregate per square yard (meter) less than the spread rate tolerances established above for each day's placement of material. Accept pay reduction for deficient daily production, or overlay the deficient area at full plan width and depth at the Contractor's expense. Do not continue to operate and place materials outside the spread rate tolerances. Adjust the placement operation as necessary to maintain production within the tolerances given.

428.3.07 Contractor Warranty and Maintenance

General Provisions 101 through 150.

Section 428—Micro Surfacing

428.4 Measurement

A. Micro-Surfacing

Micro-Surfacing, Type I or II surface course, is measured and accepted as completed by the in-place square yard (meter). In computing square yards (meters), the lengths and widths used shall be as specified in [Section 109, “Measurement and Payment”](#).

B. Leveling (Scratch Course)

A leveling (scratch course) is measured and paid for by the ton (megagram) of dry aggregate used. Tons (megagrams) of aggregate used shall be determined using the total daily revolutions of the aggregate feed belt and the corresponding gate setting and weight per revolution shown on the mixing unit calibration worksheet.

C. Tack Coat

Diluted emulsified tack coat is measured and paid for according to [Section 413](#).

428.4.01 Limits

General Provisions 101 through 150.

428.5 Payment

Micro-surfacing will be paid for at the contract unit price, which is full compensation for furnishing all materials, including LRA modified bituminous materials, and for furnishing all equipment, work, and labor. Payment will be made under:

Item No. 428	Micro-Surfacing, type I	Per square yard (meter)
Item No. 428	Micro-Surfacing, type I leveling	Per ton (megagram)
Item No. 428	Micro-Surfacing, type II	Per square yard (meter)
Item No. 428	Micro-Surfacing, type II leveling	Per ton (megagram)

428.5.01 Adjustments

General Provisions 101 through 150.

END OF SECTION

Section 824—Cationic Asphalt Emulsion

824.1 General Description

This section includes the requirements for cationic asphalt emulsions.

824.1.01 Related References

A. Standard Specifications

General Provisions 101 through 150.

B. Referenced Documents

AASHTO T 59

[GDT 44](#)

824.2 Materials

824.2.01 Cationic Asphalt Emulsion

A. Requirements

1. Use a homogenous emulsion. After thorough mixing, the emulsion cannot show signs of separation within 30 days.
2. Use cationic emulsion grades that meet the requirements in [Table 1 \(metric\)](#).

B. Fabrication

General Provisions 101 through 150.

C. Acceptance

Test as follows:

Test	Method
Testing emulsified asphalts (with the following exception): Frictional value	AASHTO T 59 GDT 44

D. Materials Warranty

General Provisions 101 through 150.

Table 1—Requirements for Cationic Emulsified Asphalt (Notes)

1. The Engineer may waive the settlement test requirement if the emulsified asphalt is used in less than 5 days. However, the Department may still require that the settlement test be run from the time the sample is received until it is used.
2. The 24-hour storage stability test may be used. However, this test does not predict whether the 5-day settlement test will pass.
3. Perform the demulsibility test within 30 days from date of shipment.
4. The cement mixing test applies only if material is used in Asphalt Slurry Seal.
5. Slurry Seal containing CQS-1h must set sufficiently within 2 hours to allow traffic to resume.
6. In the Laboratory, Slurry Seal containing CQS-1h shall not set while being mixed according to [GDT 91](#) for a minimum of 90 seconds.
7. Use ECR-1 in cold mix recycling of reclaimed pavement

Section 407—Asphalt-Rubber Joint and Crack Seal

407.1 General Description

This work includes filling (Type M) or sealing (Type S) joints and cracks in existing pavements with rubber asphalt mixtures. A polymer-modified asphalt rubber (PMAR) blend may be used in lieu of both Type M and Type S.

407.1.01 Definitions

Type M: Used to fill joints and cracks in Portland cement concrete or asphaltic concrete pavements when required by the Plans before placing an overlay.

Type S: Used to seal joints and cracks in Portland cement concrete and asphaltic concrete pavements and shoulders when not placing an overlay.

407.1.02 Related References

A. Standard Specifications

Section 820—Asphalt Cement

B. Referenced Documents

AASHTO T51
ASTM D 4
ASTM D 36
ASTM D 5329
ASTM D 7173
GDT – 2
SOP 22
QPL 92

407.1.03 Submittals

Provide a Certificate of Analysis certifying each lot of premixed material meets the requirements of this Specification and submit the test results of each lot for each Project. Ensure each sealant lot is delivered in containers with the manufacturer's name or trademark and lot number plainly marked.

When instructed by the Engineer, furnish premixed samples and samples of the individual components of premixed material as follows:

- At least 20 lbs (10 kg) of rubber representative of each lot
- At least 5 gal (18 L) of asphalt containing additives as proportioned
- Proportional quantities of mixing aids or additives not included above
- Packaged premixed sealant material weighing no more than 30 lbs (14 kg)

407.2 Materials

Ensure the sealant material is a premixed, asphalt-rubber sealant mixture evaluated in accordance with SOP 22 and listed on QPLs 92-A, 92-B and/or 92-C. Ensure the mixture is a blend of asphalt cement, aromatic extender oil(s), and recycled or reclaimed tire crumb rubber with rubber contents meeting the requirements specified in Table 2. The blending will be conducted in a closely controlled manufacturing process as detailed in the manufacturer's submitted Quality Control Plan. Produce a mixture with the following properties:

Section 407—Asphalt-Rubber Joint and Crack Seal

A. Workability

The mixture pours readily and penetrates a 1/4 in (6 mm) pavement joint or crack to a depth of at least 1 in (25 mm) when the application temperature of the fully reacted mixture is 350 °F (204 °C) and the air temperature is 35 °F (2 °C) or higher.

The mixture, when placed in conventional field installation equipment, readily melts to a pumping consistency after being heated to 400 °F (204 °C) for 2 hours maximum. The mixture remains in a pumping consistency when the temperature of the field installation equipment is reduced to the normal operating temperature range of 300 °F to 350 °F (150 °C to 175 °C).

B. Curing The mixture contains no water or volatile solvents and cures immediately when cooled to a sufficient viscosity to prevent tracking caused by traffic.

B. Softening Point and Flexibility

When a fully reacted mixture sample of asphalt-rubber has been heated at 350 °F (175 °C) for one hour, or when a PMAR blend has been heated at 380 °F (195 °C) for one hour, it shall pass the following laboratory tests:

1. Softening Point

The minimum softening point by ring and ball described in ASTM D 36 is as follows:

Table 1 – Minimum Softening Point

PMAR	185°F (85° C)
Type S	135°F (57° C)
Type M	150°F (65° C)

2. Flexibility

Bend a 1/8 in (3 mm) thick x 1 in (25 mm) wide x 6 in (150 mm) long mixture specimen after conditioning to 10 °F (-12 °C) at a minimum bending rate of 9 degrees per second (10 seconds maximum for a 90° bend) over a 1 in (25 mm) diameter mandrel without cracking.

3. Rubber Content %

Type M and Type S minimum rubber content % .

Table 2 – Type S and Type M Minimum Rubber Content

Type S	15% minimum
Type M	15% minimum

Section 407—Asphalt-Rubber Joint and Crack Seal

D. Separation

Test the PMAR blend for phase separation by pouring two representative samples of the mixture into aluminum tubes measuring 1 in (25 mm) in diameter and 5-1/2 in (140 mm) long as described in ASTM D 7173. Cure the samples at 325°F (163 °C) for 48 hours. Take samples from the top and bottom of each tube and determine softening point as described in ASTM D 36. Average the test results from the top and bottom samples. If there is 4% or more difference between the average test result and either of the top or bottom test results, reject the mixture due to separation.

E. Adhesion

When cooled, the mixture bonds strongly to both asphalt and concrete pavement surfaces. The mixture contains no materials chemically reactive with these surfaces to reduce the short-term and long-term adhesion bonds.

F. Acceptable Recycled or Reclaimed Tire Crumb Rubber

Before the rubber is added, ensure the asphalt cement used in the mixture conforms to the requirements of [Section 820.2.01](#), PG 58-22 or PG 64-22.

Ensure the recycled, reclaimed tire crumb rubber used in the mixture meets the following requirements:

- Obtained from used pneumatic tires (such as automobile, truck, bus, etc.)—not solid tires and non-tire rubber Sources
- Produced from an ambient or cryogenic grinding process (crushes, tears, fractures or grinds, the used rubber tires and produces rubber particles with a ragged, sponge-like surface). Tire buffings are prohibited.
- Contains recycled, vulcanized crumb rubber and/or reclaimed (devulcanized) rubber
- Contains at least 25 percent natural rubber by weight of the total rubber portion of the mixture
- Contains no more than 0.1 percent fabric
- Free of wire and other contaminating materials, except up to four percent calcium carbonate or talc to prevent rubber particles from sticking
- Contains no rubber particles greater than 1/4 in (6 mm) long
- Meets the following gradation requirements:

Table 3 – Recycled or Reclaimed Tire Crumb Rubber Gradation

Sieve Size	Percent Passing
No. 10 (2.0 mm)	100%
No. 16 (1.18 mm)	95 to 100%
No. 30 (600 µm)	40 to 80%
No. 80 (180 µm)	0 to 5%

Section 407—Asphalt-Rubber Joint and Crack Seal

G. Polymer-modified Asphalt Rubber

If a PMAR blend is used, ensure it meets the following additional requirements:

Table 4 – Polymer-modified Asphalt Rubber Properties (PMAR)

Property	Specification Limits
Cone Penetration, 77 °F (25 °C) (ASTM D 5329)	30 - 60 dmm
Resilience, 77 °F (25 °C), % Recovery (ASTM D 5329)	30% minimum
Ductility, 77 °F (25 °C), 50 mm/minute (ASSHTO T-51)	300 mm minimum
Asphalt Compatibility (ASTM D 5329)	Pass
Bitumen Content (ASTM D 4)	60 – 70 %
Tensile Adhesion (ASTM D 5329)	350 % minimum
Rotational Viscosity (Brookfield), No. 5 spindle, 20 RPM, 400 °F (205 °C)	3,000 – 15,000 cp
Rubber Content % (GDT-2)	12% minimum

407.2.01 Delivery, Storage, and Handling

Package the premixed sealant material in units weighing no more than 30 lbs (14 kg) with a maximum of two 30 lb (14 kg) units per shipping container. Ensure the plastic film used to package the units melts at normal application temperatures when placed in the installation equipment.

407.3 Construction Requirements

407.3.01 Personnel

General Provisions [101](#) through [150](#).

407.3.02 Equipment

A. Field Installation Equipment

Use field installation equipment that produces or maintains specified temperatures, even if filled to capacity. Ensure the equipment produces or maintains a homogenous mixture of asphalt and rubber at a uniform temperature without hot or cool spots or rubber and asphalt segregation in the mixture.

B. Crack Filling Equipment

Ensure the equipment for filling the joints and cracks directs the sealant into the crack. Seal large cracks from the bottom up. Provide squeegees as necessary.

C. Air Compressor(s)

Ensure the air compressors are satisfactory to the Engineer.

407.3.03 Preparation

Joint and Crack Preparation

Use compressed air to thoroughly clean the joints and cracks to be sealed.

Clean the pavement surface and check the joints and cracks to ensure they are free of vegetation, dirt, dust, moisture, and other foreign material.

407.3.04 Fabrication

General Provisions 101 through 150.

407.3.05 Construction

A. Restrictions

Do not seal joints and cracks if:

- The joint or crack surface to be treated is not thoroughly dry.
- Rain is imminent.
- The air temperature is below 35 °F (2 °C).

B. Procedure

Follow this procedure to seal joints and cracks:

1. Place the prepackaged sealant mixture in the field installation equipment.
2. Heat the sealant mixture for the proper time and temperature to provide a full reaction between the asphalt and rubber.
3. Apply the mixture at the specified application temperature according to the manufacturer's recommendations or the laboratory's approval.
4. Carefully fill the joint or cracks, slightly overfull. Strike off the excess with a V-shaped squeegee to feather the sealant out to a width of approximately 2 in (50 mm).

407.3.06 Quality Acceptance

If the packaged units are bonded or stuck together or to the shipping container, or if packaging staples or fasteners cause sealant contamination, the material may be rejected as determined by the Engineer.

The manufacturer must meet the requirements of this Specification and furnish evidence of successful field installation and performance under similar environmental and project conditions.

407.3.07 Contractor Warranty and Maintenance

General Provisions 101 through 150.

407.4 Measurement

Joints and cracks will be measured by the linear foot (meter) by surface measure.

407.4.01 Limits

General Provisions 101 through 150.

407.5 Payment

Joints and cracks sealed according to the Plans and this Specification will be paid for at the Contract Unit Price bid.

Payment is full compensation for furnishing all materials and performing the work.

Payment will be made under:

Item No. 407 Polymer-modified asphalt-rubber joint and crack seal	- Per Linear foot (meter)
Item No. 407 Asphalt-rubber joint and crack seal, type "S"	- Per linear foot (meter)
Item No. 407 Asphalt-rubber joint and crack seal type "M"	- Per linear foot (meter)

End of Section

SPECIAL PROVISIONS

Section 109—Measurement and Payment

109.01 Measurement and Quantities

The method of measurement and computations to be used in determination of quantities of material furnished and of work performed under the Contract will be those methods generally recognized as conforming to good engineering practice.

Unless otherwise specified, longitudinal measurements for area computations will be made along the surface, and no deductions will be made for individual fixtures having an area of 9 ft² (1 m²) or less. Unless otherwise specified, transverse measurements for area computations will be the neat dimensions shown on the Plans or ordered in writing by the Engineer.

Where payment is to be made by the square yard (square meter) for a specified thickness, the length will be measured on the surface along the centerline and the pay width shall be that width specified on the plans for the Final surface of the completed section. Intermediate courses shall be placed at a width sufficient to support successive courses with no detriment to the stability of the successive courses. The width of material required beyond the pay width will not be eligible for payment and shall be considered incidental to the work.

Structures will be measured according to neat lines shown on the Plans or as altered to fit field conditions.

All items which are measured by the linear foot (linear meter), such as pipe culverts, guard rail, underdrains, etc., will be measured parallel to the base or foundation upon which such structures are placed, unless otherwise shown on the Plans.

In computing volumes of excavation, the average end area method or other acceptable methods will be used.

The term “gage,” when used in connection with the measurement of steel plates, will mean the U.S. Standard Gage.

When the term “gage” refers to the measurement of electrical wire it will mean the wire gage specified in the National Electrical Code.

The term “ton” will mean the short ton consisting of 2,000 pounds avoirdupois. The term “megagram” will mean one metric ton, equivalent to 1,000 kg. Any commodity paid for by weight shall be weighed on scales that have been approved as specified below and which are furnished at the expense of the Contractor or Supplier. Weighing and measuring systems including remote controls shall be subject to type-approval by the Department of Transportation. The manufacture, installation, performance, and operation of such devices located in Georgia shall conform to, and be governed by, the Official Code of Georgia, Annotated, Section 10-2-5 of the Georgia Weights and Measures Act, the Georgia Weights and Measures Regulations, as amended and adopted, the current edition of the National Bureau of Standards Handbook 44, and these Specifications. Weighing and measuring systems located outside Georgia which are utilized for weighing materials to be used in Department work shall be manufactured, installed, approved, and operated in accordance with applicable laws and regulations for the state in which the scales are located.

All weighing, measuring, and metering devices used to measure quantities for payment shall be suitable for the purpose intended and will be considered to be “commercial devices.” Commodity scales located in Georgia shall be certified before use for accuracy, condition, etc., by the Weights and Measures Division of the Georgia Department of Agriculture, its authorized representative, or the Georgia Department of Transportation Office of Materials and Research. Scales located outside Georgia shall be certified in accordance with applicable laws and regulations for the state in which the scales are located. The Georgia Department of Transportation Office of Materials and Research may certify the scales. This certification shall have been made within a period of not more than one year prior to date of use for weighing commodity.

All equipment and all mechanisms and devices attached thereto or used in connection therewith shall be constructed, assembled, and installed for use so that they do not facilitate the perpetration of fraud. Any scale component or mechanism, which if manipulated would alter true scale values (including manual zero setting mechanisms) shall not be accessible to the scale operator. Such components and mechanisms that would otherwise be accessible to the scale operator shall be enclosed. Provisions shall be made for security seals where appropriate on equipment and accessories. A security seal shall be affixed to any adjustment mechanism designed to be sealed. Scale or accessory devices shall not be used if security seals have been broken or removed.

Section 109—Measurement and Payment

Any certified scale or scale component which has been repaired, dismantled, or moved to another location shall again be tested and certified before it is eligible for weighing.

Whenever materials that are paid for based on weight are from a source within the State, the scales shall be operated by and the weights attested to by signature and seal of a duly authorized Certified Public Weigher in accordance with Standard Operating Procedure 15 and the Official Code of Georgia, Annotated, Section 10-2-5 of the Georgia Weights and Measures Act as amended and adopted. When such materials originate from another state that has a certified or licensed weigher program, the scales shall be operated by a weigher who is certified by that state in accordance with applicable laws, and weight ticket recordation shall be in accordance with Standard Operating Procedure 15.

When materials are paid for based on weight and originate from another state which has no program for certifying or licensing weighers, the materials shall be weighed on scales located in the State of Georgia by a Certified Public Weigher in accordance with Standard Operating Procedure 15 and the Official Code of Georgia, Annotated, Section 10-2-5 of the Georgia Weights and Measures Act as amended and adopted.

No scale shall be used to measure weights greater than the scale manufacturer's rated capacity. A digital recorder shall be installed as part of any commodity scale. The recorder shall produce a printed digital record on a ticket with the gross, tare, and net weights of the delivery trucks, along with the date and time printed for each ticket. Provisions shall be made so that the scales or recorders may not be manually manipulated during the printing process. The system shall be so interlocked as to allow printing only when the scale has come to rest. Either the gross or net weight shall be a direct scale reading. Printing and recording systems that are capable of accepting keyboard entries shall clearly and automatically differentiate a direct scale weight value from any other weight values printed on the load ticket.

All scales used to determine pay quantities shall be provided to attain a zero balance indication with no load on the load receiving element by the use of semi-automatic zero (push-button zero) or automatic zero maintenance.

Vehicle scales shall have a platform of sufficient size to accommodate the entire length of any vehicle weighed and shall have sufficient capacity to weigh the largest load. Adequate drainage shall be provided to prevent saturation of the ground under the scale foundation.

The Engineer, at his discretion, may require the platform scales to be checked for accuracy. For this purpose the Contractor shall load a truck with material of his choosing, weigh the loaded truck on his scales, and then weigh it on another set of certified vehicle scales. When the difference exceeds 0.4 percent of load, the scales shall be corrected and certified by a registered scale serviceman registered in the appropriate class as outlined in the Georgia Weights and Measures Regulations or in accordance with applicable requirements of the state in which the scales are located. A test report shall be submitted to the appropriate representative of the Department of Agriculture.

Materials to be measured by volume in the hauling vehicle shall be hauled in approved vehicles and measured therein at the point of delivery. Vehicles for this purpose may be of any size or type acceptable to the Engineer, provided that the body is of such shape that the actual contents may be readily and accurately determined. All vehicles shall be loaded to their water level capacity as determined by the Engineer, provided that the body is of such shape that the actual contents may be readily and accurately determined.

Cement and lime will be measured by the ton (megagram). Whenever cement or lime is delivered to the Project in tank trucks, a certified weight shall be made at the shipping point by an authorized Certified Public Weigher who is not an employee of the Department. Whenever cement and lime are from a source within the State, the scales shall be operated by the weights attested to by signature and seal of a duly authorized Certified Public Weigher in accordance with Standard Operating Procedure 15 and the Official Code of Georgia, Annotated, Section 10-2-5 of the Georgia Weights and Measures Act as amended and adopted. When such materials originate from another state that has a certified or licensed weigher program, the scales shall be operated by a weigher who is certified by that state in accordance with applicable laws, and the weight ticket recordation shall be in accordance with Standard Operating Procedure 15. When cement and lime originate from another state that has no program for certifying or licensing weighers, the materials shall be weighed on scales located in the State of Georgia by a Certified Public Weigher in accordance with Standard Operating Procedure 15 and the Official Code of Georgia, Annotated, Section 10-2-5 of the Georgia Weights and Measures Act as amended and adopted.

Section 109—Measurement and Payment

The shipping invoice shall contain the certified weights and the signature and seal of the Certified Public Weigher. A security seal shall also be affixed to the discharge pipe cap on the tank truck before leaving the shipping point. The number on the security seal shall also be recorded on the shipping invoice. The shipping invoice for quicklime shall also contain a certified lime purity percentage. Unsealed tank trucks will require reweighing by a Certified Public Weigher.

Timber will be measured by the thousand feet board measure (MF13M) (cubic meter) actually incorporated in the structure. Measurements will be based on nominal widths and thickness and the actual length in place. No additional measurement will be made for splices except as noted for overlaps as shown on the Plans.

The term “Lump Sum” when used as an item of payment will mean complete payment for the Work described in the Contract.

When a complete structure or structural unit (in effect, “Lump Sum” work) is specified as the unit of the measurement, the unit will be construed to include all necessary fittings and accessories.

Rental of equipment will be measured as defined in [Subsection 109.05.B.4.](#)

When standard manufactured items are specified as fence, wire, plates, rolled shapes, pipe conduits, etc., and these items are identified by gage, unit weight, section dimensions, etc., such identification will be considered to be nominal weights or dimensions. Unless more stringently controlled by tolerance in cited Specifications, manufacturing tolerances established by the industries involved will be accepted.

109.02 Measurement of Bituminous Materials

A. By Weighing the Material

The Department prefers this method whenever it is practicable. This method will be considered acceptable under the following conditions:

- 1. Weighed On Project:** If the weights of the bituminous materials delivered by tank trucks are to be determined on the Project, weights shall be determined on scales that have been previously checked by the Department with standard weights for accuracy. The scale platform shall be large enough to accommodate the entire vehicle at one time. Under no conditions will truck scales be used to measure weights greater than their rated capacity. All weights not determined in the presence of an authorized representative of the Department shall be made by a Certified Public Weigher who is not an employee of the Department of Transportation and who is in good standing with the Georgia Department of Agriculture. The weight tickets shall carry both the signature and seal of the Certified Public Weigher.
- 2. Weighed At Shipping Point:** A certified weight made at the shipping point by an authorized Certified Public Weigher who is not an employee of the Department of Transportation and who is registered with the Georgia Department of Agriculture, will be acceptable provided all openings in the tank have been sealed by the producer and when, upon inspection on the Project, there is no evidence of any leakage. The shipping ticket in this case must carry the signature and seal of the Certified Public Weigher. If the tank is not completely emptied the amount of material remaining in the tank truck will be measured by either weight or volume and the amount so determined, as verified by the Engineer, will be deducted from the certified weight.
- 3. By Extraction Analysis:** The weight of bituminous material used will be determined by extraction tests made by the field laboratory. The average asphalt content for each Lot will be used to compute the weight of the Asphalt Cement to be paid for in accordance with the following formula:

English:

$$P = \% AC \times T$$

Where:

P = Pay Tons of Asphalt Cement

% AC = Lot average of % Asphalt Cement by weight of total mix as determined by extraction

T = Actual accepted tons of mixture as weighed

Section 109—Measurement and Payment

Metric:

$$P = \% AC \times T$$

Where:

P = Pay megagrams of Asphalt Cement

% AC = Lot average of % Asphalt Cement by weight of total mix as determined by extraction

T = Actual accepted megagrams of mixture as weighed

4. **By Digital Recording Device:** The amount of bituminous material as shown on the printed tickets will be the Pay Quantity.

B. By Volume

The volume will be measured and corrected for the difference between actual temperature and 60 °F (15 °C). Containers shall be level when measured, and one of the following methods shall be used, whichever is best suited to the circumstances:

- 1. Tank Car Measurement:** If the material is shipped to the Project in railroad tank cars, the Contractor shall furnish the Engineer a certified chart showing the dimensions and volume for each inch (25 mm) of depth for each tank. The Engineer will make outage and temperature measurements before unloading is begun and after it is finished. The measurements will be taken when the bituminous material is at a uniform temperature and free from air bubbles. The Contractor shall not remove any bituminous material from any tank until necessary measurements have been made nor shall he release the car until final outage has been measured. The total number of gallons (liters) allowed for any tank car shall not be more than the U.S. Interstate Commerce Commission rating for that car, converted to gallons at 60 °F (15 °C).
- 2. Truck Measurement:** If bituminous materials are delivered to the Project in tank trucks, distributor tanks, or drums, the Contractor shall not remove any bituminous material from the transporting vehicle or container until necessary measurements have been made, nor shall the transporting vehicle or container be released until final outage has been measured. If weighing is not convenient, the Contractor shall furnish the Engineer with a certified chart showing the dimensions and volume of each container together with a gauge or calibrated measuring rod which will permit the volume of the material to be determined by vertical measurement.
- 3. Metering:** The volume may be determined by metering, in which case the metering device used and the method of using it shall be subject to the approval of the Engineer.
- 4. Time of Deliveries:** The arrival and departure of vehicles delivering bituminous materials to the Project site shall be so scheduled that the Engineer is afforded proper time for the measurements of delivered volume and final outage. The Engineer will make the necessary measurements only during the Contractor's normal daily working hours.

C. Production for Multiple Projects

When a Contractor is producing Asphaltic Concrete from one plant, which is being placed on two or more jobs, public or private, the amount of bituminous material used may be determined by extraction tests in accordance with [Subsection 109.02.A.3](#) or digital recording device in accordance with [Subsection 109.02.A.4](#).

D. Tack Coat

When the same storage facility is utilized for Bituminous Materials to be used in Hot Mix Asphaltic Concrete, Bituminous Tack Coat, and/or Surface Treatment, the quantity used for Tack Coat shall be converted to tons (megagrams) and deducted from the quantities for the Bituminous Material used in the Hot Mix Asphaltic Concrete and Surface Treatment.

Section 109—Measurement and Payment

E. Corrections

When the volume and temperature have been determined as defined above, the volume will be corrected by the use of the following formula:

$$V_{\text{English}} = \frac{V1}{K(t-60) + 1} \qquad V_{\text{metric}} = \frac{V1}{K(t-15) + 1}$$

Where:

V = Volume of bituminous material at 60 °F (15 °C)

V1= Volume of hot bituminous material

t = Temperature of hot bituminous material in degrees Fahrenheit (Celsius) K= Coefficient of Expansion of bituminous material (correction factor)

The correction factors K for various materials are given below:

- 0.00035 (0.00063) per °F (°C) for petroleum oils having a specific gravity of 60 °F/60 °F (15 °C/15 °C) above 0.966
- 0.00040 (0.00072) per °F (°C) for petroleum oils having a specific gravity of 60 °F/60 °F (15 °C/15 °C) between 0.850-0.966
- 0.00030 (0.00054) per °F (°C) for Tar
- 0.00025 (0.00045) per °F (°C) for Emulsified Asphalt
- 0.00040 (0.00072) per °F (°C) for Creosote Oil

109.03 Scope of Payment

The Contractor shall receive and accept the compensation provided for in the Contract as full payment for furnishing all materials, labor, tools, equipment, superintendence and incidentals, and for performing all work contemplated and embraced under the Contract in a complete and acceptable manner, for any infringement of patent, trademark or copyright, for all loss or damage arising from the nature of The Work, or from the action of the elements, for all expenses incurred by or in consequence of the suspension or discontinuance of The Work, or from any unforeseen difficulties which may be encountered during the prosecution of The Work and for all risks of every description connected with the prosecution of The Work until its Final Acceptance by the Engineer, except as provided in [Subsection 107.16](#).

The payment of any partial estimate prior to Final Acceptance of the Project as provided in [Subsection 105.16](#) shall in no way affect the obligation of the Contractor to repair or renew any defective parts of the construction or to be responsible for all damages due to such defects.

109.04 Payment and Compensation for Altered Quantities

When alteration in Plans or quantities of work not requiring Supplemental Agreements as herein before provided for are ordered and performed, the Contractor shall accept payment in full at the Contract Unit Bid Prices for the actual quantities of work done, and no allowance will be made for increased expense, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the Contractor, resulting either directly from such alterations, or indirectly from unbalanced allocation among the Contract Items of overhead expense on the part of the Bidder and subsequent loss of expected reimbursement therefore, or from any other cause.

Compensation for alterations in Plans or quantities of work requiring Supplemental Agreements shall be as stipulated in such agreement, except that when the Contractor proceeds with the Work without change of price being agreed upon, he shall be paid for such increased or decreased quantities at the Contract Unit Prices Bid in the Proposal for the Items of the Work.

109.05 Extra Work

Extra work, as defined in [Subsection 101.27](#), when ordered in accordance with [Subsection 104.04](#), will be authorized in writing by the Engineer. The authorization will be in the form of a Supplemental Agreement or a Force Account.

Section 109—Measurement and Payment

A. Supplemental Agreement

In the case of a Supplemental Agreement, the work to be done will be stipulated and agreed upon by both parties prior to any extra work being performed.

Payment based on Supplemental Agreements shall constitute full payment and settlement of all additional costs and expenses including delay and impact damages caused by, arising from or associated with The Work performed.

B. Force Account

When no agreement is reached for Extra Work to be done at Lump Sum or Unit Prices, such work may be authorized by the Department to be done on a Force Account basis. A Force Account estimate that identifies all anticipated costs shall be prepared by the Contractor on forms provided by the Engineer. Work shall not begin until the Force Account is approved. Payment for Force Account work will be in accordance with the following:

- 1. Labor:** For all labor, equipment operators and supervisors, excluding superintendents, in direct charge of the specific operations, the Contractor shall receive the rate of wage agreed upon in writing before beginning work for each and every hour that said labor, equipment operators and supervisors are actually engaged in such work.

The Contractor shall receive the actual costs paid to, or in behalf of, workers by reason of subsistence and travel allowances, health and welfare benefits, pension fund benefits, or other benefits, when such amounts are required by collective bargaining agreement or other employment contract generally applicable to the classes of labor employed on The Work.

An amount equal to 15% of the sum of the above items will also be paid the Contractor.

- 2. Bond, Insurance, and Tax:** For property damage, liability, and worker's compensation insurance premiums, unemployment insurance contributions, and Social Security taxes on the Force Account work, the Contractor shall receive the actual cost, to which cost no percentage will be added. The Contractor shall furnish satisfactory evidence of the rate or rates paid for such bond, insurance, and tax.
- 3. Materials:** For materials accepted by the Engineer and used, the Contractor shall receive the actual cost of such material incorporated into The Work, including Contractor paid transportation charges (exclusive of machinery rentals as hereinafter set forth), to which cost 10% will be added.
- 4. Equipment:** For any machinery or special equipment (other than small tools) including fuel and lubricant, plus transportation costs, the use of which has been authorized by the Engineer, the Contractor shall receive the rental rates indicated below for the actual time that such equipment is in operation on The Work or the time, as indicated below, the equipment is directed to stand by.

Equipment rates shall be based on the latest edition of the *Rental Rate Blue Book for Construction Equipment* or *Rental Rate Blue Book for Older Construction Equipment*, whichever applies, as published by EquipmentWatch using all instructions and adjustments contained therein and as modified below.

Allowable Equipment Rates shall be established as defined below:

- Allowable Hourly Equipment Rate = Monthly Rate/176 x Adjustment Factors x 70%.
- Allowable Hourly Operating Cost = Hourly Operating Cost x 70%.
- Allowable Rate Per Hour = Allowable Hourly Equipment Rate + Allowable Hourly Operating Cost.
- Standby Rate = Allowable Hourly Equipment Rate x 35%

NOTE: The monthly rate is the basic machine plus any attachments.

Standby rates shall apply when equipment is not in operation and is directed by the Engineer to standby for later use. In general, Standby rates shall apply when equipment is not in use, but will be needed again to complete The Work and the

cost of moving the equipment will exceed the accumulated standby cost. Payment for standby time will not be made on any day the equipment operates for 8 or more hours. For equipment accumulating less than 8 hours operating time on any normal workday, standby payment will be limited to only that number of hours which, when added to the operating time

Section 109—Measurement and Payment

for that day equals 8 hours. Standby payment will not be made on days that are not normally considered workdays.

The Department will not approve any rates in excess of the rates as outlined above unless such excess rates are supported by an acceptable breakdown of cost.

Payable time periods will not include:

- Time elapsed while equipment is broken down
- Time spent in repairing equipment, or
- Time elapsed after the Engineer has advised the Contractor the equipment is no longer needed

If a piece of equipment is needed which is not included in the above *Blue Book* rental rates, reasonable rates shall be agreed upon in writing before the equipment is used. All equipment charges by persons or firms other than the Contractor shall be supported by invoices.

Transportation charges for each piece of equipment to and from the site of the Work will be paid provided:

- The equipment is obtained from the nearest approved source
- The return charges do not exceed the delivery charges
- Haul rates do not exceed the established rates of licensed haulers, and
- Such charges are restricted to those units of equipment not already available and not on or near the Project

No additional compensation will be made for equipment repair.

5. **Miscellaneous:** No additional allowance will be made for general superintendence, the use of small tools, or other costs for which no specific allowance is herein provided.
6. **Compensation:** The Contractor's representative and The Engineer shall compare records and agree on the cost of work done as ordered on a Force Account basis at the end of each day on forms provided by the Department.
7. **Subcontract Force Account Work:** For work performed by an approved Subcontractor or Second-tier Subcontractor, all provisions of this Section (109.05) that apply to the Prime Contractor in respect to labor, materials and equipment shall govern. The prime Contractor shall coordinate the work of his Subcontractor. The prime Contractor will be allowed an amount to cover administrative cost equal to 5% of the Subcontractor's amount earned but not to exceed \$5,000.00 per Subcontractor. Markup for Second-tier Subcontract work will not be allowed.

Should it become necessary for the Contractor or Subcontractor to hire a firm to perform a specialized type of work or service which the prime Contractor or Subcontractor is not qualified to perform, payment will be made at reasonable invoice cost. To each invoice cost a markup to cover administrative cost equal to 5% of the total invoice but not to exceed \$5,000.00 will be allowed the Contractor or Subcontractor but not both.

8. **Statements:** No payment will be made for work performed on a Force Account basis until the Contractor has furnished the Engineer with duplicate itemized statements of the cost of such Force Account work detailed as follows:
 - a. Name, classification, date, daily hours, total hours, rate, and extension for each laborer, equipment operator, and supervisor, excluding superintendents.
 - b. Designation, dates, daily hours, total hours, rental rate, and extension for each unit of machinery and equipment.
 - c. Quantities of materials, prices, and extensions.
 - d. Transportation of materials.
 - e. Cost of property damage, liability, and worker's compensation insurance premiums, unemployment insurance contributions, and Social Security tax.

Statements shall be accompanied and supported by invoices for all materials used and transportation charges. However, if materials used on the Force Account work are not purchased specifically for such work but are taken from the Contractor's stock, then, in lieu of the invoices, the Contractor shall furnish an affidavit certifying that such materials were taken from

Section 109—Measurement and Payment

his stock, that the quantity claimed was actually used, and that the price and transportation claimed represent the actual cost to the Contractor.

Payment based on Force Account records shall constitute full payment and settlement of all additional costs and expenses including delay and impact damages caused by, arising from or associated with The Work performed.

109.06 Eliminated Items

Should any Items contained in the Proposal be found unnecessary for the proper completion of The Work, the Engineer may, upon written order to the Contractor, eliminate such Items from the Contract, and such action shall in no way invalidate the Contract. When a Contractor is notified of the elimination of Items, he will be reimbursed for actual work done and all costs incurred, including mobilization of materials prior to said notifications.

109.07 Partial Payments

A. General

At the end of each calendar month, the total value of Items complete in place will be estimated by the Engineer and certified for payment. Such estimate is approximate only and may not necessarily be based on detailed measurements. Value will be computed on the basis of Contract Item Unit Prices or on percentage of completion of Lump Sum Items.

When so requested by the Contractor and approved by the Engineer, Gross Earnings of \$150,000 or more for work completed within the first 15 days of any month will be certified for payment on a semi-monthly basis subject to the conditions and provisions of [Subsection 109.07.A](#), [Subsection 109.07.B.6](#), [Subsection 109.07.C](#), [Subsection 109.07.D](#), [Subsection 109.07.E](#), and [Subsection 109.07.F](#).

B. Materials Allowance

Payments will be made on delivered costs, or percentage of bid price if otherwise noted, with copies of paid invoices provided to the Department for the materials listed below which are to be incorporated into the Project

provided the materials:

- Conform to all Specification requirements.
- Are stored on the Project Right-of-Way or, upon written request by the Contractor and written approval of the Engineer, they may be stored off the Right-of-Way, but local to the Project, provided such storage is necessary due to lack of storage area on the Right-of-Way, need for security, or need for protection from weather.

As a further exception to on-Project storage, upon written request by the Contractor, the Engineer may approve off-the-Project storage items uniquely fabricated or precast for a specific Project, such as structural steel and precast concrete, which will be properly marked with the Project number and stored at the fabrication or precast facility.

The Engineer may approve out-of-state storage for structural steel and prestressed concrete beams uniquely fabricated for a specific Project stored at the fabrication facility.

1. Paid invoices should accompany the materials allowance request, but in no case be submitted to the Project Engineer later than 30 calendar days following the date of the progress payment report on which the materials allowance was paid.
In case such paid invoices are not furnished within the established time, the materials allowance payment will be removed from the next progress statement and no further materials allowance will be made for that item on that Project.
2. Materials allowances will be paid for those items which are not readily available, and which can be easily identified and secured for a specific project and for which lengthy stockpiling periods would not be detrimental. Some exclusions are as follows:
 - a. No payments will be made on living or perishable plant materials until planted.
 - b. No payments will be made on Portland Cement, Liquid Asphalt, or Grassing Materials.

Section 109—Measurement and Payment

- c. No payment will be made for aggregate stockpiled in a quarry. Payment for stockpiled aggregate will be made only if the aggregate is stockpiled on or in the immediate vicinity of the project and is held for the exclusive use on that project. The aggregate must be properly secured. If the aggregate stockpiled is to be paid for per-ton (megagram) it must be reweighed on approved scales at the time it is incorporated into the Project.
 - d. No payments will be made on minor material items, hardware, etc.
3. No materials allowance will be made for materials when it is anticipated that those materials will be incorporated into the Work within 30 calendar days.
 4. No materials allowance will be made for a material when the requested allowance for such material is less than \$10,000.
 5. Where a storage area is used for more than one project, material for each project shall be segregated from material for other projects, identified, and secured. Adequate access for auditing shall be provided. All units shall be stored in a manner so that they are clearly visible for counting and/or inspection of the individual units.
 6. The Commissioner may, at his discretion, grant waiver to the requirements of this Section when, in his opinion, such waiver would be in the public interest.

Subsequently, in the event the material is not on-hand and in the quantities for which the materials allowance was granted, the materials allowance payment will be removed from the next progress statement and no further materials allowance will be made for those items on that Project. If sufficient earnings are not available on the next progress statement, the Contractor agrees to allow the Department to recover the monies from any other Contract he may have with the Department, or to otherwise reimburse the Department.

Payments for materials on hand shall not exceed the invoice price or 75 percent of the bid prices for the pay items into which the materials are to be incorporated, whichever is less.

C. Minimum Payment

No partial payment will be made unless the amount of payment is at least \$1000.00.

D. Liquidated Damages

Accrued liquidated damages will be deducted in accordance with [Subsection 108.08](#).

E. Other Deductions

In addition to the deductions provided for above, the Department has the right to withhold any payments due the Contractor for items unpaid by the Contractor for which the Department is directly responsible, including, but not limited to, royalties (see [Section 106](#)).

F. Amount of Payment

The balance remaining after all deductions provided for herein have been made will be paid to the Contractor. Partial estimates are approximate and are subject to correction on subsequent progress statements. If sufficient earnings are not available on the subsequent progress statement, the Contractor agrees to allow the Department to recover the monies from any other Contract he may have with the Department, or to otherwise reimburse the Department. The Engineer is responsible for computing the amounts of all deductions herein specified, for determining the progress of the Work and for the items and amounts due to the Contractor during the progress of the Work and for the final statement when all Work has been completed.

G. Interest

Under no circumstances will any interest accrue or be payable on any sums withheld or deducted by the Department as authorized by [Subsection 109.07.A](#), [Subsection 109.07.B.6](#), [Subsection 109.07.C](#), [Subsection 109.07.D](#), [Subsection 109.07.E](#), and [Subsection 109.07.F](#).

Section 109—Measurement and Payment

H. Insert the Following in Each Subcontract

The Contractor shall insert the following in each Subcontract entered into for work under this Contract:

“The Contractor shall not withhold any retainage on Subcontractors. The Contractor shall pay the Subcontractor 100% percent of the gross value of the Completed Work by the Subcontractor as indicated by the current estimate certified by the Engineer for payment.”

Neither the inclusion of this Specification in the Contract between the Department and the Prime Contractor nor the inclusion of the provisions of this Specification in any Contract between the Prime Contractor and any of his Subcontractors nor any other Specification or Provision in the Contract between the Department and the Prime Contractor shall create, or be deemed to create, any relationship, contractual or otherwise, between the Department and any Subcontractor.

109.08 Final Payment

When Final Inspection and Final Acceptance have been made by the Engineer as provided in [Subsection 105.16](#), the Engineer will prepare the Final Statement of the quantities of the various classes of work performed. All prior partial estimates and payments shall be subject to correction in the Final Statement. The District Engineer will transmit a copy of the Statement to the Contractor by Registered or Certified Mail. The Contractor will be afforded 20 days in which to review the Final Statement in the District Office before it is certified for payment by the Engineer. Any adjustments will be resolved by the District Engineer or in case of a dispute referred to the Chief Engineer whose decision shall be final and conclusive. After approval of the Final Statement by the Contractor, or after the expiration of the 20 days, or after a final ruling on disputed items by the Chief Engineer, the Final Statement shall be certified to the Treasurer by the Chief Engineer stating the Project has been accepted and that the quantities and amounts of money shown thereon are correct, due and payable.

The Treasurer, upon receipt of the Engineer’s certification, shall in turn furnish the Contractor with the Department’s Standard Release Form to be executed in duplicate. The aforesaid Release Form, showing the total amount of money due the Contractor, shall be sent to the Contractor by Registered or Certified Mail, to be delivered to such Contractor upon the signing of a return receipt card, to be returned to the Department in accordance with the provision of Federal law in respect to such matters and such return receipt card shall be conclusive evidence of a tender of said sum of money to the Contractor. Upon receipt of the properly executed Standard Release Form, the Treasurer shall make final payment jointly to the Contractor and his Surety. The aforesaid certification, executed release form, and final payment shall be evidence that the Commissioner, the Engineer, and the Department have fulfilled the terms of the Contract, and that the Contractor has fulfilled the terms of the Contract except as set forth in his Contract Bond.

The Standard Release Form is to be executed by the Contractor within 120 days after delivery thereof, as evidenced by the Registered or Certified Mail Return Receipt. Should the Contractor fail to execute the Standard Release Form because he disputes the Final Payment as offered, or because he believes he has a claim for damages or additional compensation under the Contract, the Contractor shall, within 120 days after delivery to the Contractor of the Standard Release Form, as evidenced by the Registered or Certified Mail Return Receipt, enter suit in the proper court for adjudication of his claim. Should the Contractor fail to enter suit within the aforesaid 120 days, then by agreement hereby stipulated, he is forever barred and stopped from any recovery or claim whatsoever under the terms of this Contract.

Should the Contractor fail to execute the Standard Release Form or file suit within 120 days after delivery thereof, then the Surety on the Contractor’s Bond is hereby constituted the attorney-in-fact of the Contractor for the purpose of executing such final releases as may be required by the Department, including but not limited to the Standard Release Form, and for the purpose of receiving the Final Payment under this Contract.

The Department reserves the right as defined in [Subsection 107.20](#), should an error be discovered in any estimates, to claim and recover from the Contractor or his Surety, or both, such sums as may be sufficient to correct any error of overpayment. Such overpayment may be recovered from payments due on current active Projects or from any future State work done by the Contractor.

Section 109—Measurement and Payment

The foregoing provisions of this Section shall be applicable both to the Contractor and the Surety on his Bond; and, in this respect, the Surety shall be bound by the provisions of [Subsection 108.09](#) of these Specifications in the same way and manner as the Contractor.

A. Interest

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

B. Termination of Department's Liability

Final payment will be in the amount determined by the statement as due and unpaid. The acceptance of the final payment or execution of the Standard Release Form or failure of the Contractor to act within 120 days as provided herein after tender of payment, or final payment to the Contractor's Surety in accordance with the provisions stipulated herein, shall operate as and be a release to the Department, the Commissioner, and the Engineer from all claims of liability under this contract and for any act or neglect of the Department, the Commissioner, or the Engineer.

109.09 Termination Clause

A. General

The Department may, by written notice, terminate the Contract or a portion thereof for the Department's convenience when the Department determines that the termination is in the State's best interest, or when the Contractor is prevented from proceeding with the Contract as a direct result of one of the following conditions:

1. An Executive Order of the President of the United States with respect to the prosecution of war or in the interest of national defense.
2. The Engineer and Contractor each make a determination, that, due to a shortage of critical materials required to complete the Work which is caused by allocation of these materials to work of a higher priority by the Federal Government or any agency thereof, it will be impossible to obtain these materials within a practical time limit and that it would be in the public interest to discontinue construction.
3. An injunction is imposed by a court of competent jurisdiction which stops the Contractor from proceeding with the Work and causes a delay of such duration that it is in the public interest to terminate the Contract and the Contractor was not at fault in creating the condition which led to the court's injunction.

The decision of the Engineer as to what is in the public interest and as to the Contractor's fault, for the purpose of Termination, shall be final.

4. Orders from duly constituted authority relating to energy conservation.

B. Implementation

When, under any of the conditions set out in Subsection A of this Section, the Contract, or any portion thereof, is terminated before completion of all Items of Work in the Contract, the Contractor shall be eligible to receive some or all of the following items of payment:

Section 109—Measurement and Payment

1. For the actual number of units of Items of Work completed, payment will be made at the Contract Unit Price.
2. Reimbursement for organization of the Work and moving equipment to and from the job will be considered where the volume of work completed is too small to compensate the Contractor for these expenses under the Contract Unit Prices. However, the Engineer's decision as whether or not to reimburse for organization of the Work and moving equipment to and from the job, and in what amount, shall be final.
3. Acceptable materials, obtained by the Contractor for the Work, that have been inspected, tested, and accepted by the Engineer, and that are not incorporated in the Work will, at the request of the Contractor, be purchased from the Contractor at actual cost as shown by receipted bills and actual cost records at such points of delivery as may be designated by the Engineer. This will include any materials that have been delivered to the project site or that have been specifically fabricated for the project and are not readily usable on other projects. It will not include materials that may have been ordered, but not delivered to the project site and that are readily usable on other projects (e.g., guard rail, stone, lumber, etc.).
4. For Items of Work partially completed, payment adjustments including payments to afford the Contractor a reasonable profit on work performed, may be made as determined by the Engineer based upon a consideration of costs actually incurred by the Contractor in attempting to perform the Contract.
5. No payment will be made, and the Department will have no liability, for lost profits on Work not performed. In particular, the Department will not be liable to the Contractor for all profits the Contractor expected to realize had the Project been completed, nor for any loss of business opportunities, nor for any other consequential damages.
6. In order that the Department may make a determination of what sums are payable hereunder, the Contractor agrees that, upon termination of the Contract, it will make all of its books and records available for inspection and auditing by the Department. To be eligible for payment, costs must have been actually incurred, and must have been recorded and accounted for according to generally accepted accounting principles, and must be items properly payable under Department policies. Where actual equipment costs cannot be established by the auditors, payment for unreimbursed equipment costs will be made in the same manner as is provided in [Subsection 109.05](#) for Force Account Work. Idle time for equipment shall be reimbursed at standby rates. In no case will the Contractor be reimbursed for idle equipment after the Engineer has advised the Contractor the equipment is no longer needed on the job. Refusal of the Contractor to allow the Department to inspect and audit all of the Contractor's books and records shall conclusively establish that the Department has no liability to the Contractor for any payment under this provision, and shall constitute a waiver by the Contractor of any claim for damages allegedly caused by breach or termination of the Contract. The amount payable under this provision, if any, is to be determined by the Engineer, whose determination will be final and binding.
7. The sums payable under this Subsection shall be the Contractor's sole and exclusive remedy for termination of the Contract.

C. Termination of a Contract

Termination of a Contract or a portion thereof shall not relieve the Contractor of his responsibilities for any completed portion of the Work, nor shall it relieve his Surety of its obligation for and concerning any just claims arising out of the Work performed.

109.10 Interest

In the event any lawsuit is filed against the Department alleging the Contractor is due additional money because of claims or for any breach of contract, the Contractor hereby waives and renounces any right it may have under O.C.G.A. Section 13-6-13 to prejudgment interest. Also, the Contractor agrees that notwithstanding any provision or provisions of Chapter 11 of Title 13 of the Official Code of Georgia that the provisions of this contract control as to when and how the Contractor shall be paid for The Work. Further, the Contractor waives and renounces any and all rights it may have under Chapter 11 of Title

END OF SECTION

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 nonperformance 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 no longer necessary for the satisfactory progress of the Work. Bypasses and detours shall meet the minimum requirements of [Subsection 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.

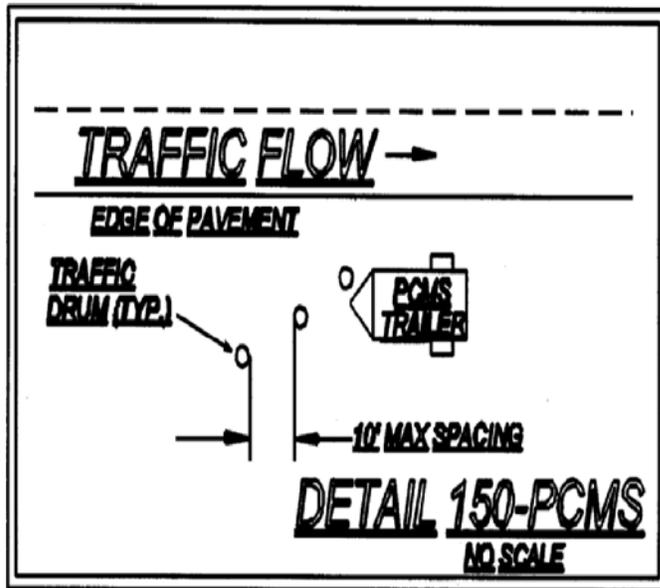
The sequential or flashing arrow panels shall be placed on the shoulder at or near the point where the lane closing transition begins. The panels shall be mounted on a vehicle, trailer, or other suitable support. Vehicle mounted panels shall be provided with remote controls. Minimum mounting height shall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

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 [Section 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 [Subsection 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 Subsection 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 Subsection 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.

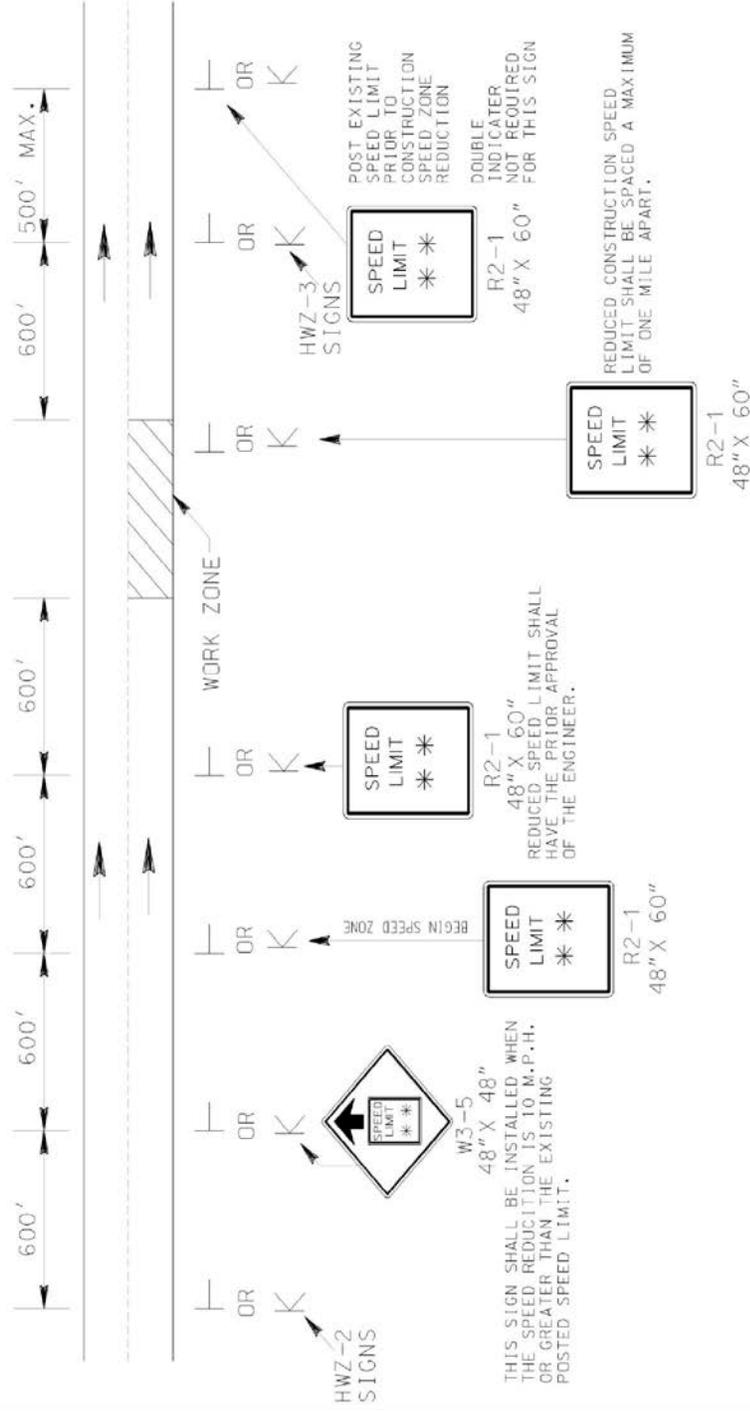
All temporary traffic control devices shall be removed as soon as practical when these devices are no longer needed. When work is suspended for short periods of time, temporary traffic control devices that are no longer appropriate shall be removed or covered.

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 nonperformance under Subsection 150.08.

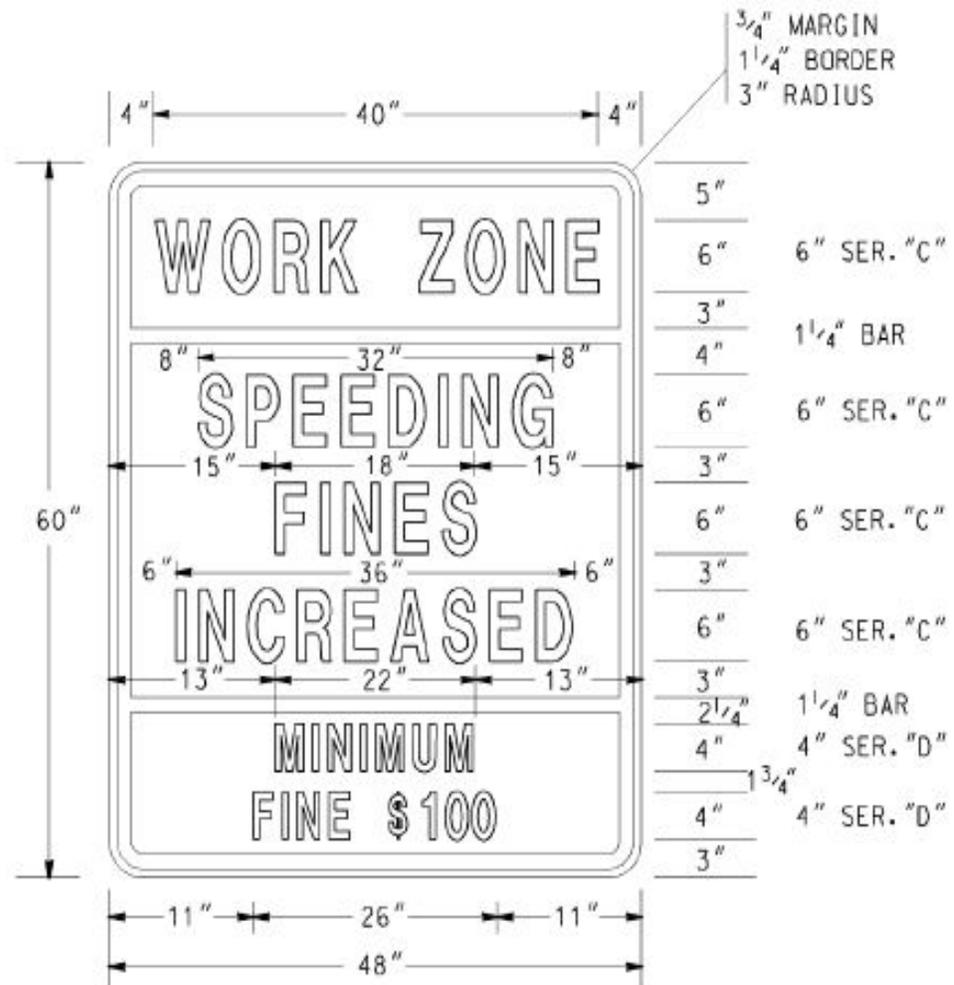
SPEED LIMIT REDUCTION FOR HIGHWAY WORK ZONE
 INTERSTATE AND MULTI-LANE DIVIDED HIGHWAY SIGNING SHALL BE
 DOUBLE INDICATED (RIGHT SHOULDER AND MEDIAN SHOULDER)



ALL INTERSECTING ROADWAYS SHALL BE SIGNED WITH A HWZ-2 SIGN TO WARN MOTORIST ENTERING THE HIGHWAY WORK ZONE.
 INTERSTATE AND MULTI-LANE HIGHWAY SIGNING SHALL BE DOUBLE INDICATED (RIGHT SHOULDER AND MEDIAN SHOULDER).

SIGN SIZES SHOWN ARE FOR INTERSTATE AND MULTI-LANE DIVIDED HIGHWAY.
 FOR OTHER HIGHWAYS USE STANDARD SIZE SIGNS AS PER THE M.U.T.C.D. EXCEPT HWZ-2 AND HWZ-3 SIGNS.

DETAIL 150-HWZ-1



HWZ-2

COLORS

TOP PANEL

LEGEND & BORDER - BLACK (NON-REFL)

BACKGROUND - FLUORESENT ORANGE
(ASTM TYPE VII, VIII, IX or X)

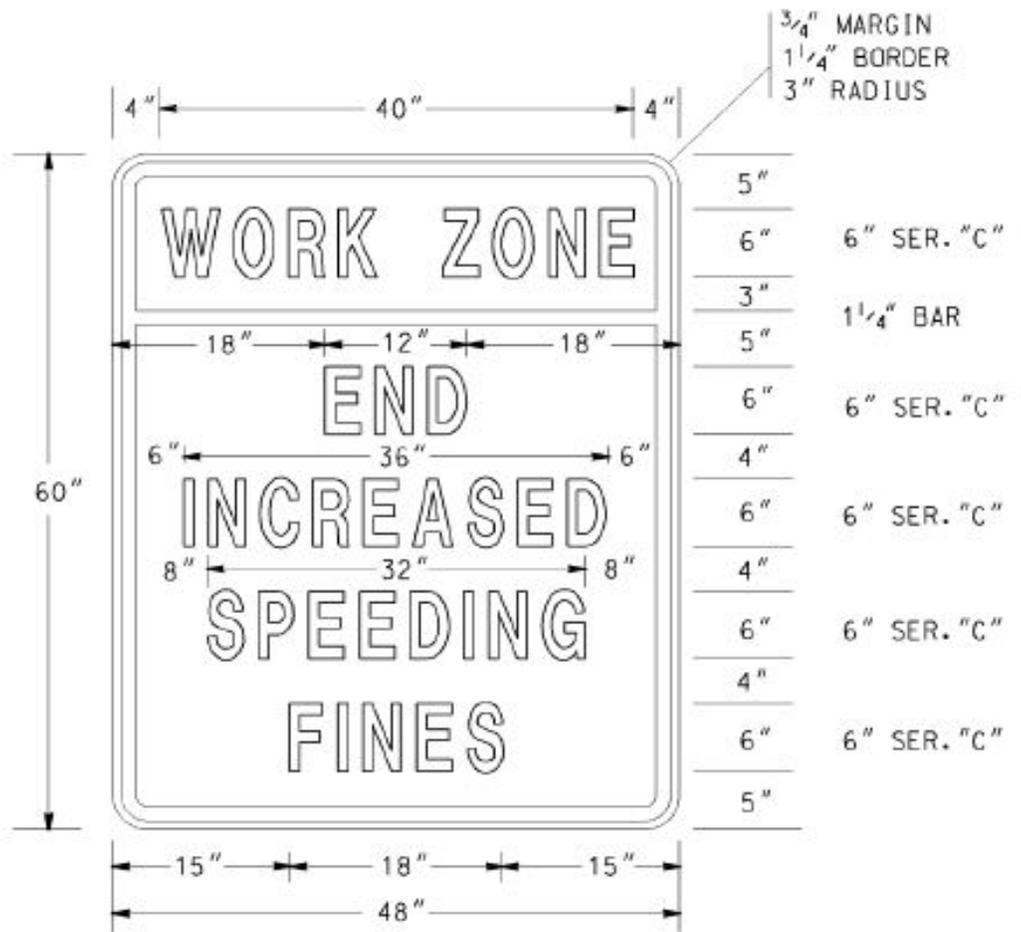
MIDDLE & BOTTOM PANELS

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.

2. Removal Of Lane Closures

To provide the greatest possible convenience to the public in accordance with Sub-[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.

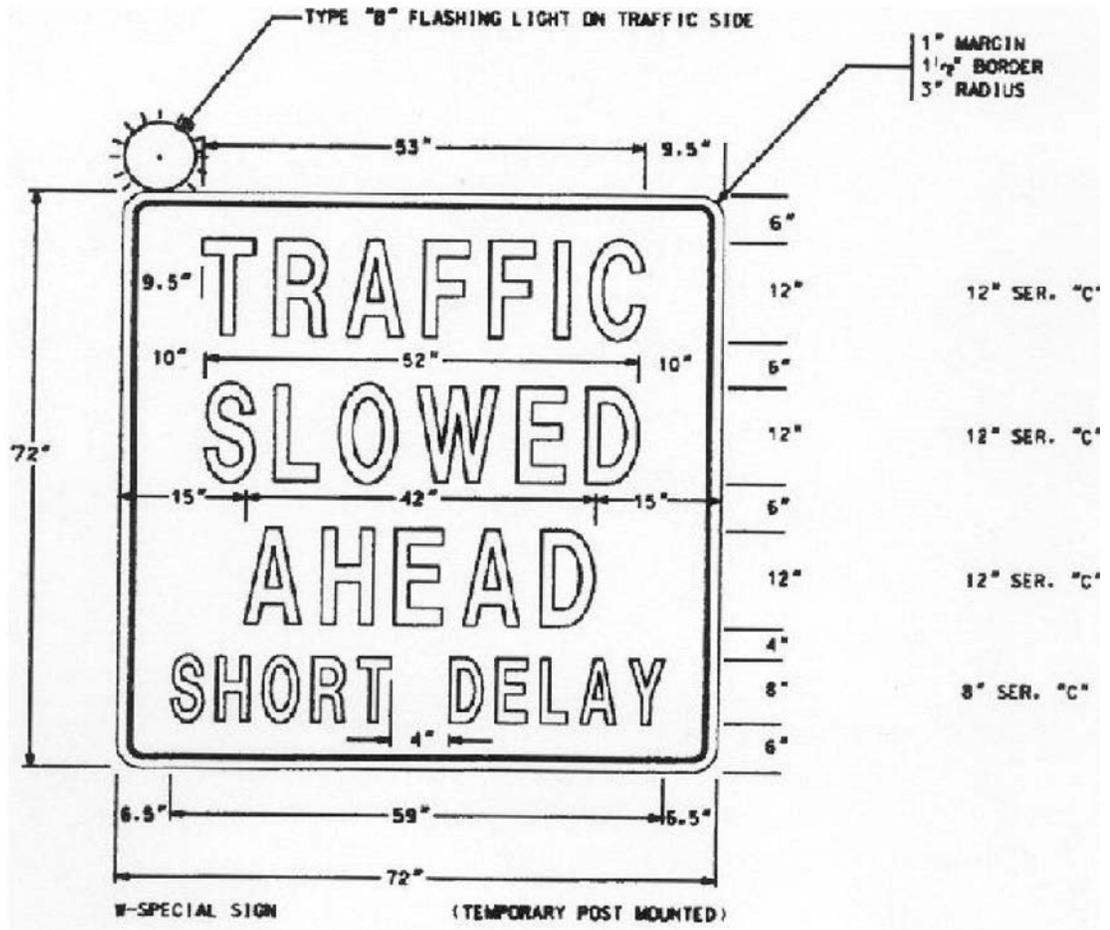
When ready to start the work activity, the police vehicle will act as a pilot vehicle slowing the traffic thereby providing a gap in traffic allowing the Contractor to perform the Work. Any on-ramps between the pace and the work area shall be blocked during pacing of traffic, with a flagger properly 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 regrassed. 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.

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 [Subsection 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:

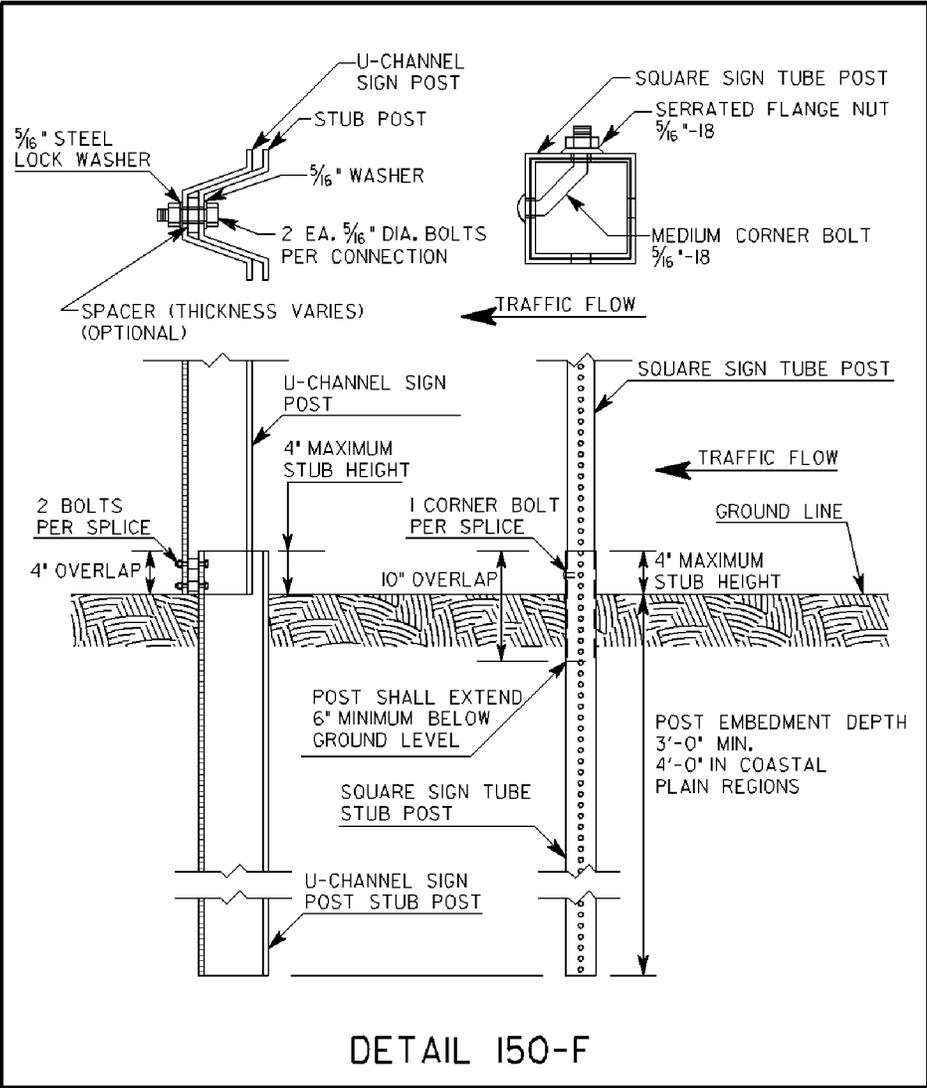
1. Posts

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., multilane 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.

M. 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 judgment 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 pre-line 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 blackout 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 multilane 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 1/2 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 travel way through the work zone and alert drivers and pedestrians to conditions created by work activities in or near the travel way. Channelization shall be 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 travel way shall be as shown in Table 150-1:

TABLE 150-1

Posted Speed Limit, MPH	Lane Width 9 Feet	Lane Width 10 Feet	Lane Width 11 Feet	Lane Width 12 Feet	Maximum Drum Spacing in Tapers, (Feet)
Minimum Taper Length (L) in Feet					
20	60	70	75	80	20
25	95	105	115	125	25
30	135	150	165	180	30
35	185	205	225	245	35
40	240	270	295	320	40
45	405	450	495	540	45
50	450	500	550	600	50
55	495	550	605	660	55
60	540	600	660	720	60
65	585	650	715	780	65
70	630	700	770	840	70
75	675	750	825	900	75

If site conditions require a longer taper then the taper shall be lengthened to fit particular individual situations.

The length of shifting tapers should be at least $\frac{1}{2}$ 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 $2L$ 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 healed 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 travel way should permit a remaining lane width of ten feet. When encroachment reduces the travel way to less than ten feet, vertical panels shall be used to restore the travel way 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

- 1) 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 work zone 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.

- 2) 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 travel way that has been reduced in width just off the travel way 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 travel way. 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 Travel way and Paved Shoulders

Differences in elevation between the asphalt travel way 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 travel way 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 travel way 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 nonperformance 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 [Subsections 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](#).

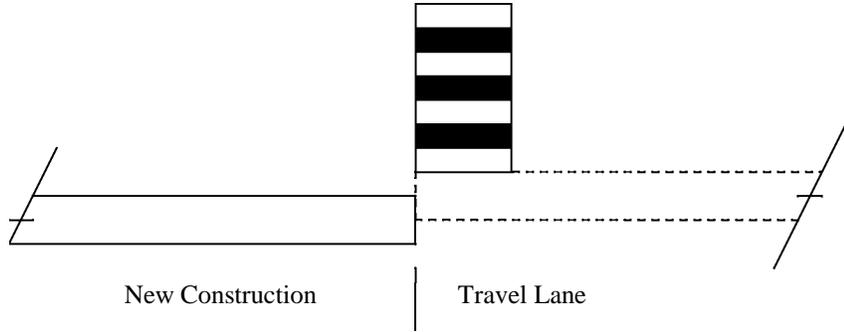
G. ASPHALTIC CONCRETE RESURFACING PROJECTS

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 travel way 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 travel way 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.

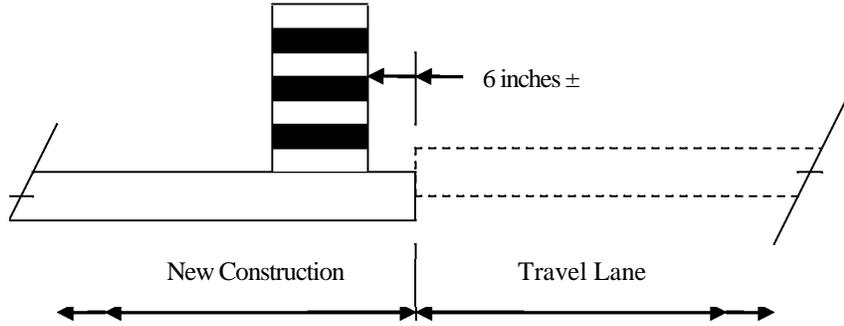
See [Subsection 150.03.L](#) for the requirements for "LOW/SOFT SHOULDERS" and "SHOULDER DROP-OFF" signage.

Location of drums when Elevation Difference exceeds 4 inches. Drums spaced at 20 foot intervals.
Note: 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.



ELEVATION DIFFERENCE GREATER THAN 4 INCHES
DETAIL 150-B

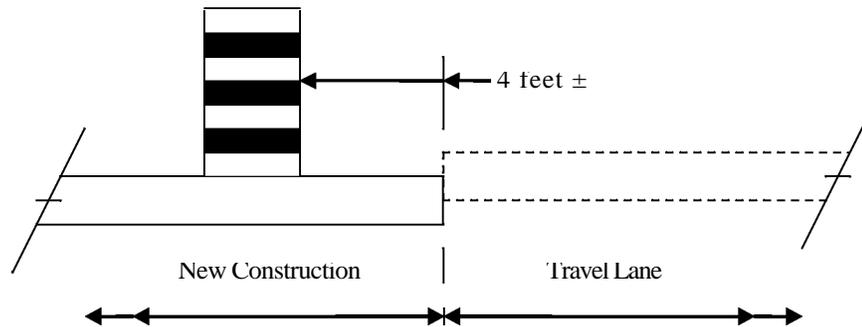
Drums spaced at 40 foot intervals. Location of drums when Elevation Difference is 2+ inches to 4 inches.



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.



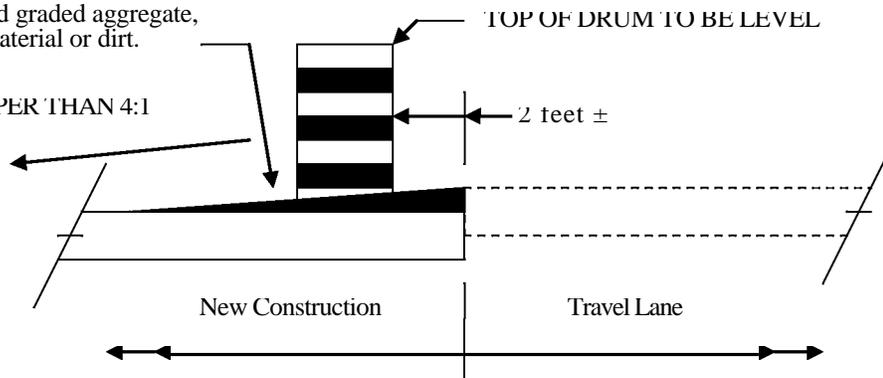
ELEVATION DIFFERENCE OF 2 INCHES OR LESS

DETAIL 150-D

Location of drums immediately after completion of healed sections spaced at 40 foot intervals.

Compacted graded aggregate, subbase material or dirt.

NO STEEPER THAN 4:1



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 nonperformance 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 [Section 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 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.

M. 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.

N. 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 Signsper Square Foot
- Item No. 150. Interim Overhead Special Guide Signs per Square Foot
- 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 Placeper 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.....	per Square
Foot	
Item No. 150. Modify Special Guide Sign, Overhead	per Square
Foot	
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

END OF SECTION

SECTION PROVISION - MISCELLANEOUS MODIFICATIONS
Cash Allowance

01 DESCRIPTION

This item shall consist of miscellaneous work to be accomplished at the direction of the Engineer. It shall include items of work consistent with and related to the project which are not shown on the plans but which may be necessary to the successful completion of the contract. It is expected that work under this item will be accomplished utilizing construction items established under the other sections of these specifications.

02 GENERAL PROCEDURES

- A. All work performed under this section shall comply with the various sections of these specifications which are appropriate to the specific items involved. This work shall be further described, by the Engineer, in written form and/or on modifications to the contract drawings or on supplemental drawings. In any event, no work will be allowed under this section without the prior approval of the Engineer.
- B. The Contractor shall include in its bid for this Project an allowance for "Miscellaneous Modifications" in the amount of Fifty Thousand Dollars (\$50,000.00).

03 MEASUREMENT AND PAYMENT

- A. Measurement and payment for work accomplished under this section shall be in accordance with the various sections of these specifications corresponding to the specific items of work involved and where applicable, the contract unit price bid and accepted for these items.
- B. In the event that work is proposed by the Owner using forces other than the Contractor, the Contractor shall be allowed a maximum markup of 5% for administration and coordination costs over and beyond the proposed cost of the work.

04 BASIS OF PAYMENT

Payment will be made under:

Item SP-1-1: Miscellaneous Modifications – Per Allowance (refer to Schedule of Unit and Lump Sum Prices)

END OF SECTION

SPECIAL CONDITIONS

SC-1 WORK HOUR RESTRICTIONS

No work will be performed on major thoroughfares during the AM and PM rush hours. Rush hour restrictions are between 6:00am and 9:00am & 4:30pm and 6:30pm. No work will be performed on any streets after 8:00pm.

SC-2 HOLIDAY WORK RESTRICTIONS

The City of Atlanta may institute work restrictions during holidays consistent with work restrictions issued by the Georgia Department of Transportation on state routes within the corporate boundaries of the City of Atlanta. Restrictions may also be issued by the City of Atlanta in observance of the following holidays on off-systems routes:

- New Year's Day - January 1st
- Martin Luther King Jr.'s Birthday - 3rd Monday in January
- Memorial Day Monday – last Monday in May
- Independence Day - July 4th
- Labor Day - 1st Monday in September
- Veterans' Day - November 12th
- Thanksgiving – 4th Thursday in November
- Friday after Thanksgiving
- Christmas - December 25th

EXHIBIT D

ADDITIONAL CONTRACT DOCUMENTS

Exhibit D.
TABLE OF CONTENTS

Additional Required Submittals

Form A.	Experience Statement
Form B.	Low-Tier Experience Statement
Form C.	Preliminary Contract Schedule
Form D.	Project Organization & Work Plan
Form E.	Safety Program Form
Form F.	Resumes of Key Personnel
Form G.	Summary of Quality Control Program
Form H.	Work in Progress

Experience Statement

The successful bidder must have a minimum of five (5) years of roadway construction experience to include specific experience with placement of micro-surfacing material. The successful bidder must also document completion of contracts totaling at least \$1,000,000.00.

Low-tiered subcontractors must have at least two (2) years of documented experience in work specific to the contractual work outline in the bid documents, and must document successful completion of at least three contract awards.

FORM C. PRELIMINARY CONTRACT SCHEDULE

Bidder shall submit a preliminary schedule indicating detailed activities for the first sixty (60) days of the project and include general activities. The schedule shall be submitted with the bid package.

The bar chart schedule shall show continuity and flow of the work and be clear and legible. The minimum requirements of the bar chart shall be derived from list of projects provided to the contractor after contract award. At a minimum, the bar chart shall include:

- a. Project planning/development of traffic control plan.
- b. Mobilization.
- c. Micro-surfacing.
- d. Clean up/demobilization.

Based on the successful Bidder's Preliminary Contract Schedule and CITY'S requirements, an agreed schedule shall be developed after award, in accordance with the Special Condition titled "CONTRACT SCHEDULE".

FORM D. PROJECT ORGANIZATION AND WORK PLAN

Bidder to attach an organization chart with numbers and titles of key personnel and numbers and categories of home office and field personnel. Also provide a written description of the organization, defining lines of authority, responsibility, communication and the overall working of the organization with particular emphasis on Home Office/Site interfaces and the procedures for monitoring and controlling the Work.

Bidder to attach a narrative, not to exceed three (3) pages, describing the plan for performing the work under this Contract. This plan shall be developed utilizing the requirements of the Contract Documents. This information shall illustrate the management and flow of work to Contract completion.

Bidder shall submit, attached to the Bid, a well detailed lead time schedule for all critical materials required for the project. Include in the narrative the following data:

1. Has your organization or any officer or partner thereof, failed to complete a construction contract?
2. Is any litigation pending against your organization?
3. Has your organization been denied any construction project where it was the lowest bidder, and/or been debarred by any municipal, state or federal agency?

FORM E. SAFETY PROGRAM

Bidder is to complete attached Safety and Health History (SHH).

Also, Bidder shall submit the following Safety and Health Data:

1. Resumes. Include required resumes with the Data Form titled "RESUMES OF KEY PERSONNEL" **incorporate the individual's safety performance for their last three projects**, see item 9, SHH.
2. Safety and Health Program, see item 10, SHH.
3. New Hire Orientation Program, see item 11, SHH.
4. New Hire/Promoted Foreman/Supervisor Program, see item 12, SHH.

SAFETY AND HEALTH HISTORY FORM

1. EXPERIENCE MODIFICATION RATE			
1A. List your firm's Interstate Experience Modification Rate (EMR) for the three (3) most recent years and total hours worked.			
	19_____	20_____	20_____
a. EMR	_____	_____	_____
b. Hours Worked	_____	_____	_____
1B. If the state where the jobsite is located has an EMR rating system, provide the state EMR for the three (3) most recent years and total hours worked.			
	19_____	20_____	20_____
a. EMR	_____	_____	_____
b. Hours Worked	_____	_____	_____
2. SAFETY PERFORMANCE			
2A. List safety performance incident rates for the three (3) most recent years:			
	19_____	20_____	20_____
a. OSHA Recordable Incident Rate	_____	_____	_____
b. Lost Workday Case Incident Rate	_____	_____	_____
2B. Use your OSHA No. 200 Log to fill in the three (3) most recent years:			
	19_____	20_____	20_____
a. Number of first aid cases	_____	_____	_____
b. Number of lost workday cases.	_____	_____	_____
c. Number of restricted workday cases.	_____	_____	_____
d. Number of cases with medical attention only.	_____	_____	_____
e. Number of fatalities.	_____	_____	_____
3. Check your type of work:			
___ Non-Residential Building		___ Earthwork	
___ Heavy (Non-Highway) Construction		___ Concrete	
___ Mechanical		___ Architectural	
___ Electrical			
___ Other (State Type): _____			

SAFETY AND HEALTH HISTORY (Continued)

4. Are accident reports (OSHA 200) and report summaries sent to the following and how often?

	No	Yes	Monthly	Quarterly	Annually
a. Project Superintendent/Site Mgr.	___	___	___	___	___
b. Vice President/Mgr. of Construction	___	___	___	___	___
c. Safety Director	___	___	___	___	___
d. President of Firm	___	___	___	___	___

5. Do you hold site safety meetings for field employees both Manual and Non-Manual?

Yes ___ No ___

How Often?

Weekly ___ Bi-Weekly ___ Monthly ___ Less Often, As Needed ___

6. Do you conduct project safety inspections?

Yes ___ No ___

If yes, who conducts this inspection?

TITLE

HOW OFTEN?

7. How are accident records and accident summaries kept? How often are they reported?

	No	Yes	Monthly	Annually
a. Accidents totaled for the entire company	___	___	___	___
b. Accidents totaled by project	___	___	___	___
(1) Subtotalled by superintendent	___	___	___	___
(2) Subtotalled by foreman	___	___	___	___

8. How are the costs of individual accidents kept? How often are they reported?

	No	Yes	Monthly	Annually
a. Costs totaled for the entire company	___	___	___	___
b. Costs totaled by project	___	___	___	___
(1) Subtotalled by superintendent	___	___	___	___
(2) Subtotalled by foreman	___	___	___	___

SAFETY AND HEALTH HISTORY (Continued)

9. List key Safety and Health personnel planned for this project. Please list name, expected position and safety performance on their last three projects (OSHA Recordable and Lost Workday Case Incident (LWCI) rates). When a project has not been specified, list key company personnel.

NAME	POSITION	PROJECT	OSHA	LWCI

10. Do you have a written safety program?

Yes ___ No ___

If yes, submit a copy for evaluation.

11. Do you have an orientation program for new hires?

Yes ___ No ___

If yes submit a copy for evaluation. Does it include instruction on the following?

	Yes	No		Yes	No
a. Head protection	___	___	i. Fire protection	___	___
b. Eye protection	___	___	j. First aid facilities	___	___
c. Hearing Protection	___	___	k. Emergency procedures	___	___
d. Respiratory protection	___	___	l. Toxic substances	___	___
e. Safety belts and lifeline	___	___	m. Trenching and excavation	___	___
f. Scaffolding	___	___	n. Signs, barricades, flagging	___	___
g. Perimeter guarding	___	___	o. Electrical safety	___	___
h. Housekeeping	___	___	p. Rigging and crane safety	___	___
			q. Road Safety (Driving)	___	___

SAFETY AND HEALTH HISTORY (Continued)

12. Do you have a program for newly hired or promoted foremen?

Yes ___ No ___

If yes submit a copy for evaluation. Does it include the following?

	Yes	No		Yes	No
a. Safe work practices	___	___	e. First aid procedures	___	___
b. Safety supervision	___	___	f. Accident investigation	___	___
c. Toolbox meetings	___	___	g. Fire protection and prevention	___	___
d. Emergency procedures	___	___	h. New worker orientation	___	___

13. Do you hold craft "toolbox" safety meetings?

Yes ___ No ___

How Often?

Weekly ___ Bi-Weekly ___ Monthly ___ Less Often, As Needed ___

14. Do you have a written Hazard Communication program?

Yes ___ No ___

If yes, how is it implemented on each project?

15. Do you have/require Material Safety Data Sheets (M.S.D.'s) for material/chemicals/equipment?

Yes ___ No ___

If yes, explain field procedure for informing craft workers about potential hazards:

SAFETY AND HEALTH HISTORY (Continued)

16. List three (3) client references that could verify the quality and management commitment of your safety program.

Name	Address	Phone No.
a. _____	_____ _____	_____
b. _____	_____ _____	_____
c. _____	_____ _____	_____

FORM F. RESUMES OF KEY PERSONNEL

Resumes are required for the following positions: Project Manager, Site/Construction Manager, Lead Site Engineers, Scheduling Engineers, Safety personnel and Lead Site Supervisors, all of whom would be assigned full time to the contract.

Bidders to provide a resume for each key person to be assigned to the Contract, containing at least the following information on each person (attach and properly designate additional pages, if necessary).

POSITION

TITLE

a. Name:

b. Education/Qualifications:

c. Present Position in Bidder's Company:

d. Relevant Experience:

e. Safety performance metrics from the last three (3) projects (First Aid cases, Recordable Incident Rate and Lost Workday Case Rate)

f. Employment History:

Submission of these names constitutes a commitment to use these individuals if the Bidder is selected, and changes may be made only with the prior written consent of the City.

FORM G. SUMMARY OF QC PROGRAM

Bidder to provide a summary description of the Quality Control (QC) Program to be implemented in performance of the Work. This summary shall include information on the organization of the program, including the authority and responsibility of all involved personnel. This description shall also explain administrative policies and procedures to be used in carrying out the program. Include a company QC Manual or a sample manual from a similar project and provide details of any QC audit and approval by any other major client, CONTRACTOR or independent body in the last four years. The Quality Control Program shall adhere to the requirements of the contract.

Appendix A

Office of Contract Compliance Requirements



CITY OF ATLANTA

Kasim Reed
Mayor

SUITE 1700
55 TRINITY AVENUE, SW
ATLANTA, GA 30303
(404) 330-6010 Fax: (404) 658-7359
Internet Home Page: www.atlantaga.gov

OFFICE OF CONTRACT COMPLIANCE
Larry Scott
Director
lscott@atlantaga.gov

February 3, 2016

RE: Project No.: FC-8742, Street Micro-Surfacing Maintenance Activities

Dear Prospective City of Atlanta Bidder:

The Office of Contract Compliance (OCC) information is an integral part of every eligible City of Atlanta bid. All Bidders are required to make efforts to ensure that businesses are not discriminated against on the basis of their race, ethnicity or gender, and to demonstrate compliance with these program requirements at or prior to the time of Bid opening, or upon request by OCC. Bidders are required to ensure that prospective subcontractors, vendors, suppliers and other potential participants are not denied opportunities to compete for work on a City contract on the basis of their race, ethnicity, or gender, and must afford all firms, including Small Business Enterprises (SBE) opportunities to participate in the performance of the business of the City to the extent of their availability, capacity and willingness to compete. Please read all of the information very carefully. Pay close attention to the specific goals for SBE participation for this project and the SBO program reminders listed on page 6.

If you have any questions about the information included in this section of the solicitation, please contact the City of Atlanta Office of Contract Compliance at (404) 330-6010.

The City of Atlanta looks forward to the opportunity to do business with your company.

TABLE OF CONTENTS

Policy Statement	1
Implementation of SBO Policy	2
Determination of Non-discrimination During Bid Process	2
OCC Review of Bidder Submissions	3
Equal Business Opportunity Program Bid.RFP Submittals	4
Monitoring of SBO Policy	4
Implementation of EEO Policy.....	4
Monitoring of EEO Policy	4
Small Business Opportunity SBE Goals for This Project	5
Small Business Opportunity Program Reminders	6
Covenant of Non-discrimination (SBO-1).....	7
SBO Subcontractor Contact Form (SBO-2)	8-9
SBO Subcontractor Utilization Plan (SBO-3)	10
Letter of Intent	11-12
First Source Jobs Program Policy Statement.....	13
First Source Jobs Information Form (4)	14
First Source Agreement Form (5).....	15



CITY OF ATLANTA

Kasim Reed
Mayor

SUITE 1700
55 TRINITY AVENUE, SW
ATLANTA, GA 30303
(404) 330-6010 Fax: (404) 658-7359
Internet Home Page: www.atlantaga.gov

OFFICE OF CONTRACT COMPLIANCE
Larry Scott
Director
lscott@atlantaga.gov

CITY OF ATLANTA

SMALL BUSINESS OPPORTUNITY PROGRAM

POLICY STATEMENT

It is the policy of the City of Atlanta to promote full and equal business opportunity for all persons doing business with the City. The City must ensure that firms seeking to participate in contracting and procurement activities with the City are not prevented from doing so on the basis size as it relates to revenue and number of employees. The City is committed to ensuring that it is not a passive participant in any private scheme of discrimination. To ensure that businesses are not discriminated against with regard to prime contracting, subcontracting or other partnering opportunities with the City, the City has developed its' various diversity inclusion programs. The purpose of the Small Business Opportunity Program is to ensure that the City of Atlanta has a robust race-neutral approach to promoting full and equal business opportunity for all persons doing business with the City of Atlanta, to promote commerce by assisting Small Business Enterprises (SBEs) to actively participate in the City's procurement process, and ensure that the City of Atlanta utilizes programs that provide it with the best possible resources.

It is also the policy of the City of Atlanta to actively promote equal employment opportunities for minority and female workers and prohibit discrimination based upon race, religion, color, sex, national origin, marital status, physical handicap or sexual orientation through the City's Equal Employment Opportunity (EEO) Program. The purpose of these program is to mitigate the present and ongoing effects of the past and present discrimination against women and minority workers so that opportunity, regardless of race or gender, will become institutionalized in the Atlanta marketplace. It is important to note that all bidders, without exception, including firms that are Small Business Enterprises themselves must comply with the City of Atlanta's SBO and EEO Program requirements. Goals for minority and female business enterprises are set for this project on page 6.

Implementation of SBO Policy

The Office of Contract Compliance will review information submitted by Bidders pertaining to efforts to promote opportunities for small businesses to compete for business as subcontractors and/or suppliers. A Bidder is eligible to be further considered for award of a City contract upon a finding by OCC that the Bidder has engaged in, and provided with its bid submission documentation of efforts to ensure that its process of soliciting, evaluating and awarding subcontracts, placing orders, and partnering with other companies has been non-discriminatory. To assist prime contractors in this effort, the Office of Contract Compliance has set forth in this solicitation document the SBE goals within the relevant NAICS Codes, for this Project.

For subcontracting, the Subcontractor Project Plan must include **all** subcontractors (both small and non-small business enterprises) to be utilized on the project, detail the services to be performed, the dollar value of the work to be performed by each subcontractor, and the *City of Atlanta* SBE certification number and supplier id number as applicable.

For suppliers, the Subcontractor Project Plan must include **all** subcontractors (both small and non-small business enterprises), the supplies to be provided, including the dollar value of the supplies being provided and the *City of Atlanta* SBE certification number and supplier id number as applicable.

Determination of Non-discrimination During Bid Process

No Bidder shall be awarded a contract on an Eligible Project unless the Office of Contract Compliance determines that the Bidder has satisfied the non-discrimination requirements of section 2-1372 on such Eligible Project. Accordingly, each Bidder shall submit with each Bid the following

1. Covenant of Non Discrimination. Each Bidder shall submit with her/his Bid a Covenant of Non-Discrimination which is set forth herein as Exhibit SBO1.
2. Outreach efforts documentation. Each bidder shall submit with her/his bid written documentation demonstrating the bidder's outreach efforts to identify, contact, contract with, or utilize businesses, including certified SBEs as subcontractors or suppliers on the contract. This information shall be set forth on Exhibit SBO2, which is included herein.
3. Subcontractor project plan. Each bidder shall submit with her/his bid a completed and signed subcontractor project plan, in a form approved and provided by the office of contract compliance, which lists the name, address, telephone number and contact person of each subcontractor or other business to be used in the contract, the NAICS Code and the type of work or service each business will perform, the dollar value of the work and the scope of work, the ownership of each business, certification number of each business, and any other information requested by the office of contract compliance. In order for the office of contract compliance to officially consider a firm to be an SBE, the SBE firm must be certified by or have a certification application pending with the office of contract compliance prior to the bidder's submission of the bid. The subcontractor project plan shall not be changed or altered after approval of the plan and award of the contract without the written approval of the director of the office of contract compliance. A written letter to the director of the office of contract compliance requesting approval to change the subcontractor project plan must be submitted prior to any change in the plan or termination of an SBE's contract.

OCC Review of Bidder Submissions

The Office of Contract Compliance shall determine whether a Bidder has satisfied the non-discrimination requirements of section 2-1448 based on its review of the Covenant of Non Discrimination, the Outreach Efforts Documentation, the Subcontractor Project Plan, and its review of other relevant facts and circumstances, including complaints received as part of the bid process. In reviewing the documents submitted by a Bidder to determine whether the Bidder has satisfied the non-discriminatory practices requirement of this section, the Office of Contract Compliance will consider, among other things, the total project dollars subcontracted to or expended for services performed by other businesses, including certified SBEs, whether such businesses perform Commercially Useful Functions in the work of the contract based upon standard industry trade practices, whether any amounts paid to Supplier businesses are for goods customarily and ordinarily used based upon standard industry trade practices, and the availability of certified SBEs within the relevant NAICS Codes for such Eligible Project.

(a) Receipt of Complaint of Discrimination in the Bid Process

The office of contract compliance shall accept complaints of alleged discrimination during the bid process regarding any participant in the bid process. Where the complaint of discrimination is specific to the procurement which is under consideration by the city, the office of contract compliance may investigate said complaint, determine its validity, and determine whether the actions complained of impact the bidder's responsiveness on the specific procurement. Allegations of discrimination based on events, incidents or occurrences which are unrelated to the specific procurement will be placed in the bidder's file maintained in the vendor relations database and handled in accordance with the procedure established in the city's vendor relations subdivision, section 2-1465, et seq.

(b) Determination of Violation of SBO Process

Where the office of contract compliance investigates a complaint of discrimination that is related to the specific bid process, the details of that investigation, including findings, shall be recorded and maintained in the vendor relations database, pursuant to section 2-1471.

(c) Office of Contract Compliance Determination of Non-Compliance

When, based upon the totality of the circumstances, the office of contract compliance determines that a bidder fails to satisfy the requirements of section 2-1448(a) of a city bid solicitation, the director of the office of contract compliance shall present a written determination of non-compliance to the Chief Procurement Officer which states the determination and lists the reasons for the determination. A bid that does not comply with the requirements set forth in section 2-1448(a) shall be deemed non-responsive and rejected.

Small Business Opportunity Program Bid/RFP Submittals

The Office of Contract Compliance will make any determination of non-responsiveness. The covenant of non-discrimination, the outreach efforts documentation, the subcontractor project plan, and any other information required by OCC in the solicitation document pursuant to section 2-1448 must be completed in their entirety by each bidder and submitted with the other required bid documents in order for the bid to be considered as a responsive bid. Failure to timely submit these forms, fully completed, will result in the bid being considered as a non-responsive bid, and therefore, excluded from consideration.

Monitoring Of SBO Policy

Upon execution of a contract with the City of Atlanta, the successful bidder's Subcontractor Project Plan will become a part of the contract between the bidder and the City of Atlanta. The Subcontractor Project Plan will be monitored by the City of Atlanta's Office of Contract Compliance for adherence with the plan. The successful bidder will be required to provide specific EBO information on a monthly basis that demonstrates the use of subcontractors and suppliers as indicated on the Subcontractor Project Plan. The failure of the successful bidder to provide the specific EBO information by the specified date each month shall be sufficient cause for the City to withhold approval of the successful bidder's invoices for progress payments, increase the amount of the successful bidder's retainage, require joint check issuance, or evoke any other penalties as set forth in the City of Atlanta Code of Ordinances, Sections 2-1452 and 2-1456.

Implementation of EEO Policy

The City effectuates its EEO policy by adopting racial and gender work force availability for every contractor performing work for the City of Atlanta. These percentages are derived from the work force demographics set forth in the 2000 Census EEO file prepared by the United States Department of Commerce for the applicable labor pool normally utilized for the contract.

Monitoring of EEO Policy

Upon award of a contract with the City of Atlanta, the successful bidder must submit a Contract Employment Report (CER), describing the racial and gender make-up of the firm's work force. If the CER indicates that the firm's demographic composition does not meet the adopted EEO goals, the firm will be required to submit an affirmative action plan setting forth the steps to be taken to reach the adopted goals. The CER and the affirmative action plan, if necessary, will become a part of the contract between the successful bidder and the City of Atlanta. Compliance with the EEO requirements will be monitored by the Office of Contract Compliance.

Equal Business Opportunity SBE GOALS for this Project

Project No.: FC-8742, Street Micro-Surfacing Maintenance Activities

The dominant NAICS code and trade to be engaged for the above referenced solicitation is:

237310 Asphalt Paving

The EBO goals for the trade categories listed in this project are:

35% SBE

Please be reminded that no Bidder shall be awarded a contract on an Eligible Project unless the Office of Contract Compliance determines that the Bidder has satisfied the non-discrimination requirements of section 2-1448 on such Eligible Project. Details of the O.C.C. review process for determination of non-discrimination are detailed on page 2 of this document.

Small Business Opportunity Program Reminders

1. Certification. It is the prime contractor's responsibility to verify that all SBEs included on the Subcontractor Project Plan are certified by the City of Atlanta's Office of Contract Compliance, or have a certification application pending with the City of Atlanta's Office of Contract Compliance.
2. Reporting. The successful bidder must submit monthly SBO program participation reports to the Office of Contract Compliance in a manner as prescribed by the OCC monitor of Record.
3. Subcontractor Contact Form. It is required that bidders list and submit information on all subcontractors they solicit for quotes, all subcontractors who contact them with regard to the project, and all subcontractors they have discussions with regarding the project. Failure to provide complete information on this form will result in your bid being declared non-responsive.
4. SBO/EBO Ordinance. The SBO Program is governed by the provisions of the SBO/EBO Ordinance set forth in the City of Atlanta Code Division 12, section 2 - 1356 through 2 - 1480. The ordinance can be obtained from the City of Atlanta Clerk's Office at (404) 330-6032.
5. Supplier Participation. In order to receive full SBE credit, suppliers must manufacture or warehouse the materials, supplies, or equipment being supplied for use on the Eligible Project.
6. OCC Registry of Certified Firms. To access OCC's real time registry of vendors (certified or non-certified), visit our PRISM Compliance Management portal at: <https://pro.prismcompliance.com/default.aspx>. Next, click the drop down arrow under "Visit a Jurisdiction", select "City of Atlanta", and click "go!" Once there, you may search by Industry or Certification to obtain your desired results. You may also go to the website: www.atlantaga.gov/contractcompliance and scroll down to the section heading "Registry of Certified Firms" Click OCC's quarterly list to access the current directory of certified firms.

COVENANT OF NON-DISCRIMINATION

The undersigned understands that it is the policy of the City of Atlanta to promote full and equal business opportunity for all persons doing business with the City of Atlanta. The undersigned covenants that we have not discriminated, on the basis of race, gender or ethnicity, with regard to prime contracting, subcontracting or partnering opportunities. The undersigned further covenants that we have completed truthfully and fully the required forms SBO-2 and SBO-3. Set forth below is the signature of an officer of the bidding entity with the authority to bind the entity.

Signature of Attesting Party

Title of Attesting Party

On this ____ day of _____, 20____, before me appeared _____, the person who signed the above covenant in my presence.

Notary Public

Seal

[Type text]

SUBCONTRACTOR CONTACT FORM

List *all subcontractors or suppliers* (SBE and Non-SBE Certified) that were contacted regarding this project.

Name of Sub-contractor/ Supplier	Contact Name, Address and Phone Number	City Of Atlanta Business License? (Yes or No)	Type of Work Solicited for	Business Ownership (see code below)	Certification No. and Expiration Date	Results of Contact

Name of Sub-contractor/ Supplier	Contact Name, Address and Phone Number	City Of Atlanta Business License? (Yes or No)	Type of Work Solicited for	Business Ownership (see code below)	Certification No. and Expiration Date	Results of Contact

Business Ownership Code: AABE - African American Business Enterprise, HABE - Hispanic Business Enterprise, FBE - Female Business Enterprise, APABE - Asian (Pacific Islander) American Business Enterprise

Company Name: _____ Project Name: _____ FC#: _____

Printed Signature: _____ Date: _____

**EQUAL BUSINESS OPPORTUNITY SUBCONTRACTOR PROJECT PLAN
SUBCONTRACTOR/SUPPLIER UTILIZATION**

List all Majority, SBE Certified, and Non-SBE Certified subcontractors/suppliers, including lower tiers, to be used on this project.

Name of Sub-contractor/ Supplier	Contact Name, Address and Phone Number	City of Atlanta Business License? (yes or no)	NIAC Code	Type of Work to be Performed	Ethnicity of SBE Ownership (see code below)	SBE Certification No. and Expiration Date	Dollar (\$) Value of Work and Scope of Work	Percentage (%) of Total Bid Amount

Total SBE% _____

Code: AABE - African American Business Enterprise, HABE - Hispanic American Business Enterprise, FBE -- Female Business Enterprise,
APABE - Asian (Pacific Islander) American Business Enterprise

Proponent's Company Name: _____

Project Name: _____ FC#: _____

Proponent's Contact Number: _____

Printed Signature: _____ Date: _____

(THIS PAGE SHALL BE SUBMITTED FOR EACH SBE FIRM)

LETTER OF INTENT

Small Business Enterprise

Proponent

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

SBE Firm:

ACDBE Firm: _____

Address: _____

City: _____ State: _____ Zip: _____

SBE Contact Person:

Name: _____ Phone: () _____

Expiration Date of SBE Certification: _____

SBE is performing as:

Prime Contractor Sub contractor Joint Venture Member

Work item(s) to be performed by SBE	Description of Work Item	Dollar(s) Value of Work and Scope of Work	Percentage (%) of Total Bid Amount
TOTAL SBE			

The bidder/offeror is committed to utilizing the above-named SBE firm for the work described above. The estimated participation is as follows:

SBE contract amount: \$ _____ Percent of total contract: _____ %

AFFIRMATION:

The above-named SBE firm affirms that it will perform the portion of the contract for the estimated dollar value as stated above.

By: _____
(Print name) (Title)

(signature) (date)

* In the event the bidder/offeror does not receive award of the prime contract, any and all representations in this Letter of Intent and Affirmation shall be null and void.

First Source Jobs Program Policy Statement

It is the policy of the City of Atlanta to provide job opportunities to the residents of the City of Atlanta, whenever possible. Whereas every contract with the City of Atlanta creates a potential pool of new employment opportunities, the following program is applicable to **construction projects only** and is subject to review by AWDA on a case by case basis for applicability. Once AWDA has made the determination that the First Source Jobs Program is applicable, the successful prime contractor (and all subcontractors associated with the awarded project) is expected to work with the First Source Jobs Program to fill at least 50% of all new entry-level jobs, which arise from this project, with residents of the City of Atlanta. **AWDA has determined that the first source Jobs program is applicable for this project.** For more specific information about the First Source Jobs Program contact:

**Michael Sterling
Executive Director
First Source Jobs Program
Atlanta Workforce Development Agency
818 Pollard Boulevard
Atlanta, GA 30315
(404) 546-3000**

FIRST SOURCE JOBS INFORMATION FORM

Company Name: _____

FC Number: _____

Project Name: _____

The following entry-level positions will become available as a result of the above referenced contract with the City of Atlanta:

- 1.
- 2.
- 3.
- 4.
- 5.

Include a job description and all required qualifications for each position listed above.

Identify a company representative and contact phone number who will be responsible for coordinating with the First Source Jobs Program.

Company Representative: _____

Phone: _____

THIS AGREEMENT REGARDING THE USE OF THE FIRST SOURCE JOBS PROGRAM BY CONTRACTORS WITH THE CITY OF ATLANTA TO FILL ENTRY LEVEL JOBS is made and entered into by _____

This _____ day of _____, 201__.

The City of Atlanta requires the immediate beneficiary or primary contractor for every eligible project to enter into a First Source Jobs employment agreement. The contractor agrees to the following terms and conditions:

- The first source for finding employees to fill all entry level jobs Created by the eligible project will be the First Source Program.
- The contractor will make every effort to fill 50% of the entry level jobs created by this eligible project with applicants from the First Source Program.
- The contractor shall make good faith effort to reach the goal of this employment agreement.
- Details as to the number and description of each entry level job must me provided with the bid.
- The contractor shall comply with the spirit of the First Source Jobs Policy beyond the duration of this agreement and continue to make good faith attempts to hire employees of similar backgrounds to those participating in the First Source Program.
- The contractor as a condition of transfer, assignment or otherwise shall require the transferee to agree in writing to the terms of the employment Agreement.

Upon a determination that a beneficiary or contractor has failed to comply with the terms of this Agreement, the City may impose the following penalties based on the severity of the non-compliance:

- The City of Atlanta may withhold payment from the contractor.
- The City of Atlanta may withhold 10 percent of all future payments on the contract until the contractor is in compliance
- The City of Atlanta may refuse all future bids on city projects or applications for financials assistance in any form from the City until the contractor demonstrated that the First Source requirements have been met, or cancellation of the eligible project.
- The City of Atlanta may cancel the eligible project.

All terms stated herein can be found in the City of Atlanta Code of Ordinances Sections 5-8002 through 5-8005.

The undersigned hereby agrees to the terms and conditions set forth in this agreement.

Contractor

Appendix B

Insurance and Bonding Requirements

APPENDIX B
INSURANCE & BONDING REQUIREMENTS
FC-8742 Street Micro-Surfacing Maintenance Activities

A. Preamble

The following requirements apply to all work under the agreement. Compliance is required by all Contractors/Consultants. **To the extent permitted by applicable law, the City of Atlanta (“City”) reserves the right to adjust or waive any insurance or bonding requirements contained in this Appendix B and applicable to the agreement.**

1. Evidence of Insurance Required Before Work Begins

No work under the agreement may be commenced until all insurance and bonding requirements contained in this Appendix B, or required by applicable law, have been complied with and evidence of such compliance satisfactory to City as to form and content has been filed with City. Contractor/Consultant must provide City with a Certificate of Insurance that clearly and unconditionally indicates that Contractor/Consultant has complied with all insurance and bonding requirements set forth in this Appendix B and applicable to the agreement. If the Contractor/Consultant is a joint venture, the insurance certificate should name the joint venture, rather than the joint venture partners individually, as the primary insured. In accordance with the solicitation documents applicable to the agreement at the time Contractor/Consultant submits to City its executed agreement, Contractor/Consultant must satisfy all insurance and bonding requirements required by this Appendix B and applicable by law, and provide the required written documentation to City evidencing such compliance. In the event that Contractor/Consultant does not comply with such submittal requirements within the time period established by the solicitation documents applicable to the agreement, City may, in addition to any other rights City may have under the solicitation documents applicable to the agreement or under applicable law, make a claim against any bid security provided by Contractor/Consultant.

2. Minimum Financial Security Requirements

All companies providing insurance required by this Appendix B must meet certain minimum financial security requirements. These requirements must conform to the ratings published by A.M. Best & Co. in the current Best's Key Rating Guide - Property-Casualty. The ratings for each company must be indicated on the documentation provided by Contractor/Consultant to City certifying that all insurance and bonding requirements set forth in this Appendix B and applicable to the agreement have been unconditionally satisfied.

For all agreements, regardless of size, companies providing insurance or bonds under the agreement must meet the following requirements:

- i) Best's rating not less than A-,
- ii) Best's Financial Size Category not less than Class VII, and

- iii) Companies must be authorized to conduct and transact insurance contracts by the Insurance Commissioner, State of Georgia.
- iv) All bid, performance and payment bonds must be underwritten by a U.S. Treasury Circular 570 listed company.

If the issuing company does not meet these minimum requirements, or for any other reason is or becomes unsatisfactory to City, City will notify Contractor/Consultant in writing. Contractor/Consultant must promptly obtain a new policy or bond issued by an insurer acceptable to City and submits to City evidence of its compliance with these conditions.

Contractor/Consultant's failure to comply with all insurance and bonding requirements set forth in this Appendix B and applicable to the agreement will not relieve Contractor/Consultant from any liability under the agreement. Contractor/Consultant's obligations to comply with all insurance and bonding requirements set forth in Appendix B and applicable to the agreement will not be construed to conflict with or limit Contractor/Consultant's/Consultant's indemnification obligations under the agreement.

3. Insurance Required for Duration of Contract

All insurance and bonds required by this Appendix B must be maintained during the entire term of the agreement, including any renewal or extension terms, and until all work has been completed to the satisfaction of City.

4. Notices of Cancellation & Renewal

Contractor/Consultant must, notify the City of Atlanta in writing at the address listed below by mail, hand-delivery or facsimile transmission, within 2 days of any notices received from any insurance carriers providing insurance coverage under this Agreement and Appendix B that concern the proposed cancellation, or termination of coverage.

Enterprise Risk Management
68 Mitchell St. Suite 9100
Atlanta, GA 30303
Facsimile No. (404) 658-7450

Confirmation of any mailed notices must be evidenced by return receipts of registered or certified mail.

Contractor/Consultant shall provide the City with evidence of required insurance prior to the commencement of this agreement, and, thereafter, with a certificate evidencing renewals or changes to required policies of insurance at least fifteen (15) days prior to the expiration of previously provided certificates.

5. Agent Acting as Authorized Representative

Each and every agent acting as Authorized Representative on behalf of a company affording coverage under this contract shall warrant when signing the Accord Certificate of Insurance that specific authorization has been granted by

the Companies for the Agent to bind coverage as required and to execute the Acord Certificates of Insurance as evidence of such coverage. City of Atlanta coverage requirements may be broader than the original policies; these requirements have been conveyed to the Companies for these terms and conditions.

In addition, each and every agent shall warrant when signing the Acord Certificate of Insurance that the Agent is licensed to do business in the State of Georgia and that the Company or Companies are currently in good standing in the State of Georgia.

6. Certificate Holder

The **City of Atlanta** must be named as certificate holder. All notices must be mailed to the attention of **Enterprise Risk Management at 68 Mitchell Street, Suite, 9100, Atlanta, Georgia 30303.**

7. Project Number & Name

The project number and name must be referenced in the description section of the insurance certificate.

8. Additional Insured Endorsements Form CG 20 26 07 04 or equivalent

The City must be covered as Additional Insured under all insurance (except worker's compensation and professional liability) required by this Appendix B and such insurance must be primary with respect to the Additional Insured. **Contractor/Consultant must submit to City an Additional Insured Endorsement evidencing City's rights as an Additional Insured for each policy of insurance under which it is required to be an additional insured pursuant to this Appendix B. Endorsement must not exclude the Additional Insured from Products - Completed Operations coverage. The City shall not have liability for any premiums charged for such coverage.**

9. Mandatory Sub-Contractor/Consultant Compliance

Contractor/Consultant must require and ensure that all subContractor/Consultants/subconsultants at all tiers to be sufficiently insured/bonded based on the scope of work performed under this agreement.

10. Self Insured Retentions, Deductibles or Similar Obligations

Any self insured retention, deductible or similar obligation will be the sole responsibility of the contractor.

A. Workers' Compensation and Employer's Liability Insurance

Contractor/Consultant must procure and maintain Workers' Compensation and Employer's Liability Insurance in the following limits to cover each employee who is or may be engaged in work under the agreement. :

Workers' Compensation. **Statutory**

Employer's Liability:

Bodily Injury by Accident/Disease **\$1,000,000 each accident**
Bodily Injury by Accident/Disease **\$1,000,000 each employee**
Bodily Injury by Accident/Disease **\$1,000,000 policy limit**

B. Commercial General Liability Insurance

Contractor/Consultant must procure and maintain Commercial General Liability Insurance on form (CG 00 00 01 or equivalent) in an amount not less than **\$1,000,000 per occurrence subject to a \$2,000,000 aggregate.** The following indicated extensions of coverage must be provided:

- Contractual Liability
- Broad Form Property Damage
- Premises Operations
- Personal Injury
- Advertising Injury
- Fire Legal Liability
- Medical Expense
- Independent Contractor/Consultants/SubContractor/Consultants
- Products – Completed Operations
- Explosion, Collapse and Underground (XCU) Liability
- Additional Insured Endorsement* (primary& non-contributing in favor of the City of Atlanta)
- Waiver of Subrogation in favor of the City of Atlanta

C. Commercial Automobile Liability Insurance

Contractor/Consultant must procure and maintain Automobile Liability Insurance in an amount not less than **\$1,000,000** Bodily Injury and Property Damage combined single limit. The following indicated extensions of coverage must be provided:

- Owned, Non-owned & Hired Vehicles
- Waiver of Subrogation in favor of the City of Atlanta

If Contractor/Consultant does not own any automobiles in the corporate name, non-owned vehicle coverage will apply and must be endorsed on either Contractor/Consultant's personal automobile policy or the Commercial General Liability coverage required under this Appendix B.

D. Property Coverage/Inland Marine

Contractor/Consultant shall procure and maintain all risk property coverage in an amount equal to replacement value for all equipment, furniture, fixtures, machinery and/or personal property.

E. Performance Bond and Payment Bond

Contractor/Consultant shall furnish a Payment Bond and a Performance Bond to the City in an amount equal to **100 percent of the total contract value** and for the duration of the entire term.

The person executing the Bonds on behalf of the surety shall file with the Bonds a general power of attorney unlimited as to amount and type of bonds covered by such power of attorney, and certified by an official of said surety. **Be a U.S. Treasury Circular 570 listed company.**

Payment and Performance Bonds

Payment Bond

INSTRUCTIONS

1. This form is required for use in connection with the Agreement identified on its face. There shall be no deviation from this form without approval by the City.
2. The full legal name and business address of the Principal shall be inserted in the space designated "Principal" on the face of the form. The bond shall be signed by an authorized person. Where such person is signing in a representative capacity (e.g., an attorney-in-fact), but is not a member of the firm, partnership, or joint venture, or an office of the corporation involved, evidence of this authority must be furnished.
3. Corporation executing the bond as surety must be among those appearing on the U.S. Treasury Department's most current list of approved sureties and must be acting within the amounts and limitations set forth therein.
4. Corporate surety shall be duly authorized by the Commissioner of Insurance of the State of Georgia to transact surety business in the State of Georgia.
5. Do not date this bond. The City will date this bond the same date or later than the date of the Agreement.
6. The Surety shall attach a duly authorized power-of-attorney authorizing signature on its behalf of any attorney-in-fact.
7. Corporations executing the bond shall affix their corporate seals. Individuals shall execute the bond opposite the word "Seal."
8. The name of each person signing this bond shall be typed or printed in the space provided.

Payment Bond

"City" City of Atlanta

"Project" Annual Contract for Micro Surfacing Maintenance Activities

"FC No." FC-8742

"Principal" (Legal Name and Business Address), _____

Type of Organization ("X" one):
 Individual
 Partnership
 Joint Venture
 Corporation

"Surety:" (Name and Business Address) _____

duly authorized by the Commissioner of Insurance of the State of Georgia to transact surety business in the State of Georgia.

"Agreement:" Agreement between Principal and City, dated ____ day of _____, 20____, regarding performance of Work relative to the Project.

"Penal Sum:" _____ Dollars (\$ _____).

KNOW ALL MEN BY THESE PRESENTS, that we, the Principal and Surety hereto, as named above, are held and firmly bound to the City in the above Penal Sum for the payment of which well and truly to be made we bind ourselves, our heirs, executors, administrators, successors, jointly and severally.

WHEREAS, the Principal and the City entered into the Agreement identified above;

NOW, THEREFORE, the conditions of this obligation are such that if the Principal shall make payment of all Subcontractors and all persons supplying labor, Materials, machinery and Equipment for the performance of said work, this obligation shall be void; otherwise of full force and effect.

And the Surety to this bond, for value received, agrees that no modification, change, extension of time, alteration or addition to the terms of the Agreement or to the Work to be performed thereunder shall in any wise affect its obligation on this bond, and it does hereby waive notice of any such modification, change, extension of time, alteration or addition to the terms of the Agreement or the Work.

It is agreed that this bond is executed pursuant to and in accordance with the provisions of O.C.G.A. Section 36-91-1 *et seq.* and is intended to be and shall be construed to be a bond in compliance with the requirements thereof, though not restricted thereto.

IN WITNESS WHEREOF, the Principal and the Surety have caused these presents to be duly signed and sealed this _____ day of _____, 20____.

PRINCIPAL: _____

President/Vice President (Sign)

President/Vice President (Type or Print)

Attested to by:

Secretary/Assistant Secretary (Seal)

SURETY: _____

By: _____
Attorney-in-Fact (Sign)

Attorney-in-Fact (Type or Print)

APPROVED AS TO FORM

Associate/Assistant City Attorney

APPROVED

City's Chief Financial Officer

Performance Bond

INSTRUCTIONS

1. This form is required for use in connection with the Agreement identified on its face. There shall be no deviation from this form without approval by the City.
2. The full legal name and business address of the Principal shall be inserted in the space designated "Principal" on the face of the form. The bond shall be signed by an authorized person. Where such person is signing in a representative capacity (e.g., an attorney-in-fact), but is not a member of the firm, partnership, or joint venture, or an office of the corporation involved, evidence of this authority must be furnished.
3. Corporation executing the bond as surety must be among those appearing on the U.S. Treasury Department's most current list of approved sureties and must be acting within the amounts and limitations set forth therein.
4. Corporate surety shall be duly authorized by the Commissioner of Insurance of the State of Georgia to transact surety business in the State of Georgia.
5. Do not date this bond. The City will date this bond the same date or later than the date of the Agreement.
6. The Surety shall attach a duly authorized power-of-attorney authorizing signature on its behalf of any attorney-in-fact.
7. Corporations executing the bond shall affix their corporate seals. Individuals shall execute the bond opposite the word "Seal."
8. The name of each person signing this bond shall be typed or printed in the space provided.

Performance Bond

"City" City of Atlanta

"Project" Annual Contract for Micro Surfacing Maintenance Activities

"FC No." FC-8742

"Principal" (Legal Name and Business Address)

Type of Organization ("X" one):
 Individual
 Partnership
 Joint Venture
 Corporation

"Surety:" (Name and Business Address)

duly authorized by the Commissioner of Insurance of the State of Georgia to transact surety business in the State of Georgia.

"Agreement:" Agreement between Principal and City, dated ____ day of _____, 20____, regarding performance of Work relative to the Project.

"Penal Sum:" _____.

KNOW ALL MEN BY THESE PRESENTS, that we, the Principal and Surety hereto, as named above, are held and firmly bound to the City in the above Penal Sum for the payment of which well and truly to be made we bind ourselves, our heirs, executors, administrators, successors, jointly and severally.

WHEREAS, the Principal and the City entered into the Agreement identified above;

NOW, THEREFORE, the conditions of this obligation are such that if the Principal shall faithfully and fully comply with, perform and fulfill all of the undertakings, covenants, conditions and all other of the terms and conditions of said Agreement, including any and all duly authorized modifications of such Agreement, within the original term of such Agreement and any extensions thereof, which shall include, but not be limited to any obligations created by way of warranties and/or guarantees for workmanship and materials which warranty and/or guarantee may extend for a period of time of one year beyond completion of said Agreement, this obligation shall be void; otherwise, of full force and effect.

And the Surety to this bond, for value received, agrees that no modification, change, extension of time, alteration or addition to the terms of the Agreement or to the Work to be performed thereunder shall in any wise affect its obligation on this bond, and it does hereby waive notice of any such modification, change, extension of time, alteration or addition to the terms of the Agreement or the Work.

It is agreed that this bond is executed pursuant to and in accordance with the provision of O.C.G.A. Section 13-10-1 and 36-91-1, *et seq.* and is intended to be and shall be construed to be a bond in compliance with the requirements thereof, though not restricted thereto.

IN WITNESS WHEREOF, the Principal and the Surety have caused these presents to be duly signed and sealed this _____ day of _____, 20__.

PRINCIPAL: _____

President/Vice President (Sign)

President/Vice President (Type or Print)

Attested to by:

Secretary/Assistant Secretary (Seal)

SURETY: _____

By: _____
Attorney-in-Fact (Sign)

Attorney-in-Fact (Type or Print)

APPROVED AS TO FORM

Associate/Assistant City Attorney

APPROVED

City's Chief Financial Officer

EXHIBIT C

LOCAL BIDDER PREFERENCE PROGRAM

APPENDIX C

LOCAL BIDDER PREFERENCE PROGRAM

APPENDIX C; Local Bidder Preference Program

TABLE OF CONTENTS

Statement of Policy.....2

Certification as a Local Bidder.....3

Criteria to be Certified as a Local Bidder.....4

Term of Certification.....5

Local Bidder Certification Application.....6

APPENDIX C; Local Bidder Preference Program

STATEMENT OF POLICY

The City of Atlanta (the “City”) has a significant interest in encouraging the creation of employment opportunities for its residents and for businesses located within the City. As a purchaser of goods and services, the City will benefit from expanded job and business opportunities for its residents and businesses through additional revenues generated by its activities. It is in the interest of the City and its residents to give preference on Local Projects to those Contractors who have direct physical and economic relationships with the City.

APPENDIX C; Local Bidder Preference Program

CERTIFICATION AS A LOCAL BIDDER

In order to be certified as a Local Bidder, a Contractor must submit a completed application to the Department of Procurement (“**DOP**”), and the applicant must be approved by the DOP.

A Contractor must submit a completed and signed application to become a Local Bidder before it will be allowed to receive a bid preference on a Local Project. In order to be approved as a Local Bidder and receive a bid preference on a Local Project, the application for approval as a Local Bidder and all supporting documents must be received by the DOP **no later than thirty (30) calendar days prior to the date the bids are received** on such Local Project. A Contractor who fails to submit an application for approval as a Local Bidder within thirty (30) calendar days prior to the date bids are received on an Local Project, and who otherwise meets the requirements for approval as a Local Bidder, shall be approved as a Local Bidder and receive a bid preference on such future Local Projects for which the date bids are received is at least thirty (30) calendar days after the date such application is received.

APPENDIX C; Local Bidder Preference Program

CRITERIA TO BE CERTIFIED AS A LOCAL BIDDER

To be certified as a Local Bidder, the Contractor **must** satisfy two (2) of the following criteria:

1. Verify that the Contractor's principal place of business is located in the City or that the Contractor has held a valid City business license for at least one (1) year prior to the date of the application.
2. Verify that a majority of the full time employees, chief officers, and managers of the Contractor have regularly conducted work and business in the City for at least one (1) year prior to the date of application.
3. Verify that a majority of the employees based at the Contractor's location(s) in the City have been residents of the City for at least one (1) year prior to the date of application.
4. Provide references or other means of verification acceptable to the DOP that the services the Contractor offers to the City have been provided by the Contractor in the City for at least one (1) year prior to the date of application. If the applicant is a Joint Venture or Mentor-Protégé team, each participant in the Joint Venture or Mentor-Protégé team must be approved independently as a Local Bidder in order for the Joint Venture or Mentor-Protégé team to receive the bid preference on Local Projects.

The application **must be typed, signed in blue ink** and provides instructions for required supporting documentation that Contractor must submit with the application for the criteria listed above.

APPENDIX C; Local Bidder Preference Program

TERM OF CERTIFICATION

The certification as a Local Bidder shall expire two (2) years from the date of the approval of the application. Following the expiration date, a business is no longer a Local Bidder. A Contractor must submit a new application for certification as a Local Bidder to the DOP and establish that it continues to meet the requirements contained in § 2-1188.1(d) in order to receive the bid preference on Local Projects.

Contractors certified as Local Bidders shall be under a continuing duty to immediately inform the DOP in writing of any changes in the Contractor's business if, as a result of such changes, the Contractor no longer satisfies the requirements contained in § 2-1188.1(d).

REQUIRED SUBMITALS WHEN PROJECT IS DESIGNATED AS LOCAL BIDDER PREFERENCE

Where bidders desire to receive a bid preference on this project, responses must include a copy of the City-issued Local Bidder Certificate or some other information which would confirm its local bidder preference certification status.

LOCAL BIDDER CERTIFICATION APPLICATION
 CITY OF ATLANTA, DEPARTMENT OF PROCUREMENT
 55 TRINITY AVE., SW, SUITE 1900, ATLANTA, GEORGIA 30303

PLEASE TYPE.

(ONLY APPROVED ELIGIBLE BIDDERS MAY BE CERTIFIED AS A LOCAL BIDDER. PLEASE PROVIDE A COPY OF YOUR NOTICE OF ELIGIBLE APPROVAL.)

I. BUSINESS NAME / DBA _____ STREET ADDRESS _____ CITY, STATE, ZIP CODE _____ TELEPHONE _____

CHECK ONE: PARTNERSHIP CORPORATION, GA SOLE PROPRIETORSHIP OTHER

PRINCIPAL OR CORPORATE OFFICE NAME _____ STREET ADDRESS _____ CITY, STATE, ZIP CODE _____ TELEPHONE _____

NAME OF OWNER (S) _____ TITLE _____ RESIDENCE ADDRESS _____ CITY, STATE, ZIP CODE _____ TELEPHONE _____

1. _____

2. _____

NAME OF OFFICERS OR PARTNERS: _____ TITLE _____ RESIDENCE ADDRESS _____ CITY, STATE, ZIP CODE _____ TELEPHONE _____

1. _____

2. _____

II. TO BE CERTIFIED AS A LOCAL BIDDER, AN ELIGIBLE BIDDER MUST SATISFY NO LESS THAN TWO (2) OF THE FOLLOWING CRITERIA LISTED BELOW. PLEASE SELECT TWO OF THE FOLLOWING CRITERIA WHICH YOU SATISFY TO APPLY FOR CERTIFICATION AS A LOCAL BIDDER. A COPY OF YOUR BUSINESS LICENSE, A COPY OF YOUR ELIGIBLE BIDDER'S CERTIFICATE AND ANY ADDITIONAL DOCUMENTATION MUST BE SUBMITTED WITH THIS APPLICATION TO VERIFY THAT YOU SATISFY THE SELECTED CRITERIA. INSTRUCTIONS FOR SUBMITTING DOCUMENTATION TO SATISFY EACH OF THE CRITERIA ARE LOCATED ON THE BACK OF THIS APPLICATION.

- _____ 1. Verify that the Eligible Bidder's principal place of business is located in the City of Atlanta or that the Eligible Bidder has held a valid City of Atlanta business license for at least one (1) year prior to the date of application.
- _____ 2. Verify that a majority of the full time employees, chief officers, and managers of the Eligible Bidder have regularly conducted work and business in the City of Atlanta for at least one (1) year prior to the date of application.
- _____ 3. Verify that a majority of the employees based at the Eligible Bidder's location(s) in the City of Atlanta have been residents of the City of Atlanta for a least one (1) year prior to the date of application.
- _____ 4. Provide references or other means of verification acceptable to the Department of Procurement that the services the Eligible Bidder offers to the City of Atlanta have been provided by the Eligible Bidder in the City of Atlanta for at least one (1) year prior to the date of application.

IF THE APPLICANT IS A JOINT VENTURE OR MENTOR-PROTÉGÉ TEAM, EACH PARTICIPANT IN THE JOINT VENTURE OR MENTOR-PROTÉGÉ TEAM MUST BE APPROVED INDEPENDENTLY AS A LOCAL BIDDER IN ORDER FOR THE JOINT VENTURE OR MENTOR- PROTÉGÉ TEAM TO RECEIVE THE BID PREFERENCE ON ELIGIBLE LOCAL PROJECTS.

III. CERTIFICATION: THIS INFORMATION HEREIN IS REQUIRED BY § 2-1188.1 CODE OF ORDINANCES OF THE CITY OF ATLANTA, GEORGIA.

I (NAME) _____ BEING THE (TITLE) _____

OF THE BUSINESS FIRM NAMED, DO HEREBY APPLY FOR LOCAL BIDDER CERTIFICATION. IN ACCORDANCE WITH LOCAL PREFERENCE ORDINANCE, CITY OF ATLANTA, GEORGIA: THE UNDERSIGNED CERTIFIES THAT HE/SHE IS THE PERSON DULY AUTHORIZED BY THE BUSINESS HEREIN NAMED TO FILE THIS APPLICATION FOR LOCAL BIDDER CERTIFICATION, INCLUDING THE ACCOMPANYING DOCUMENTATION AND STATEMENTS, AND THAT SAME ARE TRUE CORRECT AND COMPLETE.

APPLICANT SIGNATURE _____ THE _____ DAY OF _____ 20_____.

SIGNATURE MUST BE IN **BLUE** INK!

GENERAL INFORMATION FOR APPLICANTS

- (A) *Applicability: This local preference program shall apply to any City contract as described in Code § 2-1188, excluding competitive sealed proposals under Code § 2-1189, small purchases not exceeding \$20,000 under Code § 2-1190, sole source procurement under Code § 2-1191, emergency procurement under Code § 2-1192, competitive selection procedures for professional and consultant services under Code § 2-1193, and federally-funded projects (referred to herein as "Eligible Local Projects").*
- (B) *An Eligible Bidder must submit a completed and signed written application to become a Local Bidder **before** it will be allowed to receive a bid preference on an Eligible Local Project.*
- (C) *In order to be approved as a Local Bidder and receive a bid preference on an Eligible Local Project, the application for approval as a Local Bidder and **all supporting documents** must be received by the Department of Procurement no later than thirty (30) calendar days prior to the date bids are received on such Eligible Local Project.*
- (D) *Term: The certification as a Local Bidder shall expire two (2) years from the date of the approval of the application. Following the expiration date, a business is no longer a Local Bidder. An Eligible Bidder must submit a new application for certification as a Local Bidder to the Department of Procurement and establish that it continues to meet the requirements of § 2-1188.1 in order to continue receiving the bid preference on Eligible Local Projects.*
- (E) *Eligible Bidders certified as Local Bidders shall be under a continuing duty to immediately inform the Department of Procurement in writing of any changes in the Eligible Bidder's business, if as a result of such changes, the Eligible Bidder no longer satisfies the requirements.*

ADDITIONAL INSTRUCTIONS FOR COMPLETING SECTION II

For each of the criteria you selected in Section II, the Department of Procurement requires that you submit the following supporting documentation with this application:

Line 1

If you have a City of Atlanta business license, please provide a copy. If you do not have a City of Atlanta business license, please provide a copy of Articles of Incorporation or Organization, or a copy of the Eligible Bidder's most recent federal income tax return, or if the Eligible Bidder is a partnership, provide a copy of the Partnership Agreement.

Line 2

Provide a list of all full time employees, chief officers, and managers at the Eligible Bidder's locations. For those employees, chief officers, and managers who regularly conducted work and business in the City of Atlanta for a least one (1) year prior to the date of application, please provide employee's name, business address, business phone number, a brief description of the work or business performed in the City of Atlanta, and the number of years such work or business has been performed in the City of Atlanta.

Line 3

Provide a list of all employees based at Eligible Bidder's locations. For those employees who have been residents of the City of Atlanta for at least one year prior to the date of application, provide employee's name, address, phone number and number of years at residence.

Line 4

Provide a notarized letter from at least three (3) customers of the Eligible Bidder, which letters shall include the following information: (a) a description of services provided by the Eligible Bidder to the customer that were performed at least one (1) year prior to the date of application; (b) the total dollar value of the services provided at least one (1) year prior to the date of application; and (c) a statement that the services the Eligible Bidder offers to the City of Atlanta have been provided by the Eligible Bidder in the City of Atlanta for at least one (1) year prior to the date of application.

END
