

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

705 Elmwood Avenue
Providence, RI 02907

GENERAL GUIDELINES FOR COMPLETING INVITATION FOR BIDS PACKAGE

This document is intended as a guideline to assist prospective Bidders in successfully completing the necessary Bid paperwork. You are strongly encouraged to read the Instructions for Bidders Sections very carefully. This document is NOT intended to replace the more-detailed instructions that are included in the attached Bid Package.

- It is **EXTREMELY IMPORTANT** that all required forms be filled out completely. Federal and State Regulations mandate that these forms be filled out properly. Failure to fill out these forms may result in your Bid being ruled non-responsive. Non Responsive Bids **will not** be awarded the contract.
- **REMEMBER to completely fill out** all REQUIRED FORMS (see REQUIRED FORMS Checklist). The **forms that are checked off are the only ones that apply to this Bid.**
- If a form does not apply to your business or Bid please mark the form Not Applicable or some other similar wording at your discretion.
- DBE (Disadvantaged Business Enterprise) Obligation. RIPTA agrees to ensure that DBES as outlined in 49 CFR Part 26, as amended, have the maximum opportunity to participate in the performance of contracts. Therefore it is imperative that you read the DBE Section and complete the necessary Paperwork. All DBEs submitted must be certified by the State of Rhode Island at the time of Bid submittal.
- Make Sure the Bid Response is received by the RIPTA Purchasing Department by the designated date and time. Late Bids will not be accepted
- It shall be the responsibility of prospective Bidders to check the State of Rhode Island, Department of Administration Division of Purchases Website for any addenda.
- Make Sure that the Bid is returned in an Envelope or Box **CLEARLY LABELED** with the following Information: **Bid Number and what the Bid is for. This information should be in the lower left hand corner.** The envelope should also be labeled **Bid DOCUMENTS ENCLOSED**
- When in doubt, contact RIPTA Contracts Manager (401) 784-9500 extension 214 for assistance.
- **Bid must be submitted pre-punched for standard three ring binders. Spiral bound Bid submittals will not be allowed. Please note that United Parcel Service will not deliver to our address**

Please refer to Page 76 for Scope of Work

The following label shall be affixed to the envelope or package containing the Bid response documents. It is imperative that his label be affixed to insure the Bid documents are received and routed in the proper manner:

Return Address

BID DOCUMENTS ENCLOSED

CONTRACTS MANAGER
Rhode Island Public Transit Authority
Purchasing Department
Room 217
705 Elmwood Avenue
Providence, RI 02907

BID NUMBER: 13-03

BID FOR: Transit Signal Prioritization Project

DUE: December 7, 2012

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

705 Elmwood Avenue
Providence, RI 02907

REQUIRED COMPANY INFORMATION FORM

The following information is mandatory; Failure to complete this section may jeopardize your eligibility to be awarded the contract. **ALL SECTIONS OF THIS FORM MUST BE FILLED OUT COMPLETELY**

THIS INFORMATION IS REQUIRED IN ACCORDANCE WITH 49CFR 26.11

**THIS FORM IS REQUIRED FOR ALL BIDDERS, PRIME CONTRACTORS,
POTENTIAL SUBCONTRACTORS AND SUBCONTRACTORS**

PLEASE PRINT OR TYPE YOUR INFORMATION

COMPANY NAME _____

COMPANY STREET: ADDRESS: _____

COMPANY MAILING: ADDRESS: _____

COMPANY CONTACT PERSON: _____

COMPANY TELEPHONE NUMBER: _____

COMPANY TELEFAX NUMBER: _____

COMPANY CONTACT EMAIL: _____

AGE OF THE FIRM (YEARS): _____

ANNUAL GROSS RECEIPTS (DOLLARS): _____

IS YOUR FIRM CERTIFIED BY THE STATE
OF RHODE ISLAND AS A DISADVANTAGED
BUSINESS ENTERPRISE ? _____

DUNN AND BRADSTREET NUMBER: _____

NAICS CODE: _____ INDUSTRY _____

NAICS Code can be found at the following website: www.naics.com

COMPANY STATUS: _____ PRIME CONTRACTOR _____ SUBCONTRACTOR

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03

INVITATION FOR BIDS

BID NO: 13-03

DATE OF INVITATION: November 3, 2012

PRE-BID MEETING: November 16, 2012

BID RECEIPT DATE: December 7, 2012

FURNISHING OF: Transit Signal Prioritization Project

FEDERAL TRANSIT ADMINISTRATION PROJECT NO. RI 96x001

The participant shall specify the official name of his/her company in the upper left-hand corner of the Bid Response Envelope and show **BID NO: and Bid Description in the lower left-hand corner and send or deliver to:**

**Purchasing Department
Room 217
705 Elmwood Avenue
Providence, RI 02907**

The participant shall execute the offer form enclosed herewith.

Bids will be reviewed and evaluated; all participants will be notified as soon as approval of award is made.

The Bidder shall execute the offer form enclosed herewith. The Bidder shall return **Five copy(ies)** with the **original** Bid.

RIPTA RESERVES THE RIGHT TO REJECT BIDS FROM PARTICIPANTS WHO HAVE NOT USED THE FORM AND PROPER BID RESPONSE ENVELOPE FORMAT.

RIPTA RESERVES THE RIGHT TO CANCEL ANY PARTICULAR SOLICITATION, AND/OR REJECT ANY OR ALL BIDS.

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

TABLE OF CONTENTS

I.	CALENDAR	1
	<u>A. Date of Invitation: November 3, 2012</u>	<u>1</u>
	<u>B. Pre-Bid Conference:</u>	<u>1</u>
	<u>C. Request for Approved equals and Questions</u>	<u>1</u>
	<u>D. Bid Receipt:</u>	<u>1</u>
II.	NOTICE TO OFFERORS	2
	<u>A. DATE: November 3, 2012</u>	<u>2</u>
III.	CONTACT LIST	3
	<u>A. Specifications/Scope of Work</u>	<u>3</u>
	<u>B. Contracts Manager</u>	<u>3</u>
	<u>C. DBE Liaison Officer</u>	<u>3</u>
IV.	INSTRUCTIONS FOR BIDDERS	4
	<u>A. Definition of Terms.</u>	<u>4</u>
	1. Procuring agency	4
	2. RIPTA	4
	3. Contractor	4
	4. Invitation for Bid (IFB)	4
	5. Authorized Signature.	4
	6. Invitation for Bid.	4
	7. Basis of Award	4
	8. Notice of Award.	4
	9. Specifications.	4
	10. Tender	4
	<u>B. Form of Bid and Signature.</u>	<u>4</u>
	11. Sole Owner.	5
	12. General Partnership.	5
	13. Limited Partnership	5
	14. Corporation.	5
	<u>C. Bid.</u>	<u>5</u>
	<u>D. Unauthorized Conditions.</u>	<u>5</u>
	<u>E. Submission of Bid.</u>	<u>5</u>
	<u>F. Modification or Withdrawal of Bid.</u>	<u>5</u>
	<u>G. Samples</u>	<u>6</u>
	<u>H. Canvass of Bids.</u>	<u>6</u>
	<u>I. Rejection of Bids.</u>	<u>6</u>
	<u>J. Sales Tax Exemption.</u>	<u>6</u>
	<u>K. Delivery Charges.</u>	<u>6</u>
	<u>L. Alternative Bid</u>	<u>6</u>
	<u>M. Non-Collusive Affidavit.</u>	<u>6</u>
	<u>N. Interest of RIPTA Personnel.</u>	<u>7</u>
	<u>O. Penalty for Collusion.</u>	<u>7</u>
	<u>P. Bid Acceptance Period</u>	<u>7</u>
	<u>Q. Postponement.</u>	<u>7</u>
	<u>R. Amendment and/or Postponement.</u>	<u>7</u>
	<u>S. Single Bid.</u>	<u>7</u>
	<u>T. Qualifications for Award.</u>	<u>8</u>

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

TABLE OF CONTENTS

<u>U.</u>	<u>Ineligible Bidders.</u>	<u>8</u>
<u>V.</u>	<u>Disadvantaged Business Enterprise</u>	<u>8</u>
<u>W.</u>	<u>Addenda.</u>	<u>9</u>
<u>X.</u>	<u>Bidder's Requests and Appeals.</u>	<u>9</u>
	1. Appointments.	9
	2. Amending Materials.	9
	3. Appeal.	9
	4. Withdrawal.	9
	5. Notification.	9
<u>Y.</u>	<u>Equal Employment Opportunity.</u>	<u>9</u>
<u>Z.</u>	<u>Prohibited Interest.</u>	<u>10</u>
<u>AA.</u>	<u>Interest of Members of Congress.</u>	<u>10</u>
<u>BB.</u>	<u>Contract Commencement Date.</u>	<u>10</u>
<u>CC.</u>	<u>Notice, Waiver and Applicable Law.</u>	<u>10</u>
<u>DD.</u>	<u>Protest.</u>	<u>10</u>
	1. General.	10
<u>EE.</u>	<u>Protests Before Award</u>	<u>11</u>
	1. Solicitation Phase.	11
	2. Pre-Award Phase.	11
<u>FF.</u>	<u>Protests After Award.</u>	<u>12</u>
<u>GG.</u>	<u>Source Selection and Contract Award</u>	<u>12</u>
<u>HH.</u>	<u>Title VI Assurances</u>	<u>12</u>
<u>II.</u>	<u>Energy Conservation Requirements:</u>	<u>12</u>
<u>JJ.</u>	<u>Program Fraud</u>	<u>12</u>
<u>KK.</u>	<u>No Government Obligation to Third Parties:</u>	<u>13</u>
V.	GENERAL PROVISIONS	13
<u>A.</u>	<u>Definitions:</u>	<u>13</u>
	1. Authority	13
	2. Contracting Manager	13
	3. Directed, Ordered, designated or prescribed	13
<u>B.</u>	<u>Changes:</u>	<u>14</u>
<u>C.</u>	<u>Extras:</u>	<u>14</u>
<u>D.</u>	<u>Inspection:</u>	<u>14</u>
<u>E.</u>	<u>Responsible:</u>	<u>15</u>
<u>F.</u>	<u>Title and Risk of Loss</u>	<u>15</u>
<u>G.</u>	<u>Payments</u>	<u>15</u>
<u>H.</u>	<u>Stop Work Order</u>	<u>15</u>
<u>I.</u>	<u>Disputes</u>	<u>15</u>
<u>J.</u>	<u>Default</u>	<u>16</u>
<u>K.</u>	<u>Termination for Convenience of the Authority</u>	<u>17</u>
<u>L.</u>	<u>Federal, State and Local Taxes</u>	<u>18</u>
<u>M.</u>	<u>Walsh-Healey Public Contracts Act</u>	<u>18</u>
<u>N.</u>	<u>Officials Not to Benefit</u>	<u>18</u>
<u>O.</u>	<u>Covenant against Contingent Fees</u>	<u>18</u>
<u>P.</u>	<u>Notice to the Authority of Labor Disputes</u>	<u>18</u>
<u>Q.</u>	<u>Patent Indemnity</u>	<u>19</u>

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

TABLE OF CONTENTS

<u>R.</u>	<u>Use of Trade Names</u>	<u>19</u>
<u>S.</u>	<u>Rights in Technical Data</u>	<u>19</u>
<u>T.</u>	<u>Audit and Inspection of Records</u>	<u>20</u>
<u>U.</u>	<u>Gratuities</u>	<u>21</u>
<u>V.</u>	<u>Limitation on Withholding Payments</u>	<u>21</u>
<u>W.</u>	<u>New Material</u>	<u>21</u>
<u>X.</u>	<u>Order of Precedence</u>	<u>22</u>
<u>Y.</u>	<u>Correction of Deficiencies</u>	<u>22</u>
	1. Definitions:	22
	2. General:	22
	3. Deficiencies in accepted supplies or services:	22
	4. Correction of Deficiencies by Contractor:	22
	5. Deficiencies in supplies or services not yet accepted:	23
	6. Extensions or Delays	23
	7. Contract Price	23
	8. Failure to correct:	23
<u>Z.</u>	<u>Assignment</u>	<u>24</u>
<u>AA.</u>	<u>Certificates of Current Cost or Pricing Data</u>	<u>24</u>
<u>BB.</u>	<u>Cargo Preference</u>	<u>24</u>
<u>CC.</u>	<u>Buy America Act</u>	<u>25</u>
<u>DD.</u>	<u>Equal Opportunity</u>	<u>25</u>
<u>EE.</u>	<u>Nondiscrimination under Federal Grants</u>	<u>26</u>
<u>FF.</u>	<u>Rights in Data and Copyrights-FTA (June 1996)</u>	<u>26</u>
<u>GG.</u>	<u>Davis-Bacon Act</u>	<u>27</u>
	1. Minimum wages	27
	2. Withholding	30
	3. Payrolls and basic records	30
	4. Apprentices and trainees	32
	5. Compliance with Copeland Act requirements	34
	6. Subcontracts	34
	7. Contract termination: debarment	34
	8. Compliance with Davis-Bacon	34
	9. Disputes concerning labor standards	35
	10. Certification of eligibility.	35
<u>HH.</u>	<u>Contract Work Hours and Safety Standards Act</u>	<u>35</u>
	1. Overtime requirements	35
	2. Violation; liability unpaid wages; liquidated damages	35
	3. Withholding for unpaid wages; liquidated damages	35
	4. Subcontracts	36
	5. Payrolls and basic records	36
	6. Contract Work Hours and Safety Standards Act	36
	7. Subcontracts	37
<u>II.</u>	<u>Seismic Safety Requirements</u>	<u>37</u>
<u>JJ.</u>	<u>Energy Conservation Requirements</u>	<u>37</u>
<u>KK.</u>	<u>Clean Air</u>	<u>37</u>
<u>LL.</u>	<u>Clean Water</u>	<u>38</u>

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

TABLE OF CONTENTS

<u>MM.</u>	<u>Recovered Materials</u>	<u>38</u>
<u>NN.</u>	<u>Fly America Requirements</u>	<u>38</u>
<u>OO.</u>	<u>National Intelligent Transportation Systems Architecture</u>	<u>38</u>
<u>PP.</u>	<u>Federal Changes</u>	<u>39</u>
<u>QQ.</u>	<u>Incorporation of Federal Transit Administration (FTA) Terms</u>	<u>39</u>
<u>RR.</u>	<u>Force Majeure</u>	<u>39</u>
<u>SS.</u>	<u>Governing Law</u>	<u>39</u>
<u>TT.</u>	<u>Indemnification</u>	<u>39</u>
<u>UU.</u>	<u>Policy Concerning Federal and Stated False Claim Laws</u>	<u>40</u>
	1. Prohibitions Against False Claims	40
	2. Prohibitions of the Federal False Claims Act	40
	3. Enforcement	40
<u>VV.</u>	<u>American with Disabilities Act</u>	<u>40</u>
VI.	REQUEST FOR APPROVED EQUAL FORM	41
VII.	REQUIRED BID SUBMISSIONS	42
VIII.	SOLICITATION FORM	43
IX.	OFFER FORM	44
X.	STATEMENT OF ELIGIBILITY FORM	45
XI.	AFFIDAVIT OF NON-COLLUSION FORM	46
XII.	CERTIFICATION OF RESTRICTIONS ON LOBBYING FORM	47
XIII.	BUY AMERICA CERTIFICATION REQUIREMENTS I	48
XIV.	BUY AMERICA CERTIFICATION REQUIREMENTS II	49
XV.	BUY AMERICA PRE-AWARD AND POST-DELIVERY AUDITS:	50
	<u>A. Prior to Contract award,</u>	<u>50</u>
	<u>B. After delivery and acceptance of the vehicles,</u>	<u>50</u>
	<u>C. Authority Review</u>	<u>50</u>
XVI.	DISADVANTAGED BUSINESS ENTERPRISES PROGRAM	51
	<u>A. Policy</u>	<u>51</u>
	<u>B. DBE Utilization</u>	<u>51</u>
	1. DBE Utilization	51
	<u>C. Definitions.</u>	<u>52</u>
	1. Joint Venture	52
	2. Disadvantaged Business	52
	3. Small Business Concern	52
	4. Socially and Economically Disadvantaged Individuals	52
	5. Recognition of DBE Commitment	53
	6. Submissions	53
	7. Procedure Prior to Contact Award	54
	8. Bid, Execution & Compliance with Subcontracts	55
	9. Substitution of Subcontractors	55
	10. Program Compliance	55
	11. Maintenance of Records	56
	12. Contract Assurance	56
	13. Prompt Payment	56
	14. Monitoring Payments to DBEs	56
XVII.	DISADVANTAGED BUSINESS ENTERPRISE REQUIRED FORMS	57

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

TABLE OF CONTENTS

<u>A.</u>	<u>Attachment A</u>	<u>58</u>
<u>B.</u>	<u>Attachment B</u>	<u>59</u>
<u>C.</u>	<u>Attachment C</u>	<u>60</u>
<u>D.</u>	<u>Attachment D.</u>	<u>61</u>
<u>E.</u>	<u>Attachment E</u>	<u>62</u>
<u>F.</u>	<u>Attachment F</u>	<u>63</u>
XVIII.	PERFORMANCE BOND INFORMATION	64
XIX.	BID GUARANTEE (SURETY)	64
XX.	REQUIRED INSURANCE	64
XXI.	GENERAL CONTRACT COMPLIANCE CERTIFICATE	65
<u>A.</u>	<u>Equal Opportunity Clause</u>	<u>65</u>
<u>B.</u>	<u>Age Discrimination</u>	<u>66</u>
<u>C.</u>	<u>Employment of the Handicapped</u>	<u>66</u>
XXII.	CERTIFICATE OF NON-SEGREGATED FACILITIES	68
XXIII.	NOTICE OF PROSPECTIVE SUBCONTRACTORS	69
<u>A.</u>	<u>Affirmative Action Compliance Program</u>	<u>69</u>
<u>B.</u>	<u>Employer's Information Report (EE)-1) Form 100</u>	<u>69</u>
<u>C.</u>	<u>Notice to All Vendors</u>	<u>69</u>
<u>D.</u>	<u>Post Award Conference</u>	<u>69</u>
XXIV.	GENERAL CONTRACT COMPLIANCE CERTIFICATE	70
XXV.	CERTIFICATION OF PRIMARY PARTICIPANT FORM	71
XXVI.	DEBARMENT CERTIFICATION	72
XXVII.	CERTIFICATION OF A SUBCONTRACTOR FORM	72
XXVIII.	NON-RESIDENT CONTRACTOR INFORMATION	73
XXIX.	DRUG & ALCOHOL TESTING PROGRAM	74
XXX.	DRUG AND ALCOHOL POLICY ACKNOWLEDGEMENT	74
XXXI.	ARRA SUPPLEMENT TERMS AND CONDITIONS	76
<u>A.</u>	<u>Definitions</u>	<u>76</u>
<u>B.</u>	<u>General</u>	<u>77</u>
<u>C.</u>	<u>Conflicting Terms</u>	<u>77</u>
<u>D.</u>	<u>Enforceability</u>	<u>77</u>
<u>E.</u>	<u>Applicability to Subcontracts and Subawards</u>	<u>78</u>
<u>F.</u>	<u>Availability of Funding</u>	<u>78</u>
<u>G.</u>	<u>Inspection and Audit of Records</u>	<u>78</u>
<u>H.</u>	<u>Registration Requirements</u>	<u>78</u>
<u>I.</u>	<u>Reporting Requirements under § 1512 of ARRA</u>	<u>79</u>
<u>J.</u>	<u>Buy American Requirements under § 1605 of ARRA</u>	<u>80</u>
<u>K.</u>	<u>Wage Rate Requirements under § 1606 of ARRA</u>	<u>80</u>
<u>L.</u>	<u>Required Jobs Data Reporting under § 1512(c)(3)(D) of ARRA</u>	<u>80</u>
<u>M.</u>	<u>Segregation of Funds</u>	<u>81</u>
<u>N.</u>	<u>Disclosure pursuant to the False Claims Act</u>	<u>81</u>
<u>O.</u>	<u>Disclosure of Fraud, Waste and Mismanagement to Authority</u>	<u>82</u>
	<u>Authorities</u>	<u>82</u>
<u>P.</u>	<u>Prohibited Uses of ARRA Funds</u>	<u>82</u>
<u>Q.</u>	<u>Whistleblower Protection under §1553 of ARRA</u>	<u>82</u>
XXXII.	MANDATORY MONTHLY REPORTING REQUIREMENTS	83

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

TABLE OF CONTENTS

<u>A.</u>	<u>Introduction</u>	<u>83</u>
<u>B.</u>	<u>Jobs Defined</u>	<u>83</u>
<u>C.</u>	<u>Report Format</u>	<u>84</u>
XXXIII.	REQUIRED REPORT INFORMATION	84
XXXIV.	PROJECT DESCRIPTION	87
XXXV.	GENERAL PROVISIONS CONTRACT SPECIFIC AND TECHNICAL SPECIFICATIONS.	87
XXXVI.	COMPLETION DATE:	88
XXXVII.	BID FORM	89
XXXVIII.	BID	89
XXXIX.	UNIT PRICES	90
XL.	ACCEPTANCE	97
XLI.	CONTRACT TIME	98
XLII.	LIQUIDATED DAMAGES	98
XLIII.	REQUIREMENT FOR LICENSE NUMBER	98
XLIV.	ADDENDA	98
XLV.	LIST OF APPENDICES	99

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03

I. CALENDAR

A. Date of Invitation: November 3, 2012

B. Pre-Bid Conference:

1. **Date:** November 16, 2012

2. **Time:** 1:00 p.m. Eastern Time

3. **Place:** RIPTA Board Conference Room
269 Melrose Street, Providence, RI

Any and all appeals must be submitted in writing prior to the time and date set for the Pre-Bid Meeting.

C. Request for Approved equals and Questions

must be submitted **ELECTRONICALLY IN MICROSOFT WORD FORMAT** to RIPTA Contracts Manager by:

1. **Date:** November 16, 2012

2. **Time:** 1:00 p.m. Eastern Time

3. **Response to approved equals:** 10 - 14 days prior to Bid opening.

D. Bid Receipt:

1. **Date:** December 7, 2012

2. **Time:** 1:00 p.m. Eastern Time

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03

II. NOTICE TO OFFERORS

A. DATE: November 3, 2012

The Rhode Island Public Transit Authority (RIPTA) is requesting Bids for the following:

Transit Signal Prioritization Project

All Bids shall be submitted in the required format and quantity as set forth in the IFB. This Bid must be received by December 7, 2012 at 1:00 p.m. Eastern Time by the Purchasing Department, Room 217, 705 Elmwood Avenue Providence, Rhode Island 02907. **Please be advised that United Parcel Service does not deliver to this address.**

Award of contract is subject to financial assistance of 80% from the U.S. Department of Transportation (FTA Project RI 96x001) and 20% from RIPTA. The successful Bidder shall comply with the conditions and terms applicable thereunder.

A Pre-Bid Meeting will be held at the RIPTA Transportation Building Conference Room, 269 Melrose Street Providence, RI at 1:00 pm Eastern Time on November 16, 2012.. Bidders are expected to download and review the Bid Scope of Work prior to the pre-Bid meeting.

The successful Bidder shall be required to comply with all applicable Equal Opportunity and Disadvantaged Business Enterprise regulations. Bidders are encouraged to view the Rhode Island Minority Business Enterprise (RIMBE) website for a list of Disadvantaged Business Enterprise vendors that may be interested in working with your company on this Bid. All DBEs submitted must be certified by the State of Rhode Island at the time of Bid submittal.

The RIMBE Website address is: <http://www.mbe.ri.gov/search.php>.

The Disadvantaged Business Enterprise goal for this project is: Not Applicable.%

The successful Bidder shall be required to certify that he is not on the Comptroller General's List of Ineligible Contractors.

An electronic copy of the IFB is available on the State of Rhode Island, Department of Administration, Division of Purchases Website.

The website address is: www.purchasing.ri.gov/RVIP/ExternalBidSearch.asp. RIPTA Requests for Bids can be Public Bid Opportunities, Quasi Public Sector, listed under the Rhode Island Public Transit Authority. ***Bidders must download the Bid documents and complete the required forms.***

If you are unable to access the Internet; a printed copy of the Bid may be obtained from RIPTA's Purchasing Department by calling Michael J. McGrane at (401) 784-9500, ext. 214.

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

III. CONTACT LIST

PLEASE CONTACT THE FOLLOWING PERSONS FOR ANY QUESTIONS YOU MAY HAVE:

A. Specifications/Scope of Work

Ms. Amy Pettine

Phone (401) 784-9500 extension 216

B. Contracts Manager

Mr. Michael J. McGrane

Phone: (401) 784-9500 extension 214

mmcgrane@ripta.com

C. DBE Liaison Officer

Mrs. Lisa Hanson

Phone: (401) 784-9500 extension 125.

lhanson@ripta.com

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

IV. INSTRUCTIONS FOR BIDDERS

A. Definition of Terms.

Whenever herein or in the Bid contract documents the following terms, pronouns or abbreviations are used, the intent and meaning shall be interpreted as follows:

1. **Procuring agency**
Procuring Agency is defined as the Rhode Island Public Transit Authority.
2. **RIPTA**
RIPTA shall refer to the Rhode Island Public Transit Authority.
3. **Contractor**
Contractor shall mean the successful Bidder to whom a contract is awarded.
4. **Invitation for Bid (IFB)**
Invitation for Bid shall mean the complete assembly of related documents, whether attached or incorporated by reference, furnished by RIPTA for the purpose of proposing, including the Invitation for Bid, the Instructions for Bidders, Supplemental Conditions, Specifications, Bid Form, Bid Attachments, and Addenda, if any. Bids shall be in strict accordance with the Terms of the IFB.
5. **Authorized Signature.**
The person who is executing this contract on behalf of the Bidder and who is authorized to bind the Bidder.
6. **Invitation for Bid.**
The advertisement of the issuance by RIPTA of a Invitation for Bid, which is published, posted and sent to prospective Bidders informing interested persons of the proposed procurement.
7. **Basis of Award**
The Contract will be awarded to the responsive, responsible vendor that submits the Bid that is lowest of those submitted.
8. **Notice of Award.**
The receipt of a Purchase Order or Letter of Contract issued by RIPTA shall serve as notice of the award of contract.
9. **Specifications.**
The written description and statement of necessary requirements of the equipment/construction, supplies and/or service to be provided.
10. **Tender**
The Bidder's documents and all attachments tendered in response to the Bid requests.

B. Form of Bid and Signature.

The Bid shall be presented with an original and Five copies on the forms provided herewith by RIPTA and shall be enclosed in a sealed envelope marked and addressed as required on the Bid form.

Depending upon whom the Bid is made by, the following signature and instructions must be followed:

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03

11. **Sole Owner.**
Bid shall be signed with his full name, and his address shall be given.
12. **General Partnership.**
Bid shall be signed with the partnership name by a partner who shall also sign his/her own name, and the name and address of each partner shall be given.
13. **Limited Partnership**
Bid shall be signed with the partnership name by a general partner who has authorization to do so who shall also sign his/her own name.
14. **Corporation.**
Bid shall be signed by an officer or other individual who has the full and proper authorization to do so, and the corporate seal shall be affixed to the contract, or if the corporate seal is not affixed to the contract and it is signed by a person other than an officer, there must be attached to the contract a certified copy of a resolution of the corporation authorizing such officer or person to sign written contracts for and on behalf of the corporation.

C. Bid.
The terms of the Bid must not be changed. All blank spaces in said form shall be properly filled. Alterations by erasure or interlineation must be explained or noted in the Bid over the signature of the Bidder. If the unit price and the total amount named by a Bidder for any item, do not agree, **the unit price** alone will be considered as representing the Bidder's intention.

D. Unauthorized Conditions.
Unauthorized conditions, limitations or provisions attached to a Bid will render it informal and may cause its rejection.

E. Submission of Bid.
Prior to the hour specified in the Invitation for Bid inviting sealed Bids, all Bids shall be delivered to the Contracts Manager at the address shown in the Invitation for Bid.

Each Bid shall be in a sealed envelope properly labeled on the outside with the Bid number and description. No Bids received after said time or at any place other than the time and place as stated in the Invitation for Bid will be considered. No Bid electronically transmitted , e.g. email and fax will be considered.

F. Modification or Withdrawal of Bid.
A Bid may be modified or withdrawn by written or telegraphic notice received in the office designated in the Invitation for Bid not later than the exact time set for receiving of Bids. A telegraphic notice of modification or withdrawal of a Bid telephoned by the receiving telegraphic office no later than the set for opening of Bids will be considered if the message is confirmed by the telegraph company by sending a copy of a written telegram which formed the basis of the telephone call. A Bid may be

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

withdrawn in person by a Bidder or his/her authorized representative provided his/her identity is made known and he signs a receipt for the Bid if the withdrawal is prior to the exact time set for receiving the Bids. Modifications of Bids and requests for withdrawal of Bids which are received in the office designated in the Invitation for Bids after the exact time set for opening are "late modifications" and "late withdrawals" respectively. A late modification or late withdrawal will be subject to the rules and procedures applicable to late Bids. A late modification of an otherwise successful Bid will be opened at any time it is received. If, in the judgment of the Director of Procurement, it makes the terms of the Bid more favorable to RIPTA, it will be presented to the Contract Manager and Director of Procurement for consideration.

G. Samples

Samples, when required, must be submitted within the time specified, at no expense to RIPTA. If not, destroyed or used up during testing, samples will be returned upon request at the Bidder's expense.

H. Canvass of Bids.

At the hour specified in the Invitation for Bid, a designee will receive the Bids. An award will be made or Bids rejected by RIPTA within the time specified in the specifications or Bid forms, or if not specified, within a reasonable time after Bids have been opened.

I. Rejection of Bids.

RIPTA reserves the right to reject any and all Bids. The right is reserved to reject any or all Bids, and to waive technical defects as the interest of RIPTA may require. Each Bidder shall be notified if all Bids are rejected.

J. Sales Tax Exemption.

RIPTA confirms there are no state, local or federal taxes applicable to this purchase.

K. Delivery Charges.

Unless otherwise stated in the IFB, Bidders shall include freight and/or delivery charges in the total price of their Bids.

L. Alternative Bid

Submissions of an alternative Bid or Bids, except as specifically called for in the Specifications or IFB, will render the Bid informal and may cause its rejection.

M. Non-Collusive Affidavit.

The Bidder represents and warrants that its Bid is genuine and not sham or collusive or made in the interest or in behalf of any person not therein named, and that the Bidder has not, directly or indirectly, induced or solicited any other Bidder to submit a sham Bid or any other person, firm or corporation to refrain from proposing, and that the Bidder has not in any manner sought by collusion to secure itself an advantage over any other Bidder.

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

N. **Interest of RIPTA Personnel.**

The Bidder represents and warrants that neither the General Manager, nor any Board Member, nor any employee of RIPTA, is in any manner interested directly or indirectly in the Bid or in the contract, which may be made under it, or in any expected profits to arise therefrom.

O. **Penalty for Collusion.**

If at any time it shall be found that the person, firm or corporation to whom a contract has been awarded has, in presenting any Bid or Bids, colluded with any other party or parties, then the contract so awarded shall be **voidable** by RIPTA and the Contractor and his bondsmen shall be liable to RIPTA for all loss or damage which RIPTA may suffer thereby and the RIPTA Board may advertise for a new contract for said labor, supplies, materials, equipment or service.

P. **Bid Acceptance Period**

All Bids shall remain in effect one hundred twenty (120) calendar days from the date of Bid opening. Bids offering less than one hundred twenty (120) calendar days for acceptance by RIPTA from the date set for opening will be considered non-responsive and will be rejected.

Q. **Postponement.**

RIPTA reserves the right to postpone, for its own convenience, the date the Bid is to be received, but any Bidder whose Bid has already been submitted to RIPTA when the decision to postpone is made shall be afforded the opportunity to revise or withdraw its Bid.

R. **Amendment and/or Postponement.**

RIPTA reserves the right to revise or amend the specifications up to the time set for the receiving of Bids. Such revisions and addenda, if any, shall be announced by addenda to this solicitation. **It shall be the responsibility of prospective Bidders to check the State of Rhode Island, Department of Administration Division of Purchases Website for any addenda.** If the revisions and addenda require changes in quantities or price Bid, or both, the date set for receiving Bids may be postponed by such number of days as in the opinion of RIPTA shall enable Bidders to revise their Bids. In any case, Bid openings shall be at least seven (7) working days after the last addendum, and the addenda shall include an announcement of the new date, if applicable.

S. **Single Bid.**

1. In the event a single Bid is received, RIPTA will, at its option, either conduct a price and/or cost analysis of the Bid and make the award by negotiation or reject the Bid and re-advertise. A price analysis is the process of examining the Bid and evaluating a prospective price without evaluating the separate cost elements. Price analysis shall be performed by comparison of the price quotations submitted on other current quotations, with published price lists, or other established or competitive prices. The comparison shall be made to a purchase of similar quantity and involving similar specifications. Where a difference exists, a

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

detailed analysis must be made of this difference and costs attached thereto.

2. Where it is impossible to obtain a valid price analysis, it may be necessary for RIPTA to conduct a cost analysis of the Bid price. Cost analysis is the review and evaluation of a contractor's cost or pricing data and of the factors applied in projecting from such data the estimated costs of performing the contract, assuming reasonable economy and efficiency.
3. The price and/or cost analysis shall be made by RIPTA's Procurement Department.

T. Qualifications for Award.

The Bidder must be a person, firm or corporation that:

1. Has in operation, or has the capability to have in operation, a manufacturing plant adequate to assure delivery of all equipment within the time specified under this contract.
2. Has adequate service personnel, or has the capability to have such personnel, to satisfy any service problems that may arise during the warranty period.
3. Has the necessary facilities and financial resources or has the capability to obtain such facilities and resources to complete the contract in a satisfactory manner within the required time.
4. The Procuring agency shall have the right to conduct a pre-award survey on each Bidder. Doubt as to the capability or technical ability, productive capacity or financial strength, which cannot be resolved affirmatively, shall require a determination of non-responsibility by RIPTA.

U. Ineligible Bidders.

The Bidder shall be required to certify, upon request, that it is not on the U.S. Comptroller General's Consolidated List of Persons or Firms currently Debarred for Violations of Various Public Contracts Incorporating Labor Standards Provisions.

V. Disadvantaged Business Enterprise

The Rhode Island Public Transit Authority will not discriminate on the basis of race, color, national origin, or sex in the award and performance of any DOT assisted contract or in the administration of its DBE Program or the requirements of 49 CFR part 26. RIPTA will take all necessary and reasonable steps under 49 CFR part 26 to ensure nondiscrimination in the award and administration of DOT assisted contracts. The recipient's DBE Program, as required by 49 CFR part 26 and as approved by DOT, is incorporated by reference in this agreement. Implementation of this program is a legal obligation and failure to carry out its terms shall be treated as a violation of this agreement. Upon notification to the Rhode Island Public Transit Authority of its failure to carry out its approved

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

program the Department may impose sanctions as provided for under part 26 and may, in appropriate cases, refer the matter for enforcement under 18 U.S.C. 1001 and/or the Program Fraud Civil Remedies Action of 1986 (31 U.S.C. 3801 et. Seq).

W. Addenda.

RIPTA may issue addenda containing amendments to its Bid solicitation documents. Any addendum issued less than seven (7) days prior to the receipt of Bid shall, if necessary, contain a provision postponing the date of the receipt of Bid to a date that will provide Bidders adequate time to respond to the addenda. Addenda shall be numbered sequentially.

X. Bidder's Requests and Appeals.

1. Appointments.

Bidders and suppliers may make appointments with the contact person listed in the specifications to discuss the specifications.

2. Amending Materials.

Any amending material issued by RIPTA pertaining to the Bid solicitation documents (including, without limitation: clarifications, approved equals, and corrections) shall be set forth in an addendum and sent to all parties who are on record as having obtained a copy of the Bid solicitation documents.

3. Appeal.

Should any Bidder or supplier choose to appeal RIPTA's decision, such appeal must be in writing and received by RIPTA not less than seven (7) calendar days before the date of receipt of Bid. RIPTA has no obligation to consider appeals received less than seven (7) calendar days before the date of the receipt of Bid.

4. Withdrawal.

The Bidder or supplier may withdraw its appeal at any time before RIPTA issues a final decision. There shall be no further review of the appeal after the final decision is issued.

5. Notification.

Should RIPTA postpone the date of the receipt of Bid owing to the appeal, RIPTA shall notify all parties who are on record as having obtained a copy of the Bid solicitation documents that an appeal has been filed and that the date of the receipt of Bid shall be postponed until RIPTA has issued its final decision. RIPTA shall issue appropriate amendments postponing the re-scheduling date of the receipt of Bid.

Y. Equal Employment Opportunity.

In connection with the execution of this contract, the Contractor shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, age, handicap or national origin. The contractor shall take affirmative action to insure that applicants are employed and that employees are treated during their employment, without regard to their race, religion, color, sex, age, handicap or national origin. Such actions shall include, but not limited to, the following: employment, upgrading, demotion, transfer, recruitment or recruitment

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03

advertising, layoff, or termination, rates of pay, or other forms of compensation, and selection for training, including apprenticeship.

Z. **Prohibited Interest.**

No member, officer, or employee of RIPTA or of a local public body during his tenure or for one year thereafter shall have any interest, directly or indirectly, in this contract or the proceeds thereof.

AA. **Interest of Members of Congress.**

No member or delegate to the Congress of the United States shall be admitted to any share or part of this contract or to any benefit arising therefrom.

BB. **Contract Commencement Date.**

The contract commencement date shall be the date of the signing of the Purchase Order or by Letter of Contract signed by an authorized RIPTA employee.

CC. **Notice, Waiver and Applicable Law.**

Notice given to Contractor and RIPTA shall be given to the parties in writing by certified mail at the respective addresses set forth herein. Waiver by RIPTA of a breach by Contractor of any provision of this contract shall not be deemed a waiver of future compliance therewith, and such provision as well of future provisions hereunder, shall remain in full force and effect. The rights and duties of the parties hereto shall be determined by the laws of the State of Rhode Island, and to that end this agreement shall be considered and construed as a contract made and to be performed in the State of Rhode Island.

DD. **Protest.**

1. **General.**

Protests will be accepted from prospective Bidders or Offerors whose direct economic interest would be affected by the award of a Contract or by failure to award a contract. The RIPTA Director of Purchasing will consider all protests or objections filed in a timely manner regarding the award of a contract, whether submitted before or after award. If the protest is oral and the matter cannot be otherwise resolved, written confirmation of the protest will be requested. Protest submissions should be concise, logically arranged, and clearly state the grounds for the protest. Protests must include at least the following information:

- a. Name, address and telephone number of protester.
- b. Identification of the solicitation or Contract number.
- c. A detailed statement of the legal and factual grounds of protest, including copies of relevant documents
- d. A statement as to what relief is requested.
- e. Protest should be sent to:

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

Director of Procurement
RI Public Transit Authority
Room 217
705 Elmwood Avenue
Providence, RI 02907

- f. Protests must be filed with the RIPTA in accordance with our procedures and time requirements. The protest to RIPTA must be complete and contain all the issues that the protester believes relevant. RIPTA will respond to each substantive issue raised in the protest. Failure to include an issue in the protest eliminates that issue from further consideration. All protest decisions entered by RIPTA are final in accordance with FTA "Third Party Contract" Regulation.
- g. On occasion, when considered appropriate, an informal conference on the merits of the protest with all interested parties may be held.

EE. Protests Before Award

1. Solicitation Phase.

Protests concerning the solicitation must be submitted in writing five (5) working days prior to Bid opening or closing date for receipt of Bids. If the written protest is not received by the time specified, award may be made in the normal manner unless the Director of Purchasing, upon investigation, finds that remedial action is required. Oral protests not followed up by a written protest will be disregarded.

Notice of a protest and the basis therefore will be given to all potential Bidders or Offerors.

2. Pre-Award Phase.

When a protest against the making of an award is received after receipt of Bids but prior to award, the Director of Purchasing may determine to withhold the award pending disposition of the protest. The Bidders or Bidders whose Bids might become eligible for award should be requested, before expiration of the time for acceptance of their Bids, to extend the time for acceptance (with consent of sureties, if any) to avoid the need for readvertising. RIPTA will provide a written response to each material issue raised in the written protest.

Where a written protest against the making of an award is received in the time specified, award will not be made prior to five (5) working days after resolution of the protest or, if a protest has been filed with FTA during the pendency of that protest, unless RIPTA determines that:

- a. The items to be procured are urgently required;
- b. Delivery or performance will be unduly delayed by failure to make award promptly; or,

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

- c. Failure to make award will otherwise cause undue harm to RIPTA or the Federal Government.

If award is made, the Director of Procurement will document the file to explain the need for an award, and will give written notice of the decision to proceed with the award to the protester and, as appropriate, to others concerned.

FF. Protests After Award.

A protest received not later than 10 (ten) working days after award shall be reviewed by the Director of Purchasing. The Contractor will, in any event, be furnished with the notice of protest and the basis therefore. When it appears likely that an award may be invalidated and a delay in receiving the supplies or services is not prejudicial to the Authority's interest, the Director of Purchasing should consider a mutual agreement with the Contractor to suspend performance on a no-cost basis.

GG. Source Selection and Contract Award

The contract shall be awarded with reasonable promptness by written notice to the responsive and responsible Bidder whose Bid will be evaluated using a best value approach. The ultimate selection of an offeror will be on the basis of overall best value to the Authority.

HH. Title VI Assurances

Contractors and subcontractors will be required to comply with all requirements imposed by Title VI of the Civil Rights Act of 1964 (49 U.S.C. 2000d), and the Assurances by RIPTA pursuant thereto.

II. Energy Conservation Requirements:

The Contractor agrees to comply with mandatory standards and policies relating to energy efficiency, which are contained in the State of Rhode Island Energy Conservation Plan issued in compliance with the Energy Policy and Conservation Act.

JJ. Program Fraud

1. The Contractor acknowledges that the provisions of the Program Fraud Civil Remedies Act of 1986, as amended, 31 U.S. C. § §3801 *et. seq.* and U. S. Department of Transportation regulations. "Program Fraud Civil Remedies" 49 C.F. R. Part 31, apply to its actions pertaining to this Project. Upon execution of the underlying contract, the Contractor certifies or affirms the truthfulness and accuracy of any statement it has made, it makes, it may make, or causes to be made, pertaining to the underlying contract or the Federal Transit Administration assisted project for which this contract work is being performed. In addition to other penalties that may be applicable, the Contractor further acknowledges that if it make, or causes to be made, a false, fictitious or fraudulent claim, statement, submission, or certification, the Federal Government reserves the right to impose the penalties of the Program Fraud Civil Remedies Act of 1986 on

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number **13-03**

- the Contractor to the extent the Federal Government deems appropriate.
2. The Contractor also acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission or certification to the Federal Government under a contract connected with a project that is financed in whole or in part with Federal assistance originally awarded by the FTA under the authority of 49 U.S.C. § 5307, the Government reserves the right to impose the penalties of 18 U.S.C. § 5307 (n) (1) on the Contractor, to the extent the Federal Government deems appropriate.
 3. The Contractor agrees to include the above two clauses in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clauses shall not be modified, except to identify the subcontractor who will be subject to the provisions.

KK. No Government Obligation to Third Parties:

1. The Purchaser and the Contractor acknowledge and agree that, notwithstanding any concurrence by the Federal Government in or approval of the solicitation or award of the underlying contract, absent the express written consent by the Federal Government, the Federal Government is not a party to this contract and shall not be subject to any obligations or liabilities to the Purchaser, Contractor, or any other party (whether or not a party to that contract) pertaining to any matter resulting from the underlying contract.
2. The Contractor agrees to include the above clause in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clause shall not be modified, except to identify the subcontractor who will be subject to its provisions.

V. GENERAL PROVISIONS

A. Definitions:

As used throughout this Contract, the following terms shall have the meanings set forth below:

1. **Authority**
Authority means Rhode Island Public Transit Authority (RIPTA).
2. **Contracting Manager**
the person executing this Contract on behalf of the Authority, and his or her successor, and the term includes, except as otherwise provided in this Contract, the authorized representative of a Contracting Officer acting within the limits of his authority.
3. **Directed, Ordered, designated or prescribed**
Wherever in the scope of the work the words directed, ordered, designated, prescribed, or words of like importance are used, it shall be understood that the direction, requirement, order, designation, or prescription of the Contracting Manager is intended and similarly the words approved, acceptable,

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

satisfactory, or words of like importance shall mean approved by, or acceptable to, satisfactory to the Contracting Officer, unless expressly stated.

B. **Changes:**

The Contracting Officer may at any time, by a written order, and without notice to the sureties, make changes within the general scope of this Contract. If any such changes causes an increase or decrease in the cost of, or the time required for, the performance of any part of the work under this Contract, whether changed or not changed by the order, the Contracting officer shall make an equitable adjustment in the Contract price, the delivery schedule, or both, and shall modify the Contract.

The Contractor must assert its right to an adjustment under this article within 30 days from the date of receipt of the written order. Failure to agree to any adjustment shall be a dispute under the Disputes article. However, nothing in this article shall excuse the Contractor from proceeding with the contract as changed.

C. **Extras:**

Except as otherwise provided in this Contract, no payment for extras shall be made unless such extras and the price therefore have been authorized in writing in advance by the Contracting Officer.

D. **Inspection:**

All supplies, which term throughout this article includes without limitation raw materials, components, intermediate assemblies, and end products, shall be subject to inspection and test by the Authority, to the extent practicable at all times and places including the period of manufacture, and in any event prior to acceptance.

In case any supplies or lots of supplies are defective in material or workmanship or otherwise not in conformity within the requirements of this Contract, the Authority shall have the right either to reject them or require their correction. If any inspection or test is made by the Authority on the premises of the Contractor or a subcontractor, the Contractor without additional charge shall provide all reasonable facilities and assistance for the safety and convenience of the Authority inspectors in the performance of their duties.

All inspections and test by the Authority shall be performed in such a manner as not to unduly delay this work. The Authority reserves the right to charge to the Contractor any additional cost of Authority inspection and test when supplies are not ready at the time such inspection and test is requested by the Contractor or when re-inspection or retest is necessitated by prior rejection. Acceptance or rejection of the supplies shall be made as promptly as practicable after delivery, except as otherwise provided in this Contract; but failure to inspect and accept or reject supplies shall neither relieve the Contractor from responsibility for such supplies as are not in accordance with the contract requirements nor impose liability on the Authority therefore. The inspection and test by the Authority of any supplies or lots thereof does not relieve the Contractor from any responsibility regarding defects or other failures to meet the

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

Contract requirements, which may be discovered prior to acceptance. Except as otherwise provided in this Contract, acceptance shall be conclusive except as regard latent defects, fraud, or such gross mistakes as amount to fraud. The Contractor shall provide and maintain an inspection system acceptable to the Authority covering the supplies hereunder. Records of all inspection work by the Contractor shall be kept complete and available to the Authority during the performance of this Contract and for such longer period as may be specified elsewhere in this Contract.

E. Responsible:

Notwithstanding the requirements for any Authority inspection and test contained in Specifications applicable to this Contract, except where specialized inspections or tests are specified for performance solely by the Authority, the Contractor shall perform or have performed the inspections and tests required to substantiate that the supplies and services provided under the contract conform to the Drawing, Specifications and Contract requirements.

F. Title and Risk of Loss

Unless this Contract specifically provides for earlier passage of title, title to supplies covered by this Contract shall pass to the Authority upon formal acceptance. Unless this Contract specifically provides otherwise, risk of loss of or damage to supplies covered by this Contract shall remain with the Contractor, until acceptance by the Authority.

Notwithstanding the above, the risk of loss of or damage to supplies which so fail to conform to the Contract as to give a right of rejection shall remain with the Contractor until cure or acceptance, at which time the above shall apply.

G. Payments

The Contractor shall be paid, upon the submission of proper invoices or vouchers, the prices stipulated herein for supplies delivered and accepted or services rendered and accepted, less deductions, if any, as specified. The failure to perform may result in partial or full suspension of payment and/or process payment. The Authority's payment terms are 60 days after approval of an invoice unless otherwise negotiated.

H. Stop Work Order

The Contracting Manager may, at any time, by written order to the Contractor, require the Contractor to stop all, or part of the work called for by this Contract. Any such order shall be specifically identified as a STOP WORK ORDER issued pursuant to this article. Upon receipt of such an order, the Contractor shall forthwith comply with its terms and take all reasonable steps to minimize the incurrence of costs allocable to the work covered by the order during the period of work stoppage.

I. Disputes

1. Except as otherwise provided in this Contract, any dispute concerning a question of fact arising under this Contract which is not disposed of by agreement shall be decided by the Contracting

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

Officer, who shall reduce his decision to writing and mail or otherwise furnish a copy thereof to the Contractor. The decision of the Contracting Officer shall be final and conclusive unless, within 30 days from the date of receipt of such copy, the Contractor mails or otherwise furnishes to the Contracting Officer a written appeal addressed to the General Manager. The decision of the General Manager or his/her duly authorized representative for the determination of such appeals shall be final and conclusive unless determined by a court of competent jurisdiction to have been fraudulent, or capricious, or arbitrary, or so grossly erroneous as necessarily to imply bad faith, or is not supported by substantial evidence. In connection with any appeal proceeding under this article, the Contractor shall be awarded an opportunity to be heard and to offer evidence in support of his appeal. Pending final decision of a dispute hereunder, the Contractor shall proceed diligently with the performance of the contract and in accordance with the Contracting Officer's decision.

- 2 This **DISPUTES** article does not preclude consideration of questions of law in connection with decisions provided for in paragraph a. above. Nothing in this Contract, however, shall be construed as making the final decisions of the General Manger of his/her representative on a question of law.

J. Default

1. The Authority may, subject to the provisions of paragraph b. below, by written notice of default to the Contractor, terminate the whole or any part of this Contract in any one of the following circumstances:
 - a. If the Contractor fails to make delivery of the supplies or to satisfactorily perform the services within the time specified herein or any extension thereof; or
 - b. If the Contractor fails to perform any of the other provisions of this Contractor, or so fails to make its terms, and in either of these two circumstances does not cure such failure within a period of 10 days (or such longer period of as the Contracting Officer may authorize in writing) after receipt of notice from the Contracting Officer specifying such failure
2. Default without the fault or negligence of the Contractor. Such causes may include, but are restricted to, acts of God or of the public enemy, acts of the Government in its sovereign capacity or the Authority in its contractual capacity, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather; but in every case the failure to perform must be beyond the control and without the fault or negligence of the Contractor.
3. If the Contractor fails to deliver the supplies or satisfactorily perform the services within the time specified in this Contract, or any extension thereof, the actual damage to the Authority for the delay will be difficult or impossible to determine. Therefore in lieu

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

of actual damages, the Contractor shall pay to the Authority as fixed, agreed and liquidated damages for each calendar day of delay, the amount set forth elsewhere in this Contract. The Contractor shall not be charged with liquidated damages when the delay arises out of causes beyond the control and without the fault or negligence of the Contractor, and in such event, subject to this DISPUTES article, the Contracting Officer shall ascertain the facts and extent of the delay and shall extend the time for performance of the contract when in his judgment the findings of fact justify an extension.

4. The rights and remedies of the Authority provided in this article shall not be exclusive and are in addition to any other rights and remedies provided by law or under this Contract.

K. Termination for Convenience of the Authority

The performance of work under this Contract may be terminated by the Authority in accordance with this article in whole, or from time to time in part, whenever the Contracting Officer shall determine that such termination is in the best interest of the Authority. Any such termination shall be effected by delivery to the Contractor of a Notice of Termination specifying the extent to which performance of work under the contract is terminated, and the date upon which such termination becomes effective.

After receipt of a Notice of Termination, the Contractor shall submit to the Contracting Officer his termination claim, in the form and with certification prescribed by the Contracting Officer. Such claims shall be submitted promptly by in no event later than one year from the effective date of termination. Upon failure of the Contractor to submit his termination claim within the time allowed, the Contracting Officer may, subject to any review required by the contracting agency's procedures in effect as of the date of execution of this Contract, determine, on the basis of information available to him, the amount, if any, due the Contractor by reason of the termination and shall thereupon pay to the Contractor the amount so determined.

In the event of the failure of the Contractor and the Contracting Officer to agree upon the whole amount to be paid the Contractor by reason of the termination of work pursuant to this article, the Contracting Officer shall, subject to any review by the contracting agency's procedures in effect as of the date of execution of this Contract, determine, on the basis of information available to him, the amount if any, due the Contractor by reason of the termination.

Costs claimed, agreed to, or determined pursuant to this paragraph shall be in accordance with the applicable with the applicable contract cost principles and procedures of the Federal Acquisition Regulations (48 CFR 31.1) in effect on the date of this Contract. The Contractor shall have the right to appeal, under the DISPUTES article of this Contract from any determination made by the Contracting Officer, except that, if the Contractor has failed to submit his claim within the time provided above and has failed to request extension of such time, he shall have no such

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

right of appeal. Unless otherwise provided for in this Contract, or by applicable statute, the Contractor, from the effective date of termination and for a period of three years after final settlement under this Contract, shall preserve and make available to the Authority at all reasonable times at the office of the Contractor but without direct charge to the Authority, all his books, records, documents, and other evidence bearing on the costs and expenses of the Contractor under this Contract and relating to the work terminated hereunder, or, to the extent approved by the Contracting Officer, photographs, micro photographs, or other authentic reproductions thereof.

L. Federal, State and Local Taxes

Except as may be otherwise provided in this Contract, the Contract price includes all applicable Federal, State, and Local taxes and duties. The Authority upon the request of the Contractor shall, without further liability, furnish evidence appropriate to establish exemption from any Federal, State, or Local tax.

M. Walsh-Healey Public Contracts Act

If this contract is for the manufacture or furnishing of materials, supplies, articles, or equipment in an amount which exceeds or may exceed \$10,000 and is otherwise subject to the Walsh-Healey Public Contract Act, as amended (41 U.S.C. 34-35), there are hereby incorporated by reference all representations and stipulations required by said Act and regulations issued thereunder by the Secretary of Labor, such representations of the Secretary of Labor which are now or may hereafter be in effect.

N. Officials Not to Benefit

No member, officer, or employee of the Authority during his tenure or one year thereafter shall have any interest, direct or indirect, in this Contract or the proceeds thereof.

O. Covenant against Contingent Fees

The Contractor warrants that no person or selling agency has been employed or retained to solicit or secure this Contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the Contractor for the purpose of securing business. For breach or violation of this warranty, the Authority shall have the right to annul this Contract without liability or in its discretion, to full amount of such commission, percentage, brokerage, or contingent fee.

P. Notice to the Authority of Labor Disputes

Whenever the Contractor has knowledge that any or potential labor disputes is delaying or threatens to delay the timely performance of this Contract, the Contractor shall immediately give notice thereof, including all relevant information with respect thereto, to the Contracting Officer. The Contractor agrees to insert the substance of this clause, in any subcontract hereunder as to which a labor dispute may delay the timely performance of this Contract; except that each such subcontract shall

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

provide that in the event its timely performance is delayed or threatened by delay by any actual or potential labor dispute, the subcontractor shall immediately notify his next higher tier subcontractor, or the Contractor, as the case may be, of all relevant information with respect to such dispute.

Q. Patent Indemnity

1. If the amount of this Contract is in excess of \$10,000, the Contractor shall indemnify the Authority and its officers, agents, and employees against liability, including costs, for infringement of any United States letters patent arising out of the manufacture or delivery of supplies under this Contract.
2. In addition, if specifically requested by the Contracting Officer prior to execution of the Contract, a copy of the current license agreement and identification of applicable claims of specific patents shall be furnished.

R. Use of Trade Names

Any trade names used in this document are merely used for a point of reference. The Authority will consider submission of approved equals on any or all products specified. Use of trade names by the Authority bears no actual or implicit approval for the violation of any current or pending patents or copyrights.

S. Rights in Technical Data

1. The Authority shall have the right to use, duplicate or disclose technical data, which includes computer software, in whole or in part, in any manner and for any purpose whatsoever, and to have or permit others to do so:
 - a. Any manuals, instructional materials prepared for installation, operation, maintenance or training purposes;
 - b. Technical data pertaining to end items, components or processes which were prepared for the purpose of identifying sources, size, configuration, mating and attachment characteristics, functional characteristics and performance requirements ("for, fit and function: data; e/g/ specification control drawing, catalog sheets, outline drawing; except that for computer software it means data identifying source, functional characteristics, and performance requirements but specifically excludes the source code, algorithm, process, formulae, and flow charts of the software);
 - c. Other technical data which has been, or is normally furnished without restriction by the Contractor or subcontractor;
 - d. Other specifically described technical data, which the parties have agreed will be furnished without restriction.
2. The Authority shall have the right to use, duplicate, or disclose technical data other than that defined in paragraph a. in whole or in part, with the express limitation that such technical data shall not, without the written permission of the party furnishing such technical data, be

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

- a. released or disclosed in part by the Authority for manufacture, or
 - b. used in whole or in part by the Authority for manufacture, or
 - c. used by a party other than the Authority except for emergency repair or overhaul work only, by or for the Authority where the item or process concerned is not otherwise reasonably available to enable timely performance of the work; provided, that the release or disclosure thereof outside the Authority shall be made subject to a prohibition against further use, release or disclosure.
3. Technical data provided in accordance with the provisions of paragraph b. shall be identified by a legend, which suitably recites the aforesaid limitation. Nothing herein shall impair the right of the Authority to use similar or identical data acquired from other sources.
4. The term technical data as used in this article means technical writing, computer software, sound recording, pictorial reproductions, drawings, or other representations and works of a technical nature, whether or not copyrighted, which are specified to be delivered pursuant to this Contract. The term does not include financial reports, cost analysis, and other information incidental to Contract administration. Computer software as used in this article means computer programs, computer databases, and documentation.
5. Material covered by copyright:
 - a. The Contractor agrees to and does hereby grant to the Authority, and to its officers, agents and employees acting within the scope of their official duties, a royalty-free, nonexclusive and irrevocable license throughout the world for Authority purposes to publish, translate, reproduce, deliver, perform, dispose of, and to authorize others to do so, all technical data now or hereafter covered by copyright.
 - b. No such copyright matter shall be included in technical data furnished hereunder without the written permission of the copyright owner for the Authority (or higher-tier contractor) promptly and in reasonable written detail each notice or claim of copyright infringement received by the Contractor with respect to any technical data delivered hereunder.
6. Relation to patents: Nothing contained in this article shall imply a license to the Authority under any patent, or be construed as affecting the scope of any license or other right otherwise granted to the Authority under any patent.
7. Any dispute under this article shall be subject to the Disputes article of this contract

T. Audit and Inspection of Records

The Contractor shall maintain records, and the Contracting Officer, the State of Rhode Island, the U.S. Department of Transportation, and the

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

Comptroller General of the United States or any of their duly authorized representatives shall, until the expiration of three years after final payment under this Contract, have access to and the right to examine any directly pertinent books, documents, papers and records of such contractor, involving transactions related to the Contract, for the purpose of making audit, examination, excerpts and transactions.

The Contractor further agrees to include in all his subcontracts hereunder a provision to the effect that the subcontractor agrees that the Contracting Officer, the State of Rhode Island, the U.S. Department of Transportation and the Comptroller General of the United States or any of their Duly authorized representatives shall, until the expiration of three years after final payment under the Contract, have access to and the right to examine any directly pertinent books, documents, papers and records of such subcontractor, involving transactions related to the subcontract, for the purpose of making audit, examination, excerpts and transcription.

U. Gratuities

In connection with performance of work required under this Contract, or any changes or modifications relative thereto, the giving of or offering to give gratuities (in the form of entertainment, gifts or otherwise) by the Contractor, or any agent, representative or other person deemed to be acting on behalf of the Contractor, or any supplier or subcontractor furnishing material to or performing work under this Contract, or agent, representative or other person deemed to be acting on behalf of such supplier or subcontractor, to any Director, Officer or employee of the Authority; or to any Director, employee or agent of any of the Authority's agents, consultants, representatives or other persons deemed to be acting for or on behalf of the Authority with a view toward securing a contract or securing favorable treatment with respect to the awarding to the awarding or amending, or the making of any determinations with respect to the performing of such contract is expressly forbidden. The terms of this GRATUITIES article shall be strictly construed and enforced in the event of violations hereto.

V. Limitation on Withholding Payments

If more than one article or schedule provision of this Contract authorized the temporary withholding of amounts otherwise payable to the Contractor for supplies delivered or services performed, the total of the amounts so withheld at any one time shall not exceed the greatest amount which may be withheld under any one such article or schedule provision at that time; provided, that this limitation shall not apply to:

1. Withholdings pursuant to any clause relating to wages or hours of employees;
2. Withholdings not specifically provided for by this Contract; and
3. The recovery of overpayment.

W. New Material

The Contractor represents that the supplies and components to be provided under this Contract are new (not used or reconditioned, and not of such age or so deteriorated as to impair their usefulness or safety).

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03

X. **Order of Precedence**

In the event of an inconsistency in the Contract, unless otherwise provided herein, the inconsistency shall be resolved by giving precedence in the following order:

1. The Bid Schedule;
2. Special Conditions;
3. General Provisions;
4. The other provisions of the Contract, whether incorporated by reference or otherwise;
5. The Specifications; and
6. Drawings.

Y. **Correction of Deficiencies**

1. **Definitions:**

As used in this article:

- a. Deficiency means any condition or characteristics in any supplies (which term shall include related technical data) or services furnished hereunder, which is not in compliance with the requirements of this Contract.
- b. Correction means any and all actions necessary to eliminate any and all deficiencies.
- c. Supplies mean the end item(s) furnished by the Contractor and related services required under this Contract.

2. **General:**

- a. The rights and remedies of the Authority shall not be affected in any way by any other provisions under this Contract concerning the conclusiveness of inspection and acceptance.
- b. The Contractor shall not be responsible under this article for the correction of deficiencies caused by the Authority. These shall be no extension in time for performance; no increase in contract price for the correction of deficiencies that are the responsibility of the Contractor, his suppliers, and/or subcontractors.

3. **Deficiencies in accepted supplies or services:**

If the Contracting Officer determines that a deficiency exists in any of the supplies or services accepted by the Authority under this Contract, he shall promptly notify the Contractor of the deficiency, in writing, within 30 days. Upon timely notification of the existence of such a deficiency, or if the Contractor independently discovers a deficiency in accepted supplies or services, the Contractor shall promptly submit to the Contracting Officer his recommendation for corrective actions, together with supporting information in sufficient detail for the Contracting Officer to determine what corrective action, if any, shall be undertaken.

4. **Correction of Deficiencies by Contractor:**

The Contractor shall promptly comply with any timely written direction by the Contracting Officer to correct or partially correct a deficiency, at no increase in the Contract price. The Contractor

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

shall also prepare and furnish to the Authority data and reports applicable to any correction required under this article (including revision and updating of all other affected data called for under this Contract) at no increase in the Contract price.

5. **Deficiencies in supplies or services not yet accepted:**

If the Contractor becomes aware at any time before acceptance by the Authority (whether before or after tender to the Authority) that a deficiency exists in any supplies or services, he shall promptly correct the deficiency or, if he elects to invoke the procedures in paragraph c. above he shall promptly communicate information concerning the deficiency to the Contracting Officer, in writing, together with his detailed recommendation for corrective action.

6. **Extensions or Delays**

In no event shall the Authority be responsible for extension or delays in the scheduled deliveries or periods of performance under this Contract as a result of the Contractor's obligations to correct deficiencies, nor shall there be any adjustment of delivery schedule or period of performance as a result of corrections of deficiencies, except as may be agreed to by the Authority in a supplemental agreement with adequate consideration.

7. **Contract Price**

It is hereby specifically recognized and agreed by the parties hereto that this article shall not be construed as obligating the Authority to increase the Contract price of this Contract.

8. **Failure to correct:**

If the Contractor fails or refuses to promptly rectify the deficiency the Contracting Officer shall give the Contractor written notice specifying the failure or refusal and setting a period after receipt of the notice within which it must be cured. If the failure or refusal is not cured within the specified period, the Contracting Officer may, by contract or otherwise, as required:

- a. Obtain detailed recommendations for corrective action;
- b. Correct the supplies or services, or
- c. Replace the supplies or services; and if the Contractor fails to furnish timely disposition instructions, the Contracting Officer may dispose of nonconforming supplies for the Contractor's account in a reasonable manner, in which case the Authority is entitled to reimbursement from the Contractor or from the proceeds for the reasonable expenses of case and disposition, as well as for excess costs incurred or to be incurred; and
- d. Obtain applicable data and reports; and charge to the Contractor the cost occasioned the Authority thereby.
- e. Impose Liquidated Damages in accordance the terms of this document
- f. Terminate the contract. Termination of contract by RIPTA does not relieve the contractor of any liquidated damages imposed by the Authority.

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03

Z. **Assignment**

1. The Contractor shall not transfer the rights and obligations of the Contract to third parties without the prior written approval of the Authority's Contracting Officer. After review of facts and circumstances without exception the assignment shall not be approved unless the surety, in writing, agrees to that assignment and accepts the assignee as the Contractor and principal on the payment and/or performance bonds.
2. If this Contract provides for payments aggregating \$1,000 or more, claims for monies due or to become due the Contractor from the Authority under this Contract may be assigned to a bank, trust company, or other financing institution, including any Federal lending agency, any may thereafter by further assigned and reassigned to any institution. (Notice of such assignment shall be made to the Authority.) Any such assignment or reassignment shall cover all amounts payable under this Contract and not already paid, and shall not be made to more than one party, except that any such assignment or reassignment or reassignment may be made to one party as agent or trustee for two or more parties participating in such financing. It is the Authority's intent to recognize only bona fide lending institutions, therefore, assignment to any private corporation, business or individual, which does not qualify as such, is specifically prohibited.
3. Any attempt to transfer by assignment not authorized by this article shall constitute a breach of the Contract and the Authority may for such cause terminate the right of the Contractor to proceed as provided in the DEFAULT article of these General Provisions, and the Contractor and his sureties shall be liable to the Authority for any excess costs incurred by the Authority.
4. The Rhode Island Public Transit Authority may assign some or all of its rights to purchase the items specified in this contract to one or more third parties, provided, however, that nay such assignment shall not relieve RIPTA of its obligations under this contract unless otherwise agreed to by Contractor in writing.

AA. **Certificates of Current Cost or Pricing Data**

The Contractor shall provide a Certificate of Current Cost or Pricing Data as required in Subpart 15.804 of the Federal Acquisition Regulations (48 CFR 15.804) in support of any negotiated contract expected to exceed \$100,000 any modification to a formally advertised or negotiated contract on which the aggregate of the increase and decrease in cost are expected to exceed \$100,000; the Contracting Officer at his discretion may request cost or pricing data for modifications on which cost are \$100,000 or less and an attendant certificate of current cost or pricing data.

BB. **Cargo Preference**
Use of United States Flag Vessels

Pursuant to Pub. L 664 (56 U.S.C. 1241 (b)):
"Cargo Preference-Use of United States-Flag Vessels
The Contractor agrees

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

1. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk cargo liners, and tankers) involved, whenever shipping any equipment, materials, or commodities pursuant to this Contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.
2. To furnish within 20 days following the date of loading for shipments originating within the United States, or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, "on-board" commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (1) above to the Grantee (through the prime Contractor in the care of subcontractor bills-of lading) and to the Division of National Cargo, Officer of Market Development, Maritime Administration, Washington, D.C. 20230, marked with appropriate identification of the Project.
3. To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this Contract.

CC. Buy America Act

The Contractor agrees to comply with 49 U.S.C. §533(j), and its implementing regulations at 49 C.F.R. Part 661, any amendments thereto, and any implementing guidelines issued by FTA.

DD. Equal Opportunity

1. Race, Color, Creed, National Origin, Sex.

In accordance with Title VII of the Civil Rights Act, as amended, 42 U.S.C. § 2000e, and Federal transit laws at 49 U.S.C. § 5332, the Contractor agrees to comply with all applicable equal employment opportunity requirements of U.S. Department of Labor (U.S. DOL) regulations, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor," 41 CFR Parts 60 et seq., (which implements Executive Order No. 11246, "Equal Employment Opportunity," as amended by Executive Order No. 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," 42 U.S.C. § 2000e note), and with any applicable Federal statutes, executive orders regulations, and Federal polices that may in the future affect construction activities undertaken in the course of the Project. The contract agrees to take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, creed, national origin, sex, or age. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

2. Age

In accordance with section 4 of the Age Discrimination in Employment Act of 1967, as amended, 29, U.S.C. § 623 and Federal Transit Law at 49 U.S.C. § 5332, the Contractor agrees to refrain from discrimination against present and prospective employees for reason of age. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

3. Disabilities

In accordance with section 102 of the Americans with Disabilities Act, as amended, 42 U.S.C. § 12112, the Contractor agrees that it will comply with the requirements of U.S. Equal Employment Opportunity Commission, "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act," 29 CFR Part 1630, pertaining to employment of persons with disabilities. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

The contractor also agrees to include these requirements in each subcontract financed in whole or in part with Federal assistance provided by FTA, modified only if necessary to identify the affected parties.

EE. Nondiscrimination under Federal Grants

In accordance with Title VI of the Civil Rights Act, as amended, 42 U.S.C. §2000d, section 303 of the Age Discrimination Act of 1975, as amended, 42 U.S.C. §6102, section 202 of the Americans with Disabilities Act of 1990, 42 U.S.C. § 12132, and Federal transit law at 49 U.S.C. § 5332, the Contractor agrees that it will not discriminate against any employee or applicant for employment because of race, color, creed, national origin, sex, age, or disability. In addition, the Contractor agrees to comply with applicable Federal implementing regulations and other implementing requirements FTA may issue.

FF. Rights in Data and Copyrights-FTA (June 1996)

The term "subject data" used in this section means recorded information, whether or not copyrighted, that is delivered or specified to be delivered under this contract. The term includes graphic or pictorial delineation in media such as drawings or photographs; text in specifications or related performance or design-type documents; machine forms such as punched cards, magnetic tape, or computer memory printouts; and information retained in computer memory. Example include, but are not limited to: computer software, engineering drawings and associated lists, specifications, standards, process sheets, manuals, technical reports, catalog item identifications, and related information. The term "subject data" does not include financial reports, cost analyses, and similar information incidental to Project administration.

When the Federal Transit Administration (FTA) provides financial assistance for a planning, research, development, or a demonstration project, it is FTA's general intention to increase mass transportation knowledge, rather than limit the benefits of the Project to participants in the Project. Therefore, unless FTA determines otherwise, the Contractor agrees that FTA may make available to any FTA recipient, subrecipient,

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03

third party contractor, or third party subcontractor, either FTA's license in the copyright to the subject data derived under this contract or a copy of the subject data as defined in subsection a. of this clause and shall be delivered as the Government may direct. Unless prohibited by state law, the Contractor agrees to indemnify, save, and hold harmless RIPTA and the Government, their officers, agents, and employees acting within the scope of their official duties against any liability, including costs and expenses, resulting from any willful or intentional violation by the contractor of proprietary rights, copyrights, or right of privacy, arising out of the publication, translation, reproduction, delivery, use, or disposition of any data furnished under this Contract. The Contractor shall not be required to indemnify RIPTA and the Government for any such liability arising out of the wrongful acts of employees or agents of RIPTA and the Government.

GG. Davis-Bacon Act

40 USC &167; 276a -276a-5 (1998) 29 CFR § 5 (1999)

1. Minimum wages

- a. All laborers and mechanics employed or working upon the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR Part 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

is performed. The wage determination and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

- b. The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:
 - i. Except with respect to helpers as defined as 29 CFR 5.2(n)(4), the work to be performed by the classification requested is not performed by a classification in the wage determination; and
 - ii. The classification is utilized in the area by the construction industry; and
 - iii. The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination; and
 - iv. With respect to helpers as defined in 29 CFR 5.2(n)(4), such a classification prevails in the area in which the work is performed.
- c. If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.
- d. In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03

- the contracting officer within the 30-day period that additional time is necessary.
- e. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii) (B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.
 - f. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.
 - g. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.
 - h. The contracting officer shall require that any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:
 - i. The work to be performed by the classification requested is not performed by a classification in the wage determination; and
 - ii. The classification is utilized in the area by the construction industry; and
 - iii. The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.
 - i. If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

- j. In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination with 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.
- k. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(v) (B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

2. **Withholding**

The Rhode Island Public Transit Authority shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the Rhode Island Public Transit Authority may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. **Payrolls and basic records**

- a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work (or under the United States Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). Such records shall contain the name, address,

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

- b.
 - i. The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Rhode Island Public Transit Authority for transmission to the Federal Transit Administration. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR part 5. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal Stock Number 029-005-00014-1), U.S. Government Printing Office, Washington, DC 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors.
 - ii. Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:
 - (1) That the payroll for the payroll period contains the information required to be maintained under 29 CFR part 5 and that such information is correct and complete;
 - (2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

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

- c. The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.
- d. The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the Federal Transit Administration or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. **Apprentices and trainees**

- a. Apprentices - Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator of the Wage and Hour Division of the U.S. Department of Labor determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Bureau of Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

- b. Trainees - Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

- c. Equal employment opportunity - The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

5. **Compliance with Copeland Act requirements**

The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. **Subcontracts**

The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the Federal Transit Administration may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. **Contract termination; debarment**

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

8. **Compliance with Davis-Bacon and Related Act requirements**

All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03

9. **Disputes concerning labor standards**
Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.
10. **Certification of eligibility.**
- a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
 - b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
 - c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001

HH. Contract Work Hours and Safety Standards Act

40 U.S.C. 327-333 (1995) 29C.F.R. 5 (1995) 29 C.F.R. 1926 (1995)

1. **Overtime requirements**
No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such to work in excess of forty hours in such workweek unless such laborers or mechanics receive compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.
2. **Violation; liability unpaid wages; liquidated damages**
In the event of any violation of the clauses set forth in paragraph (1) of this section the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clauses set forth in paragraph (1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clauses set forth in paragraph (1) of this section.
3. **Withholding for unpaid wages; liquidated damages**
The Rhode Island Public Transit Authority shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clauses set forth in paragraph (2) of this section.

4. **Subcontracts**

The contractor or subcontractor shall insert in any subcontracts the clauses set forth in this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in this section. (Section 102 nonconstruction contracts should also have the following provision:)

5. **Payrolls and basic records**

Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work (or under the United States Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). Such records shall contain the names, address, and social security number of each worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Beacon Act), daily and weekly number of hours worked, deductions. Whenever the made and actual wages paid Secretary of labor has found under 29 CFR 5.5 (a)(1)(iv) that the wages of any laborer or mechanic included the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Beacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

6. **Contract Work Hours and Safety Standards Act**

The contractor agrees to comply with section 107 of the Contract Work Hours and Safety Standards Act, 40 U.S.C. section 333, and applicable DOL regulations, "Safety and Health Regulations for Construction" 29 C.F.R. Part 1926. Among other things, the Contractor agrees that it will not require any laborer or mechanic to work in unsanitary, hazardous, or dangerous surroundings or working conditions.

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03

7. Subcontracts

The Contractor also agrees to include the requirements of the section in each. The term “subcontract” under this section is considered to refer to a person who agrees to perform any part of the labor or material requirements of a contract for construction, alteration or repair. A person who undertakes to perform a portion of a contract involving the furnishing of supplies or materials will be considered a “subcontractor” under this section if the work in question involves the performance of construction work and is to be performed: (1) directly on or near the construction site, or (2) by the employer for the specific project on a customized basis. Thus, a supplier of materials, which will become an integral part of the construction is a “subcontractor” if the supplier fabricates or assembles the goods or materials in question specifically for the construction project and the work involved may said to be construction activity. If goods or materials in question are ordinarily sold to other customers from regular inventory, the supplier is not a “subcontractor.” The requirements of this section do not apply to contracts or subcontracts for the purchase of supplies or materials or articles normally available on the open market.

II. Seismic Safety Requirements

42 U.S.C. 7701 et seq. 49 CFR Part 41

The contractor agrees that any new building or addition to an existing building will be designed and constructed in accordance with the standards for Seismic Safety required in Department of Transportation Seismic Safety Regulations 49 CFR Part 41 and will certify to compliance to the extent required by the regulation. The contractor also agrees to ensure that all work performed under this contract including work performed by a subcontractor is in compliance with the standards required by the Seismic Safety Regulations and the certification of compliance issued on the project.

JJ. Energy Conservation Requirements

42 U.S.C. 6321 et seq. 49 CFR Part 18

The contractor agrees to comply with mandatory standards and policies relating to energy efficiency, which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act.

KK. Clean Air

42 U.S.C. 7401 et Seq 40 CFR 15.61 49 CFR Part 18

1 The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. §§ 7401 et Seq . The Contractor agrees to report each violation to the Purchaser and understands and agrees that the Purchaser will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office.

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

2. The Contractor also agrees to include these requirements in each subcontract exceeding \$100,000 financed in whole or in part with Federal assistance provided by FTA.

LL. Clean Water

- 1 The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et Seq . The Contractor agrees to report each violation to the Purchaser and understands and agrees that the Purchaser will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office.
- 2 The Contractor also agrees to include these requirements in each subcontract exceeding \$100,000 financed in whole or in part with Federal assistance provided by FTA.

MM. Recovered Materials

The contractor agrees to comply with all the requirements of Section 6002 of the Resource Conservation and Recovery Act (RCRA), as amended (42 U.S.C. 6962), including but not limited to the regulatory provisions of 40 CFR Part 247, and Executive Order 12873, as they apply to the procurement of the items designated in Subpart B of 40 CFR Part 247.

NN. Fly America Requirements

The Contractor agrees to comply with 49 U.S.C. 40118 (the "Fly America" Act) in accordance with the General Services Administration's regulations at 41 CFR Part 301-10, which provide that recipients and subrecipients of Federal funds and their contractors are required to use U.S. Flag air carriers for U.S Government-financed international air travel and transportation of their personal effects or property, to the extent such service is available, unless travel by foreign air carrier is a matter of necessity, as defined by the Fly America Act. The Contractor shall submit, if a foreign air carrier was used, an appropriate certification or memorandum adequately explaining why service by a U.S. flag air carrier was not available or why it was necessary to use a foreign air carrier and shall, in any event, provide a certificate of compliance with the Fly America requirements. The Contractor agrees to include the requirements of this section in all subcontracts that may involve international air transportation.

OO. National Intelligent Transportation Systems Architecture and Standards

The Contractor agrees to conform, to the extent applicable, to the National Intelligent Transportation Systems (ITS) Architecture and Standards as required by section 5206(e) of TEA-21, 23 U.S.C. § 502 note, and comply with FTA Notice, "FTA National ITS Architecture Policy on Transit Projects" 66 Fed. Reg. 1455 *et seq.*, January 8, 2001, and other Federal requirements that may be issued

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03

PP. Federal Changes

Contractor shall at all times comply with all applicable FTA regulations, policies, procedures and directives, including without limitation those listed directly or by reference in the Agreement (Form FTA MA (9) dated October, 2002) between Purchaser and FTA , as they may be amended or promulgated from time to time during the term of this contract. Contractor's failure to so comply shall constitute a material breach of this contract.

QQ. Incorporation of Federal Transit Administration (FTA) Terms

The preceding provisions include, in part, certain Standard Terms and Conditions required by DOT, whether or not expressly set forth in the preceding contract provisions. All contractual provisions required by DOT, as set forth in FTA Circular 4220.1D, dated April 15, 1996, are hereby incorporated by reference. Anything to the contrary herein notwithstanding, all FTA mandated terms shall be deemed to control in the event of a conflict with other provisions contained in this Agreement. The Contractor shall not perform any act, fail to perform any act, or refuse to comply with any (name of grantee) requests, which would cause (name of grantee) to be in violation of the FTA terms and conditions.

RR. Force Majeure

Neither Party shall be liable to the other Party for failure of or delay in performance of any obligation under this Agreement, directly or indirectly, owing to war, acts of terrorism, acts of God, embargoes, riots, strike and other events beyond its reasonable control, the effect of which, by the exercise of reasonable diligence, the non-performing party could not avoid. In the event that such failure or delay occurs, the affected Party shall notify the other Party of the occurrence thereof as soon as possible and the Parties shall discuss the best way to resolve the event of force majeure.

Neither party shall, however, be excused from performance if nonperformance is due to forces which are preventable, removable, or remediable and which the non-performing party could have, with the exercise of reasonable diligence, prevented, removed, or remedied with reasonable dispatch. The non-performing party shall within a reasonable time of being prevented or delayed from performance by an uncontrollable force, give written notice to the other party describing the circumstances and uncontrollable forces preventing continued performance of the obligations of this Agreement. “

SS. Governing Law

The Contract shall be interpreted under and its performance governed by the laws of the State of Rhode Island.”

TT. Indemnification

Bidders shall indemnify and hold harmless, the State of Rhode Island, all departments and division thereof and the Rhode Island Public Transit Authority from all liability, and said indemnification shall cover and include

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

any and all aspects of liability arising from any lawsuit pertaining to the execution of this contract.

UU. Policy Concerning Federal and Stated False Claim Laws

As required by 42 U.S.C. §1396a(a)(68), the Rhode Island Public Transit Authority (“RIPTA”) publishes the following information to all employees, contractors and agents about federal and state False Claims laws and RIPTA’s policies to detect and prevent fraud, waste and abuse.

1. Prohibitions Against False Claims **Federal False Claims Act**

The federal False Claims Act, among other things, applies to the submission of claims for payment by Medicare, Medicaid and other federal and state programs. The False Claims Act is the federal government’s primary civil remedy for improper or fraudulent claims. It applies to all federal programs, including welfare and health care benefits.

2. Prohibitions of the Federal False Claims Act

The False Claims Act prohibits, among other things:

- a knowingly presenting or causing to be presented to the federal government a false or fraudulent claim for payment or approval;
- b knowingly making or using, or causing to be made or used, a false record or statement in order to have a false or fraudulent claim paid or approved by the government;
- c conspiring to defraud the government by getting a false or fraudulent claim allowed or paid; and
- d knowingly making or using, or causing to be made or used, a false record or statement to conceal, avoid, or decrease an obligation to pay or transmit money or property to the government.

“Knowingly” means that a person, with respect to information: (1) has actual knowledge of the information; (2) acts in deliberate ignorance of the truth or falsity of the information; or (3) acts in reckless disregard of the truth or falsity of the information, and no proof of specific intent to defraud is required.

3. Enforcement

The United States Attorney General may bring civil actions for violations of the False Claims Act. As with most other civil actions, the government must establish its case by presenting only a preponderance of the evidence rather than by meeting the higher burden of proof that applies in criminal cases.

The False Claims Act allows private individuals to bring “qui tam” actions for violations of the Act.

VV. American with Disabilities Act

All products, equipment or construction provided in accordance with this contract shall comply with the current version of the Americans with Disabilities Act of 1990 - 42 U.S.C. 12101, et seq. at the time of the solicitation.

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

VI. REQUEST FOR APPROVED EQUAL FORM

**This form must be submitted electronically IN MICROSOFT WORD
FORMAT TO RIPTA CONTRACTS MANAGER**

REQUEST FOR APPROVAL EQUAL QUALIFICATION OR CLARIFICATION

Page: _____

Ref: IFB NO. 13-03

Project No. _____

To: Rhode Island Public Transit Authority

From: _____

Page & Reference: _____

Request Description

Use Additional Sheet If More Space Is Required

Accepted: _____

Rejected: _____

See Addendum # _____

Explanation: _____

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03

VII. REQUIRED BID SUBMISSIONS

The following items marked with an “X” must be submitted with Response
Failure to submit forms may result in Bid being deemed non-responsive

Required Company Information Form	<u> X </u>
Must be completed by Prime and All Subcontractors	
Solicitation	<u> X </u>
Offer	<u> X </u>
Statement of Eligibility	<u> X </u>
Affidavit of Non-Collusion	<u> X </u>
Certification of Restrictions on Lobbying	<u> X </u>
Buy America Certificate FORM MUST BE SUBMITTED WITH BID, IF CHECKED, OR BID WILL BE CONSIDERED NON RESPONSIVE	<u> X </u>
Disadvantaged Business Enterprise	<u> X </u>
General Contract Compliance Certificate Agreement (EEO)	<u> X </u>
Certification of Primary Participant Debarment (The form must be signed by Legal Counsel)	<u> X </u>
Certification of a Subcontractor (Debarment) Each Subcontractor and potential subcontractor must fill in and sign.	<u> X </u>
Non-Resident Contractor (if applicable)	<u> X </u>
Davis Bacon Act Compliance	<u> X </u>
Drug & Alcohol Testing	<u> X </u>
Bid Guarantee (Surety)	<u> X </u>

The following items marked with an “X” must be submitted AFTER AWARD of the Contract

Performance Bond	<u> X </u>
Certificate of Insurance- (as required in Section XX and the Scope of Work)	<u> X </u>

NOTE:
ITEMS WITHOUT AN “X” AND THEIR RESPECTIVE TERMS AND CONDITIONS ARE NOT REQUIRED IN THIS BID

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

VIII. SOLICITATION FORM

COMPANY NAME _____

BID NO. OR PROJECT NO. 13-03

DESCRIPTION Transit Signal Prioritization Project

A. BID REQUIREMENTS

Sealed Bids in original and Five copy(ies) will be received at the offices of the Rhode Island Public Transit Authority, 705 Elmwood Avenue Providence, Rhode Island 02907, at the Bid date and hour set forth on the Invitation for Bid or anytime prior to the date and hour. Late Bids will not be accepted.

B. CONTRACT DOCUMENTS

By executing the offer form enclosed herewith, the Bidder agrees to provide all services set forth on the specifications attached hereto upon the terms and conditions set forth in paragraphs A, B, C and D.

C. PAYMENT SCHEDULE

Payment will not be made until receipt and installation of merchandise is accepted by the Transit Authority.

D. COST FOR SERVICE

Please complete necessary cost information as outlined in the Bid Scope of Work.

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

IX. OFFER FORM

Bidder understands that any condition other than stated in the specifications, clarification made to the above, or information submitted on or with this form, other than that requested, may render the Bid non-responsive.

By execution below, Bidder hereby offers to furnish services in accordance with the contract documents that are a part of the specifications, and agrees to fully comply with the contract documents.

BID NO 13-03

BIDDER _____

EMPLOYER IDENTIFICATION NO. _____

NAME _____

ADDRESS _____

CITY/STATE/ZIP _____

TYPE OF BUSINESS ENTITY: (Please check one)

Sole Proprietor _____

Partnership _____

Corporation _____

BIDDER'S CONTRACTING OFFICER

Name (*Please Print*)

Authorized Signature

Title

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

X. STATEMENT OF ELIGIBILITY FORM

The _____ hereby certifies that he/she
(Name of Bidder)

is/is not (underscore one) included on the Comptroller General's Lists of Persons or Firms Currently Barred for Violations of Various Public Contracts Incorporating Labor Standards Provisions.

Name of Firm

Address

City, State, Zip

Signature of Authorized Person

Date Authorized

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

XI. AFFIDAVIT OF NON-COLLUSION FORM

I hereby swear (or affirm) under penalty for perjury:

1. that I am the Bidder (if the Bidder is an individual), a partner of the Bidder (if the Bidder is partnership), or an officer or employee of the proposing corporation having authority to sign on its behalf (if the Bidder is a corporation).
2. that the attached Bid has been arrived at by the Bidder independently, and has been submitted without collusion with, and without agreement, understanding, or planned common course of action with, any other vendor of materials, supplies, equipment, services described in Invitation for Bids, designed to limit independent bidding or competition.
3. that the contents of the Bid has not been communicated by the Bidder or its employees or agents, to any person not an employee or agent of the Bidder or its surety on any bond furnished with the Bid, and will not be communicated to any such person prior to the official opening of the Bid; and
4. that I have fully informed myself regarding the accuracy of the statement made on this affidavit.

Name

Address

City, State, Zip

Signature of Authorized Official

Date Authorized

Subscribed and sworn before me this _____ day of _____, 20____

Notary Public

My commission expires _____

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03

XII. CERTIFICATION OF RESTRICTIONS ON LOBBYING FORM

I, _____, hereby certify on
(Name/title of Bidder Authorized Official)

behalf of: _____ that:
(Name of Bidder)

- 1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, grant, loan, or cooperative agreement.
- 2) If any funds other than Federal appropriated funds have been paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, or an employee of a member of Congress in connection with this Federal contract, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying", in accordance with its instructions.
- 3) The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclosure accordingly.

This certification is a material representation of fact upon which reliance is placed when this transaction was made or entered into. Submission of the certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Executed this _____ day of _____, 20_____.

By _____
(Signature of Authorized Official)

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

XIII. BUY AMERICA CERTIFICATION REQUIREMENTS ! **FOR PROCUREMENT OF STEEL OR MANUFACTURED PRODUCTS**

49 U.S.C. 5323(j) and 49 CFR 661 provide that no Federal funds may not be obligated for mass transportation projects unless steel and manufactured products used in these projects are produced in the United States.

If steel or manufactured products are being procured, the appropriate certificate as set forth below shall be completed and submitted by each Bidder.

Certificate of Compliance-The Bidder hereby certifies that it will comply with the requirements of 49 U.S.C. 5323 (j)(1) and the Applicable regulations on 49 CFR Part 661.

COMPANY NAME _____

SIGNATURE _____

TITLE _____

DATE _____

Certification of Non-Compliance-The Bidder hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323 (j)(1).

COMPANY NAME _____

SIGNATURE _____

TITLE _____

DATE _____

FORM MUST BE SIGNED AND SUBMITTED WITH BID OR BID WILL BE CONSIDERED TO BE NON-RESPONSIVE.

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

XIV. BUY AMERICA CERTIFICATION REQUIREMENTS II **OF PROCUREMENT OF BUSES, OTHER ROLLING STOCK AND** **ASSOCIATED EQUIPMENT**

49 U.S.C. 5323 (j) and 49 CFR 661 provide that no Federal funds be obligated for procurement of buses, other rolling stock and associated equipment unless the following conditions are met:

1. The cost of components which are produced in the United States is more than 60 per centum (60%) of the cost of all components of the vehicle or equipment described in this paragraph; and
2. Final assembly of the vehicle or equipment described in this paragraph has taken place in the United States.

If buses or other rolling stock (including train control, communication and traction power equipment) are being procured, the appropriate certificate as set forth below shall be completed and submitted by each Bidder in accordance with the requirements.

Certificate of Compliance-The Bidder hereby certifies that it **will comply** with the requirements of the 49 U.S.C. 5323 (j)(2)(c) and CFR Part 661.

COMPANY NAME _____

SIGNATURE _____

TITLE _____

DATE _____

Certificate of non-Compliance-The Bidder hereby certifies that it **cannot comply** with the requirements of the Surface Transportation Assistance Act of 1982, as amended, but may qualify for an exception to the requirements.

COMPANY NAME _____

SIGNATURE _____

TITLE _____

DATE _____

FORM MUST BE SIGNED AND SUBMITTED WITH BID OR BID WILL BE
CONSIDERED TO BE NON-RESPONSIVE.

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

XV. BUY AMERICA PRE-AWARD AND POST-DELIVERY AUDITS:

A. Prior to Contract award,

The apparent successful offeror shall provide to the Authority's auditors the cost of the components and subcomponents to be used in the manufacturing of the rolling stock, their country of origin, the location of final assembly, the activities that will take place at the location and pertinent supporting documentation for the purpose of RIPTA performing the cited Pre-Award Audit of Buy-America requirements.

B. After delivery and acceptance of the vehicles,

The Contractor shall provide to the Authority's auditors the cost of the components and subcomponents used in the manufacture of the rolling stock, their country of origin, the location of final assembly, the activities that took place at the location and pertinent supporting documentation to enable RIPTA to perform the cited Post-Delivery Audit of Buy America Requirements.

C. Authority Review

The contractor shall facilitate the reviews by the Authority's auditors by providing the supporting documentation for the above information in a timely fashion.

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

XVI. DISADVANTAGED BUSINESS ENTERPRISES PROGRAM

Bidders are strongly encouraged to have Disadvantage Business Enterprise Participation/Small Business, regardless of the DBE Goal in this Bid.

Disadvantaged Business Enterprise (DBE) Special Provisions

A firm's DBE Participation and/or demonstration of a "Good Faith Effort" will be considered when reviewing submittals for responsiveness. This will be considered when evaluating Bid Responses

A. Policy

1. It is the policy of Department of Transportation (DOT) that the DBE requirements in 49 CFR Part 26, as amended, shall have the maximum opportunity to participate in the performance of contracts financed in whole or in part with Federal funds under this agreement. Consequently, the DBE requirements of 49 CFR Part 26, as amended apply to this agreement.
2. DBE Obligation – RIPTA or its contractor agrees to ensure that DBE's as designed in 49 CFR Part 26, as amended, have the maximum opportunity to participate in the performance of contracts and subcontracts financed in whole or in part with Federal funds provided under this agreement. In this regard, RIPTA or its contractors shall take all necessary and reasonable steps in accordance with 49 CFR Part 26, as amended, to ensure that DBE's have the maximum opportunity to compete for and perform contracts. RIPTA and its contractors shall not discriminate on the basis of race, color, religion, national origin, age or sex in the award and performance of DOT assisted contracts.
3. Contractor Obligation – Contractors and subcontractors failing to carry out the requirement set forth in 1 and 2 above, shall constitute a breach of contract and, after the notification to the Department (DOT), may result in termination of the agreement or contract by RIPTA or such remedy as RIPTA deems appropriate.

B. DBE Utilization

1. **DBE Utilization**
The Contractor agrees to provide for full and fair utilization of Disadvantaged Business Enterprises (DBEs) by complying with the requirements of this clause. Included in these requirements is the achievement of the stated goal for the utilization of DBEs in the performance of work under this contract. Nothing in this clause shall be construed to require the utilization of any DBEs, which is either not qualified or unavailable. . **All DBEs submitted must be certified by the State of Rhode Island at the time of Bid submittal. A copy of the DBE Certification Letter from the State of Rhode Island Office of Civil Rights must accompany the Bid submittal**

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

2. **Utilization Goal**

For the purpose of this contract, the goal for utilization of DBEs shall be as follows: Not Applicable DBE percent of the Contract Dollar Amount.

C. Definitions.

The terms used in these special provisions shall be defined as follows:

1. **Joint Venture**

an association of two or more persons to carry out a single business enterprise for profit, for which purpose they combine their property, money, efforts, skills and knowledge.

2. **Disadvantaged Business**

means a small business concern in which is, at least, 51 percent owned by one or more socially and economically disadvantaged individuals, or, in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more socially and economically, disadvantaged individuals who own it.

3. **Small Business Concern**

a small business as defined pursuant to Section 3 of the Small Business Act and relevant regulations promulgated pursuant thereto.

4. **Socially and Economically Disadvantaged Individuals**

means those individuals who are citizens of the United States (or lawfully admitted permanent residents) and who are women, Black Americans, Hispanic Americans, Native Americans, Asian-Pacific Americans, or Asian-Indian Americans and any other minorities of individuals found to be disadvantaged by the Small Business Administration pursuant to Section 8 (a) of the Small Business Act, RIPTA shall make a rebuttal presumption the individuals in the following groups are socially and economically disadvantaged. RIPTA may also determine, on a case-by-case basis, that individuals who are not a member of one of the following groups are socially and economically disadvantaged:

- a. **Black Americans**, which includes persons having origins in any of the Black racial groups of Africa;
- b. **Hispanic Americans**, which includes persons of Mexican, Puerto Rican, Cuban, Central or South America, or other Spanish culture or Portuguese culture, regardless of race;
- c. **Native Americans**, which includes persons who are American Indian, Eskimo, Aleuts, or Native Hawaiians;
- d. **Asian-Pacific Americans**, which includes persons whose origins are Japan, China, Taiwan, Korea, Vietnam, Laos, Cambodia, the Philippines, Samoa, Guam, the U.S. Trust Territories of the Pacific, and the Northern Marianas; and
- e. **Asian-Indian Americans**, which includes persons whose origins are from India, Pakistan, and Bangladesh.
- f. **Disadvantaged Business Enterprise (DBE) Liaison Officer** – the individual designated by the Authority to monitor compliance with these Special Provisions and to assist in their implementation.
- g. **Bidder** – any individual, partnership, joint venture, corporation or firm submitting a Bid for the contract.

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03

5. Recognition of DBE Commitment

Each Bidder shall recognize RIPTA's commitment to insure that DBE's be afforded full opportunity to participate in contracts awarded by RIPTA and will not be discriminated against on the grounds of race, religion, color, national origin, handicap, age or sex.

6. Submissions

all Bidders shall submit the following information with the Bid by using the Schedule of DBE Participation (Attachment A);

1. The Name and address of each DBE firm that will participate in the contract;
2. A description of the work each named DBE firm will perform; and
3. The dollar amount of participation by each named DBE firm.

The Authority encourages firms located in the United States that are currently certified as DBEs and SBAs by Federal, State and Local agencies to apply for certification in the State of Rhode Island.

If a minority business would like to be certified by the State of Rhode Island contact: Mr. Charles Newton, Department of Administration, 1 Capital Hill, Providence, Rhode Island, 02908, Telephone (401) 222-6253.

If the apparent successful competitor's submission does not satisfy the goal, RIPTA shall determine whether the apparent successful competitor has made good faith efforts to obtain DBE participation in accordance with the guidelines stated in Paragraph F, Sub-paragraph 1, below.

Unsuccessful efforts in gaining DBE participation must be documented on the "DBE Unavailability Certification" attached hereto as Attachment D. Meeting the DBE contract goals or making good faith efforts to meet the goals is a condition of receiving a Federal Transit Administration assisted contract for which contract goals have been established by RIPTA.

The legitimacy of each DBE or disadvantaged-majority joint venture shall be determined by RIPTA, based on the information submitted in the affidavits attached hereto as Attachments C and D. RIPTA will require all prime contractors to make good faith efforts to replace a DBE subcontractor that is unable to perform successfully with another DBE. RIPTA shall approve all substitutions of subcontractors **before** award of contract and **during** contract performance, in order that substitute firms are eligible DBE's.

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03

7. Procedure Prior to Contact Award

a. Guidance Concerning Good Faith Efforts to Meet DBE Contract Goals.

RIPTA may decide that a competitor that has failed to meet DBE contract goals may receive the contract upon determining that the efforts the competitor made to obtain DBE participation were “good faith efforts” to meet the goal. RIPTA shall not consider efforts that are merely pro forma to be good faith efforts to meet the goals, even if they are sincerely motivated, if, given all relevant circumstances, they could not reasonably be expected to produce a level of DBE participation sufficient to meet the goals. In order to award a contract to a competitor that has failed to meet DBE contract goals, RIPTA must determine that the competitor’s efforts were those that, given all relevant circumstances, a competitor, actively and aggressively seeking to meet the goals would make.

Following is a list of the kinds of efforts RIPTA may consider. The list is not exclusive or exhaustive and in appropriate cases RIPTA shall consider other relevant factors or types of efforts. RIPTA shall consider not only the different kinds of efforts the contractor has made, but also the quantity and intensity of those efforts. All information must be in writing and copies of all ads, written notices, follow-up letters and/or all other correspondence must be presented whenever a waiver is asked for.

RIPTA will consider the following efforts:

- i. whether the contractor attended any pre-solicitation or pre-Bid meetings that were scheduled by RIPTA to inform DBEs of contracting opportunities;
- ii. whether the contractor advertised in general circulation, trade association, and disadvantaged focus media concerning the sub-contracting opportunities;
- iii. whether the contractor provided written notice to a reasonable number of specific DBEs that their interest in the contract was being solicited in sufficient time to allow the DBEs to participate effectively;
- iv. whether the contractor followed up initial solicitation of interest by contracting DBEs to determine with certainty whether the DBEs were interested;
- v. whether the contractor selected portions of the work to be performed by DBEs in order to increase the likelihood of meeting the DBE goals including, where appropriate, breaking down contracts into economically feasible units to facilitate DBE participation;
- vi. whether the contractor provided interested DBEs with adequate information about the plans, specifications and requirements of the contract;

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03

- vii. whether the contractor negotiated in good faith with interested DBEs, not rejecting DBEs as unqualified without sound reasons based on a thorough investigation of their capabilities;
- viii. whether the contractor made efforts to assist interested DBEs in obtaining bonding lines of credit, or insurance required by RIPTA or contractor; and
- ix. whether the contractor effectively used the services of available disadvantaged community organizations, disadvantaged contractor's groups, Local, State and Federal disadvantaged business assistance offices, and other organizations that provide assistance in the recruitment and place of DBEs.

8. Bid, Execution & Compliance with Subcontracts

Prior to the execution of a contract between RIPTA and the successful Bidder, the Bidder shall present, for RIPTA's approval, DBE subcontracts corresponding in all respects to the proposed agreements. Upon approval by RIPTA, the successful Bidder shall enter into each such approved DBE sub-contract and shall thereafter neither terminate such DBE nor reduce the scope of the work to be performed by, or decrease the price to be paid to, the DBE and the disadvantaged non-disadvantaged joint venture thereunder without in each instance the prior written approval of RIPTA.

9. Substitution of Subcontractors

RIPTA shall review for its approval all substitutions of subcontractors in order to determine if the percentage goal will be decreased by substitution of a disadvantaged contract/supplier with a non-disadvantaged contractor/supplier.

Where RIPTA has approved termination of a sub-contract held by an DBE or disadvantaged non-disadvantaged joint venture, the successful Bidder shall make every reasonable effort to propose and enter into an alternative sub-contract or subcontracts for the same work to be performed by another qualified DBE for a contract price or prices totaling not less than the contract price of the terminated sub-contract. Satisfactory evidence of reasonable efforts shall be timely furnished by RIPTA.

10. Program Compliance

At all times, discrimination on the basis of race, color, religion, national origin, handicap, age or sex will not be tolerated. RIPTA will monitor the schedule for participation by disadvantaged contractors in an effort to isolate those prime contractors who do not adhere to the non-discriminatory policies of RIPTA. If such contractor fails to respond to counseling with respect to the disposition of subcontracts pertaining to RIPTA funds, RIPTA reserves the right to terminate the contract and to consider future Bids of such contractor to be non-responsive in the absence of written assurance from it of the full opportunity for DBEs to participate in its awards of subcontracts, together with the follow-up to verify such participation.

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03

11. Maintenance of Records

All records relating to the contract shall be maintained by the contractor for a period of three (3) years after project completion.

12. Contract Assurance

The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of the contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT assisted contracts. Failure by the contractor to carry out these requirements is a material breach of contract, which may result in the termination of this contract or such other remedy, as the recipient deems appropriate.

13. Prompt Payment

The prime contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than 30 days from the receipt of each payment the prime contractor receives from the Rhode Island Public Transit Authority. The prime contractor agrees further to return retainage payments to each subcontractor within 30 days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment from the above reference time frame may occur only for good cause following written approval of the Rhode Island Public Transit Authority. This clause applies to both DBE and non-DBE subcontractors. RIPTA reserves the right to hold payments to the Contractor if payments verification logs are not submitted within 30 days of payments. Failure to submit payments to DBE subcontractors within 30 days will result in action by RIPTA up to and including disqualification from any future RIPTA Procurements.

14. Monitoring Payments to DBEs

RIPTA requires that prime contractors to maintain records and documents of payments to DBEs following the completion of the contract. These records will be made available for inspection upon request by any authorized representative of RIPTA or United States Department of Transportation. This requirement also extends to any DBE Subcontractor. Reports of payments to DBE Subcontractors shall be provided to the RIPTA DBE Liaison Officer on a monthly basis. Failure to submit these reports on a timely basis may result in delay of payments.

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

XVII. DISADVANTAGED BUSINESS ENTERPRISE REQUIRED FORMS

Attachment A: Schedule of DBE Participation

Submitted if DBE firm or firms will be participating in the Bid.

Attachment B: DBE Application Agreement

Submitted if DBE firm or firms will be participating in the Bid.

Attachment C: Letter of Intent to Perform as a Subcontractor

Submitted if DBE firm or firms will be participating in the Bid

Attachment D: DBE Unavailability Summary Sheet

Submitted if DBE firm or firms you have contacted cannot participate.

This form is used to document good faith effort. This form only needs to be completed when there is a DBE Participation Goal.

Attachment E: Narrative Explanation for Lack of DBE Participation

Submitted by the Prime Contractor to explain lack of DBE/SBA participation.

Attachment F: Documentation of DBE Utilization

To be filled in by the DBE firm and the prime contractor once the DBE Subcontractor has been paid.

Please Note: Final payment to the Prime Contractor will be held until this form or forms are received for each DBE Subcontractor.

DBE FIRMS PROPOSING AS A PRIME CONTRACTOR: the following forms must be filled in, signed and submitted with the Bid

Attachment A, Attachment B

Please state, on these forms, that you are proposing as a prime contractor.

CERTIFICATION LETTER OR NOTIFICATION MUST BE INCLUDED FOR EACH DBE FROM THE STATE OF RHODE ISLAND.

Please record by letter (using the list below) under the DBE Category Column found on Attachment A: Schedule of DBE Participation Form on the following page

- a. "Black Americans", which includes persons having origins in any of the Black racial groups of Africa;
- b. "Hispanic Americans", which includes persons of Mexicans, Puerto Rican, Cuban, Central or South America, or other Spanish culture or Portuguese or origin, regardless of race;
- c. "Native Americans", which include persons who are American Indian, Eskimos, Aleuts, or Native Hawaiians;
- d. "Asia-Pacific Americans", which includes persons whose origins are from Japan, China, Taiwan, Korea, Vietnam, Laos, Cambodia, the Philippines, Samoa, Guam, the U.S. Trust Territories of the Pacific, and the Northern Marianas;
- e. "Asian-Indian Americans", which includes persons whose origins are from India, Pakistan, and Bangladesh; and
- f. any other minorities or individuals found to be disadvantaged by the Small Business Administration pursuant to Section 8 (a) of the Small Business Act.

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03

SCHEDULE OF DBE PARTICIPATION

A. Attachment A

Company Name: _____
 Project Number: 13-03 Project: Transit Signal Prioritization Project

*Please provide copy of DBE Certification Letter for each DBE firm listed from the Rhode Island Office of Civil Rights. **DBE Vendors must be certified in the State of Rhode Island at the time of Bid Submittal to be considered. A full, up to date list of Rhode Island DBEs can be obtained at the following website: www.mbe.ri.gov/**

DBE Firm Name	DBE Firm Address	DBE Category	Phone Number	Contact Name	Work to be Performed	Estimated Value Dollars	Estimated Value Percent of Bid

The undersigned will enter into a formal agreement with Disadvantaged Business Enterprise firms for work listed in this schedule conditioned upon execution of a contract with the Rhode Island Public Transit Authority.

Authorized Signature of Bidder Official _____

*Use additional forms as needed.

Each DBE Firm listed in the Section must also complete the Required Company Information Form and the Certification of Subcontractor Form (Page 74)

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

LETTER OF INTENT TO PERFORM AS A SUBCONTRACTOR

C. Attachment C

To: _____
(Name of Prime or General Bidder)

The undersigned intends to perform work in connection with the above project as (check one):

___ an individual

___ a corporation

___ a partnership

___ a joint venture

The undersigned is prepared to perform the following described work in connection with the above project (specify in detail particular work items or parts thereof to be performed).

for the following compensation: _____

(Name of DBE Contractor)

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03

DBE GOOD FAITH EFFORT SUMMARY SHEET

D. Attachment D.

RIPTA requires a listing of DBE firms contacted; but not able to perform work. Use additional pages as needed. The DBE Goal for this project is Not Applicable percent. . **A full, up to date list of Rhode Island DBEs can be obtained at the following website: www.mbe.ri.gov/**

DBE Firm Name	DBE Firm Address	DBE Category	Phone Number Email Address	Contact Name	Reason Unable to Perform Work

Project Name: Transit Signal Prioritization Project

Project Number: 13-03

Form completed by: _____

Date: _____

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03

XVIII. PERFORMANCE BOND INFORMATION

The selected Bidder shall furnish, within twenty (20) calendar days (if required) after the date of notice of award of contract by RIPTA, a Performance and Payment Bond in the amount of 100% of the Bid amount covering the faithful performance of the contract.

The Performance Bond is to be secured through an insurance company or companies which is licensed in the State of Rhode Island or which is approved by the Authority.

The Bond will remain in effect throughout the warranty period.

XIX. BID GUARANTEE (SURETY)

A Bid Guarantee (if required) shall be submitted with the Bid response. This guarantee shall be equivalent to five (5) percent of the Bid price. The "Bid guaranty shall consist of a firm commitment such a bid bond, certified check, or other negotiable instrument accompanying a Bid as assurance that the Bidder will, upon will, upon acceptance of its Bidder, execute such contractual documents as may be required within twenty (20) calendar days after the date of notice of award of contract by RIPTA.

XX. REQUIRED INSURANCE

The Bidder will be required to secure and maintain the following insurance coverages:

1. Commercial comprehensive general liability insurance, with limits of \$3,000,000.00 per accident and \$5,000,000.00 aggregate.
2. Workers' Compensation Coverage in accordance with RI Statutory requirements.
3. The Rhode Island Public Transit Authority shall be named as additional insured under said policies.
4. Automotive Liability Insurance
 - \$1,000,000.00 per accident and \$3,000,000.00 aggregate: bodily injury.
 - \$1,000,000.00 property damage

Bidder shall provide to RIPTA Contracts Manager a Certificate of Insurance upon award of contract. This Certificate shall be kept in effect at all times. Current copies shall be provided to the Contracts Manager

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

XXI. GENERAL CONTRACT COMPLIANCE CERTIFICATE AND AGREEMENT

RHODE ISLAND STATE EQUAL OPPORTUNITY OFFICE

The undersigned Contractor agrees and certifies, unless otherwise exempt, that it is in compliance with the applicable requirements of Federal Executive order No. 11246, as amended, Rhode Island General Law 28-5.1-10, and other regulations as issued by the Rhode Island Public Transit Authority, as set forth below, or will take steps to comply with such requirements prior to acceptance of any order from us. This agreement and certificate shall form a part of, and be deemed incorporated in, each order submitted to you for supplies or services exceeding \$10,000. Failure to comply will be considered a substantial breach of the contract.

A. Equal Opportunity Clause

During the performance of this contract, the Contractor agrees as follows:

1. The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or natural origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of the non-discrimination clause.
2. The Contractor will, in all solicitations or advertisements for placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.
3. The Contractor will send to each labor union or representative of workers with which he/she has collective bargaining agreement or other contract or understanding a notice, advising the labor union or worker's representative of the Contractor's commitments under Section 202 of Federal Executive order No. 11246, as amended, Rhode Island Law 28-5.1-10, and other regulations and relevant orders of the Secretary of Labor.
4. The Contractor will comply with all provisions of Federal Executive Order No. 11246, as amended, Rhode Island General Law 28-5.1-10, and other regulations and relevant orders of the Secretary of Labor.
5. The Contractor will furnish all information and reports required by Executive Order No. 11246, as amended, Rhode Island General Law 28-5.1-10 and other regulations as issued by the State of Rhode Island, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his/her books, records and accounts by the State Equal

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

- Opportunity Office and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations and orders.
6. In the event of the Contractor's non-compliance with the non-compliance with the non-discrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be cancelled, terminated or suspended in whole or part, and the Contractor may be declared ineligible for further State contracts in accordance with procedures authorized in Federal Executive Order No. 11246, as amended, Rhode Island General Law 28-5.1-10 , and other regulations as issued by the State of Rhode Island, and such other sanctions may be imposed and remedies invoked as provided in Federal Executive Order No. 11246, as amended; Rhode Island Public Transit Authority, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law, or the State of Rhode Island and Providence Plantations.
 7. The Contractor will include the provisions of paragraphs (1) through (7) in every sub-contract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Federal Executive Order No. 11246, as amended, Rhode Island General Law 28-5.1-10, and other regulations as issued by the Rhode Island Public Transit Authority, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any sub-contract or purchase order as the contracting agency may direct as a means of enforcing such provisions including sanctions for non-compliance; provided, however, that in the event the Contractor becomes involved in, or is threatened with litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the Contractor may request the United States and the State of Rhode Island to enter into such litigation to protect the interest of the United States and the State of Rhode Island.

B. Age Discrimination

Pursuant to Federal Executive Order No. 11246, as amended, the Contractor will not, in connection with the employment, advancement or discharge of employees, or in connection with the terms, conditions, or privileges of their employment, discriminate against persons because of their age except upon the basis of a bona fide occupational qualification, retirement plan or statutory requirement, nor will the Contractor specify, in solicitations or advertisements for employees, a maximum age limit for employment unless the specified maximum age limit is based upon a bona fide occupational qualification, retirement plan or statutory requirement.

C. Employment of the Handicapped

1. Contractor will not discriminate against any employee or applicant for employment because of physical or mental handicap in regard to any position for which the employee or applicant for employment is qualified. Contractor agrees to take affirmative action to employ, advance in employment, and otherwise treat

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

- qualified handicapped individuals without discrimination based upon their physical or mental handicap in all employment practices such as the following employment, upgrading, demotion or transfer, recruitment or recruitment advertising; layoff or termination, rates of selection for training, including apprenticeship.
2. Contractor agrees that if a handicapped individual files a complaint with him/her that he/she is not complying with the requirements of the Rehabilitation Act of 1973, he/she will (1) investigate the complaint and take appropriate action consistent with requirements of 41 CFR Part 60-741.29 and (2) maintain on file for three years, the record regarding the complaint and the actions taken.
 3. Contractor agrees that if a handicapped individual files a complaint with the Department of Labor that he/she has not complied with the requirements of the act, (1) he/she will cooperate with the Department in its investigation of the complaint, and (2) he/she will provide all pertinent information regarding his/her employment practices with respect to the handicapped.
 4. Contractor agrees to comply with the rules and regulations of Section 503 of the Rehabilitation Act of 1973 as interpreted in 41 CFR Part 60-741.29.
 5. in the event of Contractor's noncompliance with the requirements of this clause contract may be terminated or suspended in whole or in part.
 6. This clause shall be included in all subcontracts. In the event that this contract exceeds \$10,000 but is less than \$500,000 and provides for performance in 90 days or more, Contractor further agrees as follows:
 7. Contractor agrees (1) to establish an affirmative action program, appropriate procedures consistent with the guidelines and the rules of the Secretary of Labor, will provide the affirmative action regarding employment and advancement of the handicapped required by P.L. 93-516, (2) to publish the program in the employees or personnel handbook or otherwise distribute a copy to all personnel, (3) to review the program each year and to make such changes as may be appropriate, and (4) to designate one of the principal officials to be responsible for the establishment and operation of the program.
 8. Contractor agrees to permit the examination by appropriate contracting agency officials or the Assistant Secretary for Employment Standards or the designee, of pertinent books, documents, papers and records concerning employment and advancement of the handicapped.
 9. Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices in a form to be prescribed by the Assistant Secretary for Employment Standards, provided by the contracting officer, stating Contractor's obligation under the law to take affirmative action to employ and advance in employment qualified handicapped employees and applicants for employment and the rights and remedies available.

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03

10. Contractor will notify each labor union or representative of workers with which he/she has a collective bargaining agreement or other contract understanding, that he/she is bound by the terms of Section 503 of the Rehabilitation Act, and is committed to take affirmative action to employ and advance in employment, physically and mentally handicapped individuals. In the event this contract exceeds \$100,000 and provides for performance in 90 days or more, Contractor further agrees as follows:
11. Contractor agrees to submit a copy of his/her affirmative action program to the State Equal Opportunity Office within 30 days after the award of a contract or sub-contract.
12. Contractor agrees to submit a summary report to the State of Rhode Island and Providence Plantations Equal Opportunity Office by March 31 of each year during performance of the contract and by March 31 of the year following completion of the contract, in the form prescribed by State Equal Opportunity Office covering employment and complaint experience accommodations made and all steps taken to effectuate and carry out the commitments set forth in the affirmative action program.

XXII. CERTIFICATE OF NON-SEGREGATED FACILITIES

Contractor certifies that he/she does not maintain or provide for his/her Employees any segregated facilities at any of his/her establishments, and that he/she does not permit his/her employees to perform their services at any such location, under his/her control, where segregated facilities are maintained. He/she certifies further that he/she will not permit his/her employees to perform their services at any location, under his/her control, where segregated facilities are maintained. Contractor agrees that a breach of this certification is a violation of the Equal Opportunity Clause in this contract. As used in this certification, the term "Segregated Facilities" means any waiting room, work areas, rest rooms, and wash rooms, restaurants and other eating areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are, in fact, segregated on the basis of race, creed, color, or national origin, because of habit, local custom, or otherwise. He/she further agrees that (except where he/she has obtained identical certifications from proposed subcontractors for specific time periods), he/she will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding \$10,000, which are not exempt from the provisions of the Equal Opportunity Clause; that he/she will forward the following notice to proposed subcontractors (except where the proposed subcontractors have submitted identical certifications for specific time periods).

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03

XXIII. NOTICE OF PROSPECTIVE SUBCONTRACTORS
OF REQUIREMENT FOR CERTIFICATION OF NONSEGREGATED
FACILITIES

A Certificate of Nonsegregated Facilities must be submitted prior to the award of a sub-contract exceeding \$10,000 which is not exempt from the provisions of the Equal Opportunity Clause. The certification may be submitted either for each sub-contract or for all subcontracts during a period (i.e. quarterly, semi-annually, or annually).

**NOTE: The penalty for making false statements in offers is prescribed in
18 USA 1001.**

A. Affirmative Action Compliance Program

Contractor agrees to develop a written Affirmative Action Compliance Program for each of its establishments as required by Section 60-1.40 of Title 41 of the Code of Federal Regulations.

B. Employer's Information Report (EE)-1 Form 100

Contractor agrees to file in duplicate, Standard Form 100, entitled, "Equal Employment Opportunity Employer Information Report EEO-1" as required by Section 60-1.7 of Title 41 of the Code of Federal Regulations.

Send original copy to Federal authorities, duplicate copy to the State Equal Opportunity Office, 1 Capitol Hill, Providence, Rhode Island 02908-5865.

C. Notice to All Vendors

If it should be determined by the State Equal Opportunity Office that any company doing business with the State is guilty of non-compliance with the provisions of this document, said company will be given two (2) written warnings. If the said company does not comply immediately after the second written notice, then the State Equal Opportunity Office will notify the Rhode Island Public Transit Authority, who shall have the authority to have the contract **revoked** and all contractual obligations of the State dealing with the contract in question will be **null and void**.

D. Post Award Conference

Post Award Conference for the Implementation of Affirmative Action prior to Signing of Contract.

C. Signature Required

Failure to provide a signature prior to Award to successful Bidder shall be cause for Rejection of Bid.

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

XXIV. GENERAL CONTRACT COMPLIANCE CERTIFICATE
& AGREEMENT FORM

(Equal Employment Opportunity)

Authorized Signature: _____

Print Name: _____

Title: _____

Company Name: _____

Date: _____

Indicate Job Location Address: _____

BID NO. 13-03

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

XXV. CERTIFICATION OF PRIMARY PARTICIPANT FORM

Invitation for Bid Number: 13-03
Project Transit Signal Prioritization Project

The primary participant _____, certifies to the best of its knowledge and belief, that it and its principals:

- 1) Are not presently debarred, suspended, proposed for debarment, declared eligible, or voluntarily excluded from covered transactions by any Federal Department or Agency;
- 2) Have not within a three-year period preceding this Bid been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or Local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- 3) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State, or Local) with commission of any of the offenses enumerated in paragraph (2) of this certification; and
- 4) Have not within a three-year period preceding this application/Bid had one or more public transactions (Federal, State, or Local) terminated for cause or default.
- 5) The Primary Participant also certifies that, if it later becomes aware of any information contradicting the statements of Paragraphs 1-4 above, it will promptly notify RIPTA.

The primary participant _____, certifies or affirms the truthfulness and accuracy of the contents of the statements submitted on or with this certification and understands that the provisions of 31 U.S.C Sections 3801 **ET SEQ.** are applicable thereto.

Signature/Title of Authorized Official

Date

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03

XXVI. DEBARMENT CERTIFICATION

**CERTIFICATION REQUIREMENTS FOR RECIPIENTS OF GRANTS
AND
COOPERATIVE AGREEMENTS
REGARDING DEBARMENT AND SUSPENSIONS**

The purpose of the attached certifications is to exclude entities and individuals that the Federal Government has either debarred or suspended from obtaining Federal assistance funds through grants, cooperative agreements or third party contracts.

To assure that such entities and individuals are not involved in projects financed with Federal Transit Administration (FTA) assistance, FTA requires its applicants to complete the certificates.

The primary participant must sign the "**Certification of Primary Participant**" and, if there is a subcontractor, they must sign the "**Certification of a Subcontractor**" (If there is more than one subcontractor, they must all sign one of these forms.).

XXVII. CERTIFICATION OF A SUBCONTRACTOR FORM

Invitation for Bid Number: **13-03**

Project **Transit Signal Prioritization Project**

The potential Subcontractor, _____
Certifies, by submission of this certification, that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal Department or agency.

The Subcontractor, _____ certifies or affirms the truthfulness and accuracy of the contents of the statements submitted on or with this certification and understands that the provisions of 31 U.S.C. Sections 3801 **ET SEQ.** are applicable thereto.

Signature/Title of Authorized Official

Print Signature

Date

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

XXVIII. NON-RESIDENT CONTRACTOR INFORMATION

From: Department of Administration
Division of Taxation
289 Promenade Street
Providence, RI 02908

Notice: "To All Persons Engaging Non-Resident Contractors"
Regulation Re: Contractors and Subcontractors - "Regulation C"
Article III, Non-Resident Contractors

Any individual, partnership, joint venture, corporation, state, municipal government or exempt organization awarding a construction contract in Rhode Island to a non-resident contractor (as hereinafter defined) is required, pursuant to Section 44-1-6 of the General Laws, as last amended, to withhold 3% of the contract price to secure payment of any sales and use tax or income tax withheld, or both, that may be due to the State of Rhode Island in carrying out the contract.

Upon completion of the contract, the non-resident contractor is required to notify the Tax Administration shall, within 30 days after receipt of the request, audit the records and provide by certified mail to the person holding the funds and to the non-resident contractor, either a certificate of no tax due or a notice of taxes due.

The person holding the funds is required to pay to the Tax Administrator the amount set forth in the notice of taxed due, including interest and penalties, but not in excess of 3% of the contract price. Monies withheld in excess of taxes due the Tax Administrator may be paid to the non-resident contractor.

If the Tax Administrator does not furnish a certificate of no tax due or a notice of taxes due within 30 days after receipt of the request for the making of the audit, the person holding the funds may remit the full amount due to the non-resident contractor. The Tax Administrator shall not have any claim against such funds in the hand of the person holding the funds.

DEFINITION OF NON-RESIDENT CONTRACTOR

"A non-resident contractor is one who does not maintain a regular place of business in this state. A regular place of business shall be deemed to mean and include any bona fide office (other than a statutory office), factory, warehouse or other space in this state at which the taxpayer is doing business in its own name in a regular and systematic manner and which is continuously maintained, occupied and used by the taxpayer in carrying on its business through its regular employees regularly in attendance. A temporary office at the site of construction shall not constitute a regular place of business".

In order to effectively implement this legislative change which became effective on passage, non-resident contractors shall forward such notice of completion by certified or registered mail (in duplicate) to the Division of Taxation.

R. Gary Clark
Tax Administrator

RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Invitation for Bids Number 13-03

XXIX. DRUG & ALCOHOL TESTING PROGRAM

In accordance with the Federal Transit Administration Rules 49 CFR 40, 653, and 654, pertaining to prohibited drug use and Contract Service Providers who perform safety-sensitive functions as follows:

- Operation of Revenue Service Vehicles In and Out of Service.
- Dispatch or Control Movement of Revenue Service Vehicles.
- Maintain, Repair and Inspect Revenue Service Vehicle.

The standards they must meet are:

1. Provide each employee performing a RIPTA safety-sensitive function a copy of RIPTA's Prohibited Drug Use and Alcohol Misuse Policy and Procedures. Each Employee must sign and return to RIPTA "Confirmation of Receipt" form.
2. Provide RIPTA with documentation that all employees, both full and part-time, participate in a prohibited drug use testing program in compliance with 49 CFR 653 and an alcohol misuse testing program in compliance with 49 CFR 654. Documentation must be provided which insures that all testing is performed in compliance with 49 CFR 40.
3. Provide to RIPTA's, by February 1st, following each calendar year, annual Management Information Systems (MIS) reports for submission to the FTA. The MIS form used must be that which is contained in 49 CFR 653 and 654.
4. Identify a contact person responsible for handling all 49 CFR 40, 653 and 654 regulation compliance.

XXX. DRUG AND ALCOHOL POLICY ACKNOWLEDGEMENT **CONTRACT SERVICE PROVIDER** **ACKNOWLEDGEMENT AND CONFIRMATION OF RECEIPT**

Employee Name: _____

Company Name: _____

I have received a copy of Rhode Island Public Transit Authority's Prohibited Drug Use and Alcohol Misuse Policy and Procedures.

Employee
Signature: _____

Date: _____

Return To: Drug and Alcohol Test Coordinator
Department of Human Resources
Rhode Island Public Transit Authority
Room 217
705 Elmwood Avenue
Providence, Rhode Island 02907

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03
Technical Specifications

This Project Funded by



USDOT

TIGER

DOT.GOV

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03
Technical Specifications

XXXI. ARRA SUPPLEMENT TERMS AND CONDITIONS

These supplemental terms and conditions apply for all contracts and subawards funded in whole or in part by the American Recovery and Reinvestment Act of 2009, Public Law No 11105

A. Definitions

1. "ARRA" or "Recovery Act" means the American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, 123 Stat.115.
2. "ARRA Funds" means any funds that are expended or obligated from appropriations made under ARRA.
3. "ARRA Requirements" means these Supplemental Terms and Conditions, as well as any terms and conditions required by: ARRA; federal law, regulation, policy or guidance; the federal Office of Management and Budget (OMB); the awarding federal agency; or, the Rhode Island Office of Economic Recovery and Reinvestment (OERR).
4. "Authority" means the Rhode Island Public Transit Authority.
5. "Contract" means the contract to which these Supplemental Terms and Conditions are attached, and includes an agreement made pursuant to a grant or loan subaward to a Sub-Recipient.
6. "Contractor" means the party or parties to the Contract other than the Prime Recipient and includes a subgrantee or a borrower. For the purposes of ARRA reporting, Contractor is either a Sub-Recipient or a Recipient Vendor under this Contract.
7. "Prime Recipient" means a non-Federal entity that expends Federal awards received directly from a Federal awarding agency to carry out a Federal program.
8. "Recipient Vendor" means a Vendor that receives ARRA Funds from a Prime Recipient.
9. "Subcontractor" means any entity engaged by Contractor to provide goods or perform services in connection with this contract.
10. "Sub-Recipient Vendor" means a Vendor that receives ARRA Funds from a Sub-Recipient.
11. "Sub-Recipient" means a non-Federal entity receiving ARRA Funds through a Prime Recipient to carry out an ARRA funded program or project, but does not include an individual that is a beneficiary of such a program. The term " Sub-Recipient" is intended to be consistent with the definition in OMB Circular A-133 and section 2.2 of the June 22, 2009 OMB Reporting Guidance.¹ A Sub-Recipient is sometimes referred to as a subgrantee.
12. "Supplemental Terms and Conditions" means these

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03
Technical Specifications

Supplemental Terms And Conditions For Contracts And Subawards Funded In Whole Or In Part By The American Reinvestment Recovery Act Of 2009, Pub. L. No. 111-5, as may be subsequently revised pursuant to ongoing guidance from the relevant federal or Authority authorities.

13. "Vendor" means a dealer, distributor, merchant, or other seller providing goods or services that are required for the project or program funded by ARRA. The term "Vendor" is intended to be consistent with the definition in OMB Circular A-133 and section 2.2 of the June 22, 2009 OMB Reporting Guidance.

B. General

1. To the extent this Contract involves the use of ARRA Funds, Contractor shall comply with both the ARRA Requirements and these Supplemental Terms and Conditions, except where such compliance is exempted or prohibited by law.
2. The Contractor acknowledges these Supplemental Terms and Conditions may require changes due to future revisions of or additions to the ARRA Requirements, and agrees that any revisions of or additions to the ARRA Requirements shall automatically become a part of the Supplemental Terms and Conditions without the necessity of either party executing or issuing any further instrument and shall become a part of Contractor's obligations under the Contract.. The Authority may provide written notification to Contractor of such revisions, but such notice shall not be a condition precedent to the effectiveness of such revisions.

C. Conflicting Terms

Contractor agrees that, to the extent that any term or condition herein conflicts with one or more ARRA Requirements, the ARRA Requirements shall control.

D. Enforceability

Contractor agrees that if it or one of its subcontractors or sub-recipients fails to comply with all applicable federal and Authority requirements governing the use of ARRA funds, including any one of the terms and conditions specified herein, the Authority may withhold or suspend, in whole or in part, funds awarded under the program, recover misspent funds, or both. This provision is in addition to all other civil and criminal remedies available to the Authority under applicable Authority and federal laws and regulations. Implementing Guidance for the Reports on Use of Funds Pursuant to the American Recovery and Reinvestment Act of 2009, M-09-21 (June 22, 2009), available at

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03
Technical Specifications

http://www.whitehouse.gov/omb/assets/memoranda_fy2009/m09-21.pdf.

E. Applicability to Subcontracts and Subawards

Contractor agrees that it shall include the Supplemental Terms and Conditions set forth herein, including this provision, in all subcontracts or subawards made in connection with projects funded in whole or in part by ARRA, and also agrees that it will not include provisions in any such subcontracts or subawards that conflict with either ARRA or the terms and conditions herein.

F. Availability of Funding

Contractor understands that federal funds made available by ARRA are temporary in nature and agrees that the Authority is under no obligation to provide additional Authority-financed appropriations once the temporary federal funds are expended.

G. Inspection and Audit of Records

Contractor agrees that it shall permit the Authority and its representatives, the United States Comptroller General or his representative or the appropriate inspector general appointed under section 3 or 8G of the Inspector General Act of 1978 or his representative to:

1. Examine, inspect, copy, review or audit any records relevant to, and/or involve transactions relating to, this agreement, including documents and electronically stored information in its or any of its subcontractors' or sub-recipients' possession, custody or control unless subject to a valid claim of privilege or otherwise legally protected from disclosure; and
2. Interview any officer or employee of the Contractor regarding the activities and programs funded by ARRA.

H. Registration Requirements

1. **DUNS Number Registration**. Contractor agrees: (i) if it does not have a Dun and Bradstreet Data Universal Numbering System (DUNS) Number, to register for a DUNS Number within 10 business days of receiving this Contract; (ii) to provide the Authority with its DUNS number prior to accepting funds under this agreement; and (iii) to inform the Authority of any material changes concerning its DUNS number.
2. **Central Contractor Registration**. To the extent that Contractor is a Sub-Recipient, it agrees: (i) to maintain a

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03
Technical Specifications

current registration in the Central Contractor Registration (CCR) at all times this agreement is in force, (ii) to provide the Authority with documentation sufficient to demonstrate that it has a current CCR registration, and (iii) to inform the Authority of any material changes concerning this registration.

- 3. Federal Reporting.gov Registration.** To the extent that Contractor is a Sub-Recipient, it agrees: (i) to register on FederalReporting.gov within 10 business days of receiving this subaward; (ii) to maintain a current registration on FederalReporting.gov at all times this agreement is in force; (iii) to provide the Authority with documentation sufficient to demonstrate that it has a current registration on FederalReporting.gov, and (iv) to inform the Authority of any material changes concerning this registration.

I. Reporting Requirements under § 1512 of ARRA

1. Contractor agrees to provide the Authority with data sufficient to fulfill the Authority's ARRA reporting requirements within the timeframes established by Authority or federal law, regulation or policy, including but not limited to section 1512 reporting requirements.
2. To the extent that Contractor is a Sub-Recipient with a Subaward having a total value of greater than \$25,000, it agrees to report directly to the Federal government the information described in section 1512(c) of ARRA using the reporting instructions and data elements available online at FederalReporting.gov, and ensure that any information that is prefilled is corrected or updated as needed. Information from these reports will be made available to the public.
3. To the extent that Contractor is a Sub-Recipient with a Subaward having a total value of greater than \$25,000, it accepts delegation of reporting responsibility of FFATA data elements required under section 1512 of ARRA for payments from the Authority. Sub-Recipient shall utilize the federal government's online reporting solution at www.FederalReporting.gov. Reports are due no later than ten calendar days after each calendar quarter in which the recipient receives the assistance award funded in whole or in part by ARRA.
4. To the extent that Contractor is a Sub-Recipient with a Subaward having an initial total value of less than \$25,000,

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03
Technical Specifications

but is subsequently modified to exceed \$25,000, Contractor agrees that subsections (b) and (c) above apply after the modification.

J. **Buy American Requirements under § 1605 of ARRA**

1. Contractor agrees that, in accordance with section 1605 of ARRA, it will not use ARRA funds for a project for the construction, alternation, maintenance, or repair of a public building or public work unless all of the iron, steel and manufactured goods used in the project are produced in the United States in a manner consistent with United States obligations under international agreements. In addition to the foregoing Contractor agrees to abide by all regulations issued pursuant to section 1605 of ARRA.
2. Contractor understands that this requirement may only be waived by the applicable federal agency in limited situations as set out in section 1605 of ARRA and federal regulations issued pursuant thereto.

K. **Wage Rate Requirements under § 1606 of ARRA**

1. Contractor agrees that it will comply with the wage rate requirements contained in section 1606 of ARRA, which requires that, notwithstanding any other provision of law, all laborers and mechanics employed by contractors and subcontractors on projects funded directly by or assisted in whole or in part by and through the Federal Government pursuant to ARRA shall be paid wages at rates not less than those prevailing on projects of a character similar in the locality as determined by the Secretary of Labor in accordance with subchapter IV of chapter 31 of title 40, United Authoritys Code. The Secretary of Labor's determination regarding the prevailing wages applicable in Rhode Island is available at <http://www.gpo.gov/davisbacon/ri.html>.
2. Contractor agrees that it will comply with all federal regulations issued pursuant to section 1606 of ARRA, and that it will require any subcontractors or sub-recipients to comply with the above provision.

L. **Required Jobs Data Reporting under § 1512(c)(3)(D) of ARRA**

1. Contractor agrees, in accordance with section 1512(c)(3)(D) of ARRA and section 5 of the June 22, 2009 OMB Reporting Guidance (entitled "Reporting on Jobs Creation Estimates and by Recipients"), to provide an estimate of the number of jobs created and the number of jobs retained by ARRA-

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03
Technical Specifications

funded projects and activities. In order to perform the calculation, the Contractor will provide the data elements listed in sub-section (2) below.

2. Contractor agrees that, no later than two business days after the end of each calendar quarter, it will provide to the Authority the following data elements using a form specified by the Authority:
 - a. The total number of ARRA-funded hours worked on this award.
 - b. The number of hours in a full-time schedule for a quarter.
 - c. A narrative description of the employment impact of the ARRA funded work. This narrative is cumulative for each calendar quarter and at a minimum, shall address the impact on the Contractor's workforce and the impact on the workforces of its subcontractors or sub-recipients.
3. Contractor agrees that, in the event that the federal government permits direct reporting of section 1512(c)(3)(D) jobs data by sub-recipients or vendors, it will directly report jobs data to the federal government, consistent with any applicable federal law, regulations and guidance.

M. Segregation of Funds

1. Contractor agrees that it shall segregate obligations and expenditures of ARRA funds from other funding it receives from the Authority and other sources, including other Federal awards or grants.
2. Contractor agrees that no part of funds made available under ARRA may be commingled with any other funds or used for a purpose other than that of making payments in support of projects and activities expressly authorized by ARRA.

N. Disclosure pursuant to the False Claims Act

Contractor agrees that it shall promptly refer to an appropriate Federal Inspector General any credible evidence that a principal, employee, agent, subcontractor or other person has committed a false claim under the False Claims Act or has committed a criminal or civil violation of laws pertaining to fraud, conflict of interest, bribery, gratuity, or similar misconduct involving ARRA funds.

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03
Technical Specifications

O. Disclosure of Fraud, Waste and Mismanagement to Authority Authorities

Contractor shall also refer promptly to the Rhode Island Public Transit Authority Department of Purchases, any credible evidence that a principal, employee, agent, contractor, subgrantee, subcontractor, or other person has committed a criminal or civil violation of Authority or Federal laws and regulations in connection with funds appropriated under ARRA.

P. Prohibited Uses of ARRA Funds

1. Contractor agrees that neither it nor any subcontractors or sub-recipients will use the funds made available under this agreement for any casinos or other gambling establishments, aquariums, zoos, golf courses, swimming pools, or similar projects.
2. Contractor agrees that neither it nor any subcontractors or sub-recipients will use the funds made available under this agreement in a manner inconsistent with any certification made by the Governor or any other Authority official pursuant to the certification requirements of ARRA, which are published online at <http://www.recovery.ri.gov/certification/>.

Q. Whistleblower Protection under §1553 of ARRA

1. Contractor agrees that it shall not discharge, demote, or otherwise discriminate against an employee as a reprisal for disclosures by the employee of information that he or she reasonably believes is evidence of (1) gross mismanagement of an agency contract or grant relating to covered funds; (2) a gross waste of covered funds; (3) a substantial and specific danger to public health or safety related to the implementation or use of covered funds; (4) an abuse of authority related to the implementation or use of covered funds; or (5) a violation of law, rule, or regulation related to an agency contract (including the competition for or negotiation of a contract) or grant, awarded or issued relating to covered funds.
2. Contractor agrees to post notice of the rights and remedies available to employees under section 1553 of ARRA.

Please note that the Authority will strictly enforce compliance with all ARRA Requirements and these Supplemental Terms and Conditions. Accordingly, all Contractors should familiarize themselves with these Supplemental Terms and Conditions as well as all ARRA Requirements as they relate to this Contract.

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03
Technical Specifications

XXXII. MANDATORY MONTHLY REPORTING REQUIREMENTS

A. Introduction

This project is funded under the American Recovery and Reinvestment Act of 2009 (ARRA). Therefore, the successful bidder/contractor/consultant/vendor, hereafter referred to as the Contractor, is required to report to RIPTA specific information about the jobs created and/or maintained during the project.

The Contractor shall submit a monthly report of the below information to RIPTA for each calendar month from the date of the Notice to Proceed until completion/termination of the contract. The Contractor is responsible for maintaining data to support its report and make it available to RIPTA upon request. The Contractor will report any additional information required by RIPTA under ARRA upon request.

The month of report is the immediately preceding calendar month. **The Contractor shall report the below information to RIPTA within five (5) business days after the end of the month of report.** The Contractor will not be paid until the below information is reported to RIPTA in a timely manner.

The Contractor will report the below information **directly** to the following RIPTA representative:

William Rush, Director of Finance
Rhode Island Public Transit Authority
705 Elmwood Avenue
Providence, Rhode Island 02907
401-784-9500 ext 222 (phone)
401-784-9533 (fax)
wrush@ripta.com (email)

The Contractor shall report the below information for its own workforce as well as the workforce of all its subcontractors that worked on the project during the month of report.

B. Jobs Defined

Jobs includes:

- The Contractor's own project labor, including permanent, temporary, and contract project staff working on the job site.
- Employees who work off the job site, in the project office, in the home office, from a home (teleworker), or other office location directly in support of project/contract.

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03
Technical Specifications

- Direct labor associated with the project such as design, construction, and inspection performed by but not limited to consultants, surveyors, engineers, inspectors, sampling and testing technicians, and lab technicians working for the Contractor directly in support of project.

Jobs does not include:

- General overhead personnel and work hours.
- Suppliers and manufacturers of materials such as steel, culverts, guardrails, and tools and vehicles.
- Estimated indirect labor, such as material testing, material production or estimated macro-economic impacts.

C. Report Format

The Contractor may use the following *ARRA CONTRACTOR MONTHLY REPORT FORM* as model for submitting the below information to RIPTA. The use of the model form is optional and at the discretion of the Contractor.

XXXIII. REQUIRED REPORT INFORMATION

The Contractor shall report information on the direct, on-the-project jobs for its workforce and the workforce of its subcontractors working on the project during the month of report.

The Contractor's report must include the following fourteen (14) items of information:

1. RIPTA Purchase Order Number.
2. Month and Year of Report.
3. Name of Contractor.
4. Contractor's DUNS Number.
(a DUNS Number can be acquired online at http://www.dnb.com/US/duns_update/)
5. The number of employees of the Contractor working directly on the project during the month of report. Do not include general overhead personnel. Do not include materials suppliers and manufacturers.
6. The total number hours worked (not paid) for the employees of the Contractor working directly on the project during the month of report. Do not report overtime hours any differently than other hours of work. One hour of overtime is counted as one hour of work.
7. The total dollar amount of wages earned (not paid to) by the employees of the Contractor working directly on the project during the month of report. Include only wages (base plus overtime pay) and do not include overhead (vacation pay, holiday pay, benefits, etc.) or indirect costs.
8. The name of each and every subcontractor the Contractor working directly on the project during the month of report.

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03
Technical Specifications

9. The number of employees of each and every subcontractor to the Contractor working directly on the project during the month of report. Do not include general overhead personnel. Do not include materials suppliers and manufacturers.
10. The total number of hours worked (not paid) by the employees of the subcontractor to the Contractor working directly on the project during the month of report. Do not report overtime hours any differently than other hours of work. One hour of overtime is counted as one hour of work.
11. The total dollar amount of wages earned (not paid to) by the employees of the subcontractor to the Contractor working directly on the project during the month of report. Include only wages (base plus overtime pay) and do not include overhead (vacation pay, holiday pay, benefits, etc.) or indirect costs.
12. Name of the person responsible for preparation of the report for the Contractor.
13. Signature of the person responsible for preparation of the report for the Contractor. By signing the report, the person certifies that he/she is knowledgeable of the hours worked and employment status for all the employees.
14. The date that the Contractor completed and signed the report.

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03
Technical Specifications



ARRA CONTRACTOR MONTHLY REPORT FORM

(Refer to *Mandatory Monthly Reporting Requirements* for instructions on completing form)

1. RIPTA Purchase Order Number:		2. Month & Year of Report:		
3. Contractor Name:		4. Contractor DUNS #:		
5. Number of Contractor Employees:	6. Total Number Hours Worked by Contractor Employees:	7. Total Wages Earned by Contractor Employees: \$		
8. Subcontractor(s) (SUB) Name(s)		9. Number of SUB Employees	10. Total Number of SUB Hours Worked	11. Total SUB Wages Earned
				\$
				\$
				\$
				\$
				\$
				\$
12. Name:		13. Signature:		14. Date:

Please submit report directly to: William Rush, Director of Finance
 Rhode Island Public Transit Authority
 705 Elmwood Avenue
 Providence, Rhode Island 02907
 401-784-9500 ext 222 (phone)
 401-784-9533 (fax)
 wrush@ripta.com (email)

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03
Technical Specifications

XXXIV. PROJECT DESCRIPTION

The RIPTA R-Line Transit Signal Priority project consists of the installation of transit signal priority system equipment at forty-seven intersections in Providence and Pawtucket, Rhode Island. Work includes the replacement of traffic signal controllers and cabinets, replacement of controllers in existing cabinets, upgrades to existing controller firmware, installation of optical detection equipment, installation of new video detection equipment, and repairs to existing detection equipment. It also includes installation of ADA-compliant pedestrian pushbuttons, pedestrian signal poles with pedestrian signal heads/countdown timers, relocation of existing signal heads, GPS units for system intersection time synchronization, pavement markings, and other miscellaneous tasks including, but not be limited to removal of various existing traffic signal equipment, reconstruction of wheelchair ramps, furnishing and installing directional, regulatory, and warning signs, traffic control, and other incidentals as necessary to complete the work of this Contract to the satisfaction of the Engineer.

All work under this contract is to be as shown on the Plans entitled "RIPTA R-Line Transit Signal Priority" and project specifications. All work is to be done in accordance with the latest edition of the Manual on Uniform Traffic Control Devices (MUCTD), the Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction, 2004 Edition, as amended, and the 1998 Rhode Island Standard Details, as amended.

The RIPTA reserves the right to award the work under this project as an entire project for all locations or for a portion of the project broken down by municipality (Providence or Pawtucket). RIPTA also reserves the right to add or remove quantities or specific intersections depending on the bid prices received and/or available funding.

All work of this contract is to be substantially complete within six (6) months after the issue date of the Notice to Proceed.

XXXV. GENERAL PROVISIONS CONTRACT SPECIFIC AND TECHNICAL SPECIFICATIONS.

General Provisions – Contract Specific and Technical Specifications – Job Specific can be found in Appendices 1-4

Bidders can obtain a disk of the project Drawings at the following location:

Vanasse Hangen Brustlin, Inc.
10 Dorrance Street, Suite 400
Providence, RI 02903
(401) 272-8100
Contact: Chris Fay, P.E.

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03
Technical Specifications

It is the Contractor's responsibility to print copies of the plans as needed for bidding and construction, at no cost to the RIPTA.

XXXVI. **COMPLETION DATE:**

- A. The following completion date will enforceable and subject to liquidated damages:
- B. Overall Contract Completion Date: Six (6) months after the notice to proceed. It shall be noted that there will be no winter shutdown associated with this contract.
- C. Failure to meet this date will result in the assessment of liquidated damages in accordance with the Schedule of Liquidated Damages listed in Section 108.08 (Failure to Comply On Time) of the Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction in the amount listed per calendar day with no winter shutdown.

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03
BID FORM

Total Project (Both Sections Listed Above):

Having examined the Place of The Work and all matters referred to in the Bid Documents and in the Contract Documents prepared for the above mentioned project, we, the undersigned, hereby offer to enter into a Contract to perform the Base Bid Work for the entire project for a Sum of:

_____ (\$ _____.)
 (written, and numerically)

XXXIX. UNIT PRICES

RIPTA reserves the right to add or remove quantities or specific intersections depending on the bid prices received and/or available funding. Provide unit prices as noted for the following items adding up to the total project bid amount listed above:

Item No.	Item Code	Item Description	Approx. Quantity	Unit	Unit Bid Measure (Dol. & Cents)	Total Bid Price Amount (Dol. & Cents)
01.	201.0609	Remove and Salvage Sign	2	EA	\$ _____	\$ _____
		At _____			Per EA	
02.	201.0610	Remove and Dispose Sign	1	EA	\$ _____	\$ _____
		At _____			Per EA	
03.	201.9901	Remove and Salvage Traffic Signal System	1	LS	\$ _____	\$ _____
		At _____			Per LS	
04.	922.0100	Temporary Construction Signs Std. 29.1.0 and 27.1.1	251	SF	\$ _____	\$ _____
		At _____			Per SF	
05.	923.0120	Plastic Pipe Barricade Std. 26.3.0	14	EA	\$ _____	\$ _____
		At _____			Per EA	
06.	923.0200	Fluorescent Traffic Cones Std. 26.1.0	70	EA	\$ _____	\$ _____
		At _____			Per EA	

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03
BID FORM

Item No.	Item Code	Item Description	Approx. Quantity	Unit	Unit Bid Measure (Dol. & Cents)	Total Bid Price Amount (Dol. & Cents)
07.	936.0110	Mobilization	1	LS	\$ _____	\$ _____
		At _____			Per LS	
08.	937.0200	Maintenance and Movement of Traffic Protection	1	LS	\$ _____	\$ _____
		At _____			Per LS	
09.	L08.0109	Tree Trimming	40	MHRS	\$ _____	\$ _____
		At _____			Per MHRS	
10.	T04.5001	6 AWG Single Conductor Cable 600v Insulation	2360	LF	\$ _____	\$ _____
		At _____			Per LF	
11.	T04.5302	14 AWG 2 Conductor Twisted Shielded Cable	305	LF	\$ _____	\$ _____
		At _____			Per LF	
12.	T04.5303	14 AWG 3 Conductor Cable	13360	LF	\$ _____	\$ _____
		At _____			Per LF	
13.	T04.5305	14 AWG 5 Conductor Cable	10325	LF	\$ _____	\$ _____
		At _____			Per LF	
14.	T04.5307	14 AWG 7 Conductor Cable	1220	LF	\$ _____	\$ _____
		At _____			Per LF	
15.	T04.9901	Optical Detector Cable	16995	LF	\$ _____	\$ _____
		At _____			Per LF	

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03
BID FORM

Item No.	Item Code	Item Description	Approx. Quantity	Unit	Unit Bid Measure (Dol. & Cents)	Total Bid Price Amount (Dol. & Cents)
16.	T04.9902	Video Detection System Cable	2740	LF	\$ _____	\$ _____
		At _____			Per LF	
17.	T05.0100	Precast Type "A" Handhole Std. 18.2.0	20	EA	\$ _____	\$ _____
		At _____			Per EA	
18.	T05.9901	Break Into Existing Handhole	21	EA	\$ _____	\$ _____
		At _____			Per EA	
19.	T05.9902	Clean Existing Handhole	25	EA	\$ _____	\$ _____
		At _____			Per EA	
20.	T06.2020	2 Inch Rigid Steel Conduit – Overhead	90	LF	\$ _____	\$ _____
		At _____			Per LF	
21.	T06.3020	2 Inch Rigid Steel Conduit – Under Existing Pavement	305	LF	\$ _____	\$ _____
		At _____			Per LF	
22.	T06.5330	3 Inch Schedule 40 Polyvinyl Chloride Plastic Conduit – Under Existing Pavement	605	LF	\$ _____	\$ _____
		At _____			Per LF	
23.	T06.5340	4 Inch Schedule 40 Polyvinyl Chloride Plastic Conduit – Under Existing Pavement	65	LF	\$ _____	\$ _____
		At _____			Per LF	
24.	T06.5430	3 Inch Schedule 80 Polyvinyl Chloride Plastic Conduit – Under Existing Pavement	1720	LF	\$ _____	\$ _____
		At _____			Per LF	

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03
BID FORM

Item No.	Item Code	Item Description	Approx. Quantity	Unit	Unit Bid Measure (Dol. & Cents)	Total Bid Price Amount (Dol. & Cents)
25.	T06.6020	2 Inch Polyvinyl Chloride Plastic Conduit – Overhead	100	LF	\$ _____	\$ _____
		At _____			Per LF	
26.	T11.2008	Traffic Signal Standard, 8 foot, Std. 19.4.0 Aluminum Pedestal Pole and Fdn.	13	EA	\$ _____	\$ _____
		At _____			Per EA	
27.	T12.0004	Actuated Controller TS-2, Type 2 w/4 Phase Assembly, Pole Mounted Cabinet Std. 19.1.1	1	EA	\$ _____	\$ _____
		At _____			Per EA	
28.	T12.9150	Meter Socket w/Manual Bypass	8	EA	\$ _____	\$ _____
		At _____			Per EA	
29.	T12.9901	Actuated Controller, TS-2, Type 2 w/8 Phase Assembly Ground Mounted Incl. Cabinet and Fdn. Std. 19.1.0	4	EA	\$ _____	\$ _____
		At _____			Per EA	
30.	T12.9902	Actuated Controller, TS-2, Type 1 w/8 Phase Assembly, Ground Mounted Incl. Cab Std. 19.1.0 On Exist Mod. Fdn.	2	EA	\$ _____	\$ _____
		At _____			Per EA	
31.	T12.9903	Actuated Controller, TS-2, Type 2 in Existing Cabinet	13	EA	\$ _____	\$ _____
		At _____			Per EA	
32.	T12.9904	Actuated Controller, TS-2, Type 1 in Existing Cabinet	6	EA	\$ _____	\$ _____
		At _____			Per EA	

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03
BID FORM

Item No.	Item Code	Item Description	Approx. Quantity	Unit	Unit Bid Measure (Dol. & Cents)	Total Bid Price Amount (Dol. & Cents)
33.	T12.9905	Modify Existing Controller	26	EA	\$ _____	\$ _____
		At _____			Per EA	
34.	T12.9906	Modify Existing Controller Cabinet	13	EA	\$ _____	\$ _____
		At _____			Per EA	
35.	T12.9907	Video Detection System Hardware	15	EA	\$ _____	\$ _____
		At _____			Per EA	
36.	T12.9908	Modify Existing Central Computer Station	1	LS	\$ _____	\$ _____
		At _____			Per LS	
37.	T12.9909	Modify Existing Fire Station Pre-Emption Control System	1	EA	\$ _____	\$ _____
		At _____			Per EA	
38.	T12.9910	GPS Time Synchronization System	14	EA	\$ _____	\$ _____
		At _____			Per EA	
39.	T12.9911	Repair Detector Rack Assembly	6	EA	\$ _____	\$ _____
		At _____			Per EA	
40.	T12.9912	Install New Detector Rack Assembly	1	EA	\$ _____	\$ _____
		At _____			Per EA	
41.	T12.9913	Traffic Signal System Master	1	EA	\$ _____	\$ _____
		At _____			Per EA	
42.	T12.9914	Transit Signal Priority System Training	1	LS	\$ _____	\$ _____
		At _____			Per LS	

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03
BID FORM

Item No.	Item Code	Item Description	Approx. Quantity	Unit	Unit Bid Measure (Dol. & Cents)	Total Bid Price Amount (Dol. & Cents)
43.	T13.1000	Traffic Detectors – Loop, Std. 19.6.0	115	LF	\$ _____	\$ _____
		At _____			Per LF	
44.	T13.1002	Traffic Detector Relay – Loop 2 Channel	2	EA	\$ _____	\$ _____
		At _____			Per EA	
45.	T13.1004	Traffic Detector Relay – Loop 4 Channel	11	EA	\$ _____	\$ _____
		At _____			Per EA	
46.	T13.9901	Heavy Duty Pedestrian Detector – Pushbutton with Sign	34	EA	\$ _____	\$ _____
		At _____			Per EA	
47.	T13.9902	Optical Detector – Single Channel, One-Way	99	EA	\$ _____	\$ _____
		At _____			Per EA	
48.	T13.9903	Optical Detector Phase Selector and Chassis	51	EA	\$ _____	\$ _____
		At _____			Per EA	
49.	T13.9904	Optical Detector Confirmation Beacon	43	EA	\$ _____	\$ _____
		At _____			Per EA	
50.	T13.9905	Optical Detector Phase Selector and Chassis (4 Channel)	7	EA	\$ _____	\$ _____
		At _____			Per EA	
51.	T13.9906	Video Detection System Camera	15	EA	\$ _____	\$ _____
		At _____			Per EA	

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03
BID FORM

Item No.	Item Code	Item Description	Approx. Quantity	Unit	Unit Bid Measure (Dol. & Cents)	Total Bid Price Amount (Dol. & Cents)
52.	T14.9902	1 Way Pedestal Mounted L.E.D. Pedestrian Signal Head 12 Inch With Countdown Timer 12 Inch	5	EA	\$ _____	\$ _____
		At _____			Per EA	
53.	T14.9903	2 Way Pedestal Mounted L.E.D. Pedestrian Signal Head 12 Inch With Countdown Timer 12 Inch	8	EA	\$ _____	\$ _____
		At _____			Per EA	
54.	T14.9904	1 Way Bracket Mounted L.E.D. Pedestrian Signal Head 12 Inch With Countdown Timer 12 Inch	13	EA	\$ _____	\$ _____
		At _____			Per EA	
55.	T14.9905	Remove and Relocate Traffic Signal Head	29	EA	\$ _____	\$ _____
		At _____			Per EA	
56.	T15.0100	Directional, Regulatory and Warning Signs	54	SF	\$ _____	\$ _____
		At _____			Per SF	
57.	T20.1000	Remove Existing Pavement Markings	1000	LF	\$ _____	\$ _____
		At _____			Per LF	
58.	T20.2006	6 Inch Epoxy Resin Pavement Markings White	2505	LF	\$ _____	\$ _____
		At _____			Per LF	
59.	T20.2008	8 Inch Epoxy Resin Pavement Markings White	7000	LF	\$ _____	\$ _____
		At _____			Per LF	

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03
BID FORM

Item No.	Item Code	Item Description	Approx. Quantity	Unit	Unit Bid Measure (Dol. & Cents)	Total Bid Price Amount (Dol. & Cents)
60.	T20.2012	12 Inch Epoxy Resin Pavement Markings White	540	LF	\$ _____	\$ _____
		At _____			Per LF	
61.	T20.2014	4 Inch Epoxy Resin Pavement Markings Yellow	2620	LF	\$ _____	\$ _____
		At _____			Per LF	
62.	T20.2020	Epoxy Resin Pavement Arrow – Straight, Left, Right, or Combined Standard 20.1.0	11	EA	\$ _____	\$ _____
		At _____			Per EA	
63.	T20.2022	Epoxy Resin Pavement Marking Word “ONLY” Standard 20.1.0	72	EA	\$ _____	\$ _____
		At _____			Per EA	
64.	T20.9901	Epoxy Resin Word Pavement Markings “BUS”	62	EA	\$ _____	\$ _____
		At _____			Per EA	
75.	N/A	Police Details	500	MHRS	\$ _____	\$ _____
		At _____			Per MHRS	

Approximate quantities are listed by location in the Distribution of Quantities (DOQ), found in Appendix 1. It is the Contractor’s responsibility to verify quantities in developing bids.

XL. ACCEPTANCE

This offer shall be open to acceptance and is irrevocable for 120 days from the bid closing date. If this bid is accepted by the Owner within the time period stated above, we will:

- Execute and proceed under the Agreement, subject to compliance with required State regulatory agency approvals as described in the Bid Documents.
- Furnish the required bonds in compliance with amended provisions of the Instructions to Bidders.
- Commence work within seven days after receipt of a Notice to Proceed.

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03
BID FORM

If this bid is accepted within the time stated, and we fail to commence the Work, or we fail to provide the required Bonds, the security deposit shall be forfeited to the Owner by reason of our failure, limited in amount to the lesser of the face value of the security deposit or the difference between this bid and the bid upon which a Contract is signed.

In the event our bid is not accepted within the time stated above, the required security deposit shall be returned to the undersigned, in accordance with the provisions of the Instructions to Bidders; unless a mutually satisfactory arrangement is made for its retention and validity for an extended period of time.

XL I. CONTRACT TIME

If this Bid is accepted, we will achieve Substantial Completion of the Work within six (6) months after the issue date of the Notice to Proceed.

XL II. LIQUIDATED DAMAGES

Time is of the Essence: If we fail to achieve certification of Substantial Completion at the expiration of the agreed upon Contract Time indicated above, we acknowledge that we will be assessed Liquidated Damages for each calendar day the project continues to be in default of Substantial Completion. The Liquidated Damages will be assessed at the rate of \$1,200.00 per calendar day.

XL III. REQUIREMENT FOR LICENSE NUMBER

In compliance with the requirements of Rhode Island General Law, Section 5-65-23, my Rhode Island license number for the work to be performed by this firm as prime contractor is:

LICENSE NUMBER: _____

XL IV. ADDENDA

The following Addenda have been received. The modifications to the Bid Documents noted below have been considered and all costs are included in the Bid Sum.

Addendum No. ____, dated _____.

Addendum No. ____, dated _____.

Addendum No. ____, dated _____.

BID FORM SIGNATURE(S)

(Bidder's name)

By: _____

Title: _____

Corporate Seal:

RHODE ISLAND PUBLIC TRANSIT AUTHORITY
Invitation for Bids Number 13-03
LIST OF APPENDICES

XLV. LIST OF APPENDICES

APPENDIX 1: DISTRIBUTION OF QUANTITIES

APPENDIX 2: GENERAL PROVISIONS – CONTRACT SPECIFIC

APPENDIX 2A: PROVIDENCE TECHNICAL SPECIFICATIONS

APPENDIX 3: TECHNICAL SPECIFICATIONS – JOB SPECIFIC

APPENDIX 4: RIPTA R-LINE Route and stations map

APPENDIX 1
DISTRIBUTION OF QUANTITIES

RIPTA R-Line Transit Signal Priority DOQ Summary

Item #	Item Code	Description	Quantity	Unit
1	201.0609	Remove and Salvage Sign	2	EA
2	201.0610	Remove and Dispose Sign	1	EA
3	201.9901	Remove and Salvage Traffic Signal System	1	LS
4	922.0100	Temporary Construction Signs Std. 29.1.0 and 27.1.1	251	SF
5	923.0120	Plastic Pipe Barricade Std. 26.3.0	14	EA
6	923.0200	Fluorescent Traffic Cones Std. 26.1.0	70	EA
7	936.0110	Mobilization	1	LS
8	937.0200	Maintenance and Movement of Traffic Protection	1	LS
9	L08.0109	Tree Trimming	40	MHRS
10	T04.5001	6 AWG Single Conductor Cable 600v Insulation	2360	LF
11	T04.5302	14 AWG 2 Conductor Twisted Shielded Cable	305	LF
12	T04.5303	14 AWG 3 Conductor Cable	13360	LF
13	T04.5305	14 AWG 5 Conductor Cable	10325	LF
14	T04.5307	14 AWG 7 Conductor Cable	1220	LF
15	T04.9901	Optical Detector Cable	16995	LF
16	T04.9902	Video Detection System Cable	2740	LF
17	T05.0100	Precast Type "A" Handhole Std. 18.2.0	20	EA
18	T05.9901	Break Into Existing Handhole	21	EA
19	T05.9902	Clean Existing Handhole	25	EA
20	T06.2020	2 Inch Rigid Steel Conduit - Overhead	90	LF
21	T06.3020	2 Inch Rigid Steel Conduit - Under Existing Pavement	305	LF
22	T06.5330	3 Inch Schedule 40 Polyvinyl Chloride Plastic Conduit - Under Existing Pavement	605	LF
23	T06.5340	4 Inch Schedule 40 Polyvinyl Chloride Plastic Conduit - Under Existing Pavement	65	LF
24	T06.5430	3 Inch Schedule 80 Polyvinyl Chloride Plastic Conduit - Under Existing Pavement	1720	LF
25	T06.6020	2 Inch Polyvinyl Chloride Plastic Conduit - Overhead	100	LF
26	T11.2008	Traffic Signal Standard, 8 foot, Std. 19.4.0 Aluminum Pedestal Pole and Fdn	13	EA
27	T12.0004	Actuated Controller TS-2, Type 2 w/4 Phase Assembly, Pole Mounted Cabinet Std. 19.1.1	1	EA
28	T12.9150	Meter Socket w/Manual Bypass	8	EA
29	T12.9901	Actuated Controller, TS-2, Type 2 w/8 Phase Assembly Ground Mounted Incl. Cabinet and Fdn Std. 19.1.0	4	EA
30	T12.9902	Actuated Controller, TS-2, Type 1 w/8 Phase Assembly, Grnd Mtd Incl. Cab Std 19.1.0 On Exist Mod. Fdn	2	EA
31	T12.9903	Actuated Controller, TS-2, Type 2 in Existing Cabinet	13	EA
32	T12.9904	Actuated Controller, TS-2, Type 1 in Existing Cabinet	6	EA
33	T12.9905	Modify Existing Controller	26	EA
34	T12.9906	Modify Existing Controller Cabinet	13	EA
35	T12.9907	Video Detection System Hardware	15	EA
36	T12.9908	Modify Existing Central Computer Station	1	LS
37	T12.9909	Modify Existing Fire Station Pre-Emption Control System	1	EA
38	T12.9910	GPS Time Synchronization System	14	EA
39	T12.9911	Repair Detector Rack Assembly	6	EA
40	T12.9912	Install New Detector Rack Assembly	1	EA
41	T12.9913	Traffic Signal System Master	1	EA
42	T12.9914	Transit Signal Priority System Training	1	LS
43	T13.1000	Traffic Detectors - Loop, Std. 19.6.0	115	LF
44	T13.1002	Traffic Detector Relay - Loop 2 Channel	2	EA
45	T13.1004	Traffic Detector Relay - Loop 4 Channel	11	EA
46	T13.9901	Heavy Duty Pedestrian Detector - Pushbutton with Sign	34	EA
47	T13.9902	Optical Detector - Single Channel, One-Way	99	EA
48	T13.9903	Optical Detector Phase Selector and Chassis	51	EA
49	T13.9904	Optical Detector Confirmation Beacon	43	EA
50	T13.9905	Optical Detector Phase Selector and Chassis (4 Channel)	7	EA
51	T13.9906	Video Detection System Camera	15	EA
52	T14.9902	1 Way Pedestal Mounted L.E.D. Pedestrian Signal Head 12 Inch With Countdown Timer 12 Inch	5	EA
53	T14.9903	2 Way Pedestal Mounted L.E.D. Pedestrian Signal Head 12 Inch With Countdown Timer 12 Inch	8	EA
54	T14.9904	1 Way Bracket Mounted L.E.D. Pedestrian Signal Head 12 Inch With Countdown Timer 12 Inch	13	EA
55	T14.9905	Remove and Relocate Traffic Signal Head	29	EA
56	T15.0100	Directional, Regulatory and Warning Signs	54	SF
57	T20.1000	Remove Existing Pavement Markings	1000	LF
58	T20.2006	6 Inch Epoxy Resin Pavement Markings White	2505	LF
59	T20.2008	8 Inch Epoxy Resin Pavement Markings White	7000	LF
60	T20.2012	12 Inch Epoxy Resin Pavement Markings White	540	LF
61	T20.2014	4 Inch Epoxy Resin Pavement Markings Yellow	2620	LF
62	T20.2020	Epoxy Resin Pavement Arrow - Straight, Left, Right, or Combined Standard 20.1.0	11	EA
63	T20.2022	Epoxy Resin Pavement Marking Word "ONLY" Standard 20.1.0	72	EA
64	T20.9901	Epoxy Resin Word Pavement Markings "BUS"	62	EA
65		Police Details (Project Wide)	500	MHRS

**RIPTA R-Line Transit Signal Priority
Distribution of Quantities**

TRAFFIC SIGNAL PLANS

Item Code	Description	Unit	TRAFFIC SIGNAL PLANS										Total Quantity			
			1 Broad at Ontario/Oxford	2 Broad at Potters	3 Broad at Public	4 Broad at Plenty/Willard	5 Broad at Parkis	6 Broad at Blackstone/W. Friendship	7 Broad at Elmwood/Bridgham	8 Broad at Pearl	9 Broad at Summer	10 Broad at Cahir/Stewart				
201.0609	Remove and Salvage Sign	EA				0										0
201.0610	Remove and Dispose Sign	EA				0										0
201.9901	Remove and Salvage Traffic Signal System	LS								Project Wide						1
922.0100	Temporary Construction Signs Std. 29.1.0 and 27.1.1	SF								Project Wide						251
923.0120	Plastic Pipe Barricade Std. 26.3.0	EA								Project Wide						14
923.0200	Fluorescent Traffic Cones Std. 26.1.0	EA								Project Wide						70
936.0110	Mobilization	LS								Project Wide						1
937.0200	Maintenance and Movement of Traffic Protection	LS								Project Wide						1
L08.0109	Tree Trimming	MHRS								Project Wide						40
T04.5001	6 AWG Single Conductor Cable 600v Insulation	LF	530	255	45	730	635									2195
T04.5302	14 AWG 2 Conductor Twisted Shielded Cable	LF														0
T04.5303	14 AWG 3 Conductor Cable	LF	1390	1500	1195	1835	770	230								6920
T04.5305	14 AWG 5 Conductor Cable	LF	4115	2405	470	2175	1160									10325
T04.5307	14 AWG 7 Conductor Cable	LF		230	395	445	150									1220
T04.9901	Optical Detector Cable	LF	815	985		815	455	410								3480
T04.9902	Video Detection System Cable	LF	770	785		660	525									2740
T05.0100	Precast Type "A" Handhole Std. 18.2.0	EA	3	1		4	2									10
T05.9901	Break Into Existing Handhole	EA	2	2	3	2	2									11
T05.9902	Clean Existing Handhole	EA	3	3	4	2	3									15
T06.2020	2 Inch Rigid Steel Conduit - Overhead	LF	15	15		15	15									60
T06.3020	2 Inch Rigid Steel Conduit - Under Existing Pavement	LF	85	5		90	110									290
T06.5330	3 Inch Schedule 40 Polyvinyl Chloride Plastic Conduit - Under Existing Pavement	LF	55	20	15	110	85									285
T06.5340	4 Inch Schedule 40 Polyvinyl Chloride Plastic Conduit - Under Existing Pavement	LF				65										65
T06.5430	3 Inch Schedule 80 Polyvinyl Chloride Plastic Conduit - Under Existing Pavement	LF	150	80		120	50									400
T06.6020	2 Inch Polyvinyl Chloride Plastic Conduit - Overhead	LF	20	20		20	20									80
T11.2008	Traffic Signal Standard, 8 foot, Std. 19.4.0 Aluminum Pedestal Pole and Fdn	EA	2	2	3	4	2									13
T12.0004	Actuated Controller TS-2, Type 2 w/4 Phase Assembly, Pole Mounted Cabinet Std. 19.1.1	EA														0
T12.9150	Meter Socket w/Manual Bypass	EA	1	1		1	1									4
T12.9901	Actuated Controller, TS-2, Type 2 w/8 Phase Assembly Ground Mounted Incl. Cabinet and Fdn Std. 19.1.0	EA	1	1		1	1									4
T12.9902	Actuated Controller, TS-2, Type 1 w/8 Phase Assembly, Grnd Mtd Incl. Cab Std 19.1.0 On Exist Mod. Fdn	EA														0
T12.9903	Actuated Controller, TS-2, Type 2 in Existing Cabinet	EA			1											1
T12.9904	Actuated Controller, TS-2, Type 1 in Existing Cabinet	EA														0
T12.9905	Modify Existing Controller	EA						1						1		2
T12.9906	Modify Existing Controller Cabinet	EA														0
T12.9907	Video Detection System Hardware	EA	4	4		4	3									15
T12.9908	Modify Existing Central Computer Station	LS														1
T12.9909	Modify Existing Fire Station Pre-Emption Control System	EA	1													1
T12.9910	GPS Time Synchronization System	EA	1	1	1	1	1	1								6
T12.9911	Repair Detector Rack Assembly	EA														0
T12.9912	Install New Detector Rack Assembly	EA			1											1
T12.9913	Traffic Signal System Master	EA														0
T12.9914	Transit Signal Priority System Training	LS								Project Wide						1
T13.1000	Traffic Detectors - Loop, Std. 19.6.0	LF														0
T13.1002	Traffic Detector Relay - Loop 2 Channel	EA														0
T13.1004	Traffic Detector Relay - Loop 4 Channel	EA			2											2
T13.9901	Heavy Duty Pedestrian Detector - Pushbutton with Sign	EA	6	8	8	8	4									34
T13.9902	Optical Detector - Single Channel, One-Way	EA	4	4		4	3	3								18
T13.9903	Optical Detector Phase Selector and Chassis	EA	2	2		2	2	2								10
T13.9904	Optical Detector Confirmation Beacon	EA	2	2		2	1	1								8
T13.9905	Optical Detector Phase Selector and Chassis (4 Channel)	EA														0
T13.9906	Video Detection System Camera	EA	4	4		4	3									15
T14.9902	1 Way Pedestal Mounted L.E.D. Pedestrian Signal Head 12 Inch With Countdown Timer 12 Inch	EA	2			2	1									5
T14.9903	2 Way Pedestal Mounted L.E.D. Pedestrian Signal Head 12 Inch With Countdown Timer 12 Inch	EA		2	3	2	1									8
T14.9904	1 Way Bracket Mounted L.E.D. Pedestrian Signal Head 12 Inch With Countdown Timer 12 Inch	EA	4	4	2	2	1									13
T14.9905	Remove and Relocate Traffic Signal Head	EA	2	2		2	2									8
T15.0100	Directional, Regulatory and Warning Signs	SF		2		0										2
T20.1000	Remove Existing Pavement Markings	LF														0
T20.2006	6 Inch Epoxy Resin Pavement Markings White	LF	85	75		0	75									235
T20.2008	8 Inch Epoxy Resin Pavement Markings White	LF				0										0
T20.2012	12 Inch Epoxy Resin Pavement Markings White	LF		75		0	15									90
T20.2014	4 Inch Epoxy Resin Pavement Markings Yellow	LF	200	200		0	100									500
T20.2020	Epoxy Resin Pavement Arrow - Straight, Left, Right, or Combined Standard 20.1.0	EA				0										0
T20.2022	Epoxy Resin Pavement Marking Word "ONLY" Standard 20.1.0	EA				0										0
T20.9901	Epoxy Resin Word Pavement Markings "BUS"	EA				0										0

**RIPTA R-Line Transit Signal Priority
Distribution of Quantities**

		TRAFFIC SIGNAL PLANS										Total	
Item Code	Description	Unit	11 Broad at Service Road 7	12 Broad at Franklin	13 Broad at Greene/Claverick	14 Weybosset/Broad at Empire/Chestnut	15 Empire at Westminster	16 Washington at Empire	17 Washington at DaveGavitt	18 Washington at Greene	19 Washington at Mathewson	20 Washington at Union	Quantity
201.0609	Remove and Salvage Sign	EA											0
201.0610	Remove and Dispose Sign	EA											0
201.9901	Remove and Salvage Traffic Signal System	LS											0
922.0100	Temporary Construction Signs Std. 29.1.0 and 27.1.1	SF											251
923.0120	Plastic Pipe Barricade Std. 26.3.0	EA											14
923.0200	Fluorescent Traffic Cones Std. 26.1.0	EA											70
936.0110	Mobilization	LS											1
937.0200	Maintenance and Movement of Traffic Protection	LS											1
L08.0109	Tree Trimming	MHRS											40
T04.5001	6 AWG Single Conductor Cable 600v Insulation	LF											0
T04.5302	14 AWG 2 Conductor Twisted Shielded Cable	LF											0
T04.5303	14 AWG 3 Conductor Cable	LF								265	270	160	695
T04.5305	14 AWG 5 Conductor Cable	LF											0
T04.5307	14 AWG 7 Conductor Cable	LF											0
T04.9901	Optical Detector Cable	LF								160	135	150	445
T04.9902	Video Detection System Cable	LF											0
T05.0100	Precast Type "A" Handhole Std. 18.2.0	EA											0
T05.9901	Break Into Existing Handhole	EA											0
T05.9902	Clean Existing Handhole	EA											0
T06.2020	2 Inch Rigid Steel Conduit - Overhead	LF											0
T06.3020	2 Inch Rigid Steel Conduit - Under Existing Pavement	LF											0
T06.5330	3 Inch Schedule 40 Polyvinyl Chloride Plastic Conduit - Under Existing Pavement	LF											0
T06.5340	4 Inch Schedule 40 Polyvinyl Chloride Plastic Conduit - Under Existing Pavement	LF											0
T06.5430	3 Inch Schedule 80 Polyvinyl Chloride Plastic Conduit - Under Existing Pavement	LF											0
T06.6020	2 Inch Polyvinyl Chloride Plastic Conduit - Overhead	LF											0
T11.2008	Traffic Signal Standard, 8 foot, Std. 19.4.0 Aluminum Pedestal Pole and Fdn	EA											0
T12.0004	Actuated Controller TS-2, Type 2 w/4 Phase Assembly, Pole Mounted Cabinet Std. 19.1.1	EA											0
T12.9150	Meter Socket w/Manual Bypass	EA											0
T12.9901	Actuated Controller, TS-2, Type 2 w/8 Phase Assembly Ground Mounted Incl. Cabinet and Fdn Std. 19.1.0	EA											0
T12.9902	Actuated Controller, TS-2, Type 1 w/8 Phase Assembly, Grnd Mtd Incl. Cab Std 19.1.0 On Exist Mod. Fdn	EA											0
T12.9903	Actuated Controller, TS-2, Type 2 in Existing Cabinet	EA											0
T12.9904	Actuated Controller, TS-2, Type 1 in Existing Cabinet	EA											0
T12.9905	Modify Existing Controller	EA	1	1	1	1	1	1	1	1	1	1	10
T12.9906	Modify Existing Controller Cabinet	EA											0
T12.9907	Video Detection System Hardware	EA											0
T12.9908	Modify Existing Central Computer Station	LS											1
T12.9909	Modify Existing Fire Station Pre-Emption Control System	EA											0
T12.9910	GPS Time Synchronization System	EA											0
T12.9911	Repair Detector Rack Assembly	EA											0
T12.9912	Install New Detector Rack Assembly	EA											0
T12.9913	Traffic Signal System Master	EA											0
T12.9914	Transit Signal Priority System Training	LS											1
T13.1000	Traffic Detectors - Loop, Std. 19.6.0	LF											0
T13.1002	Traffic Detector Relay - Loop 2 Channel	EA											0
T13.1004	Traffic Detector Relay - Loop 4 Channel	EA											0
T13.9901	Heavy Duty Pedestrian Detector - Pushbutton with Sign	EA											0
T13.9902	Optical Detector - Single Channel, One-Way	EA								1	1	1	3
T13.9903	Optical Detector Phase Selector and Chassis	EA								0	0	0	0
T13.9904	Optical Detector Confirmation Beacon	EA								2	2	1	5
T13.9905	Optical Detector Phase Selector and Chassis (4 Channel)	EA								1	1	1	3
T13.9906	Video Detection System Camera	EA											0
T14.9902	1 Way Pedestal Mounted L.E.D. Pedestrian Signal Head 12 Inch With Countdown Timer 12 Inch	EA											0
T14.9903	2 Way Pedestal Mounted L.E.D. Pedestrian Signal Head 12 Inch With Countdown Timer 12 Inch	EA											0
T14.9904	1 Way Bracket Mounted L.E.D. Pedestrian Signal Head 12 Inch With Countdown Timer 12 Inch	EA											0
T14.9905	Remove and Relocate Traffic Signal Head	EA											0
T15.0100	Directional, Regulatory and Warning Signs	SF											0
T20.1000	Remove Existing Pavement Markings	LF											0
T20.2006	6 Inch Epoxy Resin Pavement Markings White	LF											0
T20.2008	8 Inch Epoxy Resin Pavement Markings White	LF											0
T20.2012	12 Inch Epoxy Resin Pavement Markings White	LF											0
T20.2014	4 Inch Epoxy Resin Pavement Markings Yellow	LF											0
T20.2020	Epoxy Resin Pavement Arrow - Straight, Left, Right, or Combined Standard 20.1.0	EA											0
T20.2022	Epoxy Resin Pavement Marking Word "ONLY" Standard 20.1.0	EA											0
T20.9901	Epoxy Resin Word Pavement Markings "BUS"	EA											0

**RIPTA R-Line Transit Signal Priority
Distribution of Quantities**

TRAFFIC SIGNAL PLANS

Item Code	Description	Unit	TRAFFIC SIGNAL PLANS										Total Quantity			
			21 Washington at Dorrance	22 Dorrance at Fulton	23 Exchange at Fulton	24 Washington at Exchange	25 Memorial at Exchange	26 Memorial at Steeple	27 Memorial at Washington	28A/B/C Memorial Corridor	29 Canal at Steeple	30 North Main at Washington				
201.0609	Remove and Salvage Sign	EA														0
201.0610	Remove and Dispose Sign	EA														0
201.9901	Remove and Salvage Traffic Signal System	LS														1
922.0100	Temporary Construction Signs Std. 29.1.0 and 27.1.1	SF														251
923.0120	Plastic Pipe Barricade Std. 26.3.0	EA														14
923.0200	Fluorescent Traffic Cones Std. 26.1.0	EA														70
936.0110	Mobilization	LS														1
937.0200	Maintenance and Movement of Traffic Protection	LS														1
L08.0109	Tree Trimming	MHRS														40
T04.5001	6 AWG Single Conductor Cable 600v Insulation	LF													0	0
T04.5302	14 AWG 2 Conductor Twisted Shielded Cable	LF														0
T04.5303	14 AWG 3 Conductor Cable	LF	105	180	215	115	325	150	405					55		1550
T04.5305	14 AWG 5 Conductor Cable	LF														0
T04.5307	14 AWG 7 Conductor Cable	LF														0
T04.9901	Optical Detector Cable	LF	95	585	715	350	680	485	725					170		3805
T04.9902	Video Detection System Cable	LF														0
T05.0100	Precast Type "A" Handhole Std. 18.2.0	EA														0
T05.9901	Break Into Existing Handhole	EA														0
T05.9902	Clean Existing Handhole	EA														0
T06.2020	2 Inch Rigid Steel Conduit - Overhead	LF									5			5		10
T06.3020	2 Inch Rigid Steel Conduit - Under Existing Pavement	LF												0		0
T06.5330	3 Inch Schedule 40 Polyvinyl Chloride Plastic Conduit - Under Existing Pavement	LF														0
T06.5340	4 Inch Schedule 40 Polyvinyl Chloride Plastic Conduit - Under Existing Pavement	LF														0
T06.5430	3 Inch Schedule 80 Polyvinyl Chloride Plastic Conduit - Under Existing Pavement	LF														0
T06.6020	2 Inch Polyvinyl Chloride Plastic Conduit - Overhead	LF														0
T11.2008	Traffic Signal Standard, 8 foot, Std. 19.4.0 Aluminum Pedestal Pole and Fdn	EA														0
T12.0004	Actuated Controller TS-2, Type 2 w/4 Phase Assembly, Pole Mounted Cabinet Std. 19.1.1	EA														0
T12.9150	Meter Socket w/Manual Bypass	EA								1				1		3
T12.9901	Actuated Controller, TS-2, Type 2 w/8 Phase Assembly Ground Mounted Incl. Cabinet and Fdn Std. 19.1.0	EA														0
T12.9902	Actuated Controller, TS-2, Type 1 w/8 Phase Assembly, Grnd Mtd Incl. Cab Std 19.1.0 On Exist Mod. Fdn	EA												1		2
T12.9903	Actuated Controller, TS-2, Type 2 in Existing Cabinet	EA														0
T12.9904	Actuated Controller, TS-2, Type 1 in Existing Cabinet	EA														6
T12.9905	Modify Existing Controller	EA	1	1	1	1	1	1	1							4
T12.9906	Modify Existing Controller Cabinet	EA								1						2
T12.9907	Video Detection System Hardware	EA														0
T12.9908	Modify Existing Central Computer Station	LS														1
T12.9909	Modify Existing Fire Station Pre-Emption Control System	EA														0
T12.9910	GPS Time Synchronization System	EA														0
T12.9911	Repair Detector Rack Assembly	EA														0
T12.9912	Install New Detector Rack Assembly	EA														0
T12.9913	Traffic Signal System Master	EA														1
T12.9914	Transit Signal Priority System Training	LS														1
T13.1000	Traffic Detectors - Loop, Std. 19.6.0	LF														0
T13.1002	Traffic Detector Relay - Loop 2 Channel	EA														0
T13.1004	Traffic Detector Relay - Loop 4 Channel	EA														0
T13.9901	Heavy Duty Pedestrian Detector - Pushbutton with Sign	EA														7
T13.9902	Optical Detector - Single Channel, One-Way	EA	1	3	4	3	4	3	3					3		23
T13.9903	Optical Detector Phase Selector and Chassis	EA	0	0	0	0	2	2	2					1		7
T13.9904	Optical Detector Confirmation Beacon	EA	1	1	1	1	2	1	2					1		10
T13.9905	Optical Detector Phase Selector and Chassis (4 Channel)	EA	1	1	1	1										4
T13.9906	Video Detection System Camera	EA														0
T14.9902	1 Way Pedestal Mounted L.E.D. Pedestrian Signal Head 12 Inch With Countdown Timer 12 Inch	EA														0
T14.9903	2 Way Pedestal Mounted L.E.D. Pedestrian Signal Head 12 Inch With Countdown Timer 12 Inch	EA														0
T14.9904	1 Way Bracket Mounted L.E.D. Pedestrian Signal Head 12 Inch With Countdown Timer 12 Inch	EA														0
T14.9905	Remove and Relocate Traffic Signal Head	EA														2
T15.0100	Directional, Regulatory and Warning Signs	SF														0
T20.1000	Remove Existing Pavement Markings	LF														0
T20.2006	6 Inch Epoxy Resin Pavement Markings White	LF														0
T20.2008	8 Inch Epoxy Resin Pavement Markings White	LF														0
T20.2012	12 Inch Epoxy Resin Pavement Markings White	LF														0
T20.2014	4 Inch Epoxy Resin Pavement Markings Yellow	LF														0
T20.2020	Epoxy Resin Pavement Arrow - Straight, Left, Right, or Combined Standard 20.1.0	EA														0
T20.2022	Epoxy Resin Pavement Marking Word "ONLY" Standard 20.1.0	EA														0
T20.9901	Epoxy Resin Word Pavement Markings "BUS"	EA														0

**RIPTA R-Line Transit Signal Priority
Distribution of Quantities**

		TRAFFIC SIGNAL PLANS											
Item Code	Description	Unit	31 North Main at Steeple/Thomas	32A/B North Main at Smith/Canal	33 North Main at Olney	34 North Main at Randall/Doyle	35 North Main at Industrial	36 North Main at Branch/Cypress	37 North Main at Rochambeau	38 North Main at Frost/Third	39 North Main at Smithfield	40 North Main at Matilda	Total Quantity
201.0609	Remove and Salvage Sign	EA						1					2
201.0610	Remove and Dispose Sign	EA					1						1
201.9901	Remove and Salvage Traffic Signal System	LS							Project Wide				1
922.0100	Temporary Construction Signs Std. 29.1.0 and 27.1.1	SF							Project Wide				251
923.0120	Plastic Pipe Barricade Std. 26.3.0	EA							Project Wide				14
923.0200	Fluorescent Traffic Cones Std. 26.1.0	EA							Project Wide				70
936.0110	Mobilization	LS							Project Wide				1
937.0200	Maintenance and Movement of Traffic Protection	LS							Project Wide				1
L08.0109	Tree Trimming	MHRS							Project Wide				40
T04.5001	6 AWG Single Conductor Cable 600v Insulation	LF											0
T04.5302	14 AWG 2 Conductor Twisted Shielded Cable	LF						305					305
T04.5303	14 AWG 3 Conductor Cable	LF			710	620	315	530	415	490	385	475	3940
T04.5305	14 AWG 5 Conductor Cable	LF											0
T04.5307	14 AWG 7 Conductor Cable	LF											0
T04.9901	Optical Detector Cable	LF			830	735	470	1055	510	990	375	640	5605
T04.9902	Video Detection System Cable	LF											0
T05.0100	Precast Type "A" Handhole Std. 18.2.0	EA											0
T05.9901	Break Into Existing Handhole	EA											0
T05.9902	Clean Existing Handhole	EA											0
T06.2020	2 Inch Rigid Steel Conduit - Overhead	LF											0
T06.3020	2 Inch Rigid Steel Conduit - Under Existing Pavement	LF			0								0
T06.5330	3 Inch Schedule 40 Polyvinyl Chloride Plastic Conduit - Under Existing Pavement	LF											0
T06.5340	4 Inch Schedule 40 Polyvinyl Chloride Plastic Conduit - Under Existing Pavement	LF											0
T06.5430	3 Inch Schedule 80 Polyvinyl Chloride Plastic Conduit - Under Existing Pavement	LF											0
T06.6020	2 Inch Polyvinyl Chloride Plastic Conduit - Overhead	LF											0
T11.2008	Traffic Signal Standard, 8 foot, Std. 19.4.0 Aluminum Pedestal Pole and Fdn	EA											0
T12.0004	Actuated Controller TS-2, Type 2 w/4 Phase Assembly, Pole Mounted Cabinet Std. 19.1.1	EA											0
T12.9150	Meter Socket w/Manual Bypass	EA											0
T12.9901	Actuated Controller, TS-2, Type 2 w/8 Phase Assembly Ground Mounted Incl. Cabinet and Fdn Std. 19.1.0	EA											0
T12.9902	Actuated Controller, TS-2, Type 1 w/8 Phase Assembly, Grnd Mtd Incl. Cab Std 19.1.0 On Exist Mod. Fdn	EA											0
T12.9903	Actuated Controller, TS-2, Type 2 in Existing Cabinet	EA											0
T12.9904	Actuated Controller, TS-2, Type 1 in Existing Cabinet	EA											0
T12.9905	Modify Existing Controller	EA			1	1	1	1	1	1	1	1	8
T12.9906	Modify Existing Controller Cabinet	EA											0
T12.9907	Video Detection System Hardware	EA											0
T12.9908	Modify Existing Central Computer Station	LS							Project Wide				1
T12.9909	Modify Existing Fire Station Pre-Emission Control System	EA											0
T12.9910	GPS Time Synchronization System	EA											0
T12.9911	Repair Detector Rack Assembly	EA											0
T12.9912	Install New Detector Rack Assembly	EA											0
T12.9913	Traffic Signal System Master	EA											0
T12.9914	Transit Signal Priority System Training	LS							Project Wide				1
T13.1000	Traffic Detectors - Loop, Std. 19.6.0	LF						115					115
T13.1002	Traffic Detector Relay - Loop 2 Channel	EA											0
T13.1004	Traffic Detector Relay - Loop 4 Channel	EA											0
T13.9901	Heavy Duty Pedestrian Detector - Pushbutton with Sign	EA											0
T13.9902	Optical Detector - Single Channel, One-Way	EA			3	4	3	4	3	4	2	3	26
T13.9903	Optical Detector Phase Selector and Chassis	EA			2	2	2	2	2	2	1	2	15
T13.9904	Optical Detector Confirmation Beacon	EA			3	3	2	2	2	2	2	2	18
T13.9905	Optical Detector Phase Selector and Chassis (4 Channel)	EA											0
T13.9906	Video Detection System Camera	EA											0
T14.9902	1 Way Pedestal Mounted L.E.D. Pedestrian Signal Head 12 Inch With Countdown Timer 12 Inch	EA											0
T14.9903	2 Way Pedestal Mounted L.E.D. Pedestrian Signal Head 12 Inch With Countdown Timer 12 Inch	EA											0
T14.9904	1 Way Bracket Mounted L.E.D. Pedestrian Signal Head 12 Inch With Countdown Timer 12 Inch	EA											0
T14.9905	Remove and Relocate Traffic Signal Head	EA				0			2				2
T15.0100	Directional, Regulatory and Warning Signs	SF				20		20					40
T20.1000	Remove Existing Pavement Markings	LF											0
T20.2006	6 Inch Epoxy Resin Pavement Markings White	LF				1155		950					2105
T20.2008	8 Inch Epoxy Resin Pavement Markings White	LF											0
T20.2012	12 Inch Epoxy Resin Pavement Markings White	LF				300		125					425
T20.2014	4 Inch Epoxy Resin Pavement Markings Yellow	LF				730		360					1090
T20.2020	Epoxy Resin Pavement Arrow - Straight, Left, Right, or Combined Standard 20.1.0	EA				5		3					8
T20.2022	Epoxy Resin Pavement Marking Word "ONLY" Standard 20.1.0	EA				6		3					9
T20.9901	Epoxy Resin Word Pavement Markings "BUS"	EA				1		1					2

**RIPTA R-Line Transit Signal Priority
Distribution of Quantities**

		TRAFFIC SIGNAL PLANS										Total	
Item Code	Description	Unit	41	42	43	44	45	46	47	48	49	50	Quantity
			North Main at Tenth/White	North Main at Ann Mary	Main at West/Moshassuck/Carver	Main at Lonsdale/Thurston	Main at Pear/Comestock	Main at Mineral Spring	Church at Pine	Main at Pine	Main at Dexter/Park	Main at East/Roosevelt	
201.0609	Remove and Salvage Sign	EA											0
201.0610	Remove and Dispose Sign	EA											0
201.9901	Remove and Salvage Traffic Signal System	LS						Project Wide					1
922.0100	Temporary Construction Signs Std. 29.1.0 and 27.1.1	SF						Project Wide					251
923.0120	Plastic Pipe Barricade Std. 26.3.0	EA						Project Wide					14
923.0200	Fluorescent Traffic Cones Std. 26.1.0	EA						Project Wide					70
936.0110	Mobilization	LS						Project Wide					1
937.0200	Maintenance and Movement of Traffic Protection	LS						Project Wide					1
L08.0109	Tree Trimming	MHRS						Project Wide					40
T04.5001	6 AWG Single Conductor Cable 600v Insulation	LF			165								165
T04.5302	14 AWG 2 Conductor Twisted Shielded Cable	LF											0
T04.5303	14 AWG 3 Conductor Cable	LF	255										255
T04.5305	14 AWG 5 Conductor Cable	LF											0
T04.5307	14 AWG 7 Conductor Cable	LF											0
T04.9901	Optical Detector Cable	LF	515	395	385	240	310	410	60	140	120	425	3000
T04.9902	Video Detection System Cable	LF											0
T05.0100	Precast Type "A" Handhole Std. 18.2.0	EA											0
T05.9901	Break Into Existing Handhole	EA											0
T05.9902	Clean Existing Handhole	EA											0
T06.2020	2 Inch Rigid Steel Conduit - Overhead	LF			20								20
T06.3020	2 Inch Rigid Steel Conduit - Under Existing Pavement	LF			15								15
T06.5330	3 Inch Schedule 40 Polyvinyl Chloride Plastic Conduit - Under Existing Pavement	LF											0
T06.5340	4 Inch Schedule 40 Polyvinyl Chloride Plastic Conduit - Under Existing Pavement	LF											0
T06.5430	3 Inch Schedule 80 Polyvinyl Chloride Plastic Conduit - Under Existing Pavement	LF											0
T06.6020	2 Inch Polyvinyl Chloride Plastic Conduit - Overhead	LF			20								20
T11.2008	Traffic Signal Standard, 8 foot, Std. 19.4.0 Aluminum Pedestal Pole and Fdn	EA											0
T12.0004	Actuated Controller TS-2, Type 2 w/4 Phase Assembly, Pole Mounted Cabinet Std. 19.1.1	EA			1								1
T12.9150	Meter Socket w/Manual Bypass	EA			1								1
T12.9901	Actuated Controller, TS-2, Type 2 w/8 Phase Assembly Ground Mounted Incl. Cabinet and Fdn Std. 19.1.0	EA											0
T12.9902	Actuated Controller, TS-2, Type 1 w/8 Phase Assembly, Grnd Mtd Incl. Cab Std 19.1.0 On Exist Mod. Fdn	EA											0
T12.9903	Actuated Controller, TS-2, Type 2 in Existing Cabinet	EA		1		1	1	1	1	1	1	1	8
T12.9904	Actuated Controller, TS-2, Type 1 in Existing Cabinet	EA											0
T12.9905	Modify Existing Controller	EA	1									1	2
T12.9906	Modify Existing Controller Cabinet	EA		1		1	1	1	1	1	1	1	7
T12.9907	Video Detection System Hardware	EA											0
T12.9908	Modify Existing Central Computer Station	LS						Project Wide					0
T12.9909	Modify Existing Fire Station Pre-Emption Control System	EA											0
T12.9910	GPS Time Synchronization System	EA		1				1	1	1			4
T12.9911	Repair Detector Rack Assembly	EA		1			1	1	1	1	1		5
T12.9912	Install New Detector Rack Assembly	EA											0
T12.9913	Traffic Signal System Master	EA											0
T12.9914	Transit Signal Priority System Training	LS						Project Wide					0
T13.1000	Traffic Detectors - Loop, Std. 19.6.0	LF											0
T13.1002	Traffic Detector Relay - Loop 2 Channel	EA					2						2
T13.1004	Traffic Detector Relay - Loop 4 Channel	EA			2								2
T13.9901	Heavy Duty Pedestrian Detector - Pushbutton with Sign	EA											0
T13.9902	Optical Detector - Single Channel, One-Way	EA	4	2	2	2	2	2	1	2	2	1	20
T13.9903	Optical Detector Phase Selector and Chassis	EA	1	1	1	1	1	1	1	1	1	1	10
T13.9904	Optical Detector Confirmation Beacon	EA	2										2
T13.9905	Optical Detector Phase Selector and Chassis (4 Channel)	EA											0
T13.9906	Video Detection System Camera	EA											0
T14.9902	1 Way Pedestal Mounted L.E.D. Pedestrian Signal Head 12 Inch With Countdown Timer 12 Inch	EA											0
T14.9903	2 Way Pedestal Mounted L.E.D. Pedestrian Signal Head 12 Inch With Countdown Timer 12 Inch	EA											0
T14.9904	1 Way Bracket Mounted L.E.D. Pedestrian Signal Head 12 Inch With Countdown Timer 12 Inch	EA											0
T14.9905	Remove and Relocate Traffic Signal Head	EA		2	2	1	2	2	1	1	1	1	13
T15.0100	Directional, Regulatory and Warning Signs	SF				12							12
T20.1000	Remove Existing Pavement Markings	LF											0
T20.2006	6 Inch Epoxy Resin Pavement Markings White	LF				165							165
T20.2008	8 Inch Epoxy Resin Pavement Markings White	LF											0
T20.2012	12 Inch Epoxy Resin Pavement Markings White	LF				25							25
T20.2014	4 Inch Epoxy Resin Pavement Markings Yellow	LF				1030							1030
T20.2020	Epoxy Resin Pavement Arrow - Straight, Left, Right, or Combined Standard 20.1.0	EA				2				1			3
T20.2022	Epoxy Resin Pavement Marking Word "ONLY" Standard 20.1.0	EA				2				1			3
T20.9901	Epoxy Resin Word Pavement Markings "BUS"	EA											0

**RIPTA R-Line Transit Signal Priority
Distribution of Quantities**

		TRAFFIC SIGNAL PLANS						
Item Code	Description	Unit	51	52	53	54	Locations TBD	Total
			Exchange at High	Exchange at Montgomery	Exchange/Goff at Broad/Summer	Dexter at Goff	By Engineer	Quantity
201.0609	Remove and Salvage Sign	EA						0
201.0610	Remove and Dispose Sign	EA						0
201.9901	Remove and Salvage Traffic Signal System	LS			Project Wide			1
922.0100	Temporary Construction Signs Std. 29.1.0 and 27.1.1	SF			Project Wide			251
923.0120	Plastic Pipe Barricade Std. 26.3.0	EA			Project Wide			14
923.0200	Fluorescent Traffic Cones Std. 26.1.0	EA			Project Wide			70
936.0110	Mobilization	LS			Project Wide			1
937.0200	Maintenance and Movement of Traffic Protection	LS			Project Wide			1
L08.0109	Tree Trimming	MHRS			Project Wide			40
T04.5001	6 AWG Single Conductor Cable 600v Insulation	LF						0
T04.5302	14 AWG 2 Conductor Twisted Shielded Cable	LF						0
T04.5303	14 AWG 3 Conductor Cable	LF						0
T04.5305	14 AWG 5 Conductor Cable	LF						0
T04.5307	14 AWG 7 Conductor Cable	LF						0
T04.9901	Optical Detector Cable	LF	75	150	220	215		660
T04.9902	Video Detection System Cable	LF						0
T05.0100	Precast Type "A" Handhole Std. 18.2.0	EA					10	10
T05.9901	Break Into Existing Handhole	EA					10	10
T05.9902	Clean Existing Handhole	EA					10	10
T06.2020	2 Inch Rigid Steel Conduit - Overhead	LF						0
T06.3020	2 Inch Rigid Steel Conduit - Under Existing Pavement	LF						0
T06.5330	3 Inch Schedule 40 Polyvinyl Chloride Plastic Conduit - Under Existing Pavement	LF					320	320
T06.5340	4 Inch Schedule 40 Polyvinyl Chloride Plastic Conduit - Under Existing Pavement	LF						0
T06.5430	3 Inch Schedule 80 Polyvinyl Chloride Plastic Conduit - Under Existing Pavement	LF					1320	1320
T06.6020	2 Inch Polyvinyl Chloride Plastic Conduit - Overhead	LF						0
T11.2008	Traffic Signal Standard, 8 foot, Std. 19.4.0 Aluminum Pedestal Pole and Fdn	EA						0
T12.0004	Actuated Controller TS-2, Type 2 w/4 Phase Assembly, Pole Mounted Cabinet Std. 19.1.1	EA						0
T12.9150	Meter Socket w/Manual Bypass	EA						0
T12.9901	Actuated Controller, TS-2, Type 2 w/8 Phase Assembly Ground Mounted Incl. Cabinet and Fdn Std. 19.1.0	EA						0
T12.9902	Actuated Controller, TS-2, Type 1 w/8 Phase Assembly, Grnd Mtd Incl. Cab Std 19.1.0 On Exist Mod. Fdn	EA						0
T12.9903	Actuated Controller, TS-2, Type 2 in Existing Cabinet	EA	1	1	1	1		4
T12.9904	Actuated Controller, TS-2, Type 1 in Existing Cabinet	EA						0
T12.9905	Modify Existing Controller	EA						0
T12.9906	Modify Existing Controller Cabinet	EA	1	1	1	1		4
T12.9907	Video Detection System Hardware	EA						0
T12.9908	Modify Existing Central Computer Station	LS			Project Wide			1
T12.9909	Modify Existing Fire Station Pre-Emption Control System	EA						0
T12.9910	GPS Time Synchronization System	EA	1	1	1	1		4
T12.9911	Repair Detector Rack Assembly	EA			1			1
T12.9912	Install New Detector Rack Assembly	EA						0
T12.9913	Traffic Signal System Master	EA						0
T12.9914	Transit Signal Priority System Training	LS			Project Wide			1
T13.1000	Traffic Detectors - Loop, Std. 19.6.0	LF						0
T13.1002	Traffic Detector Relay - Loop 2 Channel	EA						0
T13.1004	Traffic Detector Relay - Loop 4 Channel	EA						0
T13.9901	Heavy Duty Pedestrian Detector - Pushbutton with Sign	EA						0
T13.9902	Optical Detector - Single Channel, One-Way	EA	1	1	1	1	5	9
T13.9903	Optical Detector Phase Selector and Chassis	EA	1	1	1	1	5	9
T13.9904	Optical Detector Confirmation Beacon	EA						0
T13.9905	Optical Detector Phase Selector and Chassis (4 Channel)	EA						0
T13.9906	Video Detection System Camera	EA						0
T14.9902	1 Way Pedestal Mounted L.E.D. Pedestrian Signal Head 12 Inch With Countdown Timer 12 Inch	EA						0
T14.9903	2 Way Pedestal Mounted L.E.D. Pedestrian Signal Head 12 Inch With Countdown Timer 12 Inch	EA						0
T14.9904	1 Way Bracket Mounted L.E.D. Pedestrian Signal Head 12 Inch With Countdown Timer 12 Inch	EA						0
T14.9905	Remove and Relocate Traffic Signal Head	EA	1	1	1	1		4
T15.0100	Directional, Regulatory and Warning Signs	SF						0
T20.1000	Remove Existing Pavement Markings	LF					1000	1000
T20.2006	6 Inch Epoxy Resin Pavement Markings White	LF						0
T20.2008	8 Inch Epoxy Resin Pavement Markings White	LF					7000	7000
T20.2012	12 Inch Epoxy Resin Pavement Markings White	LF						0
T20.2014	4 Inch Epoxy Resin Pavement Markings Yellow	LF						0
T20.2020	Epoxy Resin Pavement Arrow - Straight, Left, Right, or Combined Standard 20.1.0	EA						0
T20.2022	Epoxy Resin Pavement Marking Word "ONLY" Standard 20.1.0	EA					60	60
T20.9901	Epoxy Resin Word Pavement Markings "BUS"	EA					60	60

APPENDIX 2
GENERAL PROVISIONS – CONTRACT SPECIFIC

RIPTA R-LINE TRANSIT SIGNAL PRIORITY
GENERAL PROVISIONS – CONTRACT SPECIFIC

INDEX

<u>Section</u>	<u>Title</u>	<u>Page</u>
1	Brief Scope of Work	CS-1
2	List of Contract Drawings	CS-1
3	Utility and Municipal Notification and Coordination	CS-1
4	Notice to Contractor	CS-3
5	Sequence of Construction/Maintenance and Movement of Traffic	CS-5
6	Legal Relations and Responsibilities to Public Utilities and Facilities	CS-7
7	Contractor's Responsibility for Damaged Storm Drains	CS-7
8	Work Adjacent to Gas Lines, Water lines, Telephone Ducts and Electric Ducts	CS-8
9	Work Adjacent to Underground Basements or Utility Vaults	CS-8
10	Building Utility Services	CS-8
11	Damage to Existing Utilities	CS-8
12	Use of Explosives	CS-8
13	Coordination with Other Contracts	CS-8
14	Maintenance of Public Access	CS-9
15	Tree Trimming	CS-9
16	Parking Space(s) Loss	CS-9
17	Storage of Construction Materials and/or Equipment	CS-9
18	Disposal of Surplus Materials	CS-9

GENERAL PROVISIONS – CONTRACT SPECIFIC

INDEX

<u>Section</u>	<u>Title</u>	<u>Page</u>
19	Location of Signs	CS-10
20	Construction Requirements for Traffic Signal Installation	CS-10
21	Local Police Compensation	CS-11
22	Sidewalk Removal/Installation	CS-11
23	Wheelchair Ramps	CS-12
24	Differing Site Conditions, Changes, and Extra Work	CS-12
25	Survey of Curb Radii	CS-12
26	Coordination with RIPTA	CS-12
27	National Grid Requirements	CS-12
28	City of Providence Technical Specifications	CS-15
Appendices:		
Appendix 2A	Providence Technical Specifications	

1. BRIEF SCOPE OF WORK:

The RIPTA R-Line Transit Signal Priority project consists of the installation of transit signal priority system equipment at forty-seven intersections in Providence and Pawtucket, Rhode Island. Work includes the replacement of traffic signal controllers and cabinets, replacement of controllers in existing cabinets, upgrades to existing controller firmware, installation of optical detection equipment, installation of new video detection equipment, and repairs to existing detection equipment. It also includes installation of ADA-compliant pedestrian pushbuttons, pedestrian signal poles with pedestrian signal heads/countdown timers, relocation of existing signal heads, GPS units for system intersection time synchronization, pavement markings, and other miscellaneous tasks including, but not be limited to removal of various existing traffic signal equipment, reconstruction of wheelchair ramps, furnishing and installing directional, regulatory, and warning signs, traffic control, and other incidentals as necessary to complete the work of this Contract to the satisfaction of the Engineer.

All work under this contract is to be as shown on the Plans entitled “RIPTA R-Line Transit Signal Priority” and project specifications. All work is to be done in accordance with the latest edition of the Manual on Uniform Traffic Control Devices (MUCTD), the Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction, 2004 Edition, as amended, and the 1998 Rhode Island Standard Details, as amended.

The RIPTA reserves the right to award the work under this project as an entire project for all locations or for a portion of the project broken down by municipality (Providence or Pawtucket). RIPTA also reserves the right to add or remove quantities or specific intersections depending on the bid prices received and/or available funding.

All work of this contract is to be substantially complete within six (6) months after the issue date of the Notice to Proceed.

2. LIST OF CONTRACT DRAWINGS:

<u>Sheet No.</u>	<u>Drawing No.</u>	<u>Description</u>
1	N/A	Cover Sheet
2-3	G-1 & G-2	General Notes, Plan Symbols & General Legend Nos. 1-2
4-59	T-1 to T-54	Traffic Signal Plan Nos. 1-54
60-62	S-1 to S-3	Signing & Striping Plan Nos. 1-3
63	TC-1	Traffic Control Plan

3. UTILITY AND MUNICIPAL NOTIFICATION AND COORDINATION:

Upon award, the Contractor shall notify all applicable utility companies relative to their anticipated construction start date. Immediately following the Pre-construction Conference, the Contractor shall initiate all required utility notifications. The Contractor shall coordinate his work to ensure that all utility cut-offs may proceed without delay. The Contractor shall coordinate his work operations with the appropriate utility companies for the preparation of their

involvement prior to beginning any other work on the project.

NATIONAL GRID

280 Melrose Street
Providence, RI 02907-2152
Thomas Capobianco
Project Manager
784-7248

NATIONAL GRID – GAS

40 Sylvan Road, W3.244
Waltham, MA 02451
Melissa Owens
Lead Engineer Liason
781-907-2845

VERIZON

85 High Street
Pawtucket, RI 02865
Anthony Filomeno
State Highway Administrator
727-9543

COX COMMUNICATIONS

9 J.P. Murphy Hwy.
West Warwick, RI 02893
David Velilla
Utility Coordinator
615-1284

PROVIDENCE WATER SUPPLY BOARD

552 Academy Avenue
Providence, RI 02808
Ronald Campbell
521-6300 Ext. 7218

PROVIDENCE DEPARTMENT OF COMMUNICATIONS

1 Communications Place
Providence, RI 02903
Joseph McGarry
Deputy Director
274-1150

PROVIDENCE DEPARTMENT OF PUBLIC WORKS

700 Allens Avenue
Providence, RI 02905
William Bombard
City Engineer
467-7950

NARRAGANSETT BAY COMMISSION

1 Service Road
Providence, RI 02905
Tom Brueckner
Chief of Operations/Engineering
461-8848

The following utility involvement is anticipated:

National Grid:

- A. Traffic Signals – For each new service connection to proposed traffic signal controller cabinets, the Contractor will be required to initiate a separate work request with National Grid by either submitting an online request or by contacting National Grid Customer Service by phone. Short circuit duty and cost to provide service will be provided for each individual location. Any backcharges due from the Contractor must be paid and a municipal electrical inspection must be received before any National Grid construction can be scheduled. The Contractor will be required to initiate separate work requests with National Grid to cut/remove service and close accounts for both unmetered and metered service to the existing traffic signal controller cabinets being removed.

4. NOTICE TO CONTRACTOR:

- A. **Shop Drawing Submittals:** The Contractor must develop/submit shop drawings, product data, and/or catalogue cut-sheets in accordance with Special Provision 105.02 Plans and Shop Drawings. At a minimum, shop drawings shall be submitted for detectable warning systems, traffic signal and pedestrian signal poles and all traffic signal equipment including, but not limited to: traffic signal controller and cabinet, load switches, flash transfer relays, malfunction management units (MMUs), GPS Time Synchronization Units, traffic and pedestrian signal heads, LED signals, heavy duty pedestrian pushbuttons with signs, optical detector equipment and cabling, and video detection cameras, equipment, and cabling. The shop drawings/samples submitted must clearly indicate compliance with the values included in the specifications.
- B. **System/Bench Testing:** Prior to installation of the traffic controllers, all controller units shall be shop tested and approved by representatives of the City of Providence, the Rhode Island Department of Transportation (RIDOT), and the City of Pawtucket, as applicable based on ownership of the equipment after construction.

The City of Providence, the City of Pawtucket and RIDOT, or their designated representatives, will be performing a complete inspection of all elements of the traffic signal system to ensure compliance with these technical specifications. Project acceptance will not be given until all outstanding deficiencies identified during the inspectional process are mitigated. The Contractor shall make available the required personnel and equipment required to perform on-site inspections of the signal equipment as required by the Cities/RIDOT. A minimum of 24-hour notification will be provided to the Contractor. This work will be performed at no cost to RIPTA.

- C. **Warranty/Guaranty:** The Contractor shall unconditionally guaranty all system and subsystem modules, including all equipment, support structures, hardware, and software as specified in the Plans and these Technical Special Provisions to be free of defects for a period of one (1) year from the date of Final Acceptance of the project by the Engineer. The warranty shall cover all materials, equipment, tools, transportation, supplies, parts, and incidentals required to facilitate response maintenance as necessary to repair and replace any defective modules, system(s) or subsystem(s) of the completed facility within the one-year time period. Acceptance of any system or subsystem during the construction contract, or any modifications to the system design proposed by the Contractor and approved by the respective Owner shall not relieve the Contractor of the requirements of this guaranty. The warranty period shall be considered to start concurrent with the date of Final Acceptance.
- D. **Controller Programming:** The Contractor shall be responsible for programming the traffic signal controller's timing, phasing, and overall operation in accordance with the plans and specifications and as directed by the Engineer. The signal parameters shall be checked and verified by the Engineer with the Contractor prior to final

acceptance, and any adjustments, fine tuning, or diagnostics required to make the signal operate as specified shall be considered incidental to the contract.

- E. **Traffic Signal Foundations:** The Contractor will be responsible for any foundation damages prior to the installation of traffic signal or mast arm poles. Any and all foundations determined to be unacceptable due to structural damage will be removed and reconstructed by the Contractor at no cost to RIPTA.
- F. **Traffic Signal Heads:** All relocated traffic signal heads shall be in accordance with requirements specified in the MUTCD.
- G. **Traffic Signal Ownership:** The following is a list of traffic signal ownership listed by traffic signal plan number:

Traffic Signal		
Plan #	Intersection Name	Jurisdiction/Owner
T-1	Broad Street at Ontario Street/Oxford Street	City of Providence
T-2	Broad Street at Potters Avenue	City of Providence
T-3	Broad Street at Public Street	City of Providence
T-4	Broad Street at Plenty Street/Willard Avenue	City of Providence
T-5	Broad Street at Parkis Avenue	City of Providence
T-6	Broad Street at Blackstone Street/Friendship Street	City of Providence
T-7	Broad Street at Elmwood Avenue/Bridgham Street*	RIDOT
T-8	Broad Street at Pearl Street*	RIDOT
T-9	Broad Street at Summer Street*	RIDOT
T-10	Broad Street at Cahir Street/Stewart Street	City of Providence
T-11	Broad Street at Service Road No. 7/West Franklin Street	City of Providence
T-12	Broad Street at East Franklin Street/Dave Gavitt Way	City of Providence
T-13	Broad Street at Greene Street/Claverick Street	City of Providence
T-14	Weybosset Street at Broad Street/Empire Street/Chestnut Street	City of Providence
T-15	Empire Street at Westminster Street	City of Providence
T-16	Washington Street at Empire Street	City of Providence
T-17	Washington Street at Dave Gavitt Way	City of Providence
T-18	Washington Street at Greene Street	City of Providence
T-19	Washington Street at Mathewson Street	City of Providence
T-20	Washington Street at Union Street	City of Providence
T-21	Washington Street at Dorrance Street	City of Providence
T-22	Dorrance Street at Fulton Street	City of Providence
T-23	Exchange Street at Fulton Street	City of Providence
T-24	Washington Street at Exchange Street	City of Providence
T-25	Memorial Boulevard at Exchange Street	RIDOT
T-26	Memorial Boulevard at Steeple Street	RIDOT
T-27	Memorial Boulevard at Washington Street	RIDOT

* No work is to be performed at this intersection under this project. Traffic Signal Plans is provided for information only.

Traffic Signal		
Plan #	Intersection Name	Jurisdiction/Owner
T-28A	Memorial Boulevard at College Street/Westminster Street	RIDOT
T-28A	South Main Street at College Street	RIDOT
T-28B	Memorial Boulevard/Dyer Street at Crawford Street	RIDOT
T-28C	Dyer Street at Friendship Street/Hay Street	RIDOT
T-28C	Dyer Street at Peck Street	City of Providence
T-29	Canal Street at Steeple Street	RIDOT
T-30	North Main Street at Washington Street/Waterman Street	RIDOT
T-31	North Main Street at Steeple Street/Thomas Street	RIDOT
T-32	Smith Street at South Main Street/Canal Street	RIDOT
T-33	North Main Street at Olney Street	RIDOT
T-34	North Main Street at Randall Street/Doyle Avenue	RIDOT
T-35	North Main Street at Industrial Drive	RIDOT
T-36	North Main Street at Branch Avenue/Cypress Street	RIDOT
T-37	North Main Street at Rochambeau Avenue	RIDOT
T-38	North Main Street at Frost Street/Third Street	RIDOT
T-39	North Main Street at Smithfield Avenue	RIDOT
T-40	North Main Street at Matilda Street	RIDOT
T-41	North Main Street at Tenth Street/White Street	RIDOT
T-42	North Main Street at Ann Mary Street	City of Pawtucket
T-43	Main Street at West Avenue/Moshassuck Street/Carver Street	City of Pawtucket
T-44	Main Street at Lonsdale Avenue/Thurston Street/Randall Street	City of Pawtucket
T-45	Main Street at Pearl Street/Comstock Street	City of Pawtucket
T-46	Main Street at Mineral Spring Avenue/Church Street	City of Pawtucket
T-47	Church Street at Pine Street	City of Pawtucket
T-48	Main Street at Pine Street	City of Pawtucket
T-49	Main Street at Park Place	City of Pawtucket
T-50	Main Street at East Avenue/Roosevelt Avenue	City of Pawtucket
T-51	Exchange Street at High Street	City of Pawtucket
T-52	Exchange Street at Montgomery Street	City of Pawtucket
T-53	Exchange Street at Goff Avenue/Broad Street/Summer Street	City of Pawtucket
T-54	Dexter Street at Goff Avenue	City of Pawtucket

5. SEQUENCE OF CONSTRUCTION/MAINTENANCE AND MOVEMENT OF TRAFFIC:

Action Required by Contractor:

Approval of the work sequence and time schedule is required before the start of any construction or other work associated with this contract. The proposed construction and time schedule must consider and address the safe vehicle passage through the project.

In addition to the requirements of the Standard Specifications for Road and Bridge Construction and the Special Requirements of other sections of these contract documents, the Contractor must adhere to the following requirements:

The Contractor is advised that the signs and other traffic control devices shown on the Plans are minimum requirements, and it is the Contractor's responsibility to supplement these if necessary to ensure the public's safety. All Maintenance and Protection of Traffic devices shall be in place and approved by the Engineer prior to starting construction. All Maintenance and Protection of Traffic shall conform with the latest edition and revisions of the Manual on Uniform Traffic Control Devices (MUTCD). The Contractor must submit for approval a traffic control plan when implementing any changes to the details shown on the plans or when providing traffic control for situations differing from those shown on the plans, including subcontractor work.

Any deviations from the requirements stated here or detailed in the plans, as well as any deviation from the approved construction sequence and time schedule, must be submitted to the Engineer in writing for approval a minimum of 24 hours prior to implementation.

The construction operations of this project must be coordinated with the local community public safety officials. It is the Contractor's responsibility to coordinate the construction operations of this project with the local public safety officials. In case of an emergency, the Contractor will be required to move equipment to allow the passage of emergency vehicles. The safety of the residents of the area must be considered at all times.

The contractor shall work continuously to restore traffic signal operation to its intended purpose when replacing the traffic signal equipment. A police detail is required to direct traffic at the intersection at all times the traffic signal is inoperative. At no time shall the Contractor leave the site before restoring full traffic signal operations unless approved in writing by the Engineer and the respective Owner.

The Contractor shall maintain one full travel lane (11 foot minimum) in each direction of travel at all times unless otherwise approved by the respective Owner. Safe access and egress to side streets and all driveways must be maintained at all times unless otherwise directed by the respective Owner. The Contractor shall open the roadway to all parking and vehicle and pedestrian traffic at the end of each work day/night.

Detours are permitted only upon written approval from the respective Owner. The Contractor must submit a detour plan with written approval from the respective Owner.

The Contractor shall be responsible for maintaining appropriate construction related signing at all times. Any signs not appropriate for the lane closures, speed limits or any construction activity taking place at any given time shall be removed or covered to the satisfaction of the Engineer.

The following definitions will apply:

Travel Lane - A travel lane must be at least 11 feet wide and must be paved with a hard smooth surface. This surface may be existing pavement, existing base course, or new pavement. Gravel or dirt surfaces will not be acceptable.

Pedestrian Way - A pedestrian way must have an unobstructed clear width of five feet (per ADA requirements) and must have a hard, smooth surface, and must conform to all handicapped accessibility requirements. The surface may be existing pavement, new pavement, or plywood. All wooden walkways shall meet the Engineer's approval for surface smoothness and deflection. If there is a drop-off in excess of six inches from the edge of the pedestrian way, a handrail conforming to all applicable standards shall also be provided. There shall be no additional compensation for the provision of Pedestrian Ways; all costs shall be considered incidental to the Contract.

Pedestrian ways to all building entrances including service entrances must be maintained at all times. The Contractor shall provide temporary access routes/ramps through construction areas to insure this access. The Contractor must provide for pedestrians to safely guide them away from broken and uneven pavement, open excavations, drop-offs, construction operations and other hazards at all times.

The Contractor shall backfill or place steel plates capable of supporting HS-20 vehicle loading over all trenches and excavations at the end of work each day except when otherwise directed by the Engineer. There shall be no additional compensation for backfilling, re-excavating and/or plating these trenches.

6. LEGAL RELATIONS AND RESPONSIBILITIES TO PUBLIC UTILITIES AND FACILITIES:

In those areas where the Contractor's operations are adjacent or proximate to underground utilities such as gas, electric, water, telephone, fire alarm, sanitary and storm sewers, the provisions of Section 105.06 of the Rhode Island Standard Specifications for Road and Bridge Construction shall be followed.

During the process of the work, the Contractor shall cooperate with the Owners of the utilities and permit their representatives access to the work to determine if their utilities are being endangered in any way.

7. CONTRACTOR'S RESPONSIBILITY FOR DAMAGED STORM DRAINS:

The Contractor shall use care when working within or in the vicinity of existing drainage structures. Any drainage structures or pipes damaged while carrying out any work on this contract shall be the Contractor's responsibility. Any drainage structures or pipes damaged by the Contractor while carrying out this Contract shall be replaced or repaired by the Contractor to the satisfaction of the City of Providence Department of Public Works at no additional charge to the City of Providence.

8. WORK ADJACENT TO GAS LINES, WATER LINES, TELEPHONE DUCTS AND ELECTRIC DUCTS:

Extreme care, particularly when installing traffic signal poles, foundations, conduit, manholes and handholes shall be exercised during construction in the vicinity of the gas lines, water lines, telephone ducts and electric ducts. Complete coordination with the utility companies shall be maintained.

9. WORK ADJACENT TO UNDERGROUND BASEMENTS OR UTILITY VAULTS:

The Contractor shall be aware that some of the basements and/or utility vaults for the existing buildings along all roadways within the project limit may extend under the sidewalks. The Contractor shall use extreme care when working within or adjacent to sidewalks in front of buildings. Any basements or utility vaults damaged by the Contractor while carrying out this Contract shall be repaired by the Contractor to the satisfaction of the Engineer at no additional charge to RIPTA.

10. BUILDING UTILITY SERVICES:

The Contractor is to assume building services connections (electric, gas, telephone, water, and sanitary) are present to all buildings. Locations are to be checked with appropriate utility companies. The Contractor shall follow the Dig Safe process in accordance with the State of Rhode Island specifications for road and bridge construction.

11. DAMAGE TO EXISTING UTILITIES:

The Contractor shall check and verify the exact location of all existing utilities and service connections with Dig Safe. Any damage to the utilities, which are detailed by Dig Safe, shall be the Contractor's responsibility. Cost to repair such damage shall be borne by the Contractor.

12. USE OF EXPLOSIVES:

Explosives shall not be used in the performance of the work of this contract.

13. COORDINATION WITH OTHER CONTRACTS:

It shall be the Contractor's responsibility to coordinate, cooperate, and schedule his work and all segments thereof with the City of Providence Division of Traffic Engineering, other contractors, utility owners, and applicable local authorities.

Contracts that may require coordination include, but are not limited to:

Bridge Replacement - Pawtucket River Bridge No. 550 (Pawtucket)

ADA Improvements to South/North Main Street (Providence)

ADA Accessibility Improvements Downtown Sidewalks – Various Contracts (Providence)

14. MAINTENANCE OF PUBLIC ACCESS:

The contractor, at his own expense, shall keep the streets, highways, roads, private walks and sidewalks in which he may be at work, open for pedestrians and vehicular traffic at all times unless otherwise authorized by the respective Owner in writing. If, in the opinion of the respective Owner, the interest of abutters and public requires it, the Contractor shall bridge or construct plank crossings over trenches at street crossings, roads, or private ways, or provide such temporary means of crossing and guarding as shall be acceptable to the respective Owner. The Contractor shall conduct his work for this objective in such a manner as the respective Owner may direct from time to time.

15. TREE TRIMMING:

If trees block the view of existing or relocated signal heads, optical detectors, optical detector confirmation beacons for a minimum of 300 feet on the intersection approach, or if existing trees block the proposed video detection cameras, the trees shall be trimmed accordingly (paid for under Item L08.0109). Specific limits of tree trimming shall be approved by the City of Providence Forester (when working at locations owned by the City of Providence), the City of Pawtucket DPW (when working at locations owned by the City of Pawtucket) and RIDOT Maintenance Division (when working at locations owned by the RIDOT) prior to any tree trimming activities.

16. PARKING SPACE(S) LOSS:

When work along roadways requires the loss of any parking space (s), the Contractor will be responsible for obtaining necessary approvals and obtaining temporary “No Parking” signs from the respective Owner, if required. The Contractor shall also be responsible for the removal of said temporary signs, if required, when the parking space(s) is opened. Any permitting fees associated with this requirement shall be considered incidental to the contract.

17. STORAGE OF CONSTRUCTION MATERIALS AND/OR EQUIPMENT:

In addition to the requirements of Division I Part 100 Section 106.06 “Storage of Materials” of the Rhode Island Standard Specification for Road and Bridge Construction 2004 Edition, the Contractor shall submit for approval the location of Material & Equipment Storage to the Engineer.

18. DISPOSAL OF SURPLUS MATERIALS:

All existing or other materials not required or needed for use on the project, and not required to be removed and stockpiled, shall become the property of the Contractor and shall be removed from the site during the construction period and legally disposed of. No separate payment will be made for this work, but all costs in connection therewith shall be included in the unit bid prices for this Contract.

19. LOCATION OF SIGNS:

The location of all new signs shall be marked in the field and approved by the respective Owner and the Engineer prior to installation.

20. CONSTRUCTION REQUIREMENTS FOR TRAFFIC SIGNAL INSTALLATION:

The contractor will be allowed to activate the new controllers once the respective Owner has determined the minimum system elements have been installed.

A factory representative must be available within 24 to 48 hours to field test the equipment and make any corrections necessary to insure proper operation as shown on the plans, if necessary and requested by the respective Owner.

When an intersection is completed and activated by the Contractor, the Engineer will perform a preliminary inspection. The Engineer will provide the Contractor with a report containing the results of the Preliminary Inspection along with a list of work items needed to satisfy this portion of the construction inspection. If the Contractor informs the Engineer that items on the list have been corrected and a second inspection indicates items have not been corrected, the Contractor will be back-charged for the second inspection and all subsequent inspections necessary prior to the next phase of the inspection. This does not apply to items that malfunction due to technical failure.

After the items identified during the Preliminary Inspection are mitigated to the satisfaction of the Engineer, the second part of the inspection, or Central to Field Integration Inspection, will be conducted. The Engineer will provide the Contractor with a report containing the results of the Central to Field Integration inspection along with a list of work items needed to satisfy this portion of the construction inspection. If the Contractor informs the Engineer that items on the list have been corrected and a second inspection indicates items have not been corrected, the Contractor will be back-charged for the second inspection and all subsequent inspections necessary for final acceptance except the final inspection. This does not apply to items that malfunction due to technical failure.

It will be the Contractor's responsibility to extract signal timing values from the plans and install those timings on the controller. The signal timings must be checked and approved by the Engineer before the system is made fully operational.

All proposed loop detectors (if applicable) shall be cut into the final pavement surface course in locations shown on the plans. Locations of the video detection zones shown on the plans are approximate. Final size and locations of the video detection zones shall be positioned in the field and tested in cooperation with the City of Providence Division of Traffic Engineering or its representative to ensure that detection zones are established to cover the approach width and that the detection system is functioning to the satisfaction of the City of Providence.

To offset the additional weight of the proposed video detection camera mounting hardware

and optical detectors/optical confirmation beacons at locations shown on the plans, existing signal heads shall be relocated on the mast arm by the exact dimensions called for on the plans. The proposed video detection cameras, optical detectors and optical confirmation beacons shall be located at the exact dimension called for on the plans, unless otherwise approved by the Engineer. Any existing traffic signal mounting hardware, brackets, arms, or safety chains that are damaged during construction or are deemed to be unsuitable for relocation (where called for on the plans) shall be replaced in kind and color by the Contractor at no additional cost.

All proposed red, yellow, and green traffic signal displays throughout the limits of this project shall be equipped with L.E.D. modules.

The locations of all proposed traffic signal mast arm poles and pedestal poles have been probed for utility conflicts. The locations of the proposed equipment shown on the plans reflect the results of the utility investigations and are free from conflicts. The locations where the utility probes were conducted have been patched with concrete. The dimensions to the proposed equipment shown on the plans are approximate. It shall be the Contractor's responsibility to mark the locations where the utility probes were taken with nails in the road. There shall be a minimum of two (2) offset points for each proposed foundation location.

Additional requirements at locations owned by the City of Providence are included in the City of Providence Technical Specifications at the end of this section.

21. LOCAL POLICE COMPENSATION:

It will be the responsibility of the Contractor to retain the services of local police for traffic control and protection for this project.

22. SIDEWALK REMOVAL/INSTALLATION:

The Contractor shall take all necessary precautions to prevent damage to walls and fences abutting sidewalks and driveways designated for replacement if impacted by conduit installation. Where required, new sidewalks shall meet said walls and fences. Prior to sidewalk removal, a sawcut shall be provided in all sidewalks to be removed a distance, to be determined by the respective Owner (6 inches minimum) from the face of adjacent buildings, retaining walls, and fences. The final 6 inches (minimum) of sidewalk will be removed with caution under the respective Owner's supervision. There will be no additional payment for labor or equipment necessary to meet this "remove with caution" requirement.

Any brick, paver, or stamped concrete/asphalt sidewalk, crosswalk, or roadway disturbed by construction activity shall be repaired by the Contractor at no additional cost. Any brick, paver, or stamped concrete/asphalt sidewalk, crosswalk, or roadway damaged or to be restored shall match the same materials that exist, including concrete base if appropriate, unless otherwise indicated on the plans, or directed by the Engineer.

23. WHEELCHAIR RAMPS:

There will be no separate payment for the reconstruction of wheelchair ramps that are impacted by construction activities (including but not limited to conduit or traffic signal pole installations). All associated items of work required to reconstruct the wheelchair ramp to ADA requirements (including curbing, sidewalks, and detectable warning systems) shall also be considered incidental to the item of work which disturbs existing wheelchair ramps. The final location of all wheelchair ramps shall be coordinated in the field with proposed and/or existing locations of drainage structures, utility poles, light poles, and other appurtenances to ensure a clear pedestrian path. All proposed wheelchair ramps shall be constructed in accordance with RI Standard 43.3.0 and per the details on the Plans.

The installation of wheelchair ramp curb will include the granite transition stones as well as the flush granite curb at the base of the ramp. In addition, a sawcut of the end sections abutting the 2-foot curb returns to be removed will be necessary (where applicable), to install the wheelchair ramp transition curbs.

24. DIFFERING SITE CONDITIONS, CHANGES, AND EXTRA WORK:

Any changes in the original scope of work shall be approved by the Engineer prior to the commencement of said work. Any change orders shall be submitted with a description of the additional work to be performed and a lump sum price to perform said work.

25. SURVEY OF CURB RADII:

The Contractor shall survey all curb dimensions and radii prior to removal of curb when reconstructing wheelchair ramps that are impacted by construction activities. The curb survey shall be considered incidental to the item of work which disturbs existing wheelchair ramps

26. COORDINATION WITH RIPTA

The Contractor shall coordinate with the Rhode Island Public Transportation Authority (RIPTA) to ensure that RIPTA bus routes remain operational at all times.

27. NATIONAL GRID REQUIREMENTS

GUIDELINES FOR BACKFILL AND COMPACTION AROUND GAS PIPES
PERMANENT BACKFILL AND COMPACTION

DESCRIPTION

This work shall consist of backfilling and compacting all disturbed material at and around existing gas pipes and facilities. Size of pipe, material, length of exposed pipe, location of pipe, etc. will all follow the same set of Standards and Specifications stipulated by National Grid Company. If design plans call for gas pipes to be exposed and supported (sheeting methods not used), then at the time of backfill, all disturbed material below the invert of the gas pipe shall be

removed and replaced with suitable roadway or trench excavation material or bedding material. The contractor will not be allowed to replace this disturbed material with the same existing material if it has now been mixed with adjacent silty subsoil (clays) and fines. Well-graded gravel and sands will be used to replace the unsuitable material when no excess suitable material is available on site. Soils with high humus or mineral content should not be used to for backfill because they can promote electrolytic or bacterial attack.

Backfilling the gas pipe should begin immediately after the work in that location is complete. The region within 6" alongside and on top of the gas pipe shall be backfilled with padding sand (free of cinders, ash, and rock). In no case shall the material used for backfilling in this region contain any stones. Backfill shall consist of suitable materials (medium to coarse sands with little or no silts) placed in layers of not more than 8" to 12" after compaction.

Trench spoil material shall be suitable for backfilling above the padding material as long as rocks with a diameter larger than 3" are removed. The layers shall be mechanically compacted to the industry standard of 95% or until a density comparable to the unexcavated material is achieved. In some instances, flooding with water is an acceptable method of compaction but only if the back-fill material is clean, coarse, and adequate drainage is existent. The above specified backfill material is essential in order to attain the degree of compaction necessary to avoid future settlement.

Tracing Wire, if necessary, shall be installed 2" to 6" below Plastic gas pipes.

Warning Tape shall be installed approximately 12" above the gas pipe.

A minimum of 2" temporary pavement shall be applied over the trench as soon as possible.

GUIDELINES FOR WORKING AROUND CORROSION CONTROL SYSTEM COMPONENTS

DESCRIPTION

This guideline shall control work around existing Corrosion Control components. Replacement of test stations, anodes and test wire leads shall comply with Standards and Specifications stipulated by National Grid. If design plans call for work in the area of Corrosion Control components, care must be taken to prevent damage to such components.

GENERAL NATIONAL GRID CONSIDERATIONS

The contractor shall perform replacement of damaged corrosion control test boxes, resetting of disturbed test boxes, and ensure a minimum of 12" of excess wire above the rim of the test box after set to finished grade. Wires shall not be pulled taught to achieve the 12" above the box, as this will cause stress on the wire connection at the main. Wires needing to be lengthened, damaged corrosion control components i.e. wires, or wire coating, shall require notification to the Corrosion Control Department (525-5610 or 474-5171) to initiate inspection/repair or replacement of the damaged components.

Backfilling exposed Corrosion Control wire components should begin immediately after the work in that location is complete. The region within 6" alongside and on top of the connector wires shall be backfilled with padding sand (free of cinders, ash, and rock). Test wire leads must be kept with enough slack to prevent stress on the points where the wires connect to the gas main. Trench spoil material shall be suitable for backfilling above the padding material as long as rocks with a diameter larger than 3" are removed. The 8" to 12" backfill layers shall be mechanically compacted to the industry standard of 95%.

GUIDELINES FOR SUPPORT OF GAS PIPES **TEMPORARY SUPPORT OF GAS PIPES**

DESCRIPTION

This work shall consist of temporarily supporting gas pipes, during construction work and related activities. Any gas pipe that is exposed shall follow this specification stipulating pipe support criteria. Whether gas pipe is located directly in the excavation trench box or if it is located in the excavated adjacent slopes (Angle of Repose) all gas pipe must be supported.

When gas pipe is undermined for 5 feet or more at any given time, National Grid must be notified and a decision will be made on what type of support system will be utilized. National Grid reserves the right to insist that a Rhode Island Registered Professional Engineer submit plans, if the gas pipe being supported exceeds an unsupported span length of 12 feet, is located in cohesive soils (wet, silty soils), or feels that the structural integrity of the gas distribution system may be compromised.

All cast iron gas pipes will be replaced and not be temporarily supported, unless determined differently by National Grid. This criterion is in accordance with Section 6315.6 of National Grid's *Operations Standards and Practices Manual*.

The following criteria should be used as guidelines when undermining existing steel or plastic gas pipes:

STEEL GAS PIPE

If pipe is undermined for a distance between 5 and 10 feet, the support system should consist, as a minimum, of adequately sized steel I-beams, steel plate girders, or 6" x 6" wood beams (Hem-Fir) with a sling supporting the pipe mid-span. For distances greater than 10 feet, these temporary support beams will have slings supporting the pipe every 10 to 12 feet along the length of the undermined pipe. Furthermore, when a mechanical coupling or fitting is encountered at any span length, the slings must be placed on either side of the fitting to avoid buckling.

PLASTIC GAS PIPE

If pipe is undermined for a distance between 5 and 10 feet, the support system should consist, as a minimum, of adequately sized steel I-beams, steel plate girders, or 4" x 4" wood beams (Hem-Fir) with a sling supporting the pipe mid-span. For distances greater 10 feet, these temporary support beams will have slings supporting pipe every 10 to 12 feet along the length of the undermined pipe. Furthermore, when a mechanical coupling or fitting is

encountered, the slings must be placed on either side of the fitting to avoid buckling.

28. CITY OF PROVIDENCE TECHNICAL SPECIFICATIONS:

In addition to the standard and job specific specifications included in these contract documents, the construction in this contract shall be in accordance with the City of Providence "Technical Specifications". A copy of the latest version of the specifications dated February 19, 2009 is included in Appendix 2A.

APPENDIX 2A
PROVIDENCE TECHNICAL SPECIFICATIONS

TECHNICAL SPECIFICATIONS

City of Providence Rhode Island

Updated: 2/19/09

1.04 SAW CUTS

Existing pavement shall be saw cut at all openings for conduit installation and utility work, and as directed by the City of Providence.

1.05 CITY OF PROVIDENCE SPECIAL REQUIREMENTS

Following is a list of special requirements that must be met for all signal projects in the City of Providence:

- 1.) All signal head shall be mounted to mast arms using Astro-Brac mounting as manufactured by Pelco Products, Inc.
- 2.) Safety chains are to be attached to each signal hanger and overhead mounted sign.
- 3.) All Pedestrian hardware shall be mounted to the backside of all mast arms. All Pedestrian Signal Heads are to be installed as **individual** heads when attached to mast poles or decorative poles. **(No double connecting pipes will be allowed.)**
- 4.) Pedestrian poles, mast arm poles and controller cabinets are to be set to the **inside** of the sidewalk whenever possible. Controller cabinet doors are to open **towards the sidewalk** unless otherwise stated and agreed upon by the City of Providence, Traffic Engineering Division (T.E.D.).
- 5.) No pole mounted controller cabinets are to be used unless agreed upon by T.E.D.
- 6.) No splices **at all** are to be made in the entire system. (All cables are to be run directly from control cabinet to signal heads.)
- 7.) Traffic signal cables are to be run in their **own** conduits. (Signal cables are not to be run in any other conduit along with decorative lighting cables or service cables, for example.)
- 8.) Service cables are to be run in their **own** conduits. (Service cables are not to be run with or in the same conduit as signal cables.)
- 9.) No existing conduits are to be used unless called for on the plans and approved by the City of Providence Division of Traffic Engineering
- 10.) All signals are to have at least one (1) spare conductor in each head. Pedestrian Buttons are to have at least one (1) spare for each button, and Pedestrian Heads are to have at least one (1) spare in each head.
- 11.) All loop detectors are to extend beyond stop bars.
- 12.) There is to be at least **six** (6) feet of slack, in each hand hole, per cable. (The six (6) feet is measured from the top of the hand hole and extending six feet out of the hand hole.) All conductors shall be neatly bundled together and wrapped with electrical tape in one foot increments.
- 13.) Pre-construction meeting(s) shall be held between the City of Providence and the Contractor.
- 14.) The contractor shall be responsible for setting up controller units.

TECHNICAL SPECIFICATIONS

City of Providence Rhode Island

- 15.) The controller manufacturer's manual for the model of controller installed shall be provided, along with an electrical schematic drawing of the controller and controller backboard panel. The controller shall be an Eagle EPAC 3608M52 TS-2, Type 2 controller.
- 16.) Silicon shall be applied to the tops of all traffic and pedestrian signals.
- 17.) All used equipment shall become the property of the City of Providence and delivered to a location designated by the Division of Traffic Engineering. Scrap material and equipment to be disposed of will be so-designated by the Traffic Engineering Division.
- 18.) There are to be **no** hand holes installed in wheelchair ramps.
- 19.) All overhead signals are to be a minimum of 16'3" and maxim of 19'.
- 20.) All ground mounted cabinet foundations shall be 12 inches above grade level.
- 21.) All ground mounted cabinets shall have silicon applied to the base of the cabinet before it is attached to the foundation.
- 22.) All new cabinets installed on existing foundations are required to have a 12 inch extension base.
- 23.) All contractors a required to notify TED 24 – hours in advance prior to any underground or overhead signal work.
- 24.) All conductors with in the controller shall be labeled with individual bands of electrical colored marking tape corresponding with field prints. A- Labeled # 1, B- Labeled # 2, C- Labeled # 3, ECT.

1.06 PAVEMENT MARKINGS

All pavement markings shall be epoxy resin. All stop bars and crosswalks shall consist of the 12-inch white movement markings.

1.07 PAVEMENT REMOVAL

The following provision applies when traffic will be allowed in areas where pavement is to be removed as the end of the work day. At the end of each working day the pavement removal operation must be left in a "squared-off" condition, approximately perpendicular to the direction of travel. Transverse "drop-offs" left at the end of each working day must be graded at a slope of 5 feet horizontally to 1-inch vertically for speed limits of 35 mph or less, and 10 feet horizontally to 1-inch vertically for speed limits greater than 35 mph. Temporary bituminous patching material may be used to construct slopes. There will be no separate payment for this requirement. The cost shall be considered incidental to the contract.

The Contractor shall place on W8-1 (30" x 30") "BUMP" sign at each drop-off for each direction of traffic.

The Contractor shall schedule his construction activities affected by the traffic flow, such that no area is left without pavement for longer than seven (7) calendar days. This means that once the Contractor commences the cold planning operation, he must restore the roadway with a full

TECHNICAL SPECIFICATIONS

City of Providence Rhode Island

depth bituminous pavement at that particular location within seven (7) calendar days, unless otherwise approved in writing by the Engineer.

1.08 SIDEWALK CONSTRUCTION

The Contractor must schedule his sidewalk construction activities such that no areas are left without paved sidewalks for more than seven (7) consecutive working days. The intent being that once the Contractor commences the removal of old sidewalks he must install new sidewalks at that particular location within seven (7) consecutive working days. Where applicable, the Contractor will saw cut the existing sidewalk two (2) feet behind the face of the curb and complete all curb related activities prior to removing the remaining sidewalk area.

1.09 REQUIRED EXCAVATION FOR SIDEWALK/DRIVEWAY CONSTRUCTION

The Contractor will be required to excavate all existing material (including gravel borrow) to the limits shown on RI Standard Details in order to construct the sidewalk/driveway as required.

1.10 REPAIRS TO FINAL RIDING SURFACE

All repairs to the final riding surface must be preformed with the infra-red method. The infra-red method will consist of cleaning the area, infra-red heating, additional bituminous concrete mix, labor and all incidentals to complete the work to the satisfaction of the Engineer.

1.11 AMERICAN'S WITH DISABILITIES ACT REQUIREMENTS

All sidewalks being constructed have been designated to comply with the ADA (American's with Disabilities Act) requirements. A minimum clearance of thirty-six (36) inches of width at a point of narrowing excluding curb width, and forty-eight (48) inches of continuous width elsewhere is required. Prior to installing any new sidewalks, the Contractor must verify, by field review with the Engineer, that these requirements have been met. Sidewalk construction shall not commence without the prior approval of the Engineer in circumstances where these requirements cannot be attained.

1.12 SPECIAL REQUIREMENT FOR TRAFFIC PROTECTION

In addition to the requirements of the Standard Specifications for Road and Bridge Construction and the special requirements of other sections of these contract documents, the following requirements shall be undertaken by the Contractor.

TECHNICAL SPECIFICATIONS

City of Providence Rhode Island

- a. For any deviation from the Contract Maintenance of the Traffic Plan the Contractor shall be required to install and maintain proper warning and construction signing and protective devices at each work location that conform to the “Manual on Uniform Traffic Control Devices, Millennium Edition,” including all revisions. All traffic protection must be approved by the Engineer before any construction may commence.
- b. The Contractor shall install and maintain a Rhode Island Standard 26.2.0 barricade with appropriate markings at each location where adjustment to utility structures have been made until resurfacing work has been performed. Other types of protective devices may be used if approved by the Engineer.
- c. The Contractor shall be responsible for maintaining appropriate construction related signing at all time. Any signs not appropriate for the lane closures, speed limits or any construction activity taking place at any given time shall be removed or covered to the satisfaction of the Engineer.
- d. The Contractor shall utilize RI Standard 26.2.0 barricades for lane reduction tapers and RI Standard 26.1.0 cones to separate the work zone from the travel lanes.

1.13 SPECIAL REQUIREMENTS FOR PAVEMENT MARKINGS

All pavement markings are to be in accordance with the requirements of the “Manual on Uniform Traffic Control Devices” latest edition, including all revisions. All existing striping must be replaced where required.

All temporary pavement markings shall be removed in accordance with the “Manual on Uniform Traffic Control Devices” latest edition, including all revisions.

1.14 POLICE COMPENSATION

On non-RIDOT projects, it will be the responsibility of the Contractor to retain the services of the local police with cruisers for traffic control and protection for this project. For those projects, the Contractor will not be required to bid on, or compensate for, the services of the local police.

1.15 COORDINATION WITH OTHER PROJECTS

The Contractor shall be aware of other construction projects ongoing or commencing during the construction period of this project. It shall be the Contractor’s responsibility to coordinate with the Engineer to determine the impacts of his construction operations on adjacent projects. The Contractor may be required to attend periodic coordination meetings with representatives of the City and State to discuss and resolve potential conflicts.

TECHNICAL SPECIFICATIONS

City of Providence Rhode Island

Part 2 – Specific

2.01 SIGNAL CONTROLLERS

Delete Subsection T.12.02 – Traffic Signal Controllers, Materials and Section M.15.13 – Controllers and Controller Housing of the Rhode Island Standard Specifications for Road and Bridge Construction in their entirety and replace them with the following:

M.15.13 TRAFFIC SIGNAL CONTROLLER UNITS AND CONTROLLER CABINETS

M.15.13.1 16-Phase Controller Units

a. General

The traffic controller supplied shall conform to Section 3 “Controller Units” of the NEMA TS 2 Standard. The traffic controller shall be supplied in a TS 2 Type 1 Configuration as required in the list of major traffic signal items included on the plans for each intersection location. Specifically, the controller unit (CU) shall be supplied as an actuated controller; defined as Type A1 in Subsection 3.2 of the NEMA TS 2 Standard.

The controller shall utilize an interface conforming to Subsection 3.3 of the NEMA TS 2 Standard. The controller unit shall utilize an input/output interface conforming to the requirements of part of Paragraph 3.3.1 for all input/output functions.

The controller unit shall be a keyboard-entry menu-driven unit manufactured by Eagle Signal, Model EPAC3608M52 and conform to the Standard Specifications, with internal time base coordination, emergency preemption, and programmatic capability. The controller shall be complete with a module, including modem card and physical connector, to support closed loop communication.

b. Functional Requirements:

The local system intersection controller shall include all of the following internal functions:

- 1) Software compatibly with the control and data protocol of an Eagle manufactured on-street master, central-office computer and field laptop computer
- 2) Local time based scheduler including automatic accommodation for daylight savings time
- 3) Local coordination control
- 4) Local preemption control with at least six programmable internal preemption sequences
- 5) Data uploading and downloading capability
- 6) Process system and local intersection detector activity and accumulate samples of vehicle counts, occupancy, speed, stops, and delay

TECHNICAL SPECIFICATIONS

City of Providence Rhode Island

- 7) Perform extensive failure evaluation of the controller, detectors, and communications and provide local control of remotely selected NEMA and special functions
- 8) Perform local report generation with printer capability if a printer is attached, including intersection status and performance
- 9) All controllers of the same manufacturer shall always maintain backward and forward compatibility. A controller supplied today, or in the future must be able to run in a closed loop system supplied in the past without any upgrades or modifications required. Likewise, an older controller shall be capable of operating in a current closed loop system
- 10) Controllers shall be capable of Adaptive Max's. They shall operate as follows; After a phase maxes out twice in a row and on each successive max out thereafter, one step value will be added to the Adaptive Max until the value of the Dynamic Max is reached. Returning to Normal Max shall be achieved in the same fashion. After a phase gaps out twice in a row on each successive gap out thereafter one step value, and only one step value, will be subtracted from the Adaptive Max until the value of the Normal Max is reached.

c. Additional Requirements:

1. Local Control. Each local system intersection controller shall include an internal FSK modem to allow connection to a remote system master. An RS-232C interface shall be provided to allow printing of local reports and database. It shall also be possible to attach a dial-up modem to the RS-232C interface to allow remote control and monitoring of the local controller. A separate addressable RS232 port shall be supplied for use with radios or other external device.

To minimize training and simplify local programming, all local parameter access shall utilize prompting and English language displays, and all codes needed by the user, if any, shall be on the front panel or on the display screen to avoid the need for memorization or the presence of a manual.

2. Programmable Field Hardware Documentation. Before the traffic signal is placed in operation, each programmable field hardware component shall be completely programmed by the Contractor to reflect timings or settings shown on the Plans. Programming is defined as user programmable keyboard entries or switch settings. Programmable field devices include, but are not limited to, controller units, malfunction management units, detector units, etc.

3. Controller Guarantee. The entire controller unit shall be warranted to be free from defects in workmanship and material for one year or for the greater length of time common to trade practice, from the date of acceptance by the Engineer. Any defective parts are to be replaced free of charge. Manufacturers' warranties shall become the property of the City at the time of acceptance.

TECHNICAL SPECIFICATIONS

City of Providence Rhode Island

M.15.13.2 Controller Cabinet

a. General. Controller cabinets shall conform to NEMA TS-2 Type 1 Standards, Section 7. The minimum size controller cabinet to be supplied shall be a size 6(P) cabinet, unless shown otherwise on the Plans. The cabinet shall be aluminum construction. The exterior of the cabinet shall be painted in accordance with Subsection 7.7.2. Cabinet color shall be chosen by the Traffic Engineering Division before construction begins.

All controller cabinets assemblies, including but not limited to controller units, back panel, flasher relays, terminal strips and the cabinets provided under contract, shall be matched set of the same manufacturer as the Control Unit, assembled as a system by the manufacturer's designated representative. The work under this item shall conform to the relevant provisions of Section M.15.13.2 of the *Standard Specifications*, the latest edition of the *Manual on Uniform Traffic Control Devices (MUTCD)*, and the following.

b. Shelves and Document Tray. Each cabinet shall be furnished with a minimum of two movable shelves suitable for placing the controller, MMU, detector racks, or any other required equipment. A slide-out document tray shall be mounted below the bottom shelf. The tray shall be of sufficient size to hold cabinet wiring diagrams and two manuals. The tray shall operate by sliding out on nylon rollers or ball bearings and opening a hinged cover to remove documents. The closed cover shall provide a suitable support for resting documents or a laptop computer. All cables shall be tied away to allow the tray to be opened and closed smoothly without any obstructions.

c. Electrical Outlets. In addition to the requirements of the NEMA TS-2 Standards, Section 5.4.2.6, local controller cabinets shall be furnished with a GFI receptacle on the cabinet door and a duplex outlet within the body of the cabinet.

d. Interior Lighting. In addition to the requirements for an incandescent fixture in NEMA TS-2 Standards, Section 5.4.2.7, cabinets shall be provided with a "goose neck" lamp having a flexible arm and utilizing a 25 watt R14 bulb (115VAC). The lamp shall be mounted at a location on the side panel approximately level with the load switch/terminal panel for concentrated illumination of this area. The lamp shall have its own on/off switch on the unit.

e. Controller Cabinet Documentation. Three (3) sets of complete cabinet schematics and one (1) set of operating manuals for the controller unit, loop detector units, and any other programmable field hardware supplied shall be included as part of the cabinet documentation.

Two (2) hard copy sets of all programmed data shall be supplied to the Department at the time the controller is installed in the field. Each set shall be bound. One set is to remain in the cabinet, and one set is to be delivered to the Traffic Engineering Division.

f. Controller Cabinet Service Switches. All cabinet switches shall be clearly labeled to indicate the switch's function. Toggle switches shall indicate the state of each switch position.

TECHNICAL SPECIFICATIONS

City of Providence Rhode Island

1. **Open Door Alarm.** A pushbutton switch shall be installed on a bracket in the tip right of the controller cabinet door. The output of the switch shall be connected to the alarm No. 1 input as defined by the NEMA TS-2 Standards, and record the opening of the cabinet door as a local alarm.
2. **Police Door Switches.** Police door switches shall have the following:
 - (a) An Auto/Manual switch that toggles between automatic operation and manual operation. During manual operation, an extendible hand-control pushbutton shall utilize Manual Control Enable and Interval Advance to control the intersection operation. The hand-control pushbutton shall be installed inside the police door. The hand control pushbutton shall be rugged in construction with a weatherproof covering over the cord's pushbutton switch.
 - (b) A Signal/Flash switch that toggles between automatic and flashing operation.
 - (c) A Signal/Off switch that toggles power on and off to the controller assembly and signals. Each switch shall be permanently labeled to identify its function.
3. **Main Door Switches.** All Cabinets shall be provided with the following switches on the main door. These switches shall be accessible only when the main door is open.
 - (a) Momentary pushbutton switches providing calls to vehicle channels 1-16, pedestrian phases 1-8, and pre-emption calls 1-6.
 - (b) A Timer On/Off toggle switch that turns power on/off to the controller only. The MMU and other cabinet equipment shall not be affected by the switch.
 - (c) Each switch shall be permanently labeled to identify its function.

g. Controller Cabinet Terminal Strips. All terminal connections shall be marked with a number and, where appropriate, the corresponding NEMA Function. All labels shall be silk screened or permanent labels.

h. Lighting Protection.

1. AC Service Protection. The traffic signal control assembly shall be equipped with surge protection installed at the power distribution panel. The surge protector shall be an EDCO ACP 340 Filtering surge protector, or approved equal, and shall meet or exceed the following electrical specifications:

TECHNICAL SPECIFICATIONS

City of Providence Rhode Island

- (a) Peak Current; 20,000 amps (8x20 microseconds).
- (b) Clamp Voltage @ 20kA;250 volts typ.
- (c) Response Time; voltage never exceeds 250 volts during surge.
- (d) Operating Temperature; -40 to 85 degrees C.

i. Cabinet Wiring. As a minimum, cabinets shall be wired in accordance with the NEMA TS-2 Type 1 Standard, Section 5, Terminals and Facilities, as it applies to Type 1, cabinets, unless otherwise specified in these Specifications. Any power supplies must be shielded with a non conductive material to prevent accidental contact. Sealers or compounds that are not non-conductive will not be accepted.

A panel shall be provided suitable for terminating: A minimum of 16 loop lead-ins, Rack Power and Ground, Detector Call Terminations, and all 8 pedestrian pushbuttons.

j. Detector Racks. The cabinet shall provide for a minimum of 16 channels of detection, fully wired for all channels.

Detector channels shall be assigned as shown on the Loop Detector Diagram included on the Plans.

All Loop detector units shall be rack mounted. Detector units and racks shall conform to the NEMA TS-2 Type 1 Standard, Section 7. Racks shall be of metal construction, providing top and bottom guides for all slots. Racks shall be bolted to the top shelf of the cabinet using wing nuts to simplify their removal.

The Contractor shall supply and install on the upper left-hand corner of the back of the cabinet door a laminated intersection graphic and table depicting the traffic detector relay channel assignments. The diagram shall be a graphic of the intersection oriented similar to the plans showing the locations of each loop detector. The diagram shall, at a minimum, include detector numbers, street names, north arrow (oriented similar to Plans), and controller cabinet location. The assignment information shall be included in a table, which shall include, at a minimum, approach name, detector number, terminal numbers, detector rack slot number, relay number, relay channel number, and the phase associated with each detector.

k. Load Switches and Flash Transfer Relays. In addition to the requirements of the NEMA TS-2 Type 1, Section 6, Auxiliary Devices, all load switches shall utilize optically isolated, encapsulated modular solid state relays. Discrete components on circuit boards will not be accepted. Load switch indicator lights shall be LED type and wired on the input side of the device.

The field electrical loading for flash operation shall be wired through the transfer relay such that the load on the 2-circuit flasher is as balanced as possible within the limitations of the signal phasing.

TECHNICAL SPECIFICATIONS

City of Providence Rhode Island

Controller cabinets shall be furnished with a full complement of load switches and flash transfer relays. This requires a load switch and a flash transfer relay for each back panel position, even if the position is not used.

l. The Malfunction Management Units (MMU). The MMU shall be manufactured by *Eberle Design, Inc.* and comply with Section 4 of the NEMA TS 2 standard. The MMU shall be capable of operating as either a Type 16 with 16 channels (8 vehicle, 4 pedestrian, 4 overlap) or a Type 12 with 12 channels (8 vehicle, 4 overlap). The MMU's supplied shall be configured to operate as Type 16 units.

The MMU's in either the Type 16 or Type 12 configuration shall be capable of operating in a NEMA TS 2 Type 2 cabinet, a NEMA TS 2 Type 1 cabinet, or a NEMA TS 1 cabinet without loss of functionality. The MMU shall be connected directly to the controller unit to support enhanced MMU monitoring of controller operations

m. The Bus Interface Unit (BIU). The BIU shall comply with Section 8 of the NEMA TS 2 Standard. The BIU shall be fully interchangeable with any other manufacturer's unit and interchangeable in a NEMA TS 2 Type 1 cabinet assembly.

The BIU shall perform the interface function between port 1 at the controller unit, the malfunction management unit, loop detector rack assembly, and the back panel terminal and facilities.

As a minimum, two LED indicators shall be provided on the BIU front panel. One indicator shall serve a dual use; as a power on indication and as a diagnostic indicator for proper operation of the device. The second indicator shall serve as a transmit indicator illuminating each time data is transmitted.

One spare BIU shall be supplied per cabinet.

2.02 Traffic Signal Heads

Shall be Siemens/Eagle Traffic Control Systems Co. Model SIG series with the required 12" diameter lens as specified on the plans and the following requirements and as configured and described on the plans.

Body-One piece aluminum unit with integral serrations of 5 degree increments in the end sections. Each body provided for mounting terminal blocks and attaching back plates. The body shall be painted Green.

Doors-One piece aluminum unit equipped with stainless steel hinge pins. Thumbscrews hold the door against the body. The door shall be painted Green.

TECHNICAL SPECIFICATIONS

City of Providence Rhode Island

Visors-One piece aluminum, Tunnel as specified on the plans, with slotted mounting hole. The visor shall be painted flat black in, Green.

LED-For uniformity and interchangeability, all Red, Yellow and Green signal indications with the exception of optically programmed signals shall be LEOTEK Electronics USA corp. LEDs and conforming to the following: All Red and Green signal modules shall conform to “Interim LED Purchase Specification of the Institute of Transportation Engineers, Vehicle Traffic Control Signal Heads –Part 2; Light Emitting Diode (LED) Vehicle Signal Modules” July 1998 or most current version, Institute of Transportation Engineers, (ITE), 525 School St, SW, Suite 410, Washington DC, 20024-2797.

Yellow LED- Shall conform to the above specification with the exception with the exception that the yellow modules shall meet maintained Minimum Luminous Intensity values of Table 1, Section 4 of the above referenced ITE specification of compliant green signal modules at 25°C at 120 volts AC, throughout the useful life based on normal use in traffic signal operation over temperature range.

Pedestrian Signals

Shall be LEOTEK Electronics USA Corp. One Section, 12” as specified on the plans

Body- Shall be Siemens/Eagle Traffic Control Systems Co.One section Model SIG 12” signal head painted Green.

Visors- Shall be cut-away pedestrian visors for the 12” pedestrian signal head painted Green.

Countdown Module- Shall be LEOTEK Electronics USA Corp, Two sections 12” LED Hand/Man model # TP 12H-HM and 12” LED Countdown model # TP12N-CD.

ADA Pedestrian Pushbutton assemblies

For uniformity and interchangeability, all pedestrian pushbuttons shall be POLARA Bulldog ADA pedestrian pushbutton.

M.15.14.1 VEHICLE DETECTOR AMPLIFIERS

The loop detector amplifiers shall be supplied as two-channel rack mounted units with programmable delay and extension timing, *however, all delay and extension programming shall be completed internally in the controller unit.* The detector amplifiers units shall be manufactured by Eberle Design Inc, model LM622T Two Channel Rack Mounted with dip switches.

One spare LM622T amplifier shall be supplied with each cabinet.

TECHNICAL SPECIFICATIONS

City of Providence Rhode Island

M.15.15.1 EMERGENCY VEHICLE PREEMPTION

All fire preemption equipment shall be Opticom by Global Traffic Technologies.

All new or modified traffic signal controller cabinets shall be wired for four-channel future Optical Emergency Vehicle Preemption.

M.15.16.1 VIDEO DETECTION

Video Detection system shall be in accordance with the specifications on the following pages.

VIDEO DETECTION

General

This specification sets forth the minimum requirements for a system that detects vehicles on a roadway using only video images of vehicle traffic. The video detection system shall be manufactured by ITERIS and consist of the Vantage Edge Camera, Vantage Edge 2 video processor and the following:

System Hardware

The video detection system shall consist of one or two video cameras, a video detection processor (VDP) which mounts in a standard detector rack; a detector rack mounted extension module (EM), and a pointing device.

1.2 System Software

The system shall include software that detects vehicles in multiple lanes using only the video image. Detection zones shall be defined using only an on board video menu and a pointing device to place the zones on a video image. Up to 24 detection zones per camera shall be available. A separate computer shall not be required to program the detection zones.

2. Functional Capabilities

- 2.1 The VDP shall process video from one or two sources, as specified. The source can be a video camera or video tape player. The video shall be input to the VDP in RS170 format and shall be digitized and analyzed in real time. Dual video VDP's shall process images from both inputs simultaneously.
- 2.2 The VDP shall detect the presence of vehicles in up to 24 detection zones per camera. A detection zone shall initially be set up according to the approximate dimensions called for on the plans.
- 2.3 Detection zones shall be programmed via an on board menu displayed on a video monitor and a pointing device connected to the VDP. The menu shall facilitate placement of detection zones and setting of zone parameters or to view system parameters. A separate computer shall not be required for programming detection zones or to view system operation.

- 2.4 The VDP shall store up to three different detection zone patterns. The VDP can switch to any one of the three different detection patterns within 1 second of user request via menu selection with the pointing device.
- 2.5 The VDP shall detect vehicles in real time as they travel across each detector zone.
- 2.6 The VDP shall have an RS232 port for communications with an external computer. The VDP RS232 port shall be multi-drop compatible.
- 2.7 The VDP shall accept new detector patterns from an external computer through the RS-232 port when the external computer uses the correct communications protocol for downloading detector patterns. A Windows™-based software designed for local or remote connection and providing video capture, real-time detection indication and detection zone modification capability shall be provided with the system.
- 2.8 The VDP shall send its detection patterns to an external computer through the RS-232 port when requested when the external computer uses the appropriate communications protocol for uploading detector patterns.
- 2.9 The extension module (EM) shall be available to avoid the need of rewiring the detector rack, by enabling the user to plug an extension module into the appropriate slot in the detector rack. The extension module shall be connected to the VDP by an 8-wire cable with modular connectors. VDP and EM communications shall be accommodated by methods using differential signals to reject electrically coupled noise. The extension module shall be available in both 2 and 4 channel configurations. EM configurations shall be programmable from the VDP.
- 2.10 The camera system shall be able to transmit an NTSC video signal, with minimal signal degradation, up to 1000 feet under ideal conditions.
- 2.11 The associated VDP shall default to a safe condition, such as a constant call on each active detection channel, in the event of loss of video signal.
- 2.12 The system shall be capable of automatically detecting a low-visibility condition such as fog and respond by placing all defined detection zones in a constant call mode. A user-selected output shall be active during the low-visibility condition that can be used to modify the controller operation if connected to the appropriate controller input

modifier(s). The system shall automatically revert to normal detection mode when the low-visibility condition no longer exists.

3. Vehicle Detection

- 3.1 A minimum of 24 detection zones shall be supported and each detection zone shall be user definable in size and shape to suit the site and the desired vehicle detection region.
- 3.2 A single detection zone shall be able to replace multiple inductive loops and the detection zones shall be OR'ed as the default or may be AND'ed together to indicate vehicle presence on a single phase of traffic movement.
- 3.3 Placement of detection zones shall be done by using only a pointing device, and a graphical interface built into the VDP and displayed on a video monitor, to draw the detection zones on the video image from the video camera. No separate computer shall be required to program the detection zones.
- 3.4 A minimum of 3 detection zone patterns shall be saved within the VDP memory. The VDP's memory shall be non-volatile to prevent data loss during power outages. The VDP shall continue to operate (e.g. detect vehicles) using the existing zone configurations even when the operator is defining/modifying a zone pattern. The new zone configuration shall not go into effect until the configuration is saved by the operator.
- 3.5 The selection of the detection zone pattern for current use shall be done through a menu or remote computer via RS-232 port. It shall be possible to activate a detection zone pattern for a camera from VDP memory and have that detection zone pattern displayed within 1 second of activation.
- 3.6 When a vehicle is detected crossing a detection zone, the corners of the detection zone will flash on the video overlay display screen to confirm the detection of the vehicle.
- 3.7 Detection shall be at least 98% accurate in good weather conditions and at least 96% accurate under adverse weather conditions (rain, snow, or fog). Detection accuracy is dependent upon site geometry; camera placement, camera quality and detection zone location, and these accuracy levels do not include allowances for occlusion or poor video due to camera location or quality.

- 3.8 Detector placement shall not be more distant from the camera than a distance of ten times the mounting height of the camera.
- 3.9 The VDP shall provide up to 24 channels of vehicle presence detection per camera through a standard detector rack edge connector and one or more extension modules.
- 3.10 The VDP shall provide dynamic zone reconfiguration (DZR) to enable normal detector operation of existing channels except the one where a zone is being added or modified during the setup process. The VDP shall output a constant call on any detection channel corresponding to a zone being modified.
- 3.11 Detection zone setup shall not require site specific information such as latitude, longitude, date and time to be entered into the system.
- 3.12 The VDP shall output a constant call for each enabled detector output channel if a loss of video signal occurs. The VDP shall output a constant call during the background learning period.
- 3.13 Detection zone outputs shall be configurable to allow the selection of presence, pulse, extend, and delay outputs. Timing parameters of pulse, extend, and delay outputs shall be user definable between 0.1 to 25.0 seconds.
- 3.14 Up to six detection zones shall be capable to count the number of vehicles detected. The count value shall be internally stored for later retrieval through the RS-232 port. The data collection interval shall be user definable in periods of 5, 15, 30 or 60 minutes.

4. VDP and EM Hardware

- 4.1 The VDP and EM shall be specifically designed to mount in a standard TS-1, TS-2, 170 type detector rack, using the edge connector to obtain power and provide contact closure outputs. No adapters shall be required to mount the VDP or EM in a standard detector rack. Detector rack rewiring shall not be required or shall be minimized.
- 4.2 The VDP and EM shall operate in a temperature range from -34°C to +74°C and a humidity range from 0% RH to 95% RH, non-condensing.

4.3 The VDP and EM shall be powered by 12 or 24 volts DC. These modules shall automatically compensate for the different input voltages.

- 4.4 VDP power consumption shall not exceed 300 milliamps at 24 VDC. The EM power consumption shall not exceed 120 milliamps at 24 VDC.
- 4.5 The VDP shall include an RS232 port for serial communications with a remote computer. The VDP RS232 port shall be multi-drop compatible. This port shall be a 9-pin "D" subminiature connector on the front of the VDP.
- 4.6 The VDP shall utilize flash memory technology to enable the loading of modified or enhanced software through the RS232 port without modifying the VDP hardware.
- 4.7 The VDP and EM shall include detector output pin out compatibility with industry standard detector racks.
- 4.8 The front of the VDP shall include detection indications, such as LED's, for each channel of detection that display detector outputs in real time when the system is operational.
- 4.9 The front of the VDP shall include one or two BNC video input connection suitable for RS170 video inputs as required. The video input shall include a switch selectable 75-ohm or high impedance termination to allow camera video to be routed to other devices, as well as input to the VDP for vehicle detection. Video must be inputted via a BNC connector on the front face of the processor. RCA type connectors/jacks for video input are not allowed. Video shall not be routed via the edge connectors of the processor.
- 4.10 The front of the VDP shall include one BNC video output providing real time video output that can be routed to other devices. A RCA type connector/jack for video output is not allowed.
- 4.11 The front panel of the VDP and EM shall have a detector test switch to allow the user to place calls on each channel. The test switch shall be able to place either a constant call or a momentary call depending on the position of the switch.

5. Video Detection Camera

- 5.1 The video cameras used for traffic detection shall be furnished by the VDP supplier and shall be qualified by the supplier to ensure proper system operation.
- 5.2 The camera shall produce a useable video image of the bodies of vehicles under all roadway lighting conditions, regardless of time of day. The minimum range of scene

luminance over which the camera shall produce a useable video image shall be the minimum range from nighttime to daytime, but not less than the range 0.1 lux to 10,000 lux.

- 5.3 The camera shall use a CCD sensing element and shall output monochrome video with resolution of not less than 380 lines horizontal.
- 5.4 The camera shall include an electronic shutter control based upon average scene luminance and shall be equipped with a factory adjusted manual iris. Auto-iris lenses are not allowed.
- 5.5 The camera shall include a variable focal length lens with variable focus that can be adjusted, without opening up the camera housing, to suit the site geometry by means of a portable interface device designed for that purpose and manufactured by the detection system supplier. The horizontal field of view shall be adjustable from 8.1 to 45.9 degrees. A single camera configuration shall be used for all approaches in order to minimize the setup time and spares required by the user.
- 5.6 The camera electronics shall include AGC to produce a satisfactory image at night.
- 5.7 The camera shall be housed in a weather-tight sealed enclosure. The housing shall be field rotatable to allow proper alignment between the camera and the traveled road surface.
- 5.8 The camera enclosure shall be equipped with a sunshield. The sunshield shall include a provision for water diversion to prevent water from flowing in the camera's field of view. The camera enclosure with sunshield shall be less than 6" diameter, less than 15" long, and shall weigh less than 6 pounds when the camera and lens are mounted inside the enclosure.
- 5.9 The camera enclosure shall include a thermostatically controlled heater to assure proper operation of the lens shutter at low temperatures and prevent moisture condensation on the optical faceplate of the enclosure.
- 5.10 When mounted outdoors in the enclosure, the camera shall operate satisfactorily in a temperature range from -34 °C to +60 °C and a humidity range from 0% RH to 100% RH.

- 5.11 The camera shall be powered by 120-240 VAC 50/60 Hz. Power consumption shall be 15 watts or less under all conditions.
- 5.12 Recommended camera placement height shall be 33 feet (or 10 meters) above the roadway, and over the traveled way on which vehicles are to be detected. For optimum detection the camera should be centered above the traveled roadway. The camera shall view approaching vehicles at a distance not to exceed 350 feet for reliable detection (height to distance ratio of 10:100). Camera placement and field of view (FOV) shall be unobstructed and as noted in the installation documentation provided by the supplier.
- 5.13 The camera enclosure shall be equipped with separate, weather-tight connections for power and setup video cables at the rear of the enclosure. These connections may also allow diagnostic testing and viewing of video at the camera while the camera is installed on a mast arm or pole using a lens adjustment module (LAM) supplied by the VDP supplier. Video and power shall not be connected within the same connector.
- 5.14 The video signal output by the camera shall be black and white in RS170 or CCIR format.
- 5.15 The video signal shall be fully isolated from the camera enclosure and power cabling.

6. Installation

- 6.1 The coaxial cable to be used between the camera and the VDP in the traffic cabinet shall be Belden 8281 or a 75 ohm, precision video cable with 20 gauge solid bare copper conductor (9.9 ohms/M), solid polyethylene insulating dielectric, 98% (min) tinned copper double-braided shield and black polyethylene outer covering. The signal attenuation shall not exceed 0.78 dB per 100 feet at 10 MHz. Nominal outside diameter is 0.304 inches. The coax cable shall be a continuous unbroken run from the camera to the VDP. This cable shall be suitable for installation in conduit or overhead with appropriate span wire. 75-ohm BNC plug connectors should be used at both the camera and cabinet ends. The coaxial cable, BNC connector, and crimping tool shall be approved by the supplier of the video detection system, and the manufacturer's instructions must be followed to ensure proper connection.
- 6.2 The power cabling shall be 16 AWG three conductor cable. The cabling shall comply with the National Electric Code, as well as local electrical codes. Cameras may acquire power from the luminaire if necessary.

- 6.3 The video detection system shall be installed by supplier factory certified installers and as recommended by the supplier and documented in installation materials provided by the supplier. Proof of factory certification shall be provided.

7. Limited Warranty

- 7.1 The supplier shall provide a limited two-year warranty on the video detection system. See suppliers standard warranty included in the Terms and Conditions of Sale documentation.
- 7.2 During the warranty period, technical support shall be available from the supplier via telephone within 4 hours of the time a call is made by a user, and this support shall be available from factory-certified personnel or factory-certified installers.
- 7.3 During the warranty period, updates to VDP software shall be available from the supplier without charge.

8. Maintenance and Support

- 8.1 The supplier shall maintain an adequate inventory of parts to support maintenance and repair of the video detection system. These parts shall be available for delivery within 30 days of placement of an acceptable order at the supplier's then current pricing and terms of sale for said parts.
- 8.2 The supplier shall maintain an ongoing program of technical support for the video detection system. This technical support shall be available via telephone, or via conditions, regardless of time of day.

Specification for an Integrated Video Detection Processor and Rack or Shelf Mounted Cabinet Interface



1. General

This specification sets forth the minimum requirements for a system that detects vehicles on a roadway using only video images of vehicle traffic.

1.1 System Hardware

The video detection system shall consist of a single integrated camera with video detection processor (VDP), a cabinet interface (ICC) which mounts in a standard detector rack or as a stand-alone shelf mount unit, and a pointing device.

1.2 System Software

The system shall include software that detects vehicles in multiple lanes using only the video image. Detection zones shall be defined using only an on board video menu and a pointing device to place the zones on a video image. Up to 6 detection zones per system shall be available. A separate computer shall not be required to program the detection zones.

2. Functional Capabilities

2.1 The VDP shall process video from the integrated camera. The video shall be in NTSC composite video format and shall be digitized and analyzed in real time.

2.2 The VDP shall detect the presence of vehicles in up to 6 detection zones per system. A detection zone shall be approximately the width and length of one car.

2.3 Detection zones shall be programmed via an on-board menu displayed on a video monitor and a pointing device connected to the ICC. The menu shall facilitate placement of detection zones and setting of zone parameters or to view system parameters. A separate computer shall not be required for programming detection zones or to view system operation.

2.4 The VDP shall store up to three different detection zone patterns. The VDP can switch to any one of the three different detection patterns within 1 second of user request via menu selection with the pointing device. Each configuration can be uniquely labeled for identification and the current configuration identifier is displayed on the monitor.

2.5 The VDP shall detect vehicles in real time as they travel across each detector zone.

2.6 The ICC shall have an RS232 port for communications with an external computer for diagnostic and remote management applications.

2.7 The VDP shall accept new detector patterns from an external computer through the RS-232 port on the ICC when the external computer uses the correct communications protocol for downloading detector patterns. A Windows™ based software designed for local or remote

connection and providing video capture, real-time detection indication and detection zone modification capability shall be provided with the system.

- 2.8 The VDP shall send its detection patterns to an external computer through the RS-232 port on the ICC upon request when the external computer uses the appropriate communications protocol for uploading detector patterns.
- 2.9 A shelf mount version of the ICC shall be available to avoid the need of rewiring the detector rack for high voltage input, by enabling the user to plug power into the front of the module from a standard plug arrangement. The shelf mount ICC module's output shall be connected to the cabinet circuitry by an 8-wire cable.
- 2.10 VDP and ICC communications shall be accommodated by methods using differential signals to reject electrically coupled noise.
- 2.11 The VDP shall be able to transmit the composite video signal, with minimal signal degradation, up to 1000 feet under ideal conditions.
- 2.12 The associated VDP shall default to a safe condition, such as a constant call on each active detection channel, in the event of loss of video signal.
- 2.13 The system shall be capable of automatically detecting a low-visibility condition such as fog and respond by placing all defined detection zones in a constant call mode. The system shall automatically revert to normal detection mode when the low-visibility condition no longer exists.

3. Vehicle Detection

- 3.1 Six detection zones shall be supported and each detection zone shall be user definable in size and shape to suit the site and the desired vehicle detection region.
- 3.2 A single detection zone shall be able to replace multiple inductive loops and the detection zones shall be OR'ed as the default or may be AND'ed together to indicate vehicle presence on a single phase of traffic movement.
- 3.3 Placement of detection zones shall be done by using only a pointing device, and a graphical interface built into the VDP and displayed on a video monitor, to draw the detection zones on the video image from the video camera. No separate computer shall be required to program the detection zones. Detection zones shall be drawn on live video from the video camera.
- 3.4 A minimum of 3 detection zone patterns shall be saved within the VDP memory. The VDP's memory shall be non-volatile to prevent data loss during power outages. The VDP shall continue to operate (e.g. detect vehicles) using the existing zone configurations even when the operator is defining/modifying a zone pattern. The new zone configuration shall not go into effect until the configuration is saved by the operator.
- 3.5 The selection of the detection zone pattern for current use shall be done through a local menu selection or remote computer via RS-232 port on the ICC. When a new configuration pattern is selected it becomes active within 1 second.
- 3.6 When a vehicle is detected crossing a detection zone, confirmation of detection is with a distinct visual indication on the video overlay.

- 3.7 Detection shall be at least 98% accurate in good weather conditions and at least 96% accurate under adverse weather conditions (rain, snow, or fog) with optimal installation.
- 3.9 The VDP shall provide 2 channels of vehicle presence detection per system through a standard detector rack edge connector or cable interface from the shelf mounted version of ICC.
- 3.10 The VDP shall provide dynamic zone reconfiguration (DZR) to enable normal detector operation of existing channels except the one where a zone is being added or modified during the setup process. The VDP shall output a constant call on any detection channel corresponding to a zone being modified.
- 3.11 Up to six detection zones shall be capable to count the number of vehicles detected. The count value shall be internally stored for later retrieval through the RS-232 port on the ICC. The data collection interval shall be user definable in periods of 10 or 20 seconds or 1, 5, 15, 30 or 60 minutes.

4. ICC Module

- 4.1 The ICC shall be specifically designed to mount in a standard NEMA TS-1, TS-2, 2070 ATC, 170 type detector rack, using the edge connector or AC power input on front to obtain power and provide contact closure outputs. Detector rack rewiring shall not be required or shall be minimized.
- 4.2 The ICC shall operate in a temperature range from -35°F to +165°F and a humidity range from 0% to 95% relative humidity, non-condensing.
- 4.3 The ICC shall be powered by 100 to 240 volts 50 or 60Hz. This module shall automatically compensate for the different input voltages/frequencies.
- 4.4 System power consumption shall not exceed 25watts within the specified input voltage range.
- 4.5 The VDP shall utilize non-volatile memory technology to enable the loading of modified or enhanced software through the RS232 port on the ICC without modifying the VDP hardware.
- 4.6 The ICC shall include detector output pin out compatibility with industry standard detector racks.
- 4.7 The front of the ICC shall include detection indications, such as LED's, for each channel of detection that display detector outputs in real time when the system is operational.
- 4.8 The front of the ICC shall include one BNC video output providing real time video output that can be routed to other devices. A RCA type connector/jack for video output is not allowed.
- 4.9 The front panel of the ICC shall have a detector test switch to allow the user to place calls on each channel. The test switch shall be able to place either a constant call or a momentary call depending on the position of the switch.

5. Video Detection Processor Module

- 5.1 The camera shall produce a useable video image of the bodies of vehicles under all roadway lighting conditions, regardless of time of day. The minimum range of scene luminance over which the camera shall produce a useable video image shall be the minimum range from nighttime to daytime, but not less than the range 1.0 lux to 10,000 lux.
- 5.2 The imager luminance signal to noise ratio (S/N) shall be more than 50 dB.
- 5.3 The VDP electronics shall include automatic gain control (AGC) to produce a satisfactory image at night.
- 5.4 The VDP shall be housed in a weather-tight sealed enclosure. The enclosure shall be made of 6061 anodized aluminum. The housing shall be field rotatable to allow proper alignment between the VDP and the traveled road surface.
- 5.5 The VDP enclosure shall be equipped with a sunshield. The sunshield shall include a provision for water diversion to prevent water from flowing in the camera's field of view. The camera enclosure with sunshield shall be less than 5" diameter, less than 18" long, and shall weigh less than 5 pounds.
- 5.6 The VDP enclosure shall include a proportionally controlled heater, where the output power of the heater varies with temperature, to assure proper operation of the lens functions at low temperatures and prevent moisture condensation on the optical faceplate of the enclosure.
- 5.7 The front of the enclosure shall be made from glass and shall have an anti-reflective coating to minimize light and image reflections. The front of the enclosure shall not be made from any thermoplastic or synthetic polymer (PVC, Acrylic, Polythene or similar).
- 5.8 When mounted outdoors in the enclosure, the VDP shall operate satisfactorily in a temperature range from -31°F to +140°F and a humidity range from 0% RH to 100% RH.
- 5.9 The VDP enclosure shall be equipped with a single, weather-tight connector.

6. Installation

- 6.1 The cable to be used between the VDP and the ICC in the traffic cabinet shall be three (3) twisted pairs. Various styles including IMSA 39-2 are suitable for correct operation. The cable shall be a continuous unbroken run from the VDP to the ICC. This cable shall be suitable for installation in conduit or overhead with appropriate span wire. Pluggable connectors supplied should be used at both the VDP and ICC ends. The cable, and installation tools shall be approved by the supplier of the video detection system, and the manufacturer's instructions must be followed to ensure proper connection.
- 6.2 The video detection system shall be installed by supplier factory certified installers and as recommended by the supplier and documented in installation materials provided by the supplier. Proof of factory certification shall be provided.

7. Limited Warranty

- 7.1 The supplier shall provide a limited three-year warranty on the video detection system. See suppliers standard warranty included in the Terms and Conditions of Sale documentation.
- 7.2 During the warranty period, technical support shall be available from the supplier via telephone within 4 hours of the time a call is made by a user, and this support shall be available from factory-certified personnel or factory-certified installers.
- 7.3 Updates to VDP and ICC software shall be available from the supplier without charge.

8. Maintenance and Support

- 8.1 The supplier shall maintain an adequate inventory of parts to support maintenance and repair of the video detection system. These parts shall be available for delivery within 30 days of placement of an acceptable order at the supplier's then current pricing and terms of sale for said parts.
- 8.2 The supplier shall maintain an ongoing program of technical support for the video detection system. This technical support shall be available via telephone, or via personnel sent to the installation site upon placement of an acceptable order at the supplier's then current pricing and terms of sale for on site technical support services.
- 8.3 Installation or training support shall be provided by a factory authorized representative.
- 8.4 All product documentation shall be written in the English language.

APPENDIX 3
TECHNICAL SPECIFICATIONS – JOB SPECIFIC

TECHNICAL SPECIFICATIONS – JOB SPECIFIC

RIPTA R-LINE TRANSIT SIGNAL PRIORITY

INDEX

<u>Item</u>	<u>Description</u>	<u>Page</u>
100.9901	General	JS-1
100.9902	Schedule of Salaries and Wages	JS-2
105.02	Plans And Shop Drawings	JS-15
201.9901	Remove and Salvage Traffic Signal System	JS-17
906.9901, 906.9902, 906.9903, 906.9904	Providence Standard Granite Curb 7” Wide (Straight), R.I. STD. 7.3.0 Modified; Providence Standard Granite Curb 7” Wide (Curved), R.I. STD. 7.3.0 Modified; Providence Standard Granite Wheelchair Ramp Transition Curb 7” Wide, R.I. STD. 43.3.0, 43.3.1, and 7.3.3 Modified; Providence Standard Granite Wheelchair Ramp Stone 7” Wide, R.I. STD. 7.3.9 Modified	JS-19
937.1000	Maintenance and Movement of Traffic Protective Devices	JS-20
942.9901	Detectable Warning Systems Cast In Concrete	JS-21
T04.9901, T13.9902, T13.9903, T13.9904, T13.9905	Optical Detector Cable; Optical Detector – Single Channel, One Way; Optical Detector Phase Selector and Chassis; Optical Detector Confirmation Beacon; Optical Detector Phase Selector and Chassis – 4 Channel	JS-22
T04.9902, T12.9907, T13.9906	Video Detection System Cable; Video Detection System Hardware; Video Detection System Camera	JS-31
T05.9901	Break Into Existing Handhole	JS-33
T05.9902	Clean Existing Handhole	JS-34
T.06	Conduit	JS-35
T12.9901, T12.9902. T12.9903, T12.9904	Actuated Controller TS-2, Type 2 w/8 Phase Assembly, Ground Mounted Including Foundation and Cabinet Standard 19.1.0; Actuated Controller TS-2, Type 1 w/8 Phase Assembly, Ground Mounted Including Cabinet Standard 19.1.0 on Existing Modified Foundation; Actuated Controller TS-2, Type 2 in Existing Cabinet; Actuated Controller TS-2, Type 1 in Existing Cabinet	JS-36
T12.9905	Modify Existing Traffic Signal Controller	JS-42
T12.9906	Modify Existing Traffic Signal Controller Cabinet	JS-44
T12.9908	Modify Existing Central Computer Station	JS-46
T12.9909	Modify Existing Fire Pre-Emption System	JS-48
T12.9910	GPS Time Synchronization System	JS-50
T12.9911	Install New Detector Rack Assembly	JS-52
T12.9912	Repair Detector Rack Assembly	JS-53
T12.9913	Traffic Signal System Master	JS-54
T12.9914	Transit Signal Priority System Training	JS-58
T13.9901	Heavy Duty Pedestrian Detector – Pushbutton with Sign”	JS-60

TECHNICAL SPECIFICATIONS – JOB SPECIFIC

RIPTA R-LINE TRANSIT SIGNAL PRIORITY

INDEX

<u>Item</u>	<u>Description</u>	<u>Page</u>
T14.9902,	1 Way Pedestal Mounted LED Pedestrian Signal Head with Countdown Timer 12 Inch;	JS-62
T14.9903,	2 Way Pedestal Mounted LED Pedestrian Signal Head with Countdown Timer 12 Inch;	
T14.9904	1 Way Bracket Mounted LED Pedestrian Signal Head with Countdown Timer 12 Inch	
T14.9905	Remove and Relocate Traffic Signal Head	JS-65
T14.9906	Traffic Signal Equipment Painting	JS-66
T20.9901	Epoxy Resin Pavement Markings “BUS”	JS-67

JOB SPECIFIC

RIPTA R-LINE TRANSIT SIGNAL PRIORITY

SECTION 100.9901

GENERAL

All Work shall be in accordance with these Technical Specifications and the Rhode Island Department of Transportation, Standard Specifications for Road and Bridge Construction, 2004 Edition, including latest revisions.

The Rhode Island Department of Transportation, Standard Specifications for Road and Bridge Construction, 2004 Edition, shall be referenced by these specifications as the “Standard Specification”.

For the work, any field engineering or survey layout, etc. is the responsibility of the Site Contractor.

The Site contractor is responsible to accurately show completed work, changes and modifications to the original Contract (i.e. "as-built" drawings) on a record set of drawings which are to be submitted to the Owner (RIDOT, City of Providence Department of Public Works, or City of Pawtucket Department of Public Works) upon the completion of the site work.

For locations within the City of Providence, the Contractor shall conform to all requirements of the Department of Public Works, General Street Closing & Emergency No Parking Signs Posting Permit Guidelines, immediately following this Section.

In various places of the Special Provisions, the words “State”, “Department”, and “Engineer” are intended to mean the Owner or its assigned representative.

RIPTA will be providing construction project administration and will be in charge of the work and will make all decisions in its own behalf. The Owner or its assigned representative will inspect this project.

JOB SPECIFIC

RIPTA R-LINE TRANSIT SIGNAL PRIORITY

SECTION 100.9902

SCHEDULE OF SALARIES AND WAGES

The rates of payment of wages, obligations and charges for labor by the contractor shall be not less than those shown on the following schedule of customary and prevailing rates of wages supplied by the Rhode Island Department of Labor.

>

General Decision Number: RI120001 09/28/2012 RI1

Superseded General Decision Number: RI20100001

State: Rhode Island

Construction Types: Building, Heavy (Heavy and Marine) and Highway

Counties: Rhode Island Statewide.

BUILDING CONSTRUCTION PROJECTS (does not include residential construction consisting of single family homes and apartments up to and including 4 stories) HEAVY, HIGHWAY AND MARINE CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/06/2012
1	01/13/2012
2	01/27/2012
3	03/02/2012
4	03/16/2012
5	05/11/2012
6	05/18/2012
7	06/01/2012
8	06/15/2012
9	06/22/2012
10	07/27/2012
11	08/10/2012
12	08/31/2012
13	09/07/2012
14	09/28/2012

ASBE0006-008 09/01/2011

	Rates	Fringes
Asbestos Worker/Insulator Includes application of all insulating materials, protective coverings, coatings & finishes to all types of mechanical systems.	\$ 36.59	21.83

ASBE0201-004 06/01/2005

	Rates	Fringes
HAZARDOUS MATERIAL HANDLER Includes preparation, wetting, stripping, removal scrapping, vacuuming, bagging & disposing of all insulation materials, whether they contain asbestos or not, from mechanical systems.....	\$ 17.65	9.95

BOIL0029-001 10/01/2009

Rates Fringes

BOILERMAKER.....\$ 38.25 17.04

BRRI0003-001 06/01/2012

Rates Fringes

Bricklayer, Stonemason,
Pointer, Caulker & Cleaner.....\$ 34.30 21.90

BRRI0003-002 09/01/2012

Rates Fringes

Marble Setter, Terrazzo
Worker & Tile Setter.....\$ 34.23 22.82

BRRI0003-003 09/01/2012

Rates Fringes

Marble, Tile & Terrazzo
Finisher.....\$ 28.90 21.65

CARP0094-001 06/04/2012

Rates Fringes

CARPENTER (Soft Floor Layer).....\$ 31.56 23.90
Diver Tender.....\$ 32.56 23.90
Diver.....\$ 43.36 23.90
MILLWRIGHT.....\$ 32.75 22.39
Piledriver.....\$ 31.56 23.90
WELDER.....\$ 32.56 23.90

FOOTNOTES:

When not diving or tending the diver, the diver and diver tender shall receive the piledriver rate. Diver tenders shall receive \$1.00 per hour above the pile driver rate when tending the diver.

Work on free-standing stacks, concrete silos & public utility electrical power houses, which are over 35 ft. in height when constructed: \$.50 per hour additional.

Work on exterior concrete shear wall gang forms, 45 ft. or more above ground elevation or on setback: \$.50 per hour additional.

The designated piledriver, known as the "monkey": \$1.00 per hour additional.

ELEC0099-002 06/01/2012

Rates Fringes

ELECTRICIAN.....\$ 34.08 61.38%
Teledata System Installer.....\$ 25.56 14.26%+13.07

FOOTNOTES:

Work of a hazardous nature, or where the work height is 30 ft. or more from the floor, except when working OSHA-approved lifts: 20% per hour additional.

Work in tunnels below ground level in combined sewer outfall:
20% per hour additional.

ELEV0039-001 01/01/2012

	Rates	Fringes
ELEVATOR MECHANIC.....	\$ 44.53	23.535+A+B

FOOTNOTES:

A. PAID HOLIDAYS: New Years Day; Memorial Day; Independence Day; Labor Day; Veterans' Day; Thanksgiving Day; the Friday after Thanksgiving Day; and Christmas Day.

B. Employer contributes 8% basic hourly rate for 5 years or more of service of 6% basic hourly rate for 6 months to 5 years of service as vacation pay credit.

ENGI0057-001 07/01/2012

	Rates	Fringes
Operating Engineer: (power plants, sewer treatment plants, pumping stations, tunnels, caissons, piers, docks, bridges, subterranean & other marine and heavy construction work)		
GROUP 1.....	\$ 34.65	21.10+a
GROUP 2.....	\$ 30.27	21.10+a
GROUP 3.....	\$ 27.42	21.10+a
GROUP 4.....	\$ 33.70	21.10+a
GROUP 5.....	\$ 33.37	21.10+a
GROUP 6.....	\$ 30.35	21.10+a
GROUP 7.....	\$ 34.27	21.10+a

BOOM LENGTHS, INCLUDING JIBS:

150 feet and over + \$1.75
180 feet and over + \$2.75
210 feet and over + \$3.75
240 feet and over + \$4.75
270 feet and over + \$6.75
300 feet and over + \$7.75

PAID HOLIDAYS:

New Year's Day, President's Day, Memorial Day, July Fourth, Victory Day, Labor Day, Columbus Day, Veterans Day, Thanksgiving Day, Christmas Day. a: Any employee who works 3 days in the week in which a holiday falls shall be paid for the holiday.

FOOTNOTES:

Hazmat work: \$2.00 per hour additional.
Tunnel work: \$5.00 per hour additional.

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Digging machine, Ross Carrier, crane, lighter, locomotive, derrick, hoist, elevator, bidwell-type machine, shot & water blasting machine, paver, spreader, front end loader (3 yds. and over), vibratory hammer & vacuum truck.

GROUP 2: Fireman & oiler.

GROUP 3: Oiler on crawler backhoe.

GROUP 4: Bulldozer, bobcat, tractor, grader, scraper, pippin-type backhoe, roller, front end loader (less than 3 yds.), street and mobile-powered sweeper (3-yd. capacity), 8-ft. sweeper minimum 65 HP).

GROUP 5: Well-point installation crew.

GROUP 6: Heater, concrete mixer, stone crusher, welding machine, generator and light plant, gas and electric driven pump and air compressor.

GROUP 7: Boat & tug operator.

ENGI0057-002 07/01/2012

	Rates	Fringes
Power Equipment Operator (highway construction projects; water and sewerline projects which are incidental to highway construction projects; and bridge projects which are incidental to highway construction projects)		
GROUP 1.....	\$ 29.80	21.10+a
GROUP 2.....	\$ 28.33	21.10+a
GROUP 3.....	\$ 22.38	21.10+a
GROUP 4.....	\$ 25.08	21.10+a
GROUP 5.....	\$ 28.78	21.10+a
GROUP 6.....	\$ 28.40	21.10+a
GROUP 7.....	\$ 24.05	21.10+a
GROUP 8.....	\$ 25.43	21.10+a
GROUP 9.....	\$ 27.38	21.10+a
GROUP 10.....	\$ 27.85	21.10+a
GROUP 11.....	\$ 28.23	21.10+a

FOOTNOTE: a. Any employee who works three days in the week in which a holiday falls shall be paid for the holiday.

PAID HOLIDAYS: New Year's Day, President's Day, Memorial Day, July Fourth, Victory Day, Labor Day, Columbus Day, Veterans Day, Thanksgiving Day & Christmas Day.

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Digging machine, crane, piledriver, lighter, locomotive, derrick, hoist, boom truck, John Henry's, directional drilling machine, cold planer, reclaimer, paver, spreader, grader, front end loader (3 yds. and over), vacuum truck, test boring machine operator, veemere saw, water blaster, hydro-demolition robot, forklift, economobile, Ross Carrier, concrete pump operator

GROUP 2: Fireman

GROUP 3: Oiler

GROUP 4: Oiler on truck crane, gradall & crawler crane

GROUP 5: Pippin type backhoe, front end loader (less than 3 yds.), bulldozer & scraper

GROUP 6: Roller, bobcat, street sweeper

GROUP 7: Gas and electric drive heater, concrete mixer, light plant, welding machine, pump & compressor

GROUP 8: Stone crusher

GROUP 9: Mechanic & welder

GROUP 10: Shovel operator, front end loader & dragline

GROUP 11: Well point installation crew

ENGI0057-003 07/01/2012

BUILDING CONSTRUCTION

	Rates	Fringes
Power Equipment Operator		
GROUP 1.....	\$ 33.92	21.10+a
GROUP 2.....	\$ 33.70	21.10+a
GROUP 3.....	\$ 29.70	21.10+a
GROUP 4.....	\$ 26.85	21.10+a
GROUP 5.....	\$ 33.00	21.10+a
GROUP 6.....	\$ 32.57	21.10+a
GROUP 7.....	\$ 29.89	21.10+a

BOOM LENGTHS, INCLUDING JIBS:

- 150 ft. and over: + \$1.75
- 180 ft. and over: + \$2.75
- 210 ft. and over: + \$3.75
- 240 ft. and over: + \$4.75
- 270 ft. and over: + \$6.75
- 300 ft. and over: + \$7.75

PAID HOLIDAYS: New Year's Day, President's Day, Memorial Day, July Fourth, Victory Day, Labor Day, Columbus Day, Veterans Day, Thanksgiving Day & Christmas Day. a: Any employee who works 3 days in the week in which a holiday falls shall be paid for the holiday.

FOOTNOTE: Hazmat work: \$2.00 per hour additional.
Tunnel work: \$5.00 per hour additional.

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Digging machine, Ross carrier, crane, lighter, locomotive, derrick, hoist, elevator, bidwell-type machine, shot & water blasting machine, paver, spreader, front end loader (3 yds. and over), vibratory hammer and vacuum truck

GROUP 2: Economobile-type equipment, forklift, concrete pump & on-site concrete plant

GROUP 3: Fireman & oiler

GROUP 4: Oiler on crawler backhoe

GROUP 5: Bulldozer, bobcat, tractor, grader, scraper, pippin-type backhoe, roller, front end loader (less than 3

yds.), street and mobile powered sweeper (3 yds. capacity),
8-ft. sweeper (minimum 65 hp)

GROUP 6: Well point installation crew

GROUP 7: Heater, concrete mixer, stone crusher, welding
machine, generator for light plant, gas and electric driven
pump & air compressor

* IRON0037-001 09/16/2012

	Rates	Fringes
IRONWORKER.....	\$ 32.63	21.72

LABO0271-001 12/05/2010

BUILDING CONSTRUCTION

	Rates	Fringes
LABORER		
GROUP 1.....	\$ 25.90	19.85
GROUP 2.....	\$ 26.15	19.85
GROUP 3.....	\$ 26.65	19.85
GROUP 4.....	\$ 26.90	19.85
GROUP 5.....	\$ 27.90	19.85

LABORERS CLASSIFICATIONS

GROUP 1: Laborer, Carpenter Tender, Mason Tender, Cement
Finisher Tender, Scaffold Erector, Wrecking Laborer,
Asbestos Removal [Non-Mechanical Systems]

GROUP 2: Asphalt Raker, Adzemen, Pipe Trench Bracer,
Demolition Burner, Chain Saw Operator, Fence & Guard Rail
Erector, Setter of Metal Forms for Roadways, Mortar Mixer,
Pipelayer, Riprap & Dry Stonewall Builder, Highway Stone
Spreader, Pneumatic Tool Operator, Wagon Drill Operator,
Tree Trimmer, Barco-Type Jumping Tamper, Mechanical Grinder
Operator

GROUP 3: Pre-Cast Floor & Roof Plank Erectors

GROUP 4: Air Track Operator, Hydraulic & Similar Self-Powered
Drill, Block Paver, Rammer, Curb Setter, Powderman & Blaster

GROUP 5: Toxic Waste Remover

LABO0271-002 12/05/2010

HEAVY AND HIGHWAY CONSTRUCTION

	Rates	Fringes
LABORER		
COMPRESSED AIR		
Group 1.....	\$ 43.33	19.85
Group 2.....	\$ 32.85	19.85
Group 3.....	\$ 45.33	19.85
FREE AIR		
Group 1.....	\$ 35.40	19.85
Group 2.....	\$ 32.85	19.85
Group 3.....	\$ 37.40	19.85
LABORER		
Group 1.....	\$ 25.90	19.85

Group 2.....	\$ 26.15	19.85
Group 3.....	\$ 26.90	19.85
Group 4.....	\$ 19.40	19.85
Group 5.....	\$ 27.90	19.85
OPEN AIR CAISSON, UNDERPINNING WORK AND BORING CREW		
Bottom Man.....	\$ 31.90	19.85
Top Man & Laborer.....	\$ 30.95	19.85
TEST BORING		
Driller.....	\$ 32.35	19.85
Laborer.....	\$ 30.95	19.85

LABORER CLASSIFICATIONS

GROUP 1: Laborer; Carpenter tender; Cement finisher tender; Wrecking laborer; Asbestos removers [non-mechanical systems]; Plant laborer; Driller in quarries

GROUP 2: Adzeperson; Asphalt raker; Barcotype jumping tamper; Chain saw operators; Concrete and power buggy operator; Concrete saw operator; Demolition burner; Fence and guard rail erector; Highway stone spreader; Laser beam operator; Mechanical grinder operator; Mason tender; Mortar mixer; Pneumatic tool operator; Riprap and dry stonewall builder; Scaffold erector; Setter of metal forms for roadways; Wagon drill operator; Wood chipper operator; Pipelayer; Pipe trench bracer

GROUP 3: Air track drill operator; Hydraulic and similar powered drills; Brick paver; Block paver; Rammer and curb setter; Powderperson and blaster

GROUP 4: Flagger & signaler

GROUP 5: Toxic waste remover

LABORER - COMPRESSED AIR CLASSIFICATIONS

GROUP 1: Mucking machine operator, tunnel laborer, brake person, track person, miner, grout person, lock tender, gauge tender, miner: motor person & all others in compressed air

GROUP 2: Change house attendant, powder watchperson, top person on iron

GROUP 3: Hazardous waste work within the "HOT" zone

LABORER - FREE AIR CLASSIFICATIONS

GROUP 1: Grout person - pumps, brake person, track person, form mover & stripper (wood & steel), shaft laborer, laborer topside, outside motorperson, miner, conveyor operator, miner welder, heading motorperson, erecting operator, mucking machine operator, nozzle person, rodperson, safety miner, shaft & tunnel, steel & rodperson, mole nipper, concrete worker, form erector (wood, steel and all accessories), cement finisher (this type of work only), top signal person, bottom person (when heading is 50' from shaft), burner, shield operator and TBM operator

GROUP 2: Change house attendant, powder watchperson

GROUP 3: Hazardous waste work within the "HOT" zone

PAIN0011-005 06/21/2011		
	Rates	Fringes
PAINTER		
Brush, Roller, Taper, Wall Coverer.....	\$ 28.55	16.97
Epoxy, Tanks, Towers, Swing Stage & Structural Steel.....	\$ 30.55	16.97
Spray, Sand & Water Blasting.....	\$ 29.55	16.97

PAIN0011-006 06/01/2011		
	Rates	Fringes
GLAZIER.....	\$ 32.73	16.55
FOOTNOTES:		
SWING STAGE: \$1.00 per hour additional.		
PAID HOLIDAYS: Labor Day & Christmas Day.		

PAIN0011-011 06/01/2012		
	Rates	Fringes
Painter (Bridge Work).....	\$ 42.13	17.52

PAIN0035-008 06/01/2011		
	Rates	Fringes
Sign Painter.....	\$ 24.79	13.72

PLAS0040-001 06/11/2012		
BUILDING CONSTRUCTION		
	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 30.50	23.35
PLASTERER.....	\$ 32.00	22.60
FOOTNOTE: Cement Mason: Work on free swinging scaffolds under 3 planks width and which is 20 or more feet above ground and any offset structure: \$.30 per hour additional.		

PLAS0040-002 06/11/2012		
HEAVY AND HIGHWAY CONSTRUCTION		
	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 30.50	23.35

PLUM0051-002 03/01/2012		
	Rates	Fringes
Plumbers and Pipefitters.....	\$ 34.51	26.07

ROOF0033-004 10/01/2011		

	Rates	Fringes
ROOFER.....	\$ 30.00	18.95

SFRI0676-001 01/01/2010		

	Rates	Fringes
SPRINKLER FITTER.....	\$ 39.50	17.85

SHEE0017-002 07/01/2012		

	Rates	Fringes
Sheet Metal Worker.....	\$ 34.84	28.05

TEAM0251-001 08/01/2012		

HEAVY AND HIGHWAY CONSTRUCTION

	Rates	Fringes
TRUCK DRIVER		
GROUP 1.....	\$ 26.51	17.4125+A+B
GROUP 2.....	\$ 26.66	17.4125+A+B
GROUP 3.....	\$ 26.71	17.4125+A+B
GROUP 4.....	\$ 26.76	17.4125+A+B
GROUP 5.....	\$ 26.86	17.4125+A+B
GROUP 6.....	\$ 27.26	17.4125+A+B
GROUP 7.....	\$ 27.46	17.4125+A+B
GROUP 8.....	\$ 26.96	17.4125+A+B
GROUP 9.....	\$ 27.21	17.4125+A+B
GROUP 10.....	\$ 27.01	17.4125+A+B

FOOTNOTES:

A. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day, plus Presidents' Day, Columbus Day, Veteran's Day & V-J Day, providing the employee has worked at least one day in the calendar week in which the holiday falls.

B. Employee who has been on the payroll for 1 year or more but less than 5 years and has worked 150 Days during the last year of employment shall receive 1 week's paid vacation; 5 to 10 years - 2 weeks' paid vacation; 10 or more years - 3 week's paid vacation.

All drivers working on a defined hazard material job site shall be paid a premium of \$2.00 per hour over applicable rate.

TRUCK DRIVER CLASSIFICATIONS

GROUP 1: Pick-up trucks, station wagons, & panel trucks

GROUP 2: Two-axle on low beds

GROUP 3: Two-axle dump truck

GROUP 4: Three-axle dump truck

GROUP 5: Four- and five-axle equipment

GROUP 6: Low-bed or boom trailer

GROUP 7: Trailers when used on a double hook up (pulling 2 trailers)

GROUP 8: Special earth-moving equipment, under 35 tons

GROUP 9: Special earth-moving equipment, 35 tons or over

GROUP 10: Tractor trailer

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

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

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

Union Identifiers

An identifier enclosed in dotted lines beginning with characters other than "SU" denotes that the union classification and rate have found to be prevailing for that classification. Example: PLUM0198-005 07/01/2011. The first four letters, PLUM, indicate the international union and the four-digit number, 0198, that follows indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rate.

0000/9999: weighted union wage rates will be published annually each January.

Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union rates, LA

indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

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

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

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

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

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

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

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

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

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END OF GENERAL DECISION

JOB SPECIFIC

RIPTA R-LINE TRANSIT SIGNAL PRIORITY

SECTION 105.02

PLANS AND SHOP DRAWINGS

The Contractor shall develop/submit shop drawings, product data and/or catalogue cut-sheets as defined in Section 105.02 of the Standard Specifications for all items involved in this contract with the following exception to the submittal schedule:

Within 14 days of the award of this contract, the Contractor shall submit shop drawings for all traffic signal equipment which shall include but not be limited to the following:

- Traffic Signal Controller and Cabinet
- Loop Detector Relays
- Load Switches and Flash Transfer Relays
- Malfunction Management Unit (MMU)
- GPS Time Synchronization Units
- Pedestrian Pushbuttons and Signs
- Video Detection Cameras, Equipment, and Cabling
- Optical Detector Equipment and Cabling
- Traffic and Pedestrian Signal Support Poles
- Traffic and Pedestrian Signal Heads
- Detectable Warning Systems

The Contractor shall submit seven (7) sets of shop drawings to the Engineer. Shop drawings for traffic signal supports and foundations shall be accompanied by three (3) sets of design computations, cuts from a manufacturer's catalog, supporting technical bulletins, and samples (where required).

The shop drawings/samples shall be delivered to:

Vanasse Hangen Brustlin, Inc.
10 Dorrance Street, Suite 400
Providence, RI 02903
Attn: Mr. Christopher J. Fay, P.E.

Within fourteen (14) calendar days of submission, all shop drawings shall be reviewed by the Engineer and returned to the Contractor for appropriate action. The fourteen (14) calendar day time frame starts with the submission of the seven (7) sets of show drawings to the Engineer. Shop drawings that are found to be erroneous, lacking information necessary to control construction, or not in conformance with accepted design criteria will be disapproved and returned to the Contractor.

The Contractor shall address the Engineer's comments and resubmit revised shop drawings and/or design computations. The Contractor will not be allowed any increase in contract time for the time taken by the Contractor to submit revised shop drawings caused by an erroneous submission, or by a previous submission either lacking the information necessary to control construction, or not conforming to accepted design criteria. Also, the time taken by the Engineer to review the revised shop drawings does not constitute justification for additional contract time.

Shop drawings must be approved by the Engineer prior to performance of the work involved. Such approval shall not relieve the Contractor of any responsibility under the contract for the successful completion of the work.

Unless otherwise specified in the contract documents, the contract price will include the cost of furnishing all shop drawings.

JOB SPECIFIC

RIPTA R-LINE TRANSIT SIGNAL PRIORITY

201.9901

REMOVE AND SALVAGE TRAFFIC SIGNAL SYSTEM

DESCRIPTION: This item of work shall consist of the removal and salvaging of traffic signal equipment at locations shown on the plans. The major equipment to be removed is listed on the intersection traffic signal plan and general plan sheets under the construction notes. Also to be removed under this item of work are any signs mounted on existing traffic signal equipment to be removed. The Contractor shall also remove and dispose any existing traffic signal conduit that is being abandoned as requested by the Engineer.

The Contractor shall coordinate the work with the Rhode Island Department of Transportation (RIDOT), City of Providence Division of Traffic Engineering and Pawtucket Traffic Engineering Department. The Contractor shall NOT remove any equipment without permission from the RIDOT, City of Providence Division of Traffic Engineering or City of Pawtucket Traffic Engineering Department. All salvaged equipment will remain the property of the respective Owner. Any controller equipment and materials being removed that the respective Owner determines to be not salvageable must be removed and disposed of at no expense to RIPTA.

Where existing pole mounted cabinets are being removed and replaced with ground mounted cabinets, the Contractor shall cap the opening in the existing mast arm pole from the LB connection which is being removed. The Contractor shall obtain the approval of the Owner and the Engineer on the proposed method of capping. The cap and its installation shall be considered incidental to this item of work.

The Contractor shall tag all equipment to be salvaged. The tag shall note the intersection from which the components were salvaged, the date of the salvaging operation, and some means of identifying the other associated equipment. All salvaged equipment from intersections owned by the City of Providence shall be delivered to the City of Providence Division of Traffic Engineering located at 60 Ernest Street, Providence, Rhode Island. All salvaged equipment from intersections owned by the City of Pawtucket shall be delivered to the City of Pawtucket Department of Public Works located at 250 Armistice Boulevard, Pawtucket, Rhode Island. All salvaged equipment from intersections owned by the RIDOT shall be delivered to the RIDOT Maintenance Facility located at 360 Lincoln Avenue, Warwick, Rhode Island.

All improvements, equipment, and existing surfaces disturbed, damaged or removed in performing this item of work shall be replaced to the satisfaction of the respective Owner at no expense to RIPTA. This item of work shall not commence until directed by the respective Owner.

Once the existing traffic signal equipment is removed, any exposed conduits shall be burned off a minimum of 1” below grade and the hole shall be grouted to meet the existing grade. In brick sidewalk areas, the disturbed bricks/pavers shall be replaced in kind at no additional cost to the RIPTA. The Contractor shall coordinate the cutting/removal of the existing electric power service connections with National Grid once the existing signal equipment has been removed. See additional requirements in the CS Pages.

METHOD OF MEASUREMENT: “REMOVE AND SALVAGE TRAFFIC SIGNAL SYSTEM” shall be measured for payment by the unit “LUMP SUM” price for the completion of all work specified to the satisfaction of the Engineer and the respective Owner. Contractor shall be responsible for any backcharges from National Grid for their work.

BASIS OF PAYMENT: “REMOVE AND SALVAGE TRAFFIC SIGNAL SYSTEM” will be paid for at the contract bid price per “LUMP SUM” for the entire project and payment shall constitute full compensation for furnishing all labor, including the disconnection, , capping of existing openings (for LB connections) in mast arms where pole mounted cabinets are being removed in lieu of new ground mounted cabinets, removal and delivery of the equipment, removal of foundations, backfilling, and restoration of disturbed areas as called for on the plans or elsewhere in these Special Provisions, National Grid backcharges, and for all tools, supplies, equipment and incidentals necessary to complete this item of work.

JOB SPECIFIC

RIPTA R-LINE TRANSIT SIGNAL PRIORITY

906.9901, 906.9902, 906.9903, 906.9904

**PROVIDENCE STANDARD GRANITE CURB 7" WIDE (STRAIGHT), R.I. STD. 7.3.0
MODIFIED**

**PROVIDENCE STANDARD GRANITE CURB 7" WIDE (CURVED), R.I. STD. 7.3.0
MODIFIED**

**PROVIDENCE STANDARD GRANITE WHEELCHAIR RAMP TRANSITION CURB 7"
WIDE, R.I. STD. 43.3.0, 43.3.1, AND 7.3.3 MODIFIED**

**PROVIDENCE STANDARD GRANITE WHEELCHAIR RAMP STONE 7" WIDE, R.I. STD.
7.3.9 MODIFIED**

All granite curbing installed at locations within the City of Providence shall conform to City of Providence standards, which require a curb width of seven (7) inches. Any new curbing required for wheelchair ramp reconstruction in Pawtucket shall conform to the appropriate items listed in the RIDOT Standard Items list.

DESCRIPTION: The Description shall conform to Subsection 906.01; Description of the Rhode Island Department of Transportation, Standard Specifications for Road and Bridge Construction, 2004 Edition and subsequent addenda.

MATERIALS: Materials shall conform to Subsection 906.02; Materials of the Rhode Island Department of Transportation, Standard Specifications for Road and Bridge Construction, 2004 Edition, subsequent addenda, and the following:

CONSTRUCTION METHODS: Construction Methods shall conform to Subsection 906.03; Construction Methods of the Rhode Island Department of Transportation, Standard Specifications for Road and Bridge Construction, 2004 Edition, and subsequent addenda.

METHOD OF MEASUREMENT: Method of Measurement shall conform to Subsection 906.04; Method of Measurement of the Rhode Island Department of Transportation, Standard Specifications for Road and Bridge Construction, 2004 Edition, and subsequent addenda.

BASIS OF PAYMENT: There will be no separate payment for curbing. Any curbing required for wheelchair ramp reconstruction shall be considered incidental to the item of work (including but not limited to conduit or traffic signal pole installation) which disturbs existing wheelchair ramps during construction activities. All remaining items required to reconstruct the wheelchair ramp to ADA requirements shall also be considered incidental to the item of work which disturbs existing wheelchair ramps.

JOB SPECIFIC

RIPTA R-LINE TRANSIT SIGNAL PRIORITY

CODE 937.1000

MAINTENANCE AND MOVEMENT OF TRAFFIC PROTECTIVE DEVICES

DESCRIPTION. Subsection 937.05.2; Failure to Comply, of the Standard Specifications, requires that a daily charge be deducted from monies due the Contractor for failure to satisfactorily maintain traffic control devices.

The charge for this Contract will be \$ 1,000.00 per day.

JOB SPECIFIC

RIPTA R-LINE TRANSIT SIGNAL PRIORITY

942.9901

DETECTABLE WARNING SYSTEMS CAST IN CONCRETE

DESCRIPTION: The work under this item consists of furnishing and installing a detectable warning systems cast in concrete at locations that require reconstructed wheelchair ramps due to existing ramps being disturbed by construction activities.

MATERIALS: All materials shall be in accordance with the applicable RIDOT Standard Specifications for Road and Bridge Construction, 2004 Edition and its amendments unless otherwise specified below. The detectable warning systems cast in concrete shall be fiberglass, utilizing anchors with stainless steel screws and zinc receiving sleeves that allow the panels to be replaced by unscrewing the panels and replacing and do not require repouring of the cement concrete sidewalk. All peripheral materials are to conform to the specifications of the panel manufacturer and shall be acceptable to the Engineer. They shall be slip resistant and conforms to the requirements for Detectable Warning in the latest Americans with Disabilities Act. The panel shall be covered with a five year limited warranty covering defects in workmanship and materials The panel size shall be as directed by the engineer and shall cover the entire width of the ramp portion of the wheelchair ramp. The panel color shall be uniform throughout and will not rely on any type of paint coating to achieve color stability. The panel color shall be brick red.

METHODS OF MEASUREMENT: “Detectable Warning Systems Cast In Concrete” shall be measured for payment per square foot unit installed in accordance with the Plans and/or as directed by the the Engineer.

BASIS OF PAYMENT: There will be no separate payment for “Detectable Warning Systems Cast In Concrete”. The unit shall be considered incidental to the item of work (including but not limited to conduit or traffic signal pole installation) which impacts existing wheelchair ramps that are disturbed during construction activities. All remaining items required to reconstruct the wheelchair ramp to ADA requirements shall also be considered incidental to the item of work which disturbs existing wheelchair ramps.

JOB SPECIFIC

RIPTA R-LINE TRANSIT SIGNAL PRIORITY

T04.9901

OPTICAL DETECTOR CABLE

T13.9902

OPTICAL DETECTOR – SINGLE CHANNEL, ONE WAY

T13.9903

OPTICAL DETECTOR PHASE SELECTOR AND CHASSIS

T13.9904

OPTICAL DETECTOR CONFIRMATION BEACON

T13.9905

OPTICAL DETECTOR PHASE SELECTOR AND CHASSIS – 4 CHANNEL

DESCRIPTION: This item of work shall consist of furnishing and installing the components of an optically activated priority control system consisting of a matched system of optical emitters, optical detectors, optical detector cable and phase selectors.

The fire preemption/bus priority system shall be 3M OPTICOM Priority Control System, for system compatibility and maintenance, installed in the same cabinet as the controller.

MATERIALS: The fire preemption/bus priority control system shall consist of a data-encoded phase selector to be installed within the traffic control cabinet. This unit will serve to validate, identify, classify, and record the signal from the optical receivers located on support structures at the intersection. Upon receiving a valid signal from the detector, the phase selector shall generate a preempt call to the controller initiating a preemption operation as shown on the plans.

The phase selector shall be a rack or shelf-mounted plug-in two or four channel, dual priority device. Programming the phase selector shall be via a PC-based computer utilizing unit specific software. One copy of software on CD-ROM shall be supplied and licensed to the City of Providence, City of Pawtucket or RIDOT (depending upon ownership of traffic signal) as part of this contract. **A hard copy of final programming data shall be left in the control cabinet.** The CONTRACTOR shall supply a complete set of interface cables for phase selector to laptop connection.

The Contractor shall install a confirmation strobe at the traffic signal locations as shown on the plans, and shall be mounted on brackets to achieve visibility in all directions. The confirmation strobe shall be active only when emergency pre-emption is active in the controller and the pre-emption phase(s) is green. The confirmation strobe shall be a white lens Whelen model 1500 or equivalent.

The individual components of the priority control system shall be as follows:

- Optical Detector – Opticom Model 711
- Phase Selector – Opticom Model 752 or 754
- Chassis – Opticom Model 760
- Lead-in Cable – Opticom M138 Detector Cable
- Confirmation Beacon – Whelen Model 1500 (white lens), or approved equal

No substitutions for Opticom equipment will be allowed to allow for system compatibility and maintenance.

The Contractor is responsible for programming and testing a fully functional TSP system to the satisfaction of the Engineer and the Owner. The Phase Selectors shall initially be programmed by the Contractor with the recommended settings in the below tables to support the Transit Signal Priority (TSP) functionality. The TSP parameters shall initially be programmed for TSP Route, as preliminarily depicted in Appendix 4. **Prior to programming, the Contractor shall obtain the final routing approved by RIPTA and the Engineer.** If alternate values are required or suggested by the Contractor for optimal performance of the TSP system, the Contractor shall obtain approval for the changes in writing by the Engineer. The TSP system shall initially be disabled by the Contractor until the settings have been reviewed and fine-tuned in the field in the presence of the Engineer and the Owner.

GTT MODEL 752/754 SERIES PHASE SELECTOR		
Parameter	Description	Recommended Initial Setting
GENERAL TAB		
Intersection Name	User defined name of intersection serviced by the phase selector	To be programmed to reflect intersection name
Enable Log On	Defines the Emitter ID level that will be logged	Valid, Invalid and Probe = On
Output Mode	Defines output characteristics of call outputs	Dual Priority on Back

GTT MODEL 752/754 SERIES PHASE SELECTOR		
Parameter	Description	Recommended Initial Setting
Range Setting Time Out	Defines the specific time after power up of the phase selector that will respond to a range setting code.	12 minutes
Priority Enable	Determines if both high and low emitters are to be recognized	High and Low = on
Channel Description	User defined name of the specific channel	To be programmed to reflect approach and function name
COMMUNICATIONS TAB		
Field Modem Initiation Command	Initialization code for field modem	0
Field Modem Initiation Interval	Initialization interval for field modem	24 hours
Front Baud Rate	Setting specifies the baud rate for both the front and rear ports when jumper board installed	9600
Rear Baud Rate	Setting specifies the baud rate for both the front and rear ports when optional communications module is installed	9600
Address	Serial Number of the Phase Selector	Serial Number of the Phase Selector
Emitter Master	Allows the 792 series emitter to be turned on when a priority call is received by the phase selector	Disabled
Change Password	Device Password	Not Set
Transmit Delay	Selects a fixed amount of time for assertion of the RS-232 to initiate	0 msec
CONFIRMATION LIGHTS TAB		
Called Direction Desired Greens	Confirmation Light Control Setting	Off
Called Direction Non-Desired Indication	Confirmation Light Control Setting	Off
Non-Called Direction Desired Greens	Confirmation Light Control Setting	Off

GTT MODEL 752/754 SERIES PHASE SELECTOR		
Parameter	Description	Recommended Initial Setting
Non-Called direction Non-Called Indication	Confirmation Light Control Setting	Off
Desired Greens	Tells phase selector which green indications are expected during a high priority call on each channel	None
DAYLIGHT SAVING TIME TAB		
Daylight Savings Time	Shows the current time zone of the personnel computer that is running ITS Link software	Apply
CHANNEL SETTINGS		
High Priority Max Call Time	Specifies the max time that an individual high priority call is allowed to be continuously held active	360 sec. (65535 v1.4 firmware and older)
High Priority Call Hold Time	Specifies the time that an individual high priority call is held on a channel after an emitter signal is no longer received by the phase selector	6 sec.
High Priority Call Delay Time	Specifies the time that a high priority emitter signal must be detected before a call is placed by the phase selector	0 sec.
Low Priority Max Call Time	Specifies the max time that an individual low priority call is allowed to be continuously held active	360 sec. (65535 v1.4 firmware and older)
Low Priority Call Hold Time	Specifies the time that an individual low priority call is held on a channel after an emitter signal is no longer received by the phase selector	6 sec.
Low Priority Call Delay Time	Specifies the time that a low priority emitter signal must be detected before a call is placed by the phase selector	0 sec.

GTT MODEL 752/754 SERIES PHASE SELECTOR		
Parameter	Description	Recommended Initial Setting
Gated Advantage Priority	Specifies whether the Gated Advantage Priority is enabled on a particular channel	Disabled
Gated Advantage Priority Additional Green Time	Specifies the additional time that the desired green is held on a channel when a low priority emitter is present and Gated Advantage Priority is enabled	254 sec.
Gated Advantage Priority Lead End of Green Time	Determines the earliest time of a call when a low priority emitter is detected and Gated Advantage Priority is enabled	255 sec.
Gated Advantage Priority Clearance Time	Typical time the controller will need to take the intersection from an opposing phase to the priority greens phasing	6 sec.
Low Priority Desired Greens	Tell phase selector which green indications are required during low priority call on each channel and/or the desired state of the greens when manual control is selected	None
RELATIVE PRIORITY		
All Highest	Used to set relative priority for each high and low priority levels in the phase selector	High Priority = 9 Low Priority = 9
VALID CODES		
Vehicle Class	Vehicle Classes are groups of vehicle ID codes and can be used to associate the assigned vehicle ID to a type of vehicle	0 to 9
Vehicle ID	Indicates the ID assigned to the rectangle on a Valid Codes Window at which the mouse pointer is currently pointing	0 to 999

GTT MODEL 752/754 SERIES PHASE SELECTOR		
Parameter	Description	Recommended Initial Setting
Start Code	Indicates lowest vehicle ID in a block of IDs that you most recently selected or de-selected in a Valid Codes window	To be determined based on Bus Emitter Coding
End Code	Indicates the highest vehicle ID in a block of IDs that you most recently selected or de-selected in a Valid Codes window	To be determined based on Bus Emitter Coding
Select Valid Codes	Must be chosen before you can define IDs as Valid within the currently selected Vehicle Class	To be determined based on Bus Emitter Coding
De-select Valid Codes	Must be chosen before you can define IDs as Not Valid within the currently selected Vehicle Class	To be determined based on Bus Emitter Coding
All Valid	Sets all IDs as valid in the currently selected Vehicle Class	To be determined based on Bus Emitter Coding
Manual Entry	Provides a dialog that will allow you to type in a Start And End codes to be selected rather than using a mouse to click and drag these ranges	The feature used for test purposes
RANGE INTENSITY		
Primary High Range	Minimum Intensity Threshold for High Primary Detector	300
Auxiliary High Range	Minimum Intensity Threshold for High Auxiliary Detector	300
Primary Low Range	Minimum Intensity Threshold for Low Primary Detector	1200
Auxiliary Low Range	Minimum Intensity Threshold for Low Auxiliary Detector	1200
LIMIT LOW PRIORITY CALLS		
Limit Time Between Calls During Peaks to	Specifies how often during peak periods that a low priority calls are allowed	0 (disabled)

GTT MODEL 752/754 SERIES PHASE SELECTOR		
Parameter	Description	Recommended Initial Setting
Limit Time Between Calls During Non-Peaks to	Specifies how often during non-peak periods that a low priority calls are allowed	0 (disabled)
First Peak Period	Specifies beginning and ending times of first peak period	6:00 AM – 9:00 AM
Second Peak Period	Specifies beginning and ending times of second peak period	3:00 PM – 6:00 PM

The Contractor shall deliver spare equipment as follows at the direction of the Engineer:

City of Providence Division of Traffic Engineering
 60 Ernest Street
 Providence, Rhode Island 02905

- One (1) spare optical detector (Item T13.9902)
- One (1) spare optical phase selector and chassis (Item T13.9903)

City of Pawtucket Department of Public Works (Attn: Mike Burns, Traffic Engineering)
 250 Armistice Boulevard
 Pawtucket, Rhode Island 02860

- One (1) spare optical detector (Item T13.9902)
- One (1) spare optical phase selector and chassis (Item T13.9903)

RIPTA (As directed by the Engineer)
 705 Elmwood Avenue
 Providence, Rhode Island 02907

- Three (3) spare optical detector (Item T13.9902)
- Three (3) spare optical phase selector and chassis (Item T13.9903)

No extra payment will be made for delivery of the spare equipment. Delivery charges shall be considered incidental to each respective bid item.

CONSTRUCTION METHODS: All components of the priority control system shall be installed in accordance with the manufacturer’s recommendations.

The CONTRACTOR shall be responsible for the proper programming of the phase selector orientation of the optical detectors and all other work necessary to provide a complete and operating fire preemption/bus priority system. The CONTRACTOR may be required to field adjust the location of the optical detectors in the presence of the Engineer to properly detect

preemption/priority calls from approaching vehicles.

The Contractor may be required to relocate existing equipment (including but not limited to cabinet lamps or detector racks) within the controller cabinet for the purpose of installing the phase selector and chassis. The relocation of existing equipment shall be considered incidental to the cost of the optical phase selector and chassis which requires the Contractor to relocate existing equipment.

METHOD OF MEASUREMENT: The individual components of the priority control system will be measured for payment as follows:

Optical Detector: “OPTICAL DETECTOR – SINGLE CHANNEL, ONE-WAY” shall be measured for payment by the units “EACH” installed, tested, and accepted by the Engineer and the Owner.

Phase Selector and Chassis: “OPTICAL DETECTOR PHASE SELECTOR AND CHASSIS” shall be measured for payment by the units “EACH” which includes one phase selectors (as required for preemption as indicated on the plans) and chassis installed, tested, and accepted by the Engineer and the Owner.

Lead-in Cable: “OPTICAL DETECTOR CABLE” will be measured for payment by the unit

“LINEAR FEET” of cable actually installed in accordance with the Plans and/or as directed by the Engineer.

Confirmation Strobe: “OPTICAL DETECTOR CONFIRMATION BEACON” shall be measured for payment by the units “EACH” installed, tested, and accepted by the Engineer and the Owner.

BASIS OF PAYMENT: The accepted quantity of the individual system components will be paid for as follows:

Optical Detectors: “OPTICAL DETECTOR – SINGLE CHANNEL, ONE-WAY” will be paid for at the contract unit price per “EACH”, which price shall constitute full and complete compensation for all materials, labor, tools, equipment, including mounting hardware, field adjustments, and all other incidentals required to finish the work, complete in place and accepted by the Engineer and the Owner.

Phase Selector and Chassis: “OPTICAL DETECTOR PHASE SELECTOR AND CHASSIS” will be paid for at the contract unit price per “EACH”, which price shall constitute full and complete compensation for all materials, labor, tools, equipment, relocation of existing equipment within the controller cabinets to allow for the installation/mounting of the phase selector and chassis, programming, testing, and all other incidentals required to finish the work, complete in place and accepted by the Engineer and the Owner.

Lead-in Cable: “OPTICAL DETECTOR CABLE” will be paid for at the contract unit price per “LINEAR FOOT”, which price shall constitute full and complete compensation for all materials, labor, tools, equipment and all other incidentals required to finish the work, complete in place and accepted by the Engineer and the Owner.

Confirmation Strobe : “OPTICAL DETECTOR CONFIRMATION BEACON” will be paid for at the contract unit price per “EACH”, which price shall constitute full and complete compensation for all materials, labor, tools, equipment, including mounting brackets and hardware, adjustments, and all other incidentals required to finish the work, complete in place and accepted by the Engineer and the Owner.

Phase Selector and Chassis – 4 Channel: “OPTICAL DETECTOR PHASE SELECTOR AND CHASSIS – 4 CHANNEL” will be paid for at the contract unit price per “EACH”, which price shall constitute full and complete compensation for all materials, labor, tools, equipment, relocation of existing equipment within the controller cabinets to allow for the installation of the phases selector and chassis, programming, testing, and all other incidentals required to finish the work, complete in place and accepted by the Engineer and the Owner.

The cost of the confirmation strobe cabling will be paid for under Item T04.5303, 14 AWG 3 Conductor Cable.

The cost of the optical emitters will be borne by the RIPTA and local fire departments, as applicable, and are not included in this contract.

JOB SPECIFIC

RIPTA R-LINE TRANSIT SIGNAL PRIORITY

T04.9902

VIDEO DETECTION SYSTEM CABLE

T12.9907

VIDEO DETECTION SYSTEM HARDWARE

T13.9906

VIDEO DETECTION SYSTEM CAMERA

DESCRIPTION: This item of work shall conform to the applicable sections of the Standard Specifications for Road and Bridge Construction as defined on Page JS-1 of this contract document with the following additions. The video detection system cable, hardware, and camera supplied for this project shall be in accordance with the City of Providence Technical Specifications, as included in the General Provisions – Contract Specific.

The video detection system shall be Iteris VersiCam, in accordance with the City of Providence Technical Specifications, no substitutions will be allowed.

MATERIALS: The materials for this work shall conform to the relevant provisions of the “Rhode Island Standard Specifications for Road and Bridge Construction” and shall be in accordance with the City of Providence Technical Specifications, as included in the General Provisions – Contract Specific.

Prior to installation of the Video Detection System a detailed site survey shall be conducted by a factory trained and certified representative. The site survey shall ensure that the design of the camera, camera location, camera optics, and video/data interconnect is appropriate for the application. The supplier of the Video Detection System shall supervise the installation and testing of the Video Detection System and computer software. A factory certified representative from the supplier shall be on site during installation.

CONSTRUCTION METHODS: The video detection system cameras shall be installed in accordance with the exact dimensions called for on the plans. The camera mounting bracket shall be a maximum of 23” long. All components of the video detection system shall be installed in accordance with the manufacturer’s recommendations. The locations of the video detection zones shown on the plans are approximate. Final size and locations of the video detection zones shall be positioned in the field and tested in cooperation with the City of Providence Division of Traffic

Engineering or its representative to ensure that detection zones are established to cover the approach width and that the detection system is functioning to the satisfactory of the City of Providence.

METHOD OF MEASUREMENT: The individual components of the Video Detection System will be measured for payment as follows:

“VIDEO DETECTION SYSTEM CABLE” shall be measured for payment by the unit “LINEAR FOOT” for each unit installed and accepted.

“VIDEO DETECTION SYSTEM HARDWARE” shall be measured for payment by the unit “EACH” for each unit installed and accepted.

“VIDEO DETECTION SYSTEM CAMERA” shall be measured for payment by the unit “EACH” for each unit installed and accepted.

BASIS OF PAYMENT: The accepted quantity of the individual system components will be paid for as follows:

The accepted quantity of the individual system components will be paid for as follows:

“VIDEO DETECTION SYSTEM CABLE” shall be paid for at the contract unit price bid per "LINEAR FOOT" which price shall include full compensation for all materials, equipment, tools, testing, labor, and work incidental thereto complete in place and accepted by the Engineer and the City of Providence.

“VIDEO DETECTION SYSTEM HARDWARE”, shall be paid for at the contract unit price bid per "EACH" which price shall include full compensation for all materials, equipment, tools, testing, labor, and work incidental thereto complete in place and accepted by the Engineer and the City of Providence.

“VIDEO DETECTION SYSTEM CAMERA”, shall be paid for at the contract unit price bid per "EACH" which price shall include full compensation for all materials, equipment, tools, testing, field adjustments, labor, and work incidental thereto complete in place and accepted by the Engineer and the City of Providence.

JOB SPECIFIC

RIPTA R-LINE TRANSIT SIGNAL PRIORITY

T05.9901

BREAK INTO EXISTING HANDHOLE

DESCRIPTION: This item of work shall conform to the applicable sections of the Standard Specifications for Road and Bridge Construction as defined on Page JS-1 of the contract document with the following additions. This item of work shall consist of breaking into existing handholes at locations specified on the plans or as directed by the Engineer for conduit installation.

MATERIALS: The materials for this work shall conform to the relevant provisions of the “Rhode Island Standard Specifications for Road and Bridge Construction” and shall be in accordance with the City of Providence Technical Specifications (where applicable), as included in the General Provisions – Contract Specific.

CONSTRUCTION METHODS: At locations where new conduit is being installed into an existing handhole, the Contractor shall drill a hole into the handhole of adequate size to easily insert the conduit, insert the new or larger conduit and grout the handhole around the new conduit. The construction methods for this item shall be done in accordance with R.I. Standard 18.2.0 including field drilling, grouting, grounding and bushings. The Contractor shall minimize damage to the existing handhole, and shall be responsible for repairing any damage that occurs as a result of the work being performed under this item of work. Repair and restoration of the handhole shall be done to the satisfaction of the Engineer at no additional cost.

METHOD OF MEASUREMENT: “BREAK INTO EXISTING HANDHOLE” shall be measured for payment by the unit “EACH” per handhole regardless of the number of conduits being installed complete in place and accepted.

BASIS OF PAYMENT: “BREAK INTO EXISTING HANDHOLE” shall be paid for at the contract unit price bid per “EACH”, which price shall include full compensation for all materials, equipment, tools, labor and work incidental thereto complete in place and accepted by the Engineer and the Owner.

JOB SPECIFIC

RIPTA R-LINE TRANSIT SIGNAL PRIORITY

T05.9902

CLEAN EXISTING HANDHOLE

DESCRIPTION: This item of work shall conform to the applicable sections of the Standard Specifications for Road and Bridge Construction as defined on Page JS-1 of the contract document with the following additions. This item of work shall consist of cleaning existing handholes along Broad Street at locations specified on the plans or as directed by the Engineer for conduit verification and installation.

MATERIALS: The materials for this work shall conform to the relevant provisions of the “Rhode Island Standard Specifications for Road and Bridge Construction” and shall be in accordance with the City of Providence Technical Specifications, as included in the General Provisions – Contract Specific.

CONSTRUCTION METHODS: At locations where new conduit is being installed into an existing handhole or where existing conduit is to be verified, the Contractor shall remove accumulated debris within the handhole to the satisfaction of the Engineer and the Owner. At locations that have a layer of crushed stone at the bottom of the handhole, the Contractor shall ensure that the crushed stone remains within the bottom of the handhole after the cleaning process is completed. If required, the contractor shall replace the crushed stone if for some reason it also needs to be removed as part of the debris..

METHOD OF MEASUREMENT: “CLEAN EXISTING HANDHOLE” shall be measured for payment by the unit “EACH” complete in place and accepted.

BASIS OF PAYMENT: “CLEAN EXISTING HANDHOLE” shall be paid for at the contract unit price bid per “EACH”, which price shall include full compensation for all materials (including replacement crushed stone), equipment, tools, labor and work incidental thereto complete in place and accepted by the Engineer and the Owner.

JOB SPECIFIC

RIPTA R-LINE TRANSIT SIGNAL PRIORITY

SECTION T.06

CONDUIT

RIDOT Standard Specifications for Road and Bridge Construction Section T.06.03.1b to be amended as follows:

Delete the following sentence: “*The use of an automatic trenching machine is preferred.*”

JOB SPECIFIC

RIPTA R-LINE TRANSIT SIGNAL PRIORITY

T12.9901

ACTUATED CONTROLLER, TS-2, TYPE 2 WITH 8 PHASE ASSEMBLY, GROUND MOUNTED INCLUDING FOUNDATION AND CABINET STANDARD 19.1.0

T12.9902

ACTUATED CONTROLLER, TS-2, TYPE 1 WITH 8 PHASE ASSEMBLY, GROUND MOUNTED INCLUDING CABINET STANDARD 19.1.0 ON EXISTING MODIFIED FOUNDATION

T12.9903

ACTUATED CONTROLLER, TS-2, TYPE 2 IN EXISTING CABINET

T12.9904

ACTUATED CONTROLLER, TS-2, TYPE 1 IN EXISTING CABINET

DESCRIPTION: The work under this item shall conform to the applicable requirements of Section T.12 “Traffic Signal Controllers and Cabinets” of the Rhode Island Standard Specifications for Road and Bridge Construction 2004 Edition and the latest revisions and include the following additions. For locations along Broad Street, controller assemblies supplied for this project shall be in accordance with the City of Providence Technical Specifications, as included in the General Provisions – Contract Specific.

MATERIALS: The materials for this work shall conform to the relevant provisions of the “Rhode Island Standard Specifications for Road and Bridge Construction” and shall be in accordance with the City of Providence Technical Specifications, as included in the General Provisions – Contract Specific with the following additions.

This work consists of furnishing and installing a new Eagle EPAC3608M52 controller, or approved equal with required functionality and compatibility, at intersections specified on the plans for interchangeability with other traffic signal equipment in the City of Providence and along the RIPTA Transit Signal Priority corridor.

For locations along Broad Street (owned by the City of Providence) only:

The proposed controller cabinets that are to be installed on new foundations (extending 12” above grade) shall also be furnished with 12” extension bases as required by the City of Providence Technical Specifications.

Controller cabinets along Broad Street shall be painted green by the manufacturer in accordance with the Special Provision for Item Code T14.9906. Controller cabinets within the Memorial Boulevard Traffic Signal System shall be painted gloss black by the manufacturer in accordance with the Special Provision for Item Code T14.9906.

For all locations:

The NEMA TS-2, Type 1 and Type 2 traffic signal controllers shall be compatible with NEMA Standard TS2 – 2003, v06.02. Traffic signal controllers shall also be supplied with the following capabilities:

1.0 The traffic controller shall have one Ethernet RJ-45 port.

- 1.1 The Ethernet RJ-45 port shall support the following network protocol: TCP/IP
- 1.2 The Traffic controller shall support the following network standard: IEEE.802.3 10 Base-T
- 1.3 The traffic controller shall be able to have a unique IP address assigned to it.
- 1.4 The traffic controller shall be able to have a unique subnet mask assigned to it.
- 1.5 The traffic controller shall be able to have a unique gateway address assigned to it.
- 1.6 The traffic controller shall be able to have the IP address programmed using the front panel keypad.
- 1.7 The traffic controller shall be able to have the subnet mask programmed using the front panel keypad.
- 1.8 The traffic controller shall be able to have the gateway address programmed using the front panel keypad.

2.0 All traffic signal controllers supplied and installed as part of this project shall have the capability of supporting Transit Signal Priority (TSP) without the need for additional software or hardware. This capability shall be part of the controller firmware and be accessed without the need for additional controller firmware modifications or external key devices. The TSP algorithm shall be fully programmable to extend a phase or reduce a vehicle phase depending on user defined settings. This function shall be capable during both coordinated and free operation.

- 2.1 TSP shall support a minimum of six priority routines.
- 2.2 The TSP program shall be capable of extending the priority phase green time and truncating the non-priority phase(s) green when a priority call is received by the traffic signal controller.
- 2.3 TSP operation shall not cause the traffic signal controller to skip any phases that have active vehicle/pedestrian demand.

- 2.4 Emergency vehicle preemption (EVP) shall override TSP operation.
- 2.5 The TSP program shall have the ability to delay and/or extend priority calls.
- 2.6 The TSP program shall have the ability to support user defined time periods between servicing valid priority calls.
- 2.7 All TSP events shall be logged (time/date stamped) in the traffic signal controller.
- 2.8 It shall be possible to user define in the traffic controller a minimum time between responses to priority calls.
- 2.9 The Contractor is responsible for programming and testing a fully functional TSP system to the satisfaction of the Engineer and the Owner for all new traffic signal controllers with the exception of the traffic signal controllers installed at intersections of Memorial Boulevard at College Street/Westminster Street, College Street at South Main Street, Memorial Boulevard/Dyer Street at Crawford Street, Dyer Street at Friendship Street/Hay Street and Dyer Street at Peck Street. The controllers shall initially be programmed by the Contractor with the recommended settings in the below table to support the Transit Signal Priority (TSP) functionality. **The TSP parameters shall initially be programmed for TSP Route, as preliminarily depicted in Appendix 4.** Prior to programming, the Contractor shall obtain the final routing approved by RIPTA and the Engineer. If alternate values are required or suggested by the Contractor for optimal performance of the TSP system, the Contractor shall obtain approval for the changes in writing by the Engineer. The TSP system shall initially be disabled by the Contractor until the settings have been reviewed and fine-tuned in the field in the presence of the Engineer and the Owner.

SIEMENS SEPAC CONTROLLER – TSP SETTINGS		
Parameter	Description	Recommended Initial Setting
N-Lock	Defines whether the PE detector will be non-locking when used as a priority detector	1 (non-locking)
Delay	Time in seconds that the priority actuation through the PE detector must be active before triggering service	1
Extend	The time that each priority actuation will be extended from the point the actuation is terminated.	0.5

SIEMENS SEPAC CONTROLLER – TSP SETTINGS		
Parameter	Description	Recommended Initial Setting
1A-6A	Assignment of a SEPAC detector to function as priority advance detector 1 – 6	1A = 65 2A = 66 3A = 67 4A = 68 5A = 69 6A = 70
BDET	Assignment of a SEPAC detector to function as the back-up detector	71
CDET	Assignment of a SEPAC detector to function as a check out detector	72
XDET	Assignment of a SEPAC detector to function as a cancel input	73
CO_PHASE	Phase compatible with transit vehicle	1 / 2 = 1
EXCL	Phase compatible with co-phase	1
QJ-PHASE	Queue Jumper Phase	0
Free D/S	Timing plan source under free operation	4 / 4
NO LOU	Global parameter lockout	0 (allows global lockout)
MIN GRN	Priority minimum green	5
LOU A	Lockout A	0 (lockout for one cycle)
MAX GRN	Priority right of way limit	20
LOU B	Lockout B	0 (lockout for one cycle)
LEVEL	Level of Priority Operation	1 (partial / phase reduction)
TSD	Time of Service Desired	20
TED	Time of estimated departure	0
TTL	Time to Live	0
ALT SEQ	Alternate Sequence for Priority Entry	0
USE ALT SEQ	Selects is Alternate Sequence is Used for Priority	0 (no)
MIN WALK	Establishes the min. value of min. walk that a conflicting phase may be reduced to	0 (no reduction in walk time)
EXIT CALL	Defines the phases that will receive a pedestrian call after a priority event	0 (no exit call)

- 3.0** TSP Coordinated Operation – Under coordinated operation, the controller shall modify existing operation to accommodate a priority call. This may include modification to per phase termination points established under normal coordinated control. During a priority event, per phase modes shall remain in effect. Priority and non-priority phase duration shall be user programmable per coordination pattern.
- 4.0** TSP Non-Coordinated (Free operation) – Upon receipt of a valid priority call, the controller shall either extend the priority phase or reduce the non-priority phase. These settings for the adjusted green times shall be user defined on a per phase basis and adjustable on a time-of-day basis.
- 5.0** All traffic signal controllers supplied and installed along Broad Street shall conform to current City standards for controller make/model with any required modifications to meet these specifications.
- 6.0** All traffic signal controllers supplied and installed as part of this project shall be of the same manufacturer for system compatibility and maintenance.
- 7.0** Prior to installation of the traffic controllers, all controller units shall be shop tested and approved by representatives of the City of Providence, the Rhode Island Department of Transportation (RIDOT), and the City of Pawtucket, as applicable based on ownership of the equipment after construction.
- 8.0** Three hardcopies of all programmable data shall be supplied by the Contractor. This includes all programmable devices supplied and installed as part of this project. The recorded data shall reflect settings resident in the devices upon acceptance of the project by the Engineer.

CONSTRUCTION METHODS: Where any modifications are made at existing traffic signal controller cabinets, Contractor shall supply two (2) copies of box prints showing all of the modifications that are made. If existing box prints are not available, the Contractor shall produce and supply function based connection diagrams showing various in-cabinet interconnections and wiring changes made as part of the project. Where new loop detectors are installed, the Contractor shall install a revised cabinet door sticker table showing the detector assignment information including the approach names, detector numbers, terminal numbers, detector relay slow number, relay number, relay channel number, and phase associated with each detector.

Where new preemption and/or priority systems are installed, the Contractor shall install a door sticker indicating channel assignment, approach, preemption/priority level and corresponding field terminations. The door sticker should be suitably durable for long term use in an outdoor environment. The cost for the required box prints and door stickers shall be considered incidental to the cost of the items of work being performed.

Where new cabinets are being installed on existing foundations, the existing foundations shall be modified and expanded as needed to accommodate new cabinets and any proposed new conduits. The Contractor is responsible for obtaining the necessary measurements of the existing foundations and conduit locations.

The foundation shall be in accordance with RI Standard 19.1.0.

METHOD OF MEASUREMENT: “ACTUATED CONTROLLER, TS-2, TYPE 2 WITH 8 PHASE ASSEMBLY, GROUND MOUNTED INCLUDING FOUNDATION AND CABINET STANDARD 19.1.0”, “ACTUATED CONTROLLER, TS-2, TYPE 1 WITH 8 PHASE ASSEMBLY, GROUND MOUNTED INCLUDING CABINET STANDARD 19.1.0 ON EXISTING MODIFIED FOUNDATION”, “ACTUATED CONTROLLER, TS-2, TYPE 2 IN EXISTING CABINET” and “ACTUATED CONTROLLER, TS-2, TYPE 1 IN EXISTING CABINET” shall be measured for payment by the unit “EACH” for each unit installed and accepted.

BASIS OF PAYMENT: “ACTUATED CONTROLLER, TS-2, TYPE 2 WITH 8 PHASE ASSEMBLY, GROUND MOUNTED INCLUDING FOUNDATION AND CABINET STANDARD 19.1.0”, “ACTUATED CONTROLLER, TS-2, TYPE 1 WITH 8 PHASE ASSEMBLY, GROUND MOUNTED INCLUDING CABINET STANDARD 19.1.0 ON EXISTING MODIFIED FOUNDATION”, “ACTUATED CONTROLLER, TS-2, TYPE 2 IN EXISTING CABINET” and “ACTUATED CONTROLLER, TS-2, TYPE 1 IN EXISTING CABINET”, which price shall include full compensation for all materials, equipment, relays, existing foundation modifications, controller programming, testing, tools, testing, labor, and work incidental thereto complete in place and accepted by the Engineer.

JOB SPECIFIC

RIPTA R-LINE TRANSIT SIGNAL PRIORITY

T12.9905

MODIFY EXISTING TRAFFIC SIGNAL CONTROLLER

DESCRIPTION: This item of work shall conform to the applicable sections of the Standard Specifications for Road and Bridge Construction as defined on Page JS-1 of the contract document with the following additions:

The work consists of the necessary reprogramming in the existing controllers to accommodate the proposed optical pre-emption, and the modifications to the local and coordination timings at locations called for on the plans. This item of work also covers any necessary controller firmware or hardware upgrades required to support Transit Signal Priority (TSP).

Three hardcopies of all programmable controller data shall be supplied by the Contractor. The recorded data shall reflect settings resident in the controller upon acceptance of the project by the Engineer and the Owner.

CONSTRUCTION METHODS: The Contractor shall make the required modifications to existing controllers to accommodate the traffic signal phasing, timings, pre-emption operation and detection as shown on the plans.

The Contractor is responsible for programming and testing a fully functional TSP system at existing controllers where firmware is being upgraded to support TSP. The controllers shall initially be programmed by the Contractor with the recommended settings in the table included in the specification for Item Codes T12.9901 through T12.9904. If alternate values are required or suggested by the Contractor for optimal performance of the TSP system, the Contractor shall obtain approval for the changes in writing by the Engineer. The TSP system shall initially be disabled by the Contractor until the settings have been reviewed and fine-tuned in the field in the presence of the Engineer and the Owner.

METHOD OF MEASUREMENT: “MODIFY EXISTING TRAFFIC SIGNAL CONTROLLER” shall be measured for payment by the unit “EACH” which shall consist of all labor, tools, equipment, materials, reprogramming, and incidentals necessary to complete this item of work to the satisfaction of the Engineer.

BASIS OF PAYMENT: “MODIFY EXISTING TRAFFIC SIGNAL CONTROLLER” shall be paid for at the contract bid price “EACH”, which price and payment shall constitute full compensation for furnishing all labor, tools, equipment, materials, reprogramming, testing, firmware or hardware upgrades to support TSP and incidentals necessary to complete this item of work to the satisfaction of the Engineer and the Owner.

The cost of the required cabinet modifications required for proposed phasing changes or the installation of pre-emption equipment will be paid for under Item T12.9906, Modify Existing Controller Cabinet.

JOB SPECIFIC

RIPTA R-LINE TRANSIT SIGNAL PRIORITY

T12.9906

MODIFY EXISTING TRAFFIC SIGNAL CONTROLLER CABINET

DESCRIPTION: This item of work shall conform to the applicable sections of the Standard Specifications for Road and Bridge Construction as defined on Page JS-1 of the contract document with the following additions:

The work consists of the necessary rewiring/wiring terminations, installation of “D” harness connectors and reprogramming in the existing controller cabinets as indicated on the plans to accommodate the proposed optical pre-emption equipment and any phasing or timing modifications that are called for on the plans. Also included in this item is the programming of detector relays (delays and phase assignments) as called for on the plans.

CONSTRUCTION METHODS: The Contractor shall make the required modifications in the existing controller cabinets, as called for on the plans, to accommodate the traffic signal phasing, timings, pre-emption operation and detection as shown on the plans.

Where any modifications are made at existing traffic signal controller cabinets, Contractor shall supply two (2) copies of box prints showing all of the modifications that are made. If existing box prints are not available, the Contractor shall produce and supply function based connection diagrams showing various in-cabinet interconnections and wiring changes made as part of the project. Where new loop detectors are installed, the Contractor shall install a revised cabinet door sticker table showing the detector assignment information including the approach names, detector numbers, terminal numbers, detector relay slow number, relay number, relay channel number, and phase associated with each detector.

Where new preemption and/or priority systems are installed, the Contractor shall install a door sticker indicating channel assignment, approach, preemption/priority level and corresponding field terminations. The door sticker should be suitably durable for long term use in an outdoor environment. The cost for the required box prints and door stickers shall be considered incidental to the cost of the items of work being performed.

The new traffic signal equipment will be paid for separately under the appropriate contract pay items.

METHOD OF MEASUREMENT: “MODIFY EXISTING TRAFFIC SIGNAL CONTROLLER CABINET” shall be measured for payment by the unit “EACH” which shall consist of all

labor, tools, equipment, materials, rewiring, splicing, reprogramming, and incidentals necessary to complete this item of work to the satisfaction of the Engineer.

BASIS OF PAYMENT: “MODIFY EXISTING TRAFFIC SIGNAL CONTROLLER CABINET” shall be paid for at the contract bid price “EACH”, which price and payment shall constitute full compensation for furnishing all labor, tools, equipment, materials, relays, load switches, rewiring, splicing, reprogramming, and incidentals necessary to complete this item of work to the satisfaction of the Engineer.

JOB SPECIFIC

RIPTA R-LINE TRANSIT SIGNAL PRIORITY

T12.9908

MODIFY EXISTING CENTRAL COMPUTER SYSTEM

DESCRIPTION: This item of work shall conform to the applicable sections of the Standard Specifications for Road and Bridge Construction as defined on page JS-1 of this contract document with the following additions:

It shall consist of programming system software, uploading local controller databases, and providing dynamic intersection and system maps on the central server as shown on the plans. The communications to the existing RIDOT computer system are already in place as part of the Memorial Boulevard Traffic Signal System.

CONSTRUCTION METHODS: The Contractor shall make the required modifications to the existing RIDOT Central Computer System installed under North Main Street Arterial Improvement Project (Rhode Island Contract Number 2002-CH-087) to include the Memorial Boulevard Traffic Signal System intersections added under this contract.

1. General Requirements

1.1 System

The Contractor shall initially program the system for the following system intersections:

- Address #1 – Memorial Boulevard at Steeple Street (Master location)
- Address #2 – Memorial Boulevard at Exchange Street
- Address #3 – Memorial Boulevard at Washington Street
- Address #4 – Memorial Boulevard at Westminster Street
- Address #5 – Memorial Boulevard at Crawford Street/Dyer Street
- Address #6 – Dyer Street at Friendship Street
- Address #7 – Dyer Street at Peck Street
- Address #8 – South Main Street at College Street
- Address #9 – South Main Street at Waterman Street
- Address #10 – North Main Street at Steeple Street/Thomas Street
- Address #11 – Steeple Street at Canal Street

The Contractor shall upload the local controller databases into the central server.

1.2 Dynamic Graphics Displays

Dynamic graphics displays shall be available on all RIDOT central computer station workstations. At a minimum, the central system software shall support the following:

For this project, the Contractor shall produce intersection graphics and system graphics for the purpose of remote monitoring of system status. The links shall be linked to real time data allowing for a dynamic representation of system status for the operator. Electronic files of the plans will be available to the Contractor for use as a map base. **Electronic project plans shall be used for the base for the local intersection maps.** The graphics will be a representation of existing geometry of the intersections/subsystem/system. It will be the responsibility of the Contractor to generate the graphics meeting the requirements of this specification. Each of the maps shall be custom produced for each of the system intersections representing the unique geometric configurations and lane pattern of each location.

At a minimum, the local intersection graphics shall contain the following:

- Graphical representation of the intersection (scaled maps are not required), including controller cabinet location
- City (Providence)
- Street Names
- System Name (Memorial Boulevard System)
- North Arrow (oriented similar to plans)
- Lane configuration showing accurate depiction of intersection pavement markings
- Signal displays; vehicle and pedestrian
- Detector calls; local and system
- System parameters; cycle, split and offset
- Intersection operation status (flash, coord, free, on-line, preemption)
- Time/Date

The Contractor shall also create the Memorial Boulevard system graphic, as needed to add the project intersections. If required to produce a reasonable graphic representation of the system, the Contractor shall produce a new system graphic.

METHOD OF MEASUREMENT: “MODIFY EXISTING CENTRAL COMPUTER SYSTEM” shall be measured for payment by the unit “LUMP SUM” price for the completion of all work specified, complete in place and accepted by the Engineer.

BASIS OF PAYMENT: “MODIFY EXISTING CENTRAL COMPUTER SYSTEM” shall be paid for at the contract bid price “LUMP SUM”, which price and payment shall constitute full compensation for furnishing all equipment, material, labor, hardware, software, programming, graphics (local and system), cabling, appurtenances, tests and incidentals necessary to complete this item of work complete in place and accepted.

JOB SPECIFIC

RIPTA R-LINE TRANSIT SIGNAL PRIORITY

T12.9909

MODIFY EXISTING FIRE PRE-EMPTION CONTROL SYSTEM

DESCRIPTION: This item of work shall conform to the applicable sections of the Standard Specifications for Road and Bridge Construction as defined on Page JS-1 of this contract document and shall be in conformance with the latest edition of NEMA specifications with the following additions:

It shall consist of modifying the existing hardwire fire preemption system at the Broad Street Fire Station in Providence, Rhode Island as shown on the plans.

MATERIALS: The materials for this work shall conform to the relevant provisions of the “Rhode Island Standard Specifications for Road and Bridge Construction” as defined on Page JS-1 of this contract document including all revisions.

CONSTRUCTION METHODS: The Contractor shall interface the proposed controller and cabinet on Traffic Signal Plan No. 9 (Broad Street at Ontario Street/Oxford Street) with the existing fire pre-emption control switches within the Broad Street Fire Department Station. The Contractor shall utilize the existing conduit system that connects into the Fire Station when installing new cabling for the connection to the proposed controller cabinet. If required, all new conduit and wiring within the fire station shall be installed in accordance with all local codes, and as directed by the Fire Chief or his representative. If required, cutting and patching and painting of the walls shall be included in this contract.

The existing hardwire fire pre-emption system is currently operational and in addition to being activated by the fire pre-emption control switches within the Fire Station, the pre-emption system is also triggered by the City of Providence fire alarm system under the jurisdiction of the Providence Department of Public Safety Communications Department.

The preemption phase of the controller shall be used to set the maximum timing allowed for the preemption phase. The preemption phase may be terminated prior to the maximum internal setting, when the “cancel” switches within the fire station are activated. An internal time delay shall be adjustable between zero (0) and seventy (70) seconds at one (1) second increments and shall be set initially to the values to be determined by the City of Providence Fire Chief. Internal preemption shall be canceled by preemption to a normal operating mode when the existing cancel button is pressed. Test switches for start and cancel functions shall be installed on the sidewall of the traffic signal controller cabinet. The test switches shall be permanently labeled as to functions.

The pre-emption system shall be interconnected via preemption cable IMSA 19-1 or 20-1 and shall consist of five #14 AWG copper conductors (included in Item Code T04.5305).

The Contractor shall be responsible for coordinating his work activities at the fire station with the Fire Chief.

METHOD OF MEASUREMENT: “MODIFY EXISTING FIRE PRE-EMPTION CONTROL SYSTEM” shall be measured for payment by the unit “LUMP SUM” price for the completion of all work specified to the satisfaction of the Engineer.

BASIS OF PAYMENT: “MODIFY EXISTING FIRE PRE-EMPTION CONTROL SYSTEM” will be paid for at the contract bid price per “LUMP SUM” for the entire project and payment shall constitute full compensation for furnishing all labor, materials, panel, switches, indoor and outdoor conduit (if required), wiring, controller programming, terminal blocks, cabinet interface, labeling, power supply and for all tools, supplies, equipment and incidentals necessary to complete this item of work in place and accepted by the Engineer and the City of Providence.

JOB SPECIFIC

RIPTA R-LINE TRANSIT SIGNAL PRIORITY

T12.9910

GPS TIME SYNCHRONIZATION SYSTEM

DESCRIPTION: This item of work shall conform to the applicable sections of the Standard Specifications for Road and Bridge Construction as defined on Page JS-1 of the contract document with the following additions. The work consists of furnishing and installing a GPS time synchronization system. The system shall be installed in existing traffic signal control cabinets and connected to the proposed traffic signal controller. All cabinet wiring performed by the Contractor shall be cable tied and secured in the cabinet in a neat and orderly manner.

The GPS time synchronization system furnished and installed under this item shall utilize an external antenna to be mounted on top of the controller cabinet as shown on the plans. The Contractor shall furnish and install GPS antenna and cabling as recommended by the manufacturer to achieve a consistent time synchronization reference to ensure that the controller time clocks are kept in synch. The GPS system supplied shall be fully compatible with any proposed or existing traffic signal controllers in this contract. **It should be noted that not all GPS systems are compatible with all different types of traffic controllers.** The GPS system shall consist of a GPS antenna and an interface cable. The GPS antenna shall have no reference to the manufacturer name indicated on the outside of the antenna housing. The interface cable shall be rated for outdoor applications and shall be capable of transmitting the GPS signal from the antenna to the cabinet at a level appropriate to support the time synch function. A suppression device shall be installed in-line with the serial cable to provide protection against electrical surges on the line. The unit shall be supplied and installed with an EDCO PC-642-008 or approved equal.

The following is a description of the of GPS time synchronization system that is to be supplied under this item:

This system shall be used when the existing traffic signal controller has the existing front panel controller connector necessary to support a direct serial connection to the GPS time synchronization system. If required, the existing controller firmware shall be upgraded to provide the capability to support a serial GPS interface. Upgrade of the controller firmware necessary to support the GPS system as described under this item shall be considered incidental to the cost of this item. A serial interface cable shall be supplied and installed between the GPS time synchronization system and the existing traffic signal controller. All necessary controller programming shall be performed by the Contractor to provide a stable and accurate time reference for the traffic signal controller.

METHOD OF MEASUREMENT: “GPS TIME SYNCHRONIZATION SYSTEM” shall be measured for payment by the unit ”EACH” for each unit installed and accepted by the Engineer.

BASIS OF PAYMENT: “GPS TIME SYNCHRONIZATION SYSTEM” shall be paid for at the contract bid price “EACH”, which price and payment shall constitute full compensation for furnishing all labor, materials, cabling, mounting brackets, connection to antenna and signal controller, controller programming, testing, field adjustments and settings and other incidentals complete in place and accepted by the Engineer and the respective Owner.

JOB SPECIFIC

RIPTA R-LINE TRANSIT SIGNAL PRIORITY

CODE T12.9911

INSTALL NEW DETECTOR RACK ASSEMBLY

DESCRIPTION: This item of work shall conform to the applicable sections of the Standard Specifications for Road and Bridge Construction as defined on Page JS-1 of this contract document with the following additions.

This work consists of installing a new detector rack at the intersection of Broad Street and Public Street (Traffic Signal Plan No. 11).

MATERIALS: The materials for this work shall conform to the relevant provisions of the “Rhode Island Standard Specifications for Road and Bridge Construction”.

CONSTRUCTION METHODS: The construction methods for this work shall conform to the relevant provisions of the “Rhode Island Standard Specifications for Road and Bridge Construction”.

METHOD OF MEASUREMENT: “INSTALL NEW DETECTOR RACK ASSEMBLY” shall be measured by the unit “EACH” for each unit repaired or replaced and accepted by the Engineer.

BASIS OF PAYMENT: “INSTALL NEW DETECTOR RACK ASSEMBLY” shall be paid for at the contract bid price “EACH”, which price and payment shall constitute full compensation for furnishing all labor, new power supplies, wiring, materials, testing, and other incidentals complete in place and accepted by the Engineer and the Owner.

JOB SPECIFIC

RIPTA R-LINE TRANSIT SIGNAL PRIORITY

CODE T12.9912

REPAIR DETECTOR RACK ASSEMBLY

DESCRIPTION: This item of work shall conform to the applicable sections of the Standard Specifications for Road and Bridge Construction as defined on Page JS-1 of this contract document with the following additions.

This work consists of field troubleshooting and repairing the existing detector rack assembly at locations shown on the plans.

MATERIALS: The materials for this work shall conform to the relevant provisions of the “Rhode Island Standard Specifications for Road and Bridge Construction”.

CONSTRUCTION METHODS: There are various operational issues with loop detector rack assemblies at some project locations, including but not limited to missing power supplies and non-working detector relays (descriptions of problems found at each location are detailed in notes on each respective plan). The Contractor shall field troubleshoot the existing problem and repair or replace the existing detector rack assembly and power supplies if required. The Contractor shall test the repaired/replaced detector rack assembly to ensure proper operation in accordance with the plans.

If the Contractor determines that there are faulty loop detectors at any location with noted detection issues, the loop detectors shall be replaced in accordance with R.I. Std.19.6.0. The Contractor shall assume that a total of two (2) 6’x40’ loop detectors (including connection to adjacent handhole) will need to be replaced at each intersection with noted detection issues, and the cost for the loop detectors shall be considered incidental to this item of work.

METHOD OF MEASUREMENT: “REPAIR DETECTOR RACK ASSEMBLY” shall be measured by the unit “EACH” for each unit repaired or replaced and accepted by the Engineer.

BASIS OF PAYMENT: “REPAIR DETECTOR RACK ASSEMBLY” shall be paid for at the contract bid price “EACH”, which price and payment shall constitute full compensation for furnishing all labor, troubleshooting, repairs, new detector rack (if required), new power supplies, wiring, materials, testing, a total of two (2) new 6’x40’ loop detectors (including connection to adjacent handhole) and other incidentals complete in place and accepted by the Engineer and the Owner.

JOB SPECIFIC

RIPTA R-LINE TRANSIT SIGNAL PRIORITY

CODE T12.9913

TRAFFIC SIGNAL SYSTEM MASTER (TSSM)

DESCRIPTION: This item of work shall conform to the applicable sections of the Standard Specifications for Road and Bridge Construction as defined on page JS-1 of this contract document with the following additions. The work shall include the furnishing and installation of a Traffic Signal System Master (TSSM), modem, telephone service and all other necessary equipment required to interface with the local intersection controllers.

The TSSM shall act as a communication hub between the remote computer station and the local controllers. The TSSM will allow for the flow of timing changes, event/alarm reporting and other data from each intersection to the remote computer station and shall communicate with local controllers via traffic communications cable installed in underground conduit. The TSSM shall be capable of providing control of at least two traffic responsive subsystems simultaneously.

The TSSM shall consist of a digital microprocessor-based unit and modem installed and housed in a traffic control cabinet at locations as shown on the plans. The TSSM shall communicate with off-site monitoring and control computer stations via telephone line.

The TSSM shall be capable of implementing traffic responsive control, time base control, time of day control or remote control of operation for its particular system of traffic controllers.

The TSSM shall support two-way dial-up communications to a remote computer station for control, monitoring, data collection and timing updating purposes, all from the remote computer. Continuous 7 days a week, 24 hours a day system monitoring shall be included within the on-street master. Automatic dial up to a remote computer shall be initiated based on user defined alarm/event conditions.

The unit shall conform to all applicable portions of the Environmental and Operating Standards as described in the NEMA Standard's TS 2-1992, Section 2.

The TSSM shall have the capability of uploading system and timing data from a remote monitoring and control computer and downloading the data for each local controller unit.

Minimum available control parameters which can be transmitted between a remote computer and on-street masters/local controllers include the following:

- All Standard Timing functions
- All Time-base functions
- All Pre-emption functions
- All Master time of day (TOD) functions
- System Communications Parameters
- Local and Master Report functions including event/alarm and detector logging.

The system shall automatically and continually monitor system activity and log/report occurrences of master and intersection alarm conditions.

All alarm condition events shall include an alpha-numeric description of the event and the time and date of occurrence.

As a minimum, alarm conditions shall include:

- cycle, split and offset failures
- pre-emption
- local, remote and conflict flash conditions
- power on/off occurrences
- local free
- at least 2 special user defined alarms, which for this project will include cabinet door open as one user defined alarm.

Enhanced remote conflict monitoring capabilities will be included. The system operator shall have the ability to remotely access the Malfunction Management Unit (MMU) and retrieve, at least, the following information:

- Complete fault event log
- Operational switch settings
- Compatibility programming and settings

When a critical alarm condition, as defined by the user, is detected the on-street master shall automatically dial up a user defined remote computer terminal and report the condition. At a busy signal, the system shall continually redial until a communications link is established.

The selection of which remote computer to call for alarm/event and detector reporting shall be user programmable between at least two terminals and settable on a (time of day) and (day of week) basis.

During either uploading or downloading operation, normal traffic control operations shall not be suspended. All data shall be continually accessible and displayed at a remote computer station.

The TSSM shall provide the means for data transfer with local controllers. Data rates shall be a minimum 1,200 baud +/- 0.01% asynchronous. Modulation shall be time division multiplexing/frequency shift keying (TDM/FSK).

The front panel display of both the on-street master and local controller units shall contain a real-time display of communications status showing transmit/receive information and logging of errors in data transmission.

System data uploaded and downloaded shall be checked for errors prior to the data being loaded into a computer file or TSSM/controller memory. Failure to pass all of the error checks shall result in the data being discarded. The error checks shall use multiple techniques including, but not limited to, CRC-16.

The TSSM shall utilize liquid crystal displays to exhibit data contained within the unit. The display shall have a back light for viewing at night. Incandescent indicator lights are not acceptable. As a minimum, the model number and software version shall be displayed.

A menu driven format shall be utilized. The menu format shall preclude the need for programming cards or tables. All data shall be entered utilizing the keyboard supplied on the on-street master.

The TSSM shall have the capability of implementing TOD (time of day, day of week, week of year) control using an internal clock that utilizes the AC line frequency as a base.

Cycle, split and offset selection shall be individually and independently controlled by the on-street master's TOD programming.

The cycle changes shall be user programmable as to synch referencing modes. The beginning of coordinated cycle shall start either at a programmable daily time reference or at the end of the current complete cycle. Synch referencing mode shall be user programmable.

The TSSM shall provide for a user specified security code entry before any data may be altered. In order to view any parameter, security code entry shall not be required. Security access shall be automatically rescinded in a set period at time after either access was gained or the last parameter change was entered. The master shall have the ability via keyboard to disable security code requirements, allowing for perpetual access.

The TSSM shall be installed at the intersection of Memorial Boulevard and Steeple Street.

The TSSM supplied shall be of the same manufacturer as the local intersection controllers supplied under Items T12.9901 thru T12.9904. The master shall have all harnesses properly terminated on the backpanel.

System Telephone Service

The TSSM will communicate back to the RIDOT remote computer station via the existing modem located in the cabinet at the Memorial Boulevard/Steeple Street intersection

METHOD OF MEASUREMENT: “TRAFFIC SIGNAL SYSTEM MASTER (TSSM)” shall be measured for payment by the unit “EACH” for each unit installed, tested, and accepted by the Engineer and the Owner.

BASIS OF PAYMENT: “TRAFFIC SIGNAL SYSTEM MASTER (TSSM)” will be paid for at the contract bid price “EACH”, which price and payment shall constitute full compensation for furnishing all labor, materials, molding, mounting, hardware, , and all required programming, settings, cable, and operating costs, required tests and incidentals complete in place, tested, and accepted by the Engineer and the Owner.

JOB SPECIFIC

RIPTA R-LINE TRANSIT SIGNAL PRIORITY

T12.9914

TRANSIT SIGNAL PRIORITY SYSTEM TRAINING

DESCRIPTION: Work under this item shall consist of providing up to 16 hours (two identical sessions of up to 8 hours per session) training on in the installation, operation, programming, and maintenance of each aspect of the Transit Signal Priority System for up to 20 total trainees. The training shall provide a general overview on the functionality of the Transit Signal Priority System, and a review of the various components of the priority system, including but not limited to the initial Eagle EPAC programming and Opticom Phase Selector programming as called for in the special provisions for Items T12.9901 – T12.9904 and T13.9903 and T13.9905.

The training program shall include a step-by-step review of each portion of the component programming for one sample project intersection, and include bound copies of all presentation materials, along with data printouts of the step-by-step component programming. The Contractor shall provide qualified instructors and all training materials necessary for training City of Providence, City of Pawtucket, and RIDOT personnel in the operation and maintenance of the system components. Training shall consist of classroom lectures as well as “hands-on” demonstrations.

The Contractor shall develop and submit training course outlines and samples of all training aids and manuals to the Engineer for approval at least 20 days prior to the proposed start of the training sessions. At the same time, the Contractor shall submit a list of individuals who will conduct the training and resumes of each for review and approval. Written approval of this material and training instructors will be required prior to the final scheduling of the training sessions or the final production of training materials.

Training will be conducted at a classroom facility supplied by the Contractor. This facility shall be within 15 miles of the City of Providence city limits.

The Contractor shall develop and supply all necessary manuals, displays, class notes, visual aids, and other instructional materials as required to provide the training programs described herein. The required manuals and materials shall be individually bound in loose leaf binders. There shall be an adequate number of manuals and class notes to provide one copy of each to all session participants.

METHOD OF MEASUREMENT: “TRANSIT SIGNAL PRIORITY SYSTEM TRAINING” shall be measured for payment by the unit “LUMP SUM”, which shall consist of all labor, tools, equipment, materials and incidentals necessary to complete this item of work to the satisfaction of the Engineer.

BASIS OF PAYMENT: “TRANSIT SIGNAL PRIORITY SYSTEM TRAINING” will be measured and paid for at the contract bid price “LUMP SUM”, which price and payment shall constitute full compensation for all labor, tools, equipment, materials, audio/visual aids, training rooms, and incidentals necessary to complete this item of work to the satisfaction of the Engineer.

JOB SPECIFIC

RIPTA R-LINE TRANSIT SIGNAL PRIORITY

T13.9901

HEAVY-DUTY PEDESTRIAN DETECTOR-PUSHBUTTON WITH SIGN

DESCRIPTION: This item of work shall conform to the applicable sections of the Standard Specifications for Road and Bridge Construction as defined on Page JS-1 of the contract document with the following additions. All heavy-duty pedestrian detectors supplied for this project shall be identical models of current production. Untried or prototype units shall not be acceptable.

General

The Heavy-Duty Pedestrian Pushbutton shall operate from -40 to +165°F and shall be completely sealed against dust and moisture intrusion. The pushbutton shall be a minimum of 2” in diameter and shall be manufactured out of hard nickel plated aluminum. The pushbutton shall be pressure activated (non-moving) and shall provide a two tone audible beep and visible momentary LED light to notify the user that the switch was activated.

A permanent sign shall be mounted above each unit explaining the purpose of the pedestrian pushbutton and use in accordance with the Manual on Uniform Traffic Control Devices (M.U.T.C.D). The sign shall be installed within a molded pushbutton frame that incorporates the pushbutton and sign, as manufactured by POLORA Engineering, Inc., or approved equal. Where two crosswalks for two different traffic signal phases are oriented in different directions at or near the same pole location, the pedestrian pushbutton locations and signs shall clearly indicate which crosswalk signal is actuated by each pushbutton.

The pedestrian pushbuttons shall be installed a maximum of 42” above the finished grade of the sidewalk, and shall be within a 10” side reach range from the adjacent level landing area in accordance with ADA requirements. Where the pushbuttons are proposed on existing traffic signal poles with decorative bases, the Contractor shall develop custom mounts, if required, to ensure that the button/sign assembly is rigidly mounted at the correct height to the satisfaction of the Engineer and the City of Providence.

The Heavy-Duty Pedestrian Pushbutton and sign frame shall be painted black or green by the manufacturer in accordance with the Special Provision for Item Code T14.9906.

METHOD OF MEASUREMENT: “HEAVY-DUTY PEDESTRIAN DETECTOR-PUSHBUTTON WITH SIGN” shall be measured for payment by the unit "EACH" for each unit installed and accepted by the Engineer and the Owner

BASIS OF PAYMENT: "HEAVY-DUTY PEDESTRIAN DETECTOR-PUSHBUTTON WITH SIGN" shall be paid for at the contract bid price "EACH" which price and payment shall constitute full compensation for furnishing all labor, materials, mounting brackets, cabling, attachment hardware, field adjustments and settings and other incidentals complete in place and accepted by the Engineer and the Owner.

JOB SPECIFIC

RIPTA R-LINE TRANSIT SIGNAL PRIORITY

T14.9902, T14.9903, T14.9904

**1 WAY PEDESTAL MOUNTED LED PEDESTRIAN SIGNAL HEAD WITH
COUNTDOWN TIMER 12 INCH**

**2 WAY PEDESTAL MOUNTED LED PEDESTRIAN SIGNAL HEAD WITH
COUNTDOWN TIMER 12 INCH**

**1 WAY BRACKET MOUNTED LED PEDESTRIAN SIGNAL HEAD WITH
COUNTDOWN TIMER 12 INCH**

DESCRIPTION: This item of work shall conform to the applicable sections of the Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction, 2004 Edition, as amended, with the following additions. All LED Pedestrian Signal Heads, with or without countdown timers supplied for this project shall be identical models of current production. Untried or prototype units shall not be acceptable.

MATERIALS: The materials for this work shall conform to the relevant provisions of the “Rhode Island Standard Specifications for Road and Bridge Construction” with the following additions:

Pedestrian Signal Housings

The Pedestrian signal housings shall be one or two section, as called for on the plans, 12” aluminum.

The single section housings or the upper section of the two-section housings shall be 12” and consist of a double message overlay combining the international symbols of a hand and walking man. The lower section of the two section housings shall be a 12” countdown timer.

General

The LED Pedestrian Signal Module and the Countdown Timer shall operate from -40 to +165°F and shall be completely sealed against dust and moisture intrusion per the requirements of NEMA Standard 250-1991 Sections 4.7.2.1 and 4.7.3.2 for type 4 enclosures.

The measured chromaticity coordinates for the “lunar white” walking man and the “Portland orange” hand shall conform to the chromaticity requirements of Section 8.04 and figure 1 of the VTCSH standard.

The driver board shall drive the LED’s at a DC current not exceeding 20 ma.

The LED's shall not show any changes in color over the input line voltage range of 80 VAC to 135 VAC.

The circuitry shall ensure compatibility and proper triggering and operation of load switches and conflict monitors in use by the traffic signals.

The LED modules shall be designed to reduce the intensity of light output by 30% in response to diminished ambient light level. The dimming circuit shall have a 30-second relay to prevent interference from headlights or shadows. The LED drive current shall be regulated just as effectively when in the "dimmed" state.

LED Countdown Signal Module

The L.E.D. Countdown Signal Module shall be Model TP12N-CD manufactured by Leotek Electronics Corporation or approved equal.

The LED Countdown Signal Module shall be made of two, dual row, 7 segment digits, 8" high, made up of 160 red LED's, and shall be compatible with all makes and models of traffic signal controllers. The module shall be equipped with a test switch to turn on all 7 segments of both digits for verification.

The LED Countdown Signal Module shall have a microprocessor capable of setting its own time when connected to the traffic signal controller. The microprocessor shall be monitored by a watchdog circuit with a flashing LED for confirmation of proper operation. The LED Countdown Signal Module shall continuously monitor the traffic signal controller for any changes to the pedestrian phase time and re-program itself automatically if needed.

The LED Countdown Signal Module shall have two "user selectable" operating modes:

1. "Fixed Time": The timer shall count down the entire duration of the pedestrian walk and clearance times.
2. "Coordinated": The timer shall count down the duration of the clearance time only.

The LED Countdown Signal Module **shall be initially set up under the "coordinated" mode.**

The LED Countdown Signal Module shall have an internal conflict monitor to prevent any possible conflicts between the hand/man symbols and the countdown signals.

The LED Countdown Signal Module shall automatically clear to "0" if a flashing hand becomes solid for more than .750 seconds.

In the case of a power failure, the LED Countdown Signal Module shall be dark during the initial cycle for automatic reprogramming.

METHOD OF MEASUREMENT: “1 WAY PEDSTAL MOUNTED LED PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER 12 INCH; 2 WAY PEDESTAL MOUNTED LED PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER 12 INCH; 1 WAY BRACKET MOUNTED LED PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER 12 INCH” shall be measured for payment by the unit "EACH" for each unit installed and accepted by the Engineer.

BASIS OF PAYMENT: “1 WAY PEDESTAL MOUNTED LED PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER 12 INCH; 2 WAY PEDESTAL MOUNTED LED PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER 12 INCH; 1 WAY BRACKET MOUNTED LED PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER 12 INCH” shall be paid for at the contract bid price "EACH" which price and payment shall constitute full compensation for furnishing all labor, materials, mounting brackets, cabling, attachment hardware, field adjustments and settings and other incidentals complete in place and accepted by the Engineer.

JOB SPECIFIC

RIPTA R-LINE TRANSIT SIGNAL PRIORITY

T14.9905

REMOVE AND RELOCATE TRAFFIC SIGNAL HEAD

DESCRIPTION: This item of work shall conform to the applicable sections of the Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction, 2004 Edition, as amended, with the following additions. It shall consist of the removal and relocation of traffic signal heads to offset the additional weight of the proposed optical detector and video detection camera and mounting hardware.

MATERIALS: The materials for this work shall conform to the relevant provisions of the “Rhode Island Standard Specifications for Road and Bridge Construction” and shall be in accordance with the City of Providence Technical Specifications, as included in the General Provisions – Contract Specific.

CONSTRUCTION METHODS: The existing signal heads shall be relocated on the existing traffic signal mast arms by the exact dimensions called for on the plans. Any existing traffic signal mounting hardware, brackets, arms, or safety chains that are damaged during construction or are deemed to be unsuitable for relocation where called for on the plans shall be replaced in kind and color by the Contractor at no additional cost.

METHOD OF MEASUREMENT: “REMOVE AND RELOCATE TRAFFIC SIGNAL HEAD” shall be measured for payment by the unit "EACH" per complete signal head assembly (regardless of the number of directions signal head sections) installed and accepted by the Engineer and the Owner.

BASIS OF PAYMENT: “REMOVE AND RELOCATE TRAFFIC SIGNAL HEAD” shall be paid for at the contract bid price “EACH” per complete signal head assembly (regardless of the number of directions or signal head sections), which price and payment shall constitute full compensation for furnishing all labor, materials, mounting brackets, hardware, arms, safety chains, connections, and other incidentals complete in place and accepted by the Engineer and the Owner.

JOB SPECIFIC

RIPTA R-LINE TRANSIT SIGNAL PRIORITY

T14.9906

TRAFFIC SIGNAL EQUIPMENT PAINTING

DESCRIPTION: This item of work shall conform to the applicable sections of the Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction, 2004 Edition, as amended, with the following additions.

The outside surface of all proposed traffic signal equipment along Broad Street shall be painted green unless otherwise indicated on the plans. Equipment to be painted includes controller cabinets, extension bases, meter sockets, disconnect switch, overhead rigid steel conduit connected to meter socket/disconnect switch, traffic signal heads, pedestrian signal heads and countdown timers, pedestrian pushbuttons and sign frames, signal hangers and assemblies (if applicable) and GPS antennas.

Controller cabinets within the Memorial Boulevard Traffic Signal System shall be painted gloss black by the manufacturer. Additional equipment to be painted gloss black includes meter sockets, disconnect switch, and overhead rigid steel conduit connected to meter socket/disconnect switch,

MATERIALS: The materials for this work shall conform to the relevant provisions of the “R.I. Standard Specifications for Road and Bridge Construction” and shall be in accordance with the City of Providence Technical Specifications, as included in the General Provisions – Contract Specific.

CONSTRUCTION METHODS: The outside of all exposed traffic signal equipment shall be shall be properly primed with a rust inhibitive primer specifically manufactured for use with the specified metals and painted gloss black as specified. The painting of the traffic signal equipment shall be done by the manufacturer in the manufacturer’s factory. Painting of the equipment in the field will not be allowed.

METHOD OF MEASUREMENT: The item “TRAFFIC SIGNAL EQUIPMENT PAINTING” will not be measured separately for payment. The work under this item shall be included in the respective items for the traffic signal equipment or signs.

BASIS OF PAYMENT: There will be no separate payment for work performed in accordance with this specification.

JOB SPECIFIC

RIPTA R-LINE TRANSIT SIGNAL PRIORITY

T20.9901

EPOXY RESIN PAVEMENT MARKINGS “BUS”

DESCRIPTION: This item of work shall conform to the applicable sections of the Standard Specifications for Road and Bridge Construction with the following additions.

This item shall consist of furnishing and installing epoxy resin BUS pavement markings at the locations shown on the plans or as indicated by the Engineer, in accordance with these specifications.

The BUS Symbol shall be WHITE of the type and dimensions shown on the Plans.

MATERIALS: The materials for this item shall conform to the applicable sections of Item Code T20.2000 White And Yellow Epoxy Resin Pavement Markings within these documents.

CONSTRUCTION METHODS: The construction methods for this item shall conform to the applicable sections of Item Code T20.2000 White And Yellow Epoxy Resin Pavement Markings within these documents.

METHOD OF MEASUREMENT: “EPOXY RESIN PAVEMENT MARKINGS BUS” shall be measured for payment by the unit "EACH" for each unit installed and accepted by the Engineer and the Owner.

BASIS OF PAYMENT: “EPOXY RESIN PAVEMENT MARKING BUS" shall be paid for at the contract bid price "EACH" which price and payment shall constitute full compensation for furnishing all labor, materials, equipment and other incidentals complete in place and accepted by the Engineer and the Owner.

APPENDIX 4
RIPTA R-LINE ROUTE AND STATIONS MAP



Route and Stations November 2012

