MTA Maryland

MARYLAND TRANSIT ADMINISTRATION

MARYLAND DEPARTMENT OF TRANSPORTATION

Martin O'Malley, Governor • Anthony G. Brown, Lt. Governor
Darrell B. Mobley, Acting Secretary • Ralign T. Wells, Administrator

TO: All Planholders

FROM: Maryland Transit Administration

SUBJECT: **ADDENDUM NO.5**
Contract No.: T-0455-0640
Anchor Bolt Replacement for Direct Fixation Track in Metro Subway.

DATE: August 27, 2012

Enclosed and effective this date is Addendum No.5 to the subject Contract. This change (does) extend the Bid Due Date of August 23, 2012, to September 5, 2012.

The Bidder shall acknowledge receipt of this Addendum by completing and returning this form with the bid package.

All other terms and conditions remain unchanged.

Sincerely,

Joseph B Johnson, Procurement Officer
Construction/Installation Section &
Professional Services Section
Procurement Division

Acknowledgement of receipt of ADDENDUM # 5 to Solicitation #T-0455-0640

Vendor Name: _____

_____ _____

Authorized Representative's Signature Date

ADDENDUM NO.: 5
DATE: 08/27/12
CONTRACT NO.: T-0455-0640

The following additions, deletions, and modifications are hereby made a part of the Contract Documents of Anchor Bolt Replacement for Direct Fixation Track in Metro, Contract No.: T-0455-0640.

Item No.	Page	Modification
I. CONTRACT SPECIFICATIONS		
1	Notice to Contractors (NTC)	**Bid Due Date & Time – Revised Bid Due Date to September 5, 2012.**

Also attached are the answers to contractors' questions, if any.

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION
MARYLAND TRANSIT ADMINISTRATION
NOTICE TO CONTRACTORS

TITLE: ANCHOR BOLT REPLACEMENT FOR DIRECT FIXATION TRACK IN METRO SUBWAY

CONTRACT NO.: T-0455-0640 **DATE:** **July 12, 2012**

1. DESCRIPTION OF WORK

A. Current project to replacement for Direct Fixation Track in Metro Subway from Portal to Charles Center platform. Scope also includes replacement of all contact rail insulators, some contact rail support plates and all remaining Hixson fasteners.

B. Estimated value for this work is in the range of $2,500,000 to $5,000,000

2. PRE-BID MEETING & SITE VISIT

A Pre-Bid meeting for the purpose of explaining the Project will be held on July 26, 2012 at 10:00 a.m., local time at the Administration Headquarters, 6 St. Paul Street, 7th Floor Conference Room(s) 731-733, Baltimore, Maryland 21202-1614.

A Site Visit will be held on July 26, 2012 starting at midnight, 14 hours after the pre-bid meeting. The site visit meeting location is the Metro Portal facility, 3400 Carlins Park Drive, Baltimore, MD 21215-7853. Transportation to the track worksite(s) will be provided by Metro, starting at and returning to the Metro Portal facility.

It is strongly suggested that the person(s) responsible for the preparation of bid documents for bidders attend the Pre-Bid Meeting and the site visit. INSTRUCTIONS CRITICAL TO THE PREPARATION OF THE CONTRACT DOCUMENTS WILL BE PRESENTED AT THE PRE-BID MEETING.

3. DEADLINE FOR QUESTIONS

Questions regarding the work should be directed in writing to Mr. Joseph B Johnson at the Administration Offices or via Internet address jjohnson14@mta.maryland.gov. Facsimile messages will not be accepted unless accompanied by telephone notification at (410) 767-3363. Our fax number is (410) 333-4810. Questions directed to this office must be received no later than August 9, 2012 at the close of the business day. Questions should be submitted on company letterhead. No interpretations other than written shall be binding on the Administration.

4. BID DUE DATE & TIME

Sealed Bids addressed to the Maryland Transit Administration, Procurement Division, 6 St. Paul Street, Baltimore, Maryland 21202-1614, and marked "Bid for Contract No. T-0455-0640 ", will be received at the above address until but not after 2:00 P.M. local time, September 5, 2012. At that time, the Bids will be publicly opened and read aloud at a location at the same address. Hand delivered bids should be deposited in the Bid Box located on the 7th Floor before the 2:00 P.M. deadline. Any bids received after the date and time specified shall not be considered.

5. ELECTRONIC VERSION OF BID DOCUMENTS

The bid documents will be available by electronic means. The Bidder acknowledges and accepts full responsibility to ensure that the Bidder has made no changes to the Administration's bid documents. In the event of a conflict between the versions of the bid documents in the bidder's possession and the version maintained by the Procurement Officer, the version maintained by the Procurement Officer shall govern.

6. AVAILABILITY OF DOCUMENTS

Specifications may be downloaded from the MTA web site located at www.mta.maryland.gov. Bidders will be required to register the first time specifications are downloaded and a login number will be assigned. This number should be used every time the bidder downloads the documents for this contract. Bidders must supply accurate information in order to receive notice of all subsequent addenda.

TO OBTAIN THE SPECIFICATIONS: Please visit MTA's website (www.mta.maryland.gov) , follow the links for "Business" – "Procurement" - "Bids/Solicitations", and download the Specifications for this procurement.

TO OBTAIN THE DRAWINGS: e-mail Joseph B Johnson at jjohnson14@mta.maryland.gov requesting the contract drawings and supplying the following information: the contact person, company name, mailing address, phone # and e-mail address. The drawings (CD) will be mailed to you at no cost. You also have the option of picking up the CD containing the drawings at: 6 Saint Paul Street, 7th floor, Baltimore, MD 21202.

7. ADDENDA

Bidders are required to acknowledge all addenda with their bid package. Although the MTA endeavors to send out all addenda to this solicitation in a timely manner, it is the responsibility of the contractors to make sure they received all appropriate documents prior to the bid due date.

8. EMARYLAND MARKETPLACE REGULATIONS

Use of "e-Maryland Marketplace"

"e-Maryland Marketplace" is an electronic commerce system administered by the Maryland Department of General Services.

Registration is free and will provide a means for your business to receive e-mail notifications of upcoming contracting opportunities in specified areas of interest and expertise. This means that all such information is immediately available to subscribers to e-Maryland Marketplace. Because of the instant access afforded by e-Maryland Marketplace, it is recommended that all Bidders interested in doing business with Maryland State agencies subscribe to e-Maryland Marketplace. For more eMM registration information, visit the website: http://ebidmarketplace.com.

9. BID BOND

Each bid exceeding $100,000 must be accompanied by a Bid Bond in the amount of five percent (5%) of the Bid Price. Bid, payment, and performance security may be in the form of: (1) a bond executed by a surety company authorized to do business in the State; (2) a bond executed by an individual surety that meets certain criteria; (3) another form of security required by State or federal law; or (4) another form of security satisfactory to the unit awarding the contract. Sections 13-207, 13-216, 17-104 of the State Finance and Procurement Article, Annotated Code of Maryland.

10. PAYMENT AND PERFORMANCE BONDS

Payment and Performance Bonds in the amount of the Contract Price will be required by the awardee. Upon receiving notification of contract award, the Contractor shall deliver the bond to the MTA no later than the time the Contractor executes the contract. Bid, payment, and performance security may be in the form of: (1) a bond executed by a surety company authorized to do business in the State; (2) a bond executed by an individual surety that meets certain criteria; (3) another form of security required by State or federal law; or (4) another form of security satisfactory to the unit awarding the contract. Sections 13-207, 13-216, 17-104 of the State Finance and Procurement Article, Annotated Code of Maryland.

11. ELECTRONIC FUNDS TRANSFER

On every solicitation for a contract expected to exceed $200,000, the bidder will be required to accept payments by electronic funds transfer (EFT) unless the State Comptroller's Office grants an exemption.

12. DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

A. DISADVANTAGED BUSINESS ENTERPRISES ARE ENCOURAGED TO RESPOND TO THIS SOLICITATION NOTICE.

B. The Maryland Transit Administration hereby notifies all bidders that, in regard to any Contract entered into pursuant to this advertisement, Disadvantaged Business Enterprises will be afforded full opportunity to submit Bids in response to this Notice, and will not be subjected to discrimination on the basis of political or religious opinion or affiliation, race color, creed, sex, age or national origin in consideration for an award.

C. It is the goal of the Administration that Disadvantaged Business Enterprises participate in all Contracts. Each Contract will contain goals for Disadvantaged Business Enterprise participation on a contract-to-contract basis. A subcontracting goal of nineteen percent (19%) has been established for this procurement. All bidders must submit with their bid a fully executed copy of the Certified DBE Utilization and Fair Solicitation Affidavit (MDOT DBE FORM A) and DBE Participation Schedule (MDOT DBE FORM B). If the bidder fails to submit these completed forms with the bid as required, the procurement officer shall deem the bid non-responsive or shall determine that the offer is not reasonably susceptible of being selected for award. ALL DBE FIRMS MUST BE CERTIFIED BY THE MARYLAND DEPARTMENT OF TRANSPORTATION. NO OTHER CERTIFICATIONS WILL BE ACCEPTED.

D. **A contractor may count toward its DBE goal 60 percent of its expenditures for materials and supplies required under the contract and obtained from a DBE regular dealer, and 100 percent of such expenditures to a DBE manufacturer. The DBE credited supplies may not exceed 60 percent of the entire contract goal.**

E. New versions of Sections 13-103, 13-104 and 14-303 of the State Finance and Procurement Article of the Maryland Code, relating to increased bid/proposal documentation of DBE commitments, are effective as of October 1, 2004. The Contract under this solicitation will be awarded in accordance with these new requirements. As a result, new bid submission requirements, including certain revised DBE documents, are in effect for this solicitation. These new requirements are set forth elsewhere in this solicitation.

F. As a result of the revisions to Sections 13-103, 13-104 and 14-303, certain existing portions of the Code of Maryland Regulations (COMAR) relating to post bid/proposal submission of DBE subcontractors are inconsistent with the revised statute. To the extent the provisions of COMAR relating to post bid identification of DBE subcontractors are inconsistent with the requirements of this solicitation, the requirements of this solicitation shall control the award of a Contract. Questions or concerns regarding the DBE requirements

of this solicitation must be raised prior to the opening of bids or receipt of initial proposals

G. Effective on October 1, 2009, Minority Business Enterprise (MBE) firms may elect to be dually certification as woman-owned businesses and as members of an ethnic or racial category. For purposes of achieving any gender or ethnic/racial MBE participation subgoals in a particular contract, an MBE firm that has dual certification may participate in the contract either as a woman-owned business or as a business owned by a member of a racial or ethnic minority group, **but not both**.

WARNING – PLEASE READ:

- **A firm must be listed in the MDOT MBE/DBE Directory with the gender category in order to be used to meet the gender subgoal.**
- **A firm must be listed in the MDOT MBE/DBE Directory with an ethnic/racial category in order to be used to meet the ethnic/racial subgoal.**
- **A firm must be listed in the MDOT MBE/DBE Directory with both the gender and ethnic/racial categories in order for a contractor to have the option of selecting which of those categories it will use for the firm on a State contract.**
- **Contractors should designate whether the MBE firm will be used as a woman-owned business or as a business owned by a member of a racial/ethnic group before calculating the percentage of MBE participation goals and subgoals they intend to meet.**

Maryland's MBE/DBE Directory will reflect the dual certification status beginning October 1, 2009. You can access the MBE/DBE Directory at http://mbe.mdot.state.md.us. Firms with dual certification will now be listed as follows:

Example:
ABC Corporation, Inc.
123 Corporate Circle
Hanover, MD 21076
Female/African American
00-000

13. AFFIRMATIVE ACTION REQUIREMENTS

Bidders on this Work will be required to comply with MTA Affirmative Action Requirements and all applicable Equal Employment Opportunity Laws and Regulations.

14. FEDERAL FUNDING

Any contract resulting from bids submitted is subject to a Financial Assistance

Contract between the Administration and the U.S. Department of Transportation. Federal funds will be used to finance 80% of the cost of this contract.

15. SUSPENSION AND DEBARMENT CERTIFICATION

All bidders will be required to certify that they are not on the GSA List of Parties Excluded from Procurement and the List of Contractors Suspended or Debarred from Contracting with the State of Maryland. All bidders must also be in good standing with the State Assessment & Taxation Department.

16. CONTRACTOR'S QUESTIONNAIRE

All Bidders shall submit a fully executed copy the Contractor's Questionnaire Pre-Award Evaluation Data Form with the bid package.

17. INSURANCE REQUIREMENTS

The Administration has chosen to provide Workers' Compensation, General Liability, Excess Liability, Builders Risk, Pollution Liability and Railroad Protective coverage on behalf of Contractors and subcontractors working on this project. This approach to project insurance is commonly called a wrap-up or owner controlled insurance program (OCIP). Specific information regarding Liability Insurance Requirements is contained in the Contract Specifications.

Please note that an Insurance Cost Worksheet must be included with each bid package.

18. USE OF BIDDER'S OWN FORCES

The bidder with his own forces shall perform not less than fifty (50%) of the work at the project site.

19. BUY AMERICA REQUIREMENTS

This contract is subject to Section 165, "Buy America", of the Surface Transportation Assistant Act of 1982, U.S. Public Law 197-424, and regulations and/or guidance implementing this statutory provision issued by the Federal Transit Administration of the U.S. Department of Transportation. The contract is further subject to the Buy American Steel requirements of Chapter 02 of subtitle 11 of the Code of Maryland Regulations, Title 21, State Procurement Regulations.

20. CANCELLATION OR REJECTION OF BIDS

Notice to Contractors may be canceled in accordance with State Procurement Regulations.

The Administration reserves the right to reject any and all bids and/or waive

technical defects if, in its judgment, the interests of the Administration so require.

MTA Maryland

MARYLAND TRANSIT ADMINISTRATION

MARYLAND DEPARTMENT OF TRANSPORTATION

Martin O'Malley, Governor • Anthony G. Brown, Lt. Governor
Darrell B. Mobley, Acting Secretary • Ralign T. Wells, Administrator

TO: All Planholders

FROM: Maryland Transit Administration

SUBJECT: **ADDENDUM NO. 4**
Contract No.: T-0455-0640
Anchor Bolt Replacement for Direct Fixation Track in Metro Subway.

DATE: August 22, 2012

Enclosed and effective this date is Addendum No. 4 to the subject Contract. This change (does not) delay the Bid Opening Date of August 30, 2012. This addendum answers questions submitted by vendors. Also, in response associated to some of the vendor's questions some & drawings have been revised.

The Bidder shall acknowledge receipt of this Addendum by completing and returning this form with the bid package.

All other terms and conditions remain unchanged.

Sincerely,

Joseph B Johnson, Procurement Officer
Construction/Installation Section &
Professional Services Section
Procurement Division

Acknowledgement of receipt of ADDENDUM # 4 to Solicitation #T-0455-0640

Vendor Name: _____

_____ _____

Authorized Representative's Signature Date

6 Saint Paul Street • Baltimore, Maryland 21202-1614 • TTY 410-539-3497 • Toll Free 1-866-743-3682

ADDENDUM NO.: 4
DATE: 08/22/12
CONTRACT NO.: T-0455-0640

The following additions, deletions, and modifications are hereby made a part of the Contract Documents of Anchor Bolt Replacement for Direct Fixation Track in Metro, Contract No.: T-0455-0640.

Item No.	Page	Modification
I. QUESTIONS & ANSWERS		
1		**See Attachment**
II. CONTRACT SPECIFICATIONS		
2	**SECTION 05674 SP-117**	
3	**SECTION 05692 SP-141**	
III. DRAWINGS		
4	**Drawings**	**Please be advised that there are revised drawings associated with responses to some of the vendors questions, and a copy of the drawings can be obtained by e-mail request via e-mail to: jjohnson14@mta.maryland.gov**

Also attached are the answers to contractors' questions, if any.

QUESTION & REPSONSES

CONTRRACT NO.T-0455-0640, ANCHOR BOLT REPLACEMENT for DIRECT FIXATION TRACK IN METRO SUBWAY

Q1. Can the Project Manager act as the QC Manager also?

ANSWER: The requirements for Quality Assurance and Quality Control are specified in Special Provisions, Section 01450 of the Contract Specifications Book. The role of Contractor's Project Manager and the role of CQC Manager cannot be performed by the same person.

Q2. Are office trailers required for the Engineer? If so, what is required in the trailer?

ANSWER: The requirements for the Engineer's Office are specified in Special Provisions, Section 01524 of the Contract Specifications Book.

An excerpt is referred to below.

PART 3: EXECUTION
3.01 ENGINEER'S FIELD OFFICE SUPPLIES:
A. Office space, hereinafter called the Engineer's Field Office, will be provided by the Administration.

B. Provide the Engineer's Field Office with all the requested supplies on an as needed basis starting no later than 10 days after the Notice to Proceed and continuing not less than 45 days after the completion of the Contract.

Q3. In some areas of bolt replacement there has been some replacement of all thread bolts installed. Do these need to be changed also?

ANSWER: In the areas where the Contract Drawings indicate anchor bolts shall be replaced with embedded studs, approximately 60 anchor bolts have already been removed and replaced with embedded studs and nuts. The Contractor shall replace these embedded studs with new embedded studs, new nuts and new Administration-furnished inclined cam lock washers. See revised Specification Section 05674 which is being reissued with this Addendum.

Q4. Can we get a bid extension of at least one week?

ANSWER: Yes….an extension has been granted. Bids are due August 30th.

Q5. Is the 19% DBE a goal or a requirement?

ANSWER: Both. Please contact MTA's Office of Fair Practice for more clarification pertaining DBE/MBE projected goals.

SECTION 05674

REPLACEMENT OF ANCHOR BOLTS WITH EMBEDDED STUDS

PART 1: GENERAL

1.01 DESCRIPTION:

A. This Section includes specifications for replacement of anchor bolts with galvanized steel studs, which shall be embedded in existing concrete plinths and concrete pads at direct fixation track in subway structures of the Baltimore Metro; removal, setting aside and reinstallation of existing LB Foster Model F20L0 direct fixation rail fasteners in most of the tracks where anchor bolts are to be replaced; and removal of Hixson direct fixation rail fasteners, shimming under two-block ties adjacent to the newly-installed Model F20R0A direct fixation rail fasteners; shimming under the switch plates and gauge plates of the western two switches in the State Center/Cultural Center double crossover; and installation of Administration-furnished LB Foster Model F20R0A direct fixation rail fasteners on the remainder of the tracks where anchor bolts are to be replaced.

B. Related Work Specified Elsewhere:

1. Section 01500 – Temporary Facilities and Control
2. Section 02220 – Site Demolition
3. Section 05650 – General Requirements for Track Installation
4. Section 05691 – Rail Welding
5. Section 16647 – Track-to-Earth Resistance Tests

1.02 SUBMITTALS:

A. Shop drawings:

1. Submit shop drawings or catalog cuts of galvanized steel studs, heavy hex nuts and screw spikes.
2. Submit shop drawings of cover plates and shims.

B. Submit catalog cuts and product data for polyester grout, shims, and synthetic tie plugging material.

C. Samples: In addition to other submittal requirements, submit:

1. One sample of each length of galvanized steel stud.

2. On sample of galvanized heavy hex nut.

3. One sample of each kind of shim, including shims for both two-block ties and switch plates.

4. One sample of cover plate.

D. Test results for embedded galvanized steel studs: Submit results of all tests including qualification testing and testing of installed galvanized steel studs.

PART 2: PRODUCTS

2.01 GALVANIZED STEEL STUDS AND HEAVY HEX NUTS:

A. Steel studs shall be 7/8-inch diameter conforming to ASTM A449. Studs shall be threaded for their entire lengths. Studs shall be hot-dip galvanized in accordance with ASTM F2329. Lengths of studs shall be as required to comply with the minimum embedment distances and minimum and maximum distances of threads above the top of the nut shown on the Contract Drawings.

B. Heavy hex nuts shall be 7/8-inch diameter steel conforming to ASTM A563, Grade DH. Nuts shall be hot-dip galvanized in accordance with ASTM F2329. Nuts shall fit the studs and, if necessary, shall have thread dimensions that are adjusted to provide room for the galvanizing.

2.02 POLYESTER GROUT FOR ANCHORING EMBEDDED STUDS:

A. For installation of studs when the temperature is above 50 degrees F, use Fox Industries FX-830 Anchor Set, Kelken Construction Services Keligrout or approved equal. For installation of studs when the temperature is above 20 degrees F and below 50 degrees F, use Fox Industries FX-816 Anchor Set, Kelken Construction Services Keligrout with an addition percentage of hardener in accordance with the manufacturer's recommendations, or approved equal. If the temperature is below 20 degrees F, do not install studs.

B. Polyester grouts shall be two or three component, flowable, fast-setting 100% reactive polyester grout specifically formulated for anchor bolt setting. Polyester grouts shall be moisture resistant.

C. Polyester grouts shall be non-shrink and shall have zero shrinkage or an expansion up to 0.6% when tested in accordance with ASTM C827.

D. For FX-830 Anchor Set, or equal, the compressive strength at 2 hours at 78 degrees F shall be a minimum of 4,500 psi, when tested in accordance with ASTM C579. For FX-816 Anchor Set, Kelken Construction Services Keligrout or approved equal, the compressive strength at 2 hours at 78 degrees F shall be a minimum of 9,000 psi, when tested in accordance with ASTM C579.

E. Polyester grouts shall be stored at a temperature below 80 degrees F or below the maximum temperature recommended by the manufacturer, whichever is lower. Polyester grouts shall not be used more than three months after their date of manufacture.

2.03 COVER PLATES FOR MODEL FOR FOSTER MODEL F20L0 DIRECT FIXATION RAIL FASTENERS:

A. The existing Foster Model F20L0 direct fixation rail fasteners have special cover plates with integral collars. There are two cover plates per direct fixation rail fastener. When reinstalling a Model F20L0 direct fixation rail fastener after installing embedded studs, the Contractor shall dispose of the existing cover plates with integral collars, and furnish and install standard cover plates that are flat except for the serrations and are a standard cover plate for Model F20L0 direct fixation rail fastener.

B. Cover plates shall be as shown on Foster Drawing No. DF-101, REF. 31-261-015, R2, which is included in the Reference Drawings.

C. Cover plates shall be ductile iron conforming to ASTM A 536, Grade 65-45-12.

2.04 SHIMS UNDER TWO-BLOCK TIES, SWITCH PLATES, GAUGE PLATES, AND SWITCH MACHINES:

A. High-Density Polyethylene (HDPE) conforming to ASTM D1248, Type III or Type IV, Grade W8.

B. Shim thicknesses are indicated on the Contract Drawings.

C. At two-block ties, shim width and length are shown on the Contract Drawings.

D. At switch plates and gauge plates, provide shims that are at least as wide and long as the existing plates and locate holes in shims to match holes in the plates.

E. Width, length and thickness of shims under switch machines shall be as directed by the Engineer.

2.05 SCREW SPIKES:

A. Material: ASTM A66

B. Dimensions:

1. Square Head Timber Screw Style M as supplied by Lewis Bolt and Nut Company, or approved equal.

2. 7/8 inch diameter at shank and outside diameter of threads

3. Length under head: 6 inches min., 6 1/2 inches max.

4. Thread spacing: 15/32 inch min, 1/2 inch max.

2.06 SYNTHETIC TIE PLUGGING MATERIAL:

A. SpikeFast non-foaming polyurethane as supplied by Railroad Tools and Solutions of Hillsboro, OH; Willamette Valley Company; or approved equal.

2.07 ADMINISTRATION-FURNISHED MATERIALS: As specified in Section 01110, Summary of Work.

PART 3: EXECUTION

3.01 TESTING EMBEDDED STUDS:

A. Qualification Testing: The following tests shall be performed by an independent laboratory on six production examples of galvanized steel studs, complete with embedding grout and nuts. Galvanized steel studs shall be embedded in unreinforced concrete test blocks measuring at least one foot square by eight inches thick and having compressive strength not exceeding 4,000 psi. Set stud with its axis at right angles to the top surface of the concrete test block with an embedment length of 8 1/2 inches into the concrete block.

1. Torque Test:

a. Application: Torque test load of 500 foot-pounds on installed embedded stud.

b. Test Procedure: Install two nuts adjacent to each other (double nut) near the top end of stud. Apply torque test load to top nut.

c. Test Acceptance Criteria: Test shall show no evidence of circular movement of the stud.

2. Pull-Out Tests:

a. Application: Upward test load on installed embedded galvanized steel stud.

b. Reaction Plate: 3-1/2 inches square by ½ inch thick steel with a 1.500 inch diameter hole drilled in the center.

c. Restrained Test:

(1) Place the reaction plate over the embedded stud installation to be tested.

(2) Set-up the accepted loading system and connect it to the stud.

(3) Apply initial up-lift load of 1,000 pounds for at least 60 seconds against the reaction plate. Then, increase load at rate of 1,000 pounds per second until load reaches 35,000 pounds.

d. Unrestrained Test: Remove the reaction plate and apply load of 12,000 pounds uplift load to embedded stud and nut against reaction surface outside of six-inch radius area in which the anchor insert is centered.

e. Test Acceptance Criteria: Tests shall show no evidence of upward movement by the stud.

B. Testing of Installed Galvanized Steel Studs:

1. All galvanized steel studs shall be subjected to the following tests conducted during the construction period at the rate of four studs per 500 studs. Studs to be tested shall be randomly selected and tested by an independent laboratory testing agency. At least one reinstalled stud falling within the group of 500 shall be selected and tested.

2. Restrained Pull-Out Test: A 5-inch by 5-inch by ½-inch steel plate with a 1.500 inch diameter hole in the center shall be placed over the stud. A nut or two nuts adjacent to each other (double nut) shall be installed on the stud and an upward vertical load of 27,000 pounds shall be applied bearing against the steel plate. The load shall then be released. There shall be no evidence of slippage or

cracking of concrete or failure of bond between the stud, anchoring grout, and concrete.

3. Torsion Test: Each of the four studs shall be subjected to 400 foot-pounds of torque. There shall be no evidence of failure of the bond between the stud, anchoring grout, and surrounding concrete.

4. Should any stud fail to meet the above tests, test four additional studs from the same 500-stud lot. Failure of any of these studs to pass the tests will signify that the installation procedure is defective and 100 percent of the remaining lot will be rejected. Perform additional tests as specified above and other tests on anchoring grout and other materials associated with stud installation to determine cause of defective installation. Do not proceed with further stud installation work until cause of failures has been determined and a modified procedure ensuring satisfactory installation is established.

3.02 EMBEDDED STUD INSTALLATION:

A. Remove and dispose of existing anchor bolts, nuts, the top portions of existing anchor inserts, and Hixson direct fixation rail fasteners as specified in Section 02220. Also, remove and dispose of the cover plates with integral collars from the Foster Model F20L0 direct fixation rail fasteners. Set aside and protect the main bodies and the rail clips of the Foster Model F20L0 direct fixation rail fasteners for reinstallation. Remove any epoxy or other foreign material on the concrete surface that was under the removed portions of the existing anchor inserts and roughen the concrete surface in these areas to expose clean, sound aggregate.

B. Drill holes for embedded studs in a manner that will produce a rough surface on the inside of the hole. Smooth surfaces, as may be produced from core drilling shall be roughened over the entire depth and circumference of the hole. Hole diameters shall not exceed the diameter recommended by the manufacturer of the polyester grout.

C. Clean out water, dust and other materials from the holes and protect the holes and concrete surfaces from moisture and precipitation. If voids in the concrete, deteriorated concrete, or standing water in the holes are found, notify the Engineer and proceed as directed by the Engineer.

D. Equipment used for drilling concrete shall be equipped with dust shrouds and powered vacuum dust collectors. Promptly vacuum up all dust from drilling Vacuum dust out of drilled holes. Blowing dust out of the holes is prohibited.

E. Place polyester grout in the hole with the embedded stud. Pour the grout slowly and stop frequently to permit leveling of the grout to prevent air entrapment. Provide sufficient polyester grout so it completely fills all around the embedded stud and also fills the void where the top portion of the embedded anchor was removed to provide a smooth surface matching the top of the existing concrete plinth or pad. Take special care to install polyester grout all the way up to the top of the concrete plinth or concrete pad. Install polyester grout in accordance with the manufacturer's recommendations.

F. Embedded studs shall be located with sufficient accuracy to ensure compliance with specified tolerances and as required by the direct fixation rail fastener design.

G. At any portion of track, the anchor bolts, nuts, top portions of embedded inserts, and direct fixation rail fasteners shall only be removed or set aside from one rail at a time so that the opposite rail can be used a reference to check that the rail is reinstalled at the correct location.

H. On horizontal curves where the Contractor replaces Hixson direct fixation rail fasteners with new direct fixation rail fasteners, anchor bolts and nuts shall be replaced on the high (outer) rail first.

I. On tracks adjacent to station platforms where the Contractor replaces Hixson direct fixation rail fasteners with new direct fixation rail fasteners, anchor bolts and nuts shall be replaced on the rail nearer to the station platform first.

J. Installed studs shall be tested as specified in Article 3.01 of this Section.

K. In the areas where the Contract Drawings indicate anchor bolts shall be replaced with embedded studs, approximately 60 anchor bolts have already been removed and replaced with embedded studs and nuts. Replace these embedded studs with new embedded studs, new polyester grout, new nuts and new Administration-furnished inclined cam lock washers. Remove any remaining parts of the top portions of the existing anchor inserts. Remove the existing studs and polymer grout by core drilling if necessary. Roughen the insides of all holes. Follow all other requirements specified or shown on the Contract Drawings for embedded stud replacement, including materials, methods, installation and testing.

3.03 RAIL INSTALLATION:

A. Direct fixation rail fasteners shall be placed and adjusted to approximate elevation and alignment. Install new cover plates on reinstalled Foster Model F20L0 and Administration-furnished direct fixation rail fasteners.

B. Install a pair of lock washers on each embedded stud above the cover plate and below the nut. Install the lock washers with the cams in each pair interlocking each other. Install lock washers in accordance with manufacturer's recommendations.

C. Rail fastener anchorage assemblies shall be fully tensioned after laying continuous welded rail to proper elevation and alignment. Nuts shall be torqued to a torque of 300 foot-pounds and in accordance with the procedure specified by the direct fixation fastener manufacturer. Tension in studs shall be checked by torque wrenches. Torque wrenches shall be calibrated by tightening, in a device capable of indicating actual tension in the stud; no less than three typical studs and nuts from each lot to be installed. Power wrenches shall be adjusted to stall or cut out at the selected tension. If manual torque wrenches are used, the torque indication corresponding to the calibrating tension shall be noted and used in the installation of all studs and nuts of the tested lots. Nuts shall be in a tightening motion when torque is measured.

D. Aligning, laying, providing welded connections, and anchoring CWR shall be as specified below and in Section 05650 and Section 05691.

3.04 TRACK TOLERANCES:

A. The track gauge shall be 4'-8 1/2" measured from where the gauge points on the rail heads would be if the rail heads had no side wear. Tolerances for direct fixation track construction shall be as specified herein and in Section 05650.

B. Embedded studs shall be perpendicular to the top surface of the concrete pad or concrete plinth within a tolerance of plus or minus 2 degrees.

3.05 INSTALLATION OF LB FOSTER MODEL F20R0A DIRECT FIXATION RAIL FASTENERS:

A. Install LB Foster Model F20R0A direct fixation rail fasteners at locations where there are Hixson direct fixation rail fasteners on concrete pads in and near the Charles Center double crossover and on concrete plinths adjacent to the State Center/Cultural Center double crossovers, as shown on the Contract Drawings. Do not install this model of direct fixation rail fastener elsewhere.

B. In the Charles Center double crossover, many of the existing direct fixation fasteners are special trackwork type direct fixation fasteners with Pandrol clips. Except for possible temporary removals during construction, rail elevations at and locations of these special trackwork type direct fixation fasteners shall not be changed.

C. Shimming under the Western Switches of the State Center/Cultural Center Double Crossover: The State Center/Cultural Center double crossover is supported on timber ties on rubber pads. Install shims under the switch plates and gauge plates of the western two switches in the State Center/Cultural Center double crossover as shown on the Contract Drawings, in order to match the rail elevation of the adjacent newly-installed Model F20R0A direct fixation rail fasteners to the west. Also install shims under the adjacent switch machines as required by the Engineer. Except at these switches and except for possible temporary lifting during construction, the rail elevations shall not be changed. Locations of the timber ties and rubber pads shall not be changed.

1. Measure dimensions and hole locations in the switch plates and gauge plates to be shimmed. Provide shims that are at least as wide and long as the existing plates and switch machine bases and locate holes in shims to match holes in plates and switch machine bases. The Contractor may pre-drill holes in shims or drill them in the field.

2. Remove the existing screw spikes at the plates to be shimmed.

3. Raise the rails and switch points a small amount and insert shims under them. Take care not to damage switch rods and switch machines.

4. Check that screw spike holes are long enough for the new screw spikes and lengthen the holes slightly if necessary to allow prevent the screw spikes from touching the bottoms of the holes.

5. Lower the rails and switch points so they seat firmly on the switch plates and gauge plate.

6. Install synthetic tie plugging materials in the screw spike holes in accordance with the manufacturer's recommendations.

7. Install new screw spikes and tighten with a wrench. Do not use a hammer or a spike driver.

D. Shimming under Two-Block Ties at Transition Areas: The Foster Model F20R0A direct fixation rail fasteners are approximately 1/4" to 3/8" thicker under the rail than the Hixson direct fixation rail fasteners, which shall be removed. Where two-block ties are adjacent to Hixson direct fixation rail fasteners, provide shims under two two-block ties adjacent to

the newly-installed Model F20R0A direct fixation rail fasteners, in order to provide a smooth transition in the rail elevation.

1. At each transition location, raise two-block ties and rails as necessary to install shims under both tie blocks of two ties. Remove the cellular rubber pads from under the tie blocks, install HDPE shims on top of the bottom parts of the rubber boots, reinstall the cellular rubber pads and lower the ties back into the rubber boots.

2. At nearby two-block ties that are not to be shimmed, raise rails as required to allow the rail at the shimming area to move up. Either raise the nearby two-block ties or remove the rail clips and raise the rails.

3. After shimming is complete lower the nearby rails. If nearby ties were raised, lower them back into the boots as the rails are lowered. If rails were unclipped, reinstall the rail clips.

E. The Contractor shall survey the elevations of concrete pads, concrete plinths and rails in the areas with Hixson direct fixation rail fasteners and submit the survey results to the Engineer at least 14 days before work is scheduled in each area. Notify the Engineer if the survey indicates a need for shimming at additional locations or a problem with the proposed lengths of shimming or thickness or shims indicated in the Contract Drawings and these specifications.

F. The LB Foster Model F20R0A direct fixation rail fasteners have holes at different corners with slightly different hole spacing dimensions than the other direct fixation rail fasteners.

G. Fill cavities at the areas of the existing embedded inserts with polyester grout.

H. Requirements for installing embedded studs in polyester grout also apply for the LB Foster Model F20R0A direct fixation rail fasteners.

3.06 ADDITIONAL SHIMMING AS DIRECTED BY THE ENGINEER:

A. The Engineer may direct the Contractor to provide additional shims under existing track of different types or configuration from Shimming under Two-Block Ties at Transition Areas and Shimming under the Western Switches of the State Center/Cultural Center Double Crossover.

B. Furnish and install these additional shims at locations and with types, materials and dimensions as directed by the Engineer.

PART 4: MEASUREMENT AND PAYMENT

4.01 REPLACEMENT OF ANCHOR BOLTS WITH EMBEDDED STUDS WITH REUSE OF EXISTING DIRECT FIXATION RAIL FASTENERS:

A. Replacement of Anchor Bolts with Embedded Studs with Reuse of Existing Direct Fixation Rail Fasteners shall be measured per pair of anchor bolts replaced with embedded studs.

B. Replacement of Anchor Bolts with Embedded Studs with Reuse of Existing Direct Fixation Rail Fasteners will be paid for at the contract unit price bid and accepted per pair of embedded studs which price will be full compensation for all material, equipment, tools, labor, testing and all work incidental to complete the item as specified, including removing and disposing of existing cover plates, anchor bolts, nuts, the top portions of existing embedded inserts and approximately 60 existing embedded studs with associated polymer grout; furnishing and installing embedded studs, nuts and polyester grout; installing Administration-furnished lock washers; removing and reinstalling direct fixation rail fasteners; disposing of existing cover plates and furnishing and installing cover plates.

4.02 REPLACEMENT OF ANCHOR BOLTS WITH EMBEDDED STUDS AND REMOVAL AND REPLACEMENT OF EXISTING HIXSON DIRECT FIXATION RAIL FASTENERS:

A. Replacement of Anchor Bolts with Embedded Studs and Removal and Replacement of Existing Hixson Direct Fixation Rail Fasteners shall be measured per pair of anchor bolts replaced with embedded studs.

B. Replacement of Anchor Bolts with Embedded Studs and Removal and Replacement of Existing Hixson Direct Fixation Rail Fasteners will be paid for at the contract unit price bid and accepted per pair of embedded studs which price will be full compensation for all material, equipment, tools, labor, testing and all work incidental to complete the item as specified, including removing existing anchor bolts, nuts and the top portions of existing embedded inserts; furnishing and installing embedded studs, nuts and polyester grout; installing Administration-furnished lock washers; and removing and disposing of existing direct fixation rail fasteners and installing Administration-furnished direct fixation rail fasteners. Most of the direct fixation fasteners to be removed are Hixson direct fixation rail fasteners, but a few are Foster Model F20L0 direct fixation rail fasteners.

4.03 SHIMMING UNDER THE WESTERN SWITCHES OF THE STATE CENTER/CULTURAL CENTER DOUBLE CROSSOVER:

A. Shimming under the Western Switches of the State Center/Cultural Center Double Crossover shall be measured per each switch shimmed. The shimming at each switch shall include shimming under the gauge plate, the switch machine, all of the switch plates under both switch points, and shimming under the twin tie plates in the shimming runoff areas behind the heels of both of the switch points.

B. Shimming under the Western Switches of the State Center/Cultural Center Double Crossover will be paid for at the contract unit price bid and accepted per switch shimmed, which price will be full compensation for all equipment, tools, labor, testing and all work incidental to complete the item as specified, including measuring existing switch plates, switch machine bases and gauge plates; removing screw spikes; furnishing and installing shims, screw spikes and synthetic tie plugging material; and raising and lowering rails, switch points and switch machines.

4.04 SHIMMING UNDER TWO-BLOCK TIES AT TRANSITION AREAS:

A. Shimming under Two-Block Ties at Transition Areas shall be measured per each transition area shimmed. The shimming at each transition area shall consist of providing shims under the tie blocks of two two-block ties, for a total of four shims at each transition area.

B. Shimming under Two-Block Ties at Transition Areas will be paid for at the contract unit price bid and accepted per transition area which price will be full compensation for all equipment, tools, labor, testing and all work incidental to complete the item as specified, including furnishing and installing shims, raising and lowering rails and two-block ties at the transition areas and adjacent areas; removing and reinstalling rail clips if required; and removing and reinstalling cellular rubber pads.

4.05 ADDITIONAL SHIMMING AS DIRECTED BY THE ENGINEER:

A. Additional Shimming as Directed by the Engineer will be measured as directed by the Engineer in accordance with Section 01210, Miscellaneous Work Allowance.

B. Additional Shimming as Directed by the Engineer will be paid for as specified in Section 01210, Miscellaneous Work Allowance.

END OF SECTION

SECTION 05692

CONTACT RAIL SYSTEM

PART 1: GENERAL

1.01 DESCRIPTION:

A. This section includes specifications for replacement of components of the contact rail system, including removal and disposal of components and furnishing and installing new components. The contact rail system includes contact rail, protective cover, support brackets, contact rail support insulators, support plates that attach to concrete plinths, contact rail and related appurtenances. Contact rail system work includes:

1. Replacement of all contact rail support insulators in Section A of the Baltimore Metro Subway, which extends from approximately 310 feet east of the east end of the Charles Center Station Platform to the Mondawmin Portal. The limits of replacement of contact rail support insulators are shown on the Contract Drawings.

2. At some locations with direct fixation track, the contact rail system is supported by support plates that attach to and cantilever off from the concrete plinths. The Engineer will mark some of these support plates for replacement by the Contractor. Where a new support plate is installed, the Contractor shall also furnish and install embedded studs to attach the support plate to the plinth, a support bracket, a contact rail support insulator and bolts, nuts and washers for the connections of the support bracket to the support plate below it and the protective cover above it.

B. Related work specified elsewhere:

1. Section 01300: Submittals

2. Section 01450: Quality Assurance and Quality Control

3. Section 01500: Temporary Facilities and Control

4. Section 16648: Contact Rail-to-Earth Resistance Tests

1.02 ABBREVIATIONS:

A. ANSI: American National Standards Institute

B. ASCE: American Society of Civil Engineers

C. ASTM: American Society for Testing and Materials

D. dc: direct current

E. kV kilovolt

F. NTP: Notice to Proceed

G. psi: pounds per square inch

H. UL: Underwriters Laboratories, Inc.

1.03 DESIGN CRITERIA: Embedded studs for contact rail support plates shall have an unrestrained pullout strength of 5,000 pounds or more when embedded in concrete with a compressive strength of 4,000 psi or less.

1.04 SUBMITTALS:

A. Prepare and transmit submittals in accordance with Sections 01300 and 01450.

B. Submit the following not later than 30 days after NTP:

1. Shop drawings for the support insulators, support plates, support brackets, and all associated parts, including all dimensions, assembly details, material types and part numbers.

2. Quality Control Program for monitoring the production, including manufacturing control test procedures and tests specified herein.

C. Submit the following not later than 60 days after NTP:

1. Schedule of the work, including design, shop drawing submittals, design testing, manufacturing of each component, in-plant inspections, and shipment.

2. Methods of handling, shipping, unloading and stacking of all Contract deliverables.

D. Submit the following not later than 30 days after completion of tests:

1. Test reports for all specified design tests.

2. Test reports of all control tests conducted during manufacturing and all other required test documentation.

E. Sealant: Submit a chemical description of the polyurethane sealant and manufacturer's instructions for use.

1.05 PRODUCT DELIVERY, STORAGE AND HANDLING: Section 01600. Deliver spare support insulators to a storage site in Baltimore, which will be

designated by the Engineer. Most of the spare support insulators will be installed by the MTA at the State Center/Cultural Center Double Crossover. The MTA will also remove the existing support insulators where they install new support insulators.

1.06 QUALITY ASSURANCE:

A. Conduct design tests and control tests in accordance with Section 01450.

B. Design tests specified in Paragraph 1.07 herein may be certified by test results on identical design and material from a qualified independent testing firm or individual, but will be subject to conditions of Section 01450, Paragraph 1.06, and the submittal and approval of a test report including all relevant test results. The test loads may be the same as or higher than the specified loads.

C. Production quality control tests listed in Paragraph 3.01 herein must be performed and certified. Testing may be performed at the manufacturer's plant but must be witnessed and certified by a qualified independent testing firm or individual.

D. Materials and testing shall comply with the following standards and specifications. Unless otherwise specified, the current edition of each standard shall be used.

1. American National Standards Institute (ANSI)

   B18.2.1 Square and Hex Bolts and Screws Inch Series

   B18.2.2 Square and Hex Nuts

   B18.5 Round Head Bolts (Inch Series)

   B18.21.1 Lock Washers

   B18.22.1 Plain Washers

2. American Society for Testing and Materials (ASTM)

   A36 Carbon Structural Steel

   A123 Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel

   A153 Zinc Coating (Hot-Dip) on Iron and Steel Hardware

   A242 Standard Specification for High-Strength Low-Alloy Structural Steel

A325	Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength
A588	Standard Specification for High-Strength Low-Alloy Structural Steel, up to 50 ksi [345 MPa] Minimum Yield Point, with Atmospheric Corrosion Resistance
B633	Electrodeposited Coatings of Zinc on Iron and Steel
B695	Coatings of Zinc Mechanically Deposited on Iron and Steel.
D149	Dielectric Breakdown Voltage and Dielectric Strength of Solid Electrical Insulating Materials at Commercial Power Frequencies
D229	Rigid Sheet and Plate Materials Used for Electrical Insulation
D256	Determining the Izod Pendulum Impact Resistance of Plastics
D257	DC Resistance or Conductance of Insulating Materials
D412	Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers – Tension
D495	High-Voltage, Low-Current, Dry Arc Resistance of Solid Electrical Insulation
D570	Water Absorption of Plastics
D573	Rubber – Deterioration in an Air Oven
D638	Tensile Properties of Plastics
D648	Deflection Temperature of Plastics under Flexural Load in the Edgewise Position
D695	Compressive Properties of Rigid Plastics
D790	Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials
D2303	Liquid-Contaminant, Inclined-Plane Tracking and Erosion of Insulating Materials

1.07 DESIGN TESTS:

A. Conduct design tests on support insulators and embedded studs for contact rail support plates.

B. Do not start manufacturing of support insulators for shipping to the Administration until the design tests for these items have been passed to the satisfaction of the Engineer.

C. Design Tests of Support Insulators:

1. Design Tests of Fiberglass Material:

a. Specimens: Conduct the following tests on each of two support insulator fiberglass specimens. The specimens shall be manufactured and cured in the same manner as the final product. Use a separate pair of specimens for each test. Prior to testing, condition all specimens for at least 24 hours at 23 degrees Celsius and 50 percent humidity. Failure of either of the two specimens to meet the specified requirements shall be cause for rejection.

b. Arc Resistance: Minimum of 130 seconds, ASTM D495.

c. Dielectric Strength: Short time, minimum 200 volts per mil, ASTM D149.

d. Water absorption: 24 hours at 23 degrees Celsius, maximum weight increase 0.3 percent, ASTM D570.

e. Flammability: Class 94V-O, UL 94.

f. Flame Resistance: Ignition time, minimum of 80 seconds, maximum burning time 60 seconds, ASTM D229, Method II.

g. Heat Distortion: Deflection temperature shall be a minimum of 188 degrees Celsius at 264 psi, ASTM D648.

h. Impact, Izod Type: Minimum of eight foot-pounds per inch, Method A, ASTM D256.

i. Flexural Strength: Minimum of 20,000 psi, ASTM D790.

j. Tensile Strength: Minimum of 8,000 psi, ASTM D638.

k. Compressive Strength: Minimum of 20,000 psi, ASTM D695.

1. Tracking Resistance: Minimum of 600 minutes at 2,500 volts, 60 hertz, ASTM D2303.

2. Design Tests of Acetal Inserts:

a. Specimens: Conduct the following tests on each of two acetal insert specimens. The specimens shall be manufactured and cured in the same manner as the final product. Use a separate pair of specimens for each test. Prior to testing, condition all specimens for at least 24 hours at 23 degrees Celsius and 50 percent humidity. Failure of either of the two specimens to meet the specified requirements shall be cause for rejection.

b. Dielectric Strength, Short Time: Minimum of 200 volts per mil, ASTM D149.

c. Water Absorption: Maximum weight increase, 0.3 percent after 24 hours, ASTM D570.

d. Tensile Strength: Minimum of 6,000 psi at 23 degrees Celsius, ASTM D638.

e. Compressive Strength at One Percent Deflection: Minimum of 5,000 psi, ASTM D695.

f. Ultimate Elongation: Minimum of six percent at 23 degrees Celsius, ASTM D638.

g. Deflection Temperature: Minimum of 100 degrees Celsius at 264 psi, ASTM D648.

h. Static Coefficient of Friction Against Polished Metal: 0.20 maximum. Measure on a thrust washer bearing under a normal load of approximately 50 pounds. Apply a gradually increasing torque until the bearing rotates 90 degrees in about one second.

D. Design Tests of Embedded Studs for Contact Rail Support Plates: Embedded studs shall have an unrestrained pullout strength of 5000 pounds or more. When testing pullout strength of embedded studs, use concrete with a compressive strength of 4000 psi or less as determined by ASTM C39. Apply reaction force to the pullout force at least eight inches from the centerline of the embedded stud.

PART 2: PRODUCTS

2.01 HARDWARE: General requirements for all hardware for support brackets and support bracket connections to support plates and protective cover:

A. Bolts, Nuts and Flat Washers: ASTM A325.

B. Carriage Bolts: Dimensions shall conform to ANSI B18.5 for round head square neck bolts. Materials shall conform to ASTM A325.

C. Lock Washers: ANSI B18.21.1.

D. Galvanizing: Galvanize all iron and steel hardware using one of the methods specified below. Different methods may be used for different items. Use methods that will allow proper fit of threaded items and will not embrittle iron or steel.

1. Hot-dip galvanize in accordance with ASTM A153, Class C.

2. Electroplate with zinc in accordance with ASTM B633.

3. Mechanically deposit a zinc coating in accordance with ASTM B695, Class 40 or Class 50.

2.02 SUPPORT INSULATOR:

A. Furnish insulators of molded fiberglass reinforced polyester conforming to the test requirements specified in Paragraph 1.07.D.1. Color shall be light gray, Federal Color Number 16118, or approved equal.

B. Provide freestanding type insulators as indicated on the Contract Drawings.

C. Furnish insulators rated for a service having a nominal voltage of 750 volts direct current and a maximum regenerative potential of 900 volts, with a minimum leakage distance of eight inches of the external surface of the insulator from any energized metal component to ground.

D. Furnish insulators of the dimensions shown on the Contract Drawings. The distance between the top and bottom faces of any insulator shall vary no more than 1/16 inch from the dimensions indicated. Other dimensions shall vary no more than plus or minus 1-1/2 percent from those given on the Contract Drawings.

E. Mark insulators to identify the manufacturer.

F. All insulators shall be carefully packed for shipment. The Contractor shall replace all insulators that become cracked, scratched or damaged in transit.

G. Furnish acetal inserts in the insulator caps. Use an acetal-based compound containing solid lubricants throughout the acetal matrix, including the top bearing surface, based on Dupont Delrin Grade 500 or 500P or approved equal, except modified by the addition of internal chemical or polytetrafluoroethylene (Teflon) lubricants, and conforming to the test requirements specified in Paragraph 1.07.D.2.

H. Bond the top and bottom parts of the insulator to each other with silicone adhesive sealant or epoxy resin adhesive. Use an adhesive that will bond to the type of polyester in the insulator. Prime insulator surfaces if necessary to achieve a good bond. Use a one-compound, RTV (room temperature vulcanizing), silicon adhesive sealant which cures on exposure to atmospheric moisture and conforms with the following:

1. CSL Silicones CSL-502 Industrial Silicone Sealant/Adhesive, General Electric IS802 or IS806 Silicone Adhesive Sealant, or approved equal.

2. Tensile Strength: 150 psi, minimum, ASTM D412.

3. Elongation at Break: 350 percent minimum, ASTMD412.

4. Dielectric Strength: 400 volts per mil, minimum, ASTM D149.

5. Volume Resistivity: 1×10^{15} ohm-cm, minimum, ASTM D257.

2.03 SUPPORT BRACKETS:

A. Furnish new support brackets, including top and base portions, of number 10 gauge steel of a quality that can be formed cold by pressing.

B. Furnish support bracket assembly that is adjustable in height in accordance with the dimensions as indicated.

C. Furnish support bracket assembly complete with all parts required for the assembly, as indicated.

D. Hot-dip galvanize both the top and base portions of the support brackets after fabrication, in accordance with ASTM A123, Grade 85, or ASTM A153, Class B-1.

2.04 CONTACT RAIL SUPPORT PLATES: Steel conforming to ASTM A242 or ASTM A588.

2.05 GALVANIZED STEEL STUDS AND HEAVY HEX NUTS FOR CONNECTING SUPPORT PLATE TO CONCRETE PLINTH:

A. Steel studs shall be 3/4-inch diameter conforming to ASTM A449. Studs shall be threaded for their entire lengths. Studs shall be hot-dip galvanized in accordance with ASTM F2329. Lengths of studs shall be as shown on the Contract Drawing and shall be as required to comply with the embedment distance and minimum and maximum distances of threads above the top of the nut shown on the Contract Drawings.

B. Heavy hex nuts shall be 3/4-inch diameter steel conforming to ASTM A563, Grade DH. Nuts shall be hot-dip galvanized in accordance with ASTM F2329. Nuts shall fit the studs and, if necessary, shall have thread dimensions that are adjusted to provide room for the galvanizing.

2.06 POLYESTER GROUT FOR ANCHORING EMBEDDED STUDS: As specified in Section 05674.

2.07 STEEL SHIMS: Structural grade carbon steel conforming to ASTM A36, hot-dip galvanized in accordance with ASTM A123, Grade 75.

2.08 OXIDE-INHIBITING PASTE: Sanchem, Inc. NO-OX-ID-A Special, Burndy Penetroz A, Alcoa ALT No. 2, General Electric G623, or equal.

PART 3: EXECUTION

3.01 PRODUCTION QUALITY CONTROL TESTS FOR CONTRACTOR-SUPPLIED MATERIALS:

A. General: Unless otherwise directed, failure of a specimen to pass the inspections and tests specified shall be cause for rejection of the entire lot represented by that specimen. Items used for production testing shall not be included in the final delivered quantity.

B. Support Insulator: Select five support insulators at random from each lot of 1,000 or less. Subject each selected insulator to all the of the following tests:

1. Withstand Voltage Tests: Conform to ANSI C29.1 when tested at a dry withstand, test voltage of 30 kV, 60 hertz for one minute and a wet withstand test voltage of 20 kV, 60 hertz for ten seconds.

2. Compression Strength Tests: Withstand 10,000 pounds compression in accordance with ANSI C29.1.

3. Turn insulator spool upside down and visually inspect silicone adhesive sealant or epoxy resin adhesive. It shall be flush all around the saddle insert flange.

C. Acetal Inserts: Select five inserts at random from each lot of 2,000 or less. Subject each selected insert to the Test of Static Coefficient of Friction Against Polished Metal:

1. Insert the acetal insert into one of the holes near the top center of a support insulator. Place the support insulator on a horizontal surface and secure it to prevent rotation. Apply a vertical downward load of 100 pounds to the center of the acetal insert through a polished metal plate. While maintaining the 100-pound downward load, apply a horizontal load to the plate at a level ½ inch above the bottom of the plate. Increase the horizontal load gradually until the plate slips on the insert.

2. The horizontal load at the start of slippage shall not exceed 22 pounds

3.02 GENERAL REQUIREMENTS FOR REMOVAL, REPLACEMENT AND INSTALLATION:

A. Install Contractor-furnished products in accordance with approved procedures and instructions provided by the Contractor and the manufacturers; and all in accordance with the Contract Documents.

B. Prior to performing any work on or adjacent to the tracks of Baltimore Metro, arrange to de-energize the affected traction power and contact rail circuits, according to the Administration's operating procedures. Ensure that the affected circuits have been de-energized. Ground the traction power circuits at each end of the work area (i.e., work only between grounds) prior to commencing work.

C. Equipment used for cutting and/or grinding concrete shall be equipped with dust shrouds and powered vacuum dust collectors. Promptly vacuum up all dust from drilling concrete and any dust from cutting and/or grinding that is not collected by the dust shrouds and dust collectors.

D. Comply with OSHA, MOSH and EPA regulations regarding dust control and control of toxic fumes and provide respirators and other protective equipment for employees and the Engineer's inspectors when required.

3.03 REMOVAL AND REPLACEMENT OF CONTACT RAIL SUPPORT INSULATORS:

A. De-energize the traction power and contact rail circuits in the areas where the contact rail will be raised and adjacent electrically connected areas as specified in Article 3.02 above.

B. Disconnect contact rail anchors to allow raising of the contact rail. Since the contact only needs to be raised a small amount, disconnection of

traction power cable connections to the contact rail is not expected to be necessary. If the insulators cannot be replaced without disconnecting a traction power cable, notify the Engineer. If required, disconnection and reconnection of traction power cables will be done by the MTA.

C. Raise contact rail by an amount sufficient to allow removal and replacement of the support insulators. Raise contact rail appurtenances, such as contact rail expansion joints, end approaches and side approaches, along with the contact rail. Support side approaches so they do not cause the contact rail to rotate or tip over.

D. Keep contact rail sections spliced together and do not take apart the splice joints. Where necessary to avoid taking apart splice joints, raise the contact rail beyond the area where support insulators are being replaced.

E. The bottom of the contact rail support insulator has a circular cavity which fits over a circular protrusion from the bottom of the galvanized steel support bracket. Neither the new nor the existing support insulators are bolted down.

F. At station platforms, a fiberglass-reinforced plastic bracket is attached to the contact rail and supports the curved protective cover. The top part of the galvanized steel support bracket is omitted, and the bottom part of the galvanized steel support bracket supports the support insulator. Neither the new nor the existing support insulators are bolted down.

G. Remove and dispose of the existing support insulators. Clean the bottom parts of the galvanized steel support brackets, especially the areas under the support insulators. Vacuum up all dust and other particles.

H. Install the new support insulators onto the bottom of the support brackets by placing the cavity in the underside of the insulator onto the protrusion on the bottom of the support bracket. Align the insulators so the contact rail fits into the opening in the top of the support insulator without binding.

I. Do not scratch or dent the new support insulators. Repair any nicks or cuts in insulators with polyurethane sealant. Clean and prepare surface of insulator to be repaired, in accordance with sealant manufacturer's recommendations, before applying sealant. All raw edges, nicks and scratches shall be coated thoroughly to a minimum film thickness of 1.5 mils with an approved polyurethane paint containing an ultraviolet inhibitor and colored light gray Number 70, conforming to ANSI Z55.1

J. Coat the top rail-bearing surface of each new support insulator with an approved graphite lubricant, medium grade. Coat the underside of the rail at least one foot in either direction from the support insulator location, including the insulator area.

K. Lower the contact rail onto the new support insulators. Install the contact rail lengths on the support insulators, bearing equally and flush on all insulator caps. Reassemble any contact rail anchors that were disassembled. If traction power cable connections were removed, notify the Engineer who will arrange for the MTA to reinstall the traction power cable connections.

3.04 REPLACEMENT OF SUPPORT PLATES AT DIRECT FIXATION TRACK:

A. At some locations with direct fixation track, the contact rail system is supported by support plates that attach to and cantilever off from the concrete plinths. The Engineer will mark some of these support plates for replacement by the Contractor. Where a new support plate is installed, the Contractor shall also furnish and install embedded studs to attach the support plate to the plinth, a support bracket, a contact rail support insulator and bolts, nuts and washers for the connection of the support bracket to the support plate below it and the protective cover above it.

B. Contractor shall accomplish the replacement of a marked support plate by providing a new support plate and other items listed in Article 3.04A above near the marked support plate and removing the existing support plate and other listed items. However, if an arrangement of one new support plate for each removed support plate would cause the support insulator spacing to exceed 10 feet, an additional support plate and other listed items shall be provided. Existing support plates in direct fixation track are generally spaced approximately 9 feet on centers. The following criteria restrict locations of new support plates and may require provision of an additional support plate and other listed items.

1. The inner end of the support plate is closer to the centerline of track than the outer end of the direct fixation fastener. Therefore, the side of the support plate shall be at least one inch from the side of the direct fixation fastener.

2. No part of a support plate shall be located over a joint in the concrete plinth.

3. Support plates shall not be located on deteriorated portion of the concrete plinths.

4. Protective cover: Support brackets shall not be located at joints in the protective cover.

5. Contact rail support anchors:

a. Support brackets and support insulators shall not be located within 6 inches of the clamps to the contact rail at both ends of contact rail anchors.

b. Support plates shall not be located within 3 inches of the anchor plate for the contact rail anchor.

6. At station platforms, a fiberglass-reinforced plastic bracket is attached to the contact rail and supports the curved protective cover. The top part of the galvanized steel support bracket is omitted, and the bottom part of the galvanized steel support bracket supports the support insulator. Do not locate a support insulator within its centerline within 18 inches of the centerline of a fiberglass-reinforced plastic bracket.

7. Contact rail end approaches and contact rail expansion joints: Locate support plates as directed by the Engineer.

C. In areas where the support plates and other items listed in Article 3.04A above will be replaced, de-energize the traction power and contact rail circuits and adjacent electrically connected areas as specified in Article 3.02 above.

D. At locations of new support plates, measure the height of the top of the contact rail above the plane of the tops of the running rails. If the top of the contact rail at least 4 1/8" but not more than 4 5/8" above the plane of the tops of the running rails, installed the new support plates and other listed items so that the top of the contact rail remains at its existing elevation. If not, notify the Engineer and proceed as directed by the Engineer.

E. Check the surface of the concrete plinth where support plate will be installed. If the surface is not flat and parallel to the plane of the tops of the running rails, cut or grind the concrete surface, so that it is flat and parallel to the plane of the tops of the running rails.

F. Embedded Stud Installation:

1. Drill holes for embedded studs in the concrete plinth where the support plates will be installed in a manner that will produce a rough surface on the inside of the hole. Hole diameters shall not exceed 1.125 inches.

2. Clean out water, dust and other materials from the holes and protect the holes and concrete surfaces from moisture and precipitation.

3. Embed studs a minimum of 7 inches below the top of the concrete plinth. Place polyester grout in the hole with the embedded stud. Pour the grout slowly and stop frequently to permit leveling of the grout to prevent air entrapment. Provide sufficient polyester grout so it completely fills all around the embedded stud and also fills the void where the top portion of the embedded anchor was removed to provide a smooth surface matching the top of the existing concrete plinth. Install polyester grout in accordance with the manufacturer's recommendations.

4. Embedded studs shall be located with sufficient accuracy to ensure compliance with specified tolerances. The lateral locations of the studs are shown on a Contract Drawing and are about one inch further from the contact rail than the existing anchor bolts.

G. Testing of Installed Galvanized Steel Studs: Test 4 studs out of every 100 or less installed. Embedded studs shall have an unrestrained pullout strength of 5000 pounds or more. When testing pullout strength of embedded studs, apply reaction force to the pullout force at least eight inches from the centerline of the embedded stud.

H. Install the support plate with its holes on the embedded studs.

1. Place washers and nuts on the embedded studs.

2. Nuts shall be torqued to a torque of 300 foot-pounds. Power wrenches shall be adjusted to stall or cut out at the selected torque. Nuts shall be in a tightening motion when torque is measured.

I. Install support brackets and support insulators located to support the contact rail at its existing position. Where needed, provide galvanized steel shims between the support plate and the support bracket. The total shim thickness shall be chosen so the contact rail is supported at its existing elevation.

J. Tighten the nuts and bolts which connect the support bracket to the support plate.

K. Connect the existing protective cover to the top of the support bracket and tighten the bolts and nuts.

L. After new support plates and other listed items in the vicinity are installed remove the existing support plates, anchor bolts, support brackets and

support insulators. Seal the holes at the tops of the existing anchor inserts with silicone sealant to keep water out of the anchor inserts.

3.05 FINAL INSPECTION AND TESTS:

A. Upon completion of the installation of the contact rail and all appurtenances, but prior to final acceptance, inspect and clean all insulators. Replace insulators that are found chipped, cracked, or otherwise defective.

B. After inspection and cleaning, test the contact rail segments in accordance with Section 16648, Contact Rail-To-Earth Resistance Tests.

PART 4: MEASUREMENT AND PAYMENT

4.01 FURNISH AND INSTALL SUPPORT INSULATORS:

A. Furnish and Install Support Insulators will be measured per each new support insulator furnished and installed, including base and top pieces and acetal inserts, fully assembled and installed as indicated.

B. Furnish and Install Support Insulators will be paid for at the contract unit price bid and accepted per each support insulator which will be full compensation for all required design, testing, manufacturing, shipping, delivery and installation of support insulators. Removal and disposal of existing support insulators will not be paid for separately but will be considered incidental to Furnish and Install Support Insulators.

4.02 FURNISH SPARE SUPPORT INSULATORS:

A. Furnish Spare Support Insulators will be measured per each new spare support insulator furnished and delivered, including base and top pieces and acetal inserts, fully assembled.

B. Furnish Spare Support Insulators will be paid for at the contract unit price bid and accepted per each spare support insulator which will be full compensation for all required design, testing, manufacturing, shipping and delivery of spare support insulators.

4.03 SUPPORT PLATES:

A. Support Plates will be measured per each new support plate furnished and installed, including embedded studs with nuts, washers, and polyester grout furnished and installed as indicated.

B. Support Plates will be paid for at the contract unit price bid and accepted per each support plate which will be full compensation for all required design, testing, manufacturing, shipping, delivery and installation of a

support plate including embedded studs with nuts, washers, and polyester grout. Removal and disposal of existing support plates, anchor bolts and washers and furnishing and installing silicone sealant for existing anchor insert will not be paid for separately but will be considered incidental to Support Plates.

4.04 SUPPORT BRACKETS:

A. Support Brackets will be measured per each new support bracket furnished and installed, including galvanized steel shims if required, bolts, nuts and washers for the connections of the support bracket to the support plate below it and the protective cover above it, furnished and installed as indicated.

B. Support Brackets will be paid for at the contract unit price bid and accepted per each support bracket which will be full compensation for all required design, testing, manufacturing, shipping, delivery and installation of a support bracket including galvanized steel shims if required, bolts, nuts and washers for the connections of the support bracket to the support plate below it and the protective cover above it. Removal and disposal of existing support brackets and bolts, nuts and washers for the connections of the support bracket to the support plate below it and the protective cover above it will not be paid for separately but will be considered incidental to Support Brackets.

END OF SECTION

MTA Maryland

MARYLAND TRANSIT ADMINISTRATION

MARYLAND DEPARTMENT OF TRANSPORTATION

Martin O'Malley, Governor • Anthony G. Brown, Lt. Governor
Darrell B. Mobley, Acting Secretary • Ralign T. Wells, Administrator

TO: All Planholders

FROM: Maryland Transit Administration

SUBJECT: **ADDENDUM NO. 3**
Contract No.: T-0455-0640
Anchor Bolt Replacement for Direct Fixation Track in Metro Subway.

DATE: August 20, 2012

Enclosed and effective this date is Addendum No. 3 to the subject Contract. This change (does) extend the Bid Due Date of August 23, 2012, to August 30, 2012. Also, in response associated to some of the vendor's questions some specs & drawings are being revised. A 4th addendum will be posted as soon as all revisions are complete.

The Bidder shall acknowledge receipt of this Addendum by completing and returning this form with the bid package.

All other terms and conditions remain unchanged.

Sincerely,

Joseph B Johnson, Procurement Officer
Construction/Installation Section &
Professional Services Section
Procurement Division

Acknowledgement of receipt of ADDENDUM # 3 to Solicitation #T-0455-0640

Vendor Name: _____

_____ _____

Authorized Representative's Signature Date

6 Saint Paul Street • Baltimore, Maryland 21202-1614 • TTY 410-539-3497 • Toll Free 1-866-743-3682

ADDENDUM NO.: 3
DATE: 08/20/12
CONTRACT NO.: T-0455-0640

The following additions, deletions, and modifications are hereby made a part of the Contract Documents of Anchor Bolt Replacement for Direct Fixation Track in Metro, Contract No.: T-0455-0640.

Item No.	Page	Modification
I. CONTRACT SPECIFICATIONS		
1	Notice to Contractors (NTC)	**Bid Due Date & Time – Revised Bid Due Date to August 30, 2012.**
II. SPECIFICATIONS & DRAWINGS		
2	Specs & Drawings	**Please be advised that revisions are being made to specs & drawings do to the response associated to some of the vendor's questions. An Addendum No.4 will be posted as soon as all revisions are complete.**

Also attached are the answers to contractors' questions, if any.

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION
MARYLAND TRANSIT ADMINISTRATION
NOTICE TO CONTRACTORS

TITLE: ANCHOR BOLT REPLACEMENT FOR DIRECT FIXATION TRACK IN METRO SUBWAY

CONTRACT NO.: T-0455-0640 **DATE:** July 12, 2012

1. DESCRIPTION OF WORK

A. Current project to replacement for Direct Fixation Track in Metro Subway from Portal to Charles Center platform. Scope also includes replacement of all contact rail insulators, some contact rail support plates and all remaining Hixson fasteners.

B. Estimated value for this work is in the range of $2,500,000 to $5,000,000

2. PRE-BID MEETING & SITE VISIT

A Pre-Bid meeting for the purpose of explaining the Project will be held on July 26, 2012 at 10:00 a.m., local time at the Administration Headquarters, 6 St. Paul Street, 7th Floor Conference Room(s) 731-733, Baltimore, Maryland 21202-1614.

A Site Visit will be held on July 26, 2012 starting at midnight, 14 hours after the pre-bid meeting. The site visit meeting location is the Metro Portal facility, 3400 Carlins Park Drive, Baltimore, MD 21215-7853. Transportation to the track worksite(s) will be provided by Metro, starting at and returning to the Metro Portal facility.

It is strongly suggested that the person(s) responsible for the preparation of bid documents for bidders attend the Pre-Bid Meeting and the site visit. INSTRUCTIONS CRITICAL TO THE PREPARATION OF THE CONTRACT DOCUMENTS WILL BE PRESENTED AT THE PRE-BID MEETING.

3. DEADLINE FOR QUESTIONS

Questions regarding the work should be directed in writing to Mr. Joseph B Johnson at the Administration Offices or via Internet address jjohnson14@mta.maryland.gov. Facsimile messages will not be accepted unless accompanied by telephone notification at (410) 767-3363. Our fax number is (410) 333-4810. Questions directed to this office must be received no later than August 9, 2012 at the close of the business day. Questions should be submitted on company letterhead. No interpretations other than written shall be binding on the Administration.

4. BID DUE DATE & TIME

Sealed Bids addressed to the Maryland Transit Administration, Procurement Division, 6 St. Paul Street, Baltimore, Maryland 21202-1614, and marked "Bid for Contract No. T-0455-0640 ", will be received at the above address until but not after 2:00 P.M. local time, August 30, 2012. At that time, the Bids will be publicly opened and read aloud at a location at the same address. Hand delivered bids should be deposited in the Bid Box located on the 7th Floor before the 2:00 P.M. deadline. Any bids received after the date and time specified shall not be considered.

5. ELECTRONIC VERSION OF BID DOCUMENTS

The bid documents will be available by electronic means. The Bidder acknowledges and accepts full responsibility to ensure that the Bidder has made no changes to the Administration's bid documents. In the event of a conflict between the versions of the bid documents in the bidder's possession and the version maintained by the Procurement Officer, the version maintained by the Procurement Officer shall govern.

6. AVAILABILITY OF DOCUMENTS

Specifications may be downloaded from the MTA web site located at www.mta.maryland.gov. Bidders will be required to register the first time specifications are downloaded and a login number will be assigned. This number should be used every time the bidder downloads the documents for this contract. Bidders must supply accurate information in order to receive notice of all subsequent addenda.

TO OBTAIN THE SPECIFICATIONS: Please visit MTA's website (www.mta.maryland.gov) , follow the links for "Business" – "Procurement" - "Bids/Solicitations", and download the Specifications for this procurement.

TO OBTAIN THE DRAWINGS: e-mail Joseph B Johnson at jjohnson14@mta.maryland.gov requesting the contract drawings and supplying the following information: the contact person, company name, mailing address, phone # and e-mail address. The drawings (CD) will be mailed to you at no cost. You also have the option of picking up the CD containing the drawings at: 6 Saint Paul Street, 7th floor, Baltimore, MD 21202.

7. ADDENDA

Bidders are required to acknowledge all addenda with their bid package. Although the MTA endeavors to send out all addenda to this solicitation in a timely manner, it is the responsibility of the contractors to make sure they received all appropriate documents prior to the bid due date.

MARYLAND TRANSIT ADMINISTRATION
MARYLAND DEPARTMENT OF TRANSPORTATION
Martin O'Malley, Governor • Anthony G. Brown, Lt. Governor
Beverley K. Swaim-Staley, Secretary • Ralign T. Wells, Administrator

TO: All Planholders

FROM: Maryland Transit Administration

SUBJECT: **ADDENDUM NO. 2**
Contract No.: T-0455-0640
Anchor Bolt Replacement for Direct Fixation Track in Metro Subway

DATE: July 26, 2012

Enclosed and effective this date is Addendum No. 2 to the subject Contract. This change (does not) delay the Bid Opening Date of August 23, 2012. It changes the site visit time & location. Revised is the estimated value of work for this contract. This addendum also clarifies information pertaining the number of Calendar days for Completion of all Contract Work and amount of Liquidated Damages announced at the July 26th Pre-Bid Meeting.

The Bidder shall acknowledge receipt of this Addendum by completing and returning this form with the bid package.

All other terms and conditions remain unchanged.

Sincerely,

Joseph B. Johnson

Joseph B Johnson, Procurement Officer
Construction/Installation &
Professional Services Section
Procurement Division

Acknowledgement of receipt of ADDEDUM # 2 to Solicitation #T-0455-0640

Vendor Name: _____

_____ _____

Authorized Representative's Signature Date

6 Saint Paul Street • Baltimore, Maryland 21202-1614 • TTY 410-539-3497 • Toll Free 1-866-743-3682

ADDENDUM NO.: 2
DATE: 07/26/12
CONTRACT NO.: T-0455-0640

The following additions, deletions, and modifications are hereby made a part of the Contract Documents of Anchor Bolt Replacement for Direct Fixation Track in Metro Subway, Contract No.: T-0455-0640.

Item No.	Page	Modification
I. CONTRACT SPECIFICATIONS		
1	Page 1of 7 – Notice to Contractor	**Site Visit – Revised to the site visit will be held July 26th starting at 12:00 midnight, 14 hours after the start of the pre-bid meeting. The site visit location is the Metro Portal Facility, 3400 Carlins Park Drive, Baltimore, MD 21215-7853. Transportation to the track worksite(s) will be provided by Metro, starting at and returning to the Metro Portal facility.**
2	Page 1of 7 – Notice to Contractor	**Estimated Value – The estimated value of this contract is in the range of $2,500,000 to 5,000,000**
3	Section SP-4 Scope of Work	**The number of Calendar days for Completion of all Contract Work and amount of Liquidated Damages announced at the July 26th, 2012 Pre-Bid Meeting conflicts with the Contract Specifications Book.** **The number of Calendar days for Completion of all Contract Work and amount of Liquidated Damages stated in Contract Specifications Book shall take precedence.**

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION
MARYLAND TRANSIT ADMINISTRATION
NOTICE TO CONTRACTORS

TITLE: ANCHOR BOLT REPLACEMENT FOR DIRECT FIXATION TRACK IN METRO SUBWAY

CONTRACT NO.: T-0455-0640 **DATE:** July 12, 2012

1. DESCRIPTION OF WORK

A. Current project to replacement for Direct Fixation Track in Metro Subway from Portal to Charles Center platform. Scope also includes replacement of all contact rail insulators, some contact rail support plates and all remaining Hixson fasteners.

B. Estimated value for this work is in the range of $2,500,000 to $5,000,000

2. PRE-BID MEETING & SITE VISIT

A Pre-Bid meeting for the purpose of explaining the Project will be held on July 26, 2012 at 10:00 a.m., local time at the Administration Headquarters, 6 St. Paul Street, 7th Floor Conference Room(s) 731-733, Baltimore, Maryland 21202-1614.

A Site Visit will be held on July 26, 2012 starting at midnight, 14 hours after the pre-bid meeting. The site visit meeting location is the Metro Portal facility, 3400 Carlins Park Drive, Baltimore, MD 21215-7853. Transportation to the track worksite(s) will be provided by Metro, starting at and returning to the Metro Portal facility.

It is strongly suggested that the person(s) responsible for the preparation of bid documents for bidders attend the Pre-Bid Meeting and the site visit. INSTRUCTIONS CRITICAL TO THE PREPARATION OF THE CONTRACT DOCUMENTS WILL BE PRESENTED AT THE PRE-BID MEETING.

3. DEADLINE FOR QUESTIONS

Questions regarding the work should be directed in writing to Mr. Joseph B Johnson at the Administration Offices or via Internet address jjohnson14@mta.maryland.gov. Facsimile messages will not be accepted unless accompanied by telephone notification at (410) 767-3363. Our fax number is (410) 333-4810. Questions directed to this office must be received no later than August 9, 2012 at the close of the business day. Questions should be submitted on company letterhead. No interpretations other than written shall be binding on the Administration.

thereof shall pay to the Administration any deficiency within 30 calendar days.

WORK ITEM	NUMBER OF CALENDAR DAYS	LIQUIDATED DAMAGES PER CALENDAR DAY
Completion of All Contract Work	330	$1,850.00

1.05 COMPLETION TIME AND OTHER SCHEDULE REQUIREMENTS:

A. The Administration will continue to operate trains in the anchor bolt replacement areas during the anchor replacement contract period except as indicated hereafter. Normal operation of trains will be between the hours of 3:45 a.m. to 1:15 a.m. seven days a week.

B. Where the description of a location below refers to the Portal Double Crossover, the State Center/Cultural Center Double Crossover or the Johns Hopkins Hospital Double Crossover, the double crossover itself is not part of the track that will be shut down.

C. For the purpose of determining allowable shutdowns of tracks, the tracks in the vicinity of the work area shall be divided into the following sections. Except for the Johns Hopkins Hospital Double Crossover, stationing is Northwest (NW) Line stationing:

MARYLAND TRANSIT ADMINISTRATION
MARYLAND DEPARTMENT OF TRANSPORTATION
Martin O'Malley, Governor • Anthony G. Brown, Lt. Governor
Beverley K. Swaim-Staley, Secretary • Ralign T. Wells, Administrator

TO: All Planholders

FROM: Maryland Transit Administration

SUBJECT: **ADDENDUM NO. 1**
Contract No.: T-0455-0640
Anchor Bolt Replacement for Direct Fixation Track in Metro Subway

DATE: July 23, 2012

Enclosed and effective this date is Addendum No. 1 to the subject Contract. This change (does not) delay the Bid Opening Date of August 23, 2012. It changes the pre-bid meeting location to the 12th Floor Main Conference Room. Also, revised is the estimated value of work for this contract.

All other terms and conditions remain unchanged.

Sincerely,

Joseph B. Johnson

Joseph B Johnson, Procurement Officer
Construction/Installation &
Professional Services Section
Procurement Division

6 Saint Paul Street • Baltimore, Maryland 21202-1614 • TTY 410-539-3497 • Toll Free 1-866-743-3682

ADDENDUM NO.: 1
DATE: 07/23/12
CONTRACT NO.: T-0455-0640

The following additions, deletions, and modifications are hereby made a part of the Contract Documents of BALTIMORE METRO DETECTION PROJECT, Contract No.: T-0455-0640.

Item No.	Page	Modification
I. CONTRACT SPECIFICATIONS		
1	Page 1of 7 – Notice to Contractor	**Pre-Bid Meeting – Revised location to 12th Floor Main Conference Room.**
2	Page 1of 7 – Notice to Contractor	**Estimated Value – The estimated value of this contract is in the range of $100,001 to 500,000**

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION
MARYLAND TRANSIT ADMINISTRATION
NOTICE TO CONTRACTORS

TITLE: ANCHOR BOLT REPLACEMENT FOR DIRECT FIXATION TRACK IN METRO SUBWAY

CONTRACT NO.: T-0455-0640 **DATE:** **July 12, 2012**

1. DESCRIPTION OF WORK

A. Current project to replacement for Direct Fixation Track in Metro Subway from Portal to Charles Center platform. Scope also includes replacement of all contact rail insulators, some contact rail support plates and all remaining Hixson fasteners.

B. Estimated value for this work is in the range of $400,000 to $1,000,000

2. PRE-BID MEETING & SITE VISIT

A Pre-Bid meeting for the purpose of explaining the Project will be held on July 26, 2012 at 10:00 a.m., local time at the Administration Headquarters, 6 St. Paul Street, 7th Floor Conference Room(s) 731-733, Baltimore, Maryland 21202-1614.

A Site Visit will be held on July 26, 2012 @10:00p.m. All potential bidders will meet in front of 6 Saint Paul Street.

It is strongly suggested that the person(s) responsible for the preparation of bid documents for bidders attend the Pre-Bid Meeting and the site visit. INSTRUCTIONS CRITICAL TO THE PREPARATION OF THE CONTRACT DOCUMENTS WILL BE PRESENTED AT THE PRE-BID MEETING.

3. DEADLINE FOR QUESTIONS

Questions regarding the work should be directed in writing to Mr. Joseph B Johnson at the Administration Offices or via Internet address jjohnson14@mta.maryland.gov. Facsimile messages will not be accepted unless accompanied by telephone notification at (410) 767-3363. Our fax number is (410) 333-4810. Questions directed to this office must be received no later than August 9, 2012 at the close of the business day. Questions should be submitted on company letterhead. No interpretations other than written shall be binding on the Administration.

4. BID DUE DATE & TIME