

**THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY  
TWO MONTGOMERY STREET - 1st FLOOR  
JERSEY CITY, NJ 07302**

September 5, 2018

**ADDENDUM NO. 4**

TO PROSPECTIVE BIDDERS ON CONTRACT **GWB-244.204A** – GEORGE WASHINGTON BRIDGE – REHABILITATION OF CENTER AVENUE AND LEMOINE AVENUE BRIDGES

The following changes are hereby made in the Contract Documents for the subject Contract.

This communication should be physically annexed to back cover of the book and initialled by each bidder before submitting his bid.

In case any bidder fails to conform to these instructions, his Bid will nevertheless be construed as though this communication had been so physically annexed and initialled.

CHANGES IN THE CONTRACT BOOKLET

- Page i - In the TABLE OF CONTENTS, immediately following "9. DISPOSAL OF CONTRACT DOCUMENTS.....9", insert the following new line:  
"9A. AVAILABLE DOCUMENTS.....9".
- Page v - In the TABLE OF CONTENTS, immediately following "02831 PVC-COATED STEEL CHAINLINK FENCE AND GATES" insert the following new line:  
"02832 METALLIC-COATED STEEL CHAIN LINK FENCE AND GATES".
- Page 9 - Immediately following the text of clause 9 entitled "DISPOSAL OF CONTRACT DOCUMENTS", insert the following new clause:

**"9A. AVAILABLE DOCUMENTS**

Certain documents, specified below, are available for reference and examination by bidders by contacting Gary Greer at (201) 395-3509, 2 Montgomery Street, 1st Floor, Jersey City, NJ 07302 during regular business hours. These documents were not prepared for the purpose of providing information for bidders upon the present Contract but they were prepared for other purposes, such as for other contracts or for design purposes for this or other contracts, and they do not form a part of this Contract. The Authority makes no representation or guarantee as to, and shall not be responsible for their accuracy, completeness or pertinence, and, in addition, shall not be responsible for the conclusions to be drawn there from. They are made available to the bidders merely for the purpose of providing them with such information as is in the possession of the Authority, whether or not

such information may be accurate, complete or pertinent or of any value to the bidders. Questions concerning the content of the documents shall be submitted in accordance with the clause entitled "Questions By Bidders".

Said documents are as follows:

\*A. Drawings bearing the general title "THE PORT OF NEW YORK AUTHORITY GEORGE WASHINGTON BRIDGE GEOLOGIC PROFILES", which are separately numbered and titled as follows:

G.W.B.-S.L.-021 SECOND DECK – NEW JERSEY APPROACH

G.W.B.-S.L.-024 SECOND DECK – NEW JERSEY APPROACH

G.W.B.-S.L.-025 SECOND DECK – NEW JERSEY APPROACH

G.W.B.-S.L.-026 SECOND DECK – NEW JERSEY APPROACH

G.W.B.-S.L.-028 SECOND DECK – NEW JERSEY APPROACH

\* NOTE: For the Bidder's convenience, these documents will be transmitted with the Contract Drawings."

Page 127 - In the clause entitled "REFERENCE DRAWINGS", immediately following "214 STRUCTURAL LINWOOD AVE. BRIDGE BEARINGS", insert the following new paragraph:

"L. Drawings bearing the general title "THE PORT AUTHORITY OF NY & NJ GEORGE WASHINGTON BRIDGE CENTER AVENUE & LEMOINE AVENUE BRIDGES – TOPOGRAPHY, Contract No. 401-10-042", which are dated 10/10/2013 and are untitled and separately numbered as follows:

2012-345-1\_5

2012-345-2\_5

2012-345-3\_5

2012-345-4\_5

2012-345-5\_5"

Page 355 - Immediately following this page, insert new pages 355A through 355I (9 pages) which are attached hereto and made a part hereof.

REVISED CONTRACT DRAWINGS

Drawings G104, S103, S203, S204, S224, S225, S229, S249, S250, S251, S252, S253, S254, S255, S256, S263, S264, S333, S334, S335, S336, S337, S338 and S340 have been revised as of 8/27/18. Copies of these drawings are forwarded herewith on CD. Destroy the drawings of these numbers now in your possession and substitute therefor the revised drawings.

ADDED REFERENCE DRAWINGS

Copies of new Reference Drawings 2012-345-1\_5, 2012-345-2\_5, 2012-345-3\_5, 2012-345-4\_5 and 2012-345-5\_5 from Contract No. 401-10-042 are forwarded herewith on CD and are to be included in the set of Reference Drawings.

**THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY**

James Starace, P.E.  
Chief Engineer/Director

INITIALED BY THE BIDDER:

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**DIVISION 2****SECTION 02832****METALLIC-COATED STEEL CHAIN LINK FENCE AND GATES****PART 1. GENERAL****1.01 SUMMARY**

- A. This Section specifies requirements for aluminum-coated and zinc-coated steel chain link fence including the following:
1. Furnishing and installing new fencing;
  2. Removal of existing fencing;
  3. Relocation of existing fencing.
- B. Definitions of terms related to chain link fencing shall be in accordance with ASTM F 552.

**1.02 REFERENCES**

The following is a listing of the publications referenced in this Section:

	<u>American Concrete Institute (ACI)</u>
ACI 318	Building Code Requirements for Structural Concrete.
	<u>American Society for Testing and Materials (ASTM)</u>
ASTM A 121	Specification for Metallic-Coated Carbon Steel Barbed Wire.
ASTM A 153	Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
ASTM A 392	Specification for Zinc-Coated Steel Chain-Link Fence Fabric.
ASTM A 491	Specification for Aluminum-Coated Steel Chain-Link Fence Fabric.
ASTM A 817	Specification for Metallic-Coated Steel Wire for Chain-Link Fence Fabric and Marcellled Tension Wire.
ASTM A 824	Specification for Metallic-Coated Steel Marcellled Tension Wire for Use With Chain Link Fence.
ASTM B 117	Practice for Operating Salt Spray (Fog) Apparatus.
ASTM B 429	Specification for Aluminum-Alloy Extruded Structural Pipe and Tube.
ASTM F 552	Standard Terminology Relating to Chain Link Fencing.
ASTM F 567	Practice for Installation of Chain-Link Fence.
ASTM F 626	Specification for Fence Fittings.
ASTM F 900	Specification for Industrial and Commercial Swing Gates.
ASTM F 1043	Specification for Strength and Protective Coatings on Metal Industrial Chain Link Fence Framework.

ASTM F 1083	Specification for Pipe, Steel, Hot-Dipped Zinc-Coated (Galvanized) Welded, for Fence Structures.
ASTM F 1184	Specification for Industrial and Commercial Horizontal Slide Gates.
ASTM F 1345	Specification for Zinc - 5% Aluminum Mischmetal Alloy-Coated Steel Chain-Link Fence Fabric.

### 1.03 QUALITY ASSURANCE

Upon request arrange for the Engineer to inspect all fencing materials at the place of manufacture.

### 1.04 DELIVERY, STORAGE, AND HANDLING

- A. Arrange for fence fabric and accessories to be delivered to the construction site in packed cartons or firmly tied rolls.
- B. Verify that each package is identified and bears the manufacturer's name.
- C. Store fence fabric and accessories in a secure and dry area.

### 1.05 SUBMITTALS

See Appendix "A" for submittal requirements.

## **PART 2. PRODUCTS**

### 2.01 MANUFACTURERS

- A. Sliding gates shall be one of the following with no substitutions permitted:
  - 1. "Easy Track" by  
Boundary Fence and Railing Systems, Inc.  
Richmond Hill, NY 11418
  - 2. "Internal Roller" by  
Anchor Fence/Master Halco Inc.  
Baltimore, MD 21224
  - 3. "Fortress Gate" by  
Tymetal Corporation  
Clifton Park, NY 12065

### 2.02 MATERIALS

- A. General
  - 1. Chain link fence components shall be zinc-coated steel except as otherwise permitted herein for fabric, barbed wire and gate framing.
  - 2. Take field measurements prior to preparation of Shop Drawings and fabrication.
  - 3. Unless otherwise specified herein or shown on the Contract Drawings, materials, coatings and shapes shall be of uniform type and manufacture.

B. Fence Fabric

1. Unless otherwise shown on the Contract Drawings, comply with ASTM A 817 for 0.192-inch diameter, 2-inch mesh, wire fabric.
2. Type II, Class 2 Zinc-Coated (Galvanized) fabric shall comply with ASTM A 392.
3. Type I Aluminum-Coated (Aluminized) fabric shall comply with ASTM A 491.
4. Type III Zinc - 5% Aluminum - Mischmetal coated fabric shall comply with ASTM F 1345.
5. Fence fabric height shall be as shown on the Contract Drawings. For fabric height of 6 feet and over, top and bottom selvage shall be twisted and barbed, unless otherwise shown on the Contract Drawings. For fabric height of less than 6 feet, both top and bottom selvages shall be knuckled.
6. Apply clear acrylic sealer to selvage area after weaving.

C. Barbed Wire

1. Each line of barbed wire shall consist of two strands of No. 12 1/2 gage (0.099-inch diameter) wires twisted with 4-point No. 14 gage barbs spaced approximately 5 inches apart. The barbed wire shall conform to ASTM A 121, Class 3 (0.8 oz/sf) zinc-coated or ASTM A 121, Type II aluminum-coated steel barbed wire with aluminum alloy barbs.
2. Extension arms shall be 45 degrees, extended outward as shown on the Contract Drawings and slotted to support three lines (unless otherwise shown on the Contract Drawings) of barbed wire such that the outermost line is positioned approximately 12 inches horizontally from the fence line.
3. End and intermediate vertical members of gates shall be extended vertically 12 inches and shall be provided with the necessary clips to secure barbed wire.

D. Fence Framing

1. Steel posts and rails shall conform to ASTM F 1043 for Heavy Industrial Fence.
2. External and internal protective coatings shall conform to ASTM F 1043 for the fence framework material group furnished. Framework shall demonstrate the ability to withstand salt spray when tested in accordance with ASTM B 117 based on certified test results, as follows:
  - a. Exterior: 1000 hours with maximum 5 percent red rust.
  - b. Interior: 650 hours with maximum 5 percent red rust.
3. Zinc-coated (galvanized) round steel pipe shall conform to the applicable portions of ASTM F 1083, Standard Weight Pipe (Schedule 40) with a minimum yield strength of 25,000 psi.
4. Unless otherwise shown on the Contract Drawings, equivalent steel sections may be substituted for the sections shown on the Contract Drawings. Equivalent sections shall conform to ASTM F 1043 Group IC - Round Steel Pipe, Group II - Roll Formed Steel Shapes or Group III - Hot-rolled Shapes and shall have bending strengths at least equal to those of the sections shown as determined by ASTM F 1043.

5. Rail sleeves and connectors shall allow for expansion and contraction of the rail. Use sleeves of the same material as the rail having a minimum length of 6 inches, or provide rails swaged at one end for a minimum length of 3 inches for connecting into a continuous run. Furnish and install suitable fittings for securing rails to terminal posts.

E. Gates

1. General

- a. Gate types, opening widths and directions of operation shall be as shown on the Contract Drawings.
- b. Gates shall conform to the requirements specified for metallic-coated steel chain link fence except that aluminum alloy framing conforming to ASTM B 429 may be used.
- c. Gates shall be designed for operation by one person.
- d. Where shown on the Contract Drawings, gates shall be topped with three lines of barbed wire, meeting the requirements of 2.02 C.1.

2. Swing Gates

- a. Swing gates shall be factory assembled and shall swing 180 degrees.
- b. Swing gates shall conform to ASTM F 900 except that framing shall be assembled by welding at the corners. Use of corner fittings will not be permitted.

3. Sliding Gates

- a. Sliding gates shall be factory-assembled by one of the manufacturers specified in this Section.
- b. For overhead and cantilever sliding gates, the materials, manufacture and dimensions and weights of frame members and posts shall, at a minimum, meet the requirements of ASTM F 1184, Class 2 (internal rollers).
- c. Rollers for overhead and cantilever sliding gates shall be equipped with ball bearings. Non-sealed ball bearings shall be provided with a grease fitting for periodic maintenance. Rollers shall be secured to post or frame without welding.

4. Cantilever Sliding Gates

- a. The gate leaf frames and tracks shall be fabricated of aluminum conforming to ASTM B 429 alloy 6063-T6 or as required to meet the performance requirements of ASTM F 1184 and specified herein.
- b. Frame members shall be minimum 2-inch square, 0.91 lb/ft aluminum tubing assembled by welding at all corners to form a rigid, one-piece unit. Fabric shall be securely stretched and held in the center of the tubing. All cantilever overhang frames shall have 3/8-inch brace rods. For gate leaf sizes 23 feet to 30 feet, an additional lateral support rail shall be welded adjacent to the top and bottom horizontal rails.

- c. The single leaf opening size shall determine the minimum overhang as follows:

<u>Opening</u>	<u>Overhang</u>
Up to 10'-0"	6'-6"
10'-1" to 14'-0"	7'-6"
14'-1" to 22'-0"	10'-0"
22'-1" to 30'-0"	12'-0"

- d. The track shall be a combined integral track and rail. The rail shall be an aluminum extrusion having a minimum total weight of 3.72 pounds per foot and designed to withstand a reaction load of 2000 pounds. The roller track assembly shall be designed for the same reaction load as the rail and shall consist of two swivel type zinc die cast trucks having four sealed-lubricant ball bearing wheels of a minimum 2-inch diameter by 9/16-inch width. Provide two side-rolling wheels to ensure alignment of truck in track for each gate leaf. Fasten trucks to post brackets by minimum 7/8-inch diameter, 1/2-inch shank ball bolts.
- e. Provide galvanized steel guide wheel assemblies for each supporting post. Each assembly shall consist of two rubber wheels of minimum 4-inch diameter with oil-impregnated bearings. The assembly shall be attached to the post so that the bottom horizontal member will roll between the wheels and can be adjusted to maintain plumb gate frames and proper alignment.

F. Tension Wire: ASTM A 824, Type I or Type II.

G. Accessories and Fittings

1. Furnish all necessary fittings for installation of fence as a complete unit including, but not limited to, post and line caps, rail and brace ends, rail sleeves, tie wires and clips, tension and brace bands, tension bars, truss rods and barbed wire extension arms.
2. Fence fittings shall conform to ASTM F 626.
3. Ferrous accessories and fittings shall be zinc-coated at a minimum of 1.2 oz./sf. in accordance with ASTM A 153, unless otherwise specified herein.
4. Furnish malleable iron non-lift-off type hinges offset to permit 180 degree swing gate opening.
5. Furnish malleable iron forked type latch with padlock eye suitable for operation from both sides of gate.
6. Furnish 2-inch cylinder type padlock for each gate and provide 3 keys for each padlock.
7. Furnish gate stops for double gates consisting of a mushroom type flush plate with anchors capable of being set in concrete and designed to engage center drop rod or plunger.
8. Furnish keepers to hold the gate leaf in the fully open position until manually released.
9. Wire ties shall be of the same material and coating as the fabric.



H. Concrete

Concrete for post footings shall attain a minimum compressive strength of 3000 psi in 28 days and shall conform to the requirements of ACI 318 for mixing and placing.

**PART 3. EXECUTION**

3.01 PREPARATION

Prepare the grade and remove surface irregularities, if any, which may cause interference with the installation of chain link fence.

3.02 REMOVAL OF EXISTING FENCING

- A. Where shown on the Contract Drawings, remove existing fence including fabric, gates, posts and other appurtenances. Cut post footings flush with the ground surface and grout resulting voids, unless otherwise shown on the Contract Drawings.
- B. Fencing materials and debris resulting from removal operations shall be disposed of away from Authority property, unless otherwise shown on the Contract Drawings.

3.03 INSTALLATION

- A. Comply with applicable provisions of ASTM F 567.
- B. Install fence with all posts vertical and all components to the line and grade shown on the Contract Drawings.
- C. Connect to existing fence at an existing terminal post or by installation of an end post. Subject to approval by the Engineer, an existing line post may be converted to a terminal post by installation of appropriate brace rails and brace rods.
- D. The clear opening from end posts to buildings, fences and other structures shall not exceed 2 inches.
- E. Excavate holes for posts to the diameter and spacing shown on the Contract Drawings without disturbing the underlying materials. Holes resulting from removal of existing post footings may be reused as approved by the Engineer.
- F. Center and align posts. Place concrete around posts and vibrate or tamp for consolidation. Confirm vertical and top alignment of posts and make necessary corrections. Extend concrete footings 1 inch above grade and trowel to a crown to shed water. Unless otherwise approved by the Engineer, no materials shall be installed on the posts nor shall the posts be disturbed within 7 days after the individual post footing is completed.
- G. For non-FAA contracts only, use of mechanical devices may be substituted for concrete in the setting of line posts, provided the Contractor can demonstrate to the satisfaction of the Engineer that such mechanical devices will develop a strength in the ground equal to or greater than that of concrete footings shown on the Contract Drawings.

- H. Stretch chain link fabric taut and securely fasten to posts. Cut fabric and attach each span independently to terminal posts with tension bars and tension bands spaced a maximum of 15 inches apart. Fasten fabric to line posts with tie wires, bands or other method approved by the Engineer, spaced a maximum of 15 inches apart. Fasten top edge of fabric to top rail or top tension wire at intervals not exceeding 24 inches. Fasten bottom edge of fabric to bottom tension wire with wire ties at intervals not exceeding 24 inches. Join rolls of wire fabric by weaving a single strand into the end of the rolls to form a continuous mesh. Install the bottom of the fence fabric to within 2 inches of the finished ground or pavement surface. Grade where necessary to provide a neat appearance.
- I. Install fabric on security side of fence.
- J. Firmly seat barbed wire extension arms or caps on tops of posts.
- K. Stretch barbed wire tightly to remove all sag; firmly install it in slots of extension arms and anchor it to the terminal extension arms.
- L. Install fabric on gate frames with stretcher bars at vertical edges. Install fabric at top and bottom edges with stretcher hooks at not more than 15-inch intervals.
- M. Install gates plumb, level and secure for full opening without interference. For double gates, install ground-set, mushroom type, flush plate in concrete. Adjust hardware for smooth operation and lubricate where necessary.
- N. Install horizontal brace rails with diagonal truss rods and turnbuckles at all terminal posts.

#### 3.04 RELOCATION OF EXISTING FENCING

- A. Remove existing fabric where shown on the Contract Drawings for installation on new posts. Prevent damage to the fabric. Repair or replace any damaged fabric to the satisfaction of the Engineer at no additional cost to the Authority.
- B. Remove and dispose of existing posts and accessories as specified in 3.02 B.
- C. Furnish and install new posts, footings and accessories as specified in this Section.
- D. Install the removed fabric as specified in 3.03.

#### 3.05 ELECTRICAL GROUNDS

At each location where an electric transmission, distribution or power line passes over the fence, construct electrical ground conforming to the following requirements:

- A. Construct electrical grounds per NESC-093E, Specification Section 16450 and NFPA 780.
- B. Ground the fence directly beneath the point where a power line passes over the fence and additionally approximately every 20 feet for 250 feet on each side of the power line crossing and at corner posts.
- C. Ground fences at both sides of gates or at other opening in the fence with flexible braided ground strap.
- D. Bond across all gates and openings with a buried bonding jumper.

- E. The ground shall be accomplished with a copper clad rod 10-feet (3000 cm) long and 3/4-inch (20 mm) in diameter driven vertically until the top is 6 inches (150 mm) below the ground surface. Use a 4/0 AWG bare stranded copper conductor for the ground grid and 1/0 AWG for connection to fence posts. For above ground connections use a double-bolt compression type connector and for below grade use exothermic welded connections.
- F. The grounding loop shall have less than 5 ohms resistance to ground.
- G. Bond each barbed wire strand to a grounded fence post or grounding conductor.
- H. Ground the fence wire mesh fabric, unless it is held in place by a conductive tie-wraps or similar device.
- I. Construct electrical grounds at other locations along the fence as shown on the Contract Drawings.

END OF SECTION

## SECTION 02832

### METALLIC-COATED STEEL CHAIN LINK FENCE AND GATES

#### APPENDIX "A"

#### SUBMITTALS

Submit the following in accordance with the requirements of "Shop Drawings, Catalog Cuts and Samples" of Division 1 - GENERAL PROVISIONS:

##### Samples

02832C01 Submit representative samples of fabric to the Manager, Materials Engineering Division, Port Authority Technical Center, 241 Erie Street, Jersey City, NJ 07310-1397.

##### Certificates

02832E01 Submit manufacturer's certificates of compliance with all requirements for material types, coatings, etc. specified in this Section including but not limited to fabric, barbed wire, fence and gate framing, tension wire, fittings and accessories. Submit certification that rail and roller track assembly for sliding gates are designed for the specified reaction load.

##### Manufacturer Test Reports

02832F01 Submit certified test results for:  
1. Salt spray testing of framework  
2. Concrete compressive strength

##### Inspection Reports

02832O01 Submit methods, types of equipment and other information required by the Engineer to demonstrate equivalent strength of mechanical line post setting devices.

END OF APPENDIX "A"