

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY  
600 FIFTH STREET, N.W.  
WASHINGTON, D.C. 20001

Solicitation Number: IFB-FQ15206/KKB  
Date of Issue: August 20, 2015  
Bid Due Date: September 02, 2015

AMENDMENT NO. 001  
TO  
INVITATION FOR BIDS  
FOR

Construct Rail Cars Access Platforms at New Carrollton, West Falls Church  
Contract FQ15206

TO WHOM IT MAY CONCERN:

The Invitation for Bids for Bid Documents accompanying IFB FQ15206/KKB requesting Bids for the above project are hereby changed in part as listed below.

1. Bidding and Contracting Requirements – Book 1

<u>DELETE</u>	<u>SUBSTITUTE</u>	<u>DESCRIPTION</u>
Invitation for Bids, Appendix D-Wage Rate, Pages 238- 244.	Invitation for Bids Appendix D-Wage Rate, Pages 238- 244.	Revised

2. Contract Specifications – Book 3

<u>DELETE</u>	<u>SUBSTITUTE</u>	<u>DESCRIPTION</u>
Table of Contents, Entitled Engineer's Seal Applying to the Following Specification Sections	Table of Contents Entitled Engineer's Seal Applying to the Following Specification Sections	Revised
Section 1044400-1, Fire Protection Specialties	Section 104400-1, Fire Protection Specialties	Revised
Section 11 05 00, Common Work	Section 11 05 00 Common Work	Revised

Results for Equipment, in its entirety	Results for Equipment, in its entirety	
<u>DELETE</u>	<u>SUBSTITUTE</u>	<u>DESCRIPTION</u>
Section 11 11 39.13 Vertical Swing Vehicle Rooftop Access Platform, in its entirety	Section 11 11 39.13 Vertical Swing Vehicle Rooftop Access Platform, in its entirety	Revised
Section 21 05 00 Common Work Results for Fire Suppression, in its entirety	Section 21 05 00 Common Work Results for Fire Suppression, in its entirety	Revised
Section 21 13 13 Wet-Pipe Sprinkler Systems, Sections 21 13 13 -1-3	Section 21 13 13 Wet-Pipe Sprinkler Systems, Sections 21 13 13-1-3	Revised

3 There are no other changes.

4 THE SOLICITATION PROVISION ENTITLED "SOLICITATION AMENDMENT" IS APPLICABLE TO THIS AMENDMENT. THE CHANGES SET FORTH ABOVE ARE HEREBY INCORPORATED INTO THE ABOVE CITED SOLICITATION. **THE HOUR AND DATE SPECIFIED FOR RECEIPT OF OFFERS IS NOT EXTENDED AND WILL REMAIN SEPTEMBER 02, 2015 AT 2:00 P.M.**

5 Acknowledgement

Offerors are required to acknowledge receipt of this amendment on Bid Form in the space provided. Failure to acknowledge all amendments may cause the Bid to be considered non-responsive to the invitation, which would require rejection of the Bid.

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Issued By:



Richard Owens, Contracting Officer, Office of Procurement and Materials

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Amendment No. 001  
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Name of Offeror:

\_\_\_\_\_  
(Type or Print)

Name and Title of Person:  
Authorized to Sign:

\_\_\_\_\_  
(Type or Print)

Offeror's Signature:

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

Washington Metropolitan Area Transit Authority  
IFB FQ15206/KKB

Contract No. FQ15206  
Date: August 2015

General Decision Number: MD140058 08/14/2015 MD58

Superseded General Decision Number: MD20140058

State: Maryland

Construction Type: Building

County: Prince George's County in Maryland.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).

Note: Executive Order (EO) 13658 establishes an hourly minimum wage of \$10.10 for 2015 that applies to all contracts subject to the Davis-Bacon Act for which the solicitation is issued on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.10 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at [www.dol.gov/whd/govcontracts](http://www.dol.gov/whd/govcontracts).

Modification Number	Publication Date
0=====	01/02/2015
1=====	01/09/2015
2=====	03/06/2015
3=====	04/03/2015
4=====	05/08/2015
5=====	05/22/2015
6=====	06/26/2015
7=====	07/03/2015
8=====	07/17/2015
9=====	08/14/2015

ASBE0024-007 10/01/2013

Rates Fringes

ASBESTOS WORKER/HEAT & FROST INSULATOR===== \$ 33.13=====13.76

Includes the application of all insulating materials, protective coverings, coatings and finishes to all types of mechanical systems

ASBE0024-010 10/09/2013

Rates Fringes

ASBESTOS WORKER: HAZARDOUS MATERIAL HANDLER

(Removal of hazardous material from ceilings, floors, mechanical systems, and walls)===== \$ 20.86=====5.46

BRMD0001-006 5/03/2015

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	Rates	Fringes
TILE SETTER=====	\$ 26.75=====	10.68

BRMD0001-011 05/03/2015

	Rates	Fringes
BRICKLAYER (Excluding Pointing, Caulking and Cleaning)=====	\$ 30.36=====	9.69

BRMD0001-012 05/03/2015

	Rates	Fringes
MASON – STONE=====	\$ 35.19=====	16.17

BRMD0001-013 05/03/2015

	Rates	Fringes
TERRAZZO WORKER/SETTER=====	\$ 26.75=====	10.68

CARP0132-017 05/01/2013

	Rates	Fringes
CARPENTER (Including Acoustical Ceiling Installation, Drywall Hanging, Metal Stud Installation and Form Work)=====	\$ 27.56=====	9.08

CARP1831-002 04/01/2013

	Rates	Fringes
MILLWRIGHT=====	\$ 31.59=====	8.58

\*ELEC0026-021 09/01/2014

	Rates	Fringes
ELECTRICIAN (Communication and Sound Equipment)=====	\$ 27.05=====	8.58

ELEC0026-022 11/03/2014

	Rates	Fringes
ELECTRICIAN (Including low voltage wiring for and installation of alarms, HVAC controls)=====	\$ 42.40=====	14.97+a

- a. PAID HOLIDAYS: New Year's Day, Inauguration Day, Martin Luther King Jr.'s Birthday, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, the day after Thanksgiving Day and Christmas Day.

ELEV0010-001 01/01/2015

	Rates	Fringes
ELEVATOR MECHANIC=====	\$ 41.09=====	28.385+a+b

- a. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, Christmas Day and the Friday after Thanksgiving.
- b. VACATIONS: Employer contributes 8% of basic hourly rate for 5 years or more of service; 6% of basic hourly rate for 6 months to 5 years of service as vacation pay credit.

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**ENGI0077-017 05/01/2013**

	Rates	Fringes
POWER EQUIPMENT OPERATOR:		
Backhoe=====	\$ 32.40=====	8.45+a
Bulldozer=====	\$ 31.65=====	8.45+a

- a. PAID HOLIDAYS: New Year's Day, Inaugural Day, Decoration Day, Independence Day, Labor Day, Martin Luther King's Birthday, Veterans' Day, Thanksgiving Day, Friday after Thanksgiving and Christmas Day.

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**IRON0005-005 06/01/2014**

	Rates	Fringes
IRONWORKER, STRUCTURAL AND ORNAMENTAL=====	\$ 30.65=====	18.135

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**IRON0201-006 05/01/2014**

	Rates	Fringes
IRONWORKER, REINFORCING=====	\$ 27.50=====	18.58

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**LABO0657-021 06/01/2015**

	Rates	Fringes
LABORER: Common or General=====	\$ 14.93=====	7.31
LABORER: Mason Tender - Cement/Concrete=====	\$ 22.63=====	7.31
LABORER: Pipelayer=====	\$ 22.63=====	7.31

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**PAIN0051-014 06/01/2014**

	Rates	Fringes
GLAZIER		
Glazing Contracts \$2 million and under=====	\$ 24.77=====	9.85
Glazing Contracts over \$2 Million=====	\$ 28.61=====	9.85

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**PAIN0051-019 06/01/2014**

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	Rates	Fringes
PAINTER		
Brush, Roller, Spray and Drywall Finisher/Taper=====	\$ 24.89=====	9.05
Industrial=====	\$ 29.60=====	9.05

PLAS0891-005 07/01/2013

	Rates	Fringes
PLASTERER=====	\$ 28.33=====	5.85

PLAS0891-006 02/01/2014

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER=====	\$ 27.15=====	9.61

PLAS0891-008 08/01/2014

	Rates	Fringes
PLASTERER (Fireproofing Including Sprayer, Mixer, and Handler)		
Handler=====	\$ 16.50=====	4.24
Mixer/Pump=====	\$ 18.50=====	4.24
Sprayer=====	\$ 23.00=====	4.24

PLUM0005-010 08/01/2014

	Rates	Fringes
PLUMBER=====	\$ 38.92=====	16.35+a

- a. PAID HOLIDAYS: Labor Day, Veterans' Day, Thanksgiving Day and the day after Thanksgiving, Christmas Day, New Year's Day, Martin Luther King's Birthday, Memorial Day and the Fourth of July.

PLUM0602-011 08/01/2014

	Rates	Fringes
PIPEFITTER (Including HVAC Pipe and System Installation)=====	\$ 38.24=====	19.42+a

- a. PAID HOLIDAYS: New Year's Day, Martin Luther King's Birthday, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day and the day after Thanksgiving and Christmas Day.

ROOF0030-016 05/01/2014

	Rates	Fringes
ROOFER=====	\$ 28.50=====	11.04

SFMD0669-001 04/01/2015

	Rates	Fringes
SPRINKLER FITTER (Fire Sprinklers)=====	\$ 32.40=====	18.12

SHEE0100-015 03/01/2015

	Rates	Fringes
SHEET METAL WORKER (Including HVAC Duct Installation)=====	\$ 39.79=====	16.77+a

- a. PAID HOLIDAYS: New Year's Day, Martin Luther King's Birthday, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day and Christmas Day

SUMD2010-092 08/04/2010

	Rates	Fringes
LABORER		
Grade Checker=====	\$ 16.00=====	2.90
Landscape=====	\$ 9.23=====	0.00
Mason Tender - Brick=====	\$ 13.28=====	2.95
Mason Tender - Stone =====	\$ 14.03=====	0.00
Mason Tender for Pointing, Caulking and Cleaning=====	\$ 14.15=====	0.00
Mortar Mixer=====	\$ 16.61=====	9.08

POINTER, CAULKER, CLEANER, Includes pointing, caulking, cleaning of existing masonry, brick, stone and cement structures (restoration work); excludes pointing, caulking, cleaning of new or replacement masonry, brick, stone or cement.===== \$ 19.14

POWER EQUIPMENT OPERATOR:

Asphalt Roller=====	\$ 21.35=====	5.38
Bobcat/Skid Loader=====	\$ 18.05=====	8.78
Boom=====	\$ 21.44=====	8.29
Crane=====	\$ 20.95=====	6.18
Excavator=====	\$ 20.00=====	0.00
Forklift=====	\$ 16.00=====	5.12
Gradall=====	\$ 20.50=====	8.42
Grader/Blade=====	\$ 14.50=====	5.18
Loader=====	\$ 24.00=====	5.40
Paver=====	\$ 17.47=====	6.36
Roller excluding Asphalt=====	\$ 17.60=====	3.88

TILE FINISHER===== \$ 17.87=====7.32

TRUCK DRIVER

Dump Truck=====	\$ 15.90=====	1.12
Tractor Haul Truck=====	\$ 17.87=====	9.98

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.



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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

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The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

#### Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

#### Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

#### Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

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WAGE DETERMINATION APPEALS PROCESS

- 1.) Has there been an initial decision in the matter? This can be:
- \* an existing published wage determination
  - \* a survey underlying a wage determination
  - \* a Wage and Hour Division letter setting forth a position on a wage determination matter
  - \* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations  
Wage and Hour Division  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

- 2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

- 3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

- 4.) All decisions by the Administrative Review Board are final.

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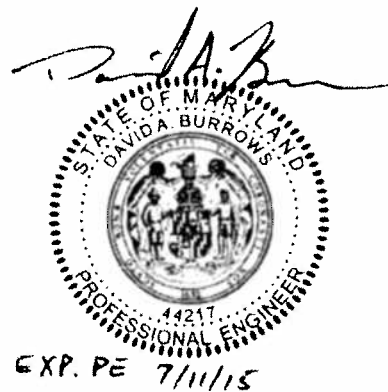
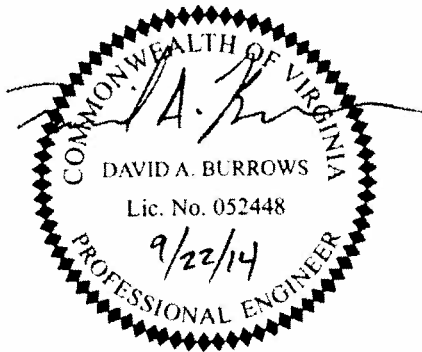
END OF GENERAL DECISION

REVISED AMENDMENT 001

**CONSTRUCT RAIL CARS ACCESS PLATFORMS AT NEW  
CARROLLTON, WEST FALLS CHURCH  
CONTRACT NO. FQ15206**

ENGINEER RECORD'S SEAL APPLYING TO THE FOLLOWING SPECIFICATION SECTIONS:

2 41 13	Selective Demolition
3 60 00	Grouting
05 12 00	Structural Steel Framing
05 50 00	Metal Fabrications
05 52 13	Pipe and Tube Railings
05 53 00	Metal Grating
09 90 00	Painting and Coating
11 00 05	Common Work Results For Equipment
11 11 39.13	Vertical Swing Vehicle Rooftop Access Platform (New Carrollton Only)



2. Class: A:B:C.
3. Size: 10 pound (4.54 kg).
4. Finish: Baked polyester powder coat, red color.
5. Temperature range: -65 degrees F (-54 degrees C) to 120 degrees F (49 degrees C).

## 2.2 ACCESSORIES

- A. Extinguisher Brackets: Formed steel, galvanized and enamel finished.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify rough openings for cabinet are correctly sized and located.

### 3.2 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install cabinets plumb and level in wall openings, 24 inches (600 mm) from finished floor to inside bottom of cabinet.
- C. Secure rigidly in place.
- D. Place extinguishers and accessories in cabinets and on wall brackets.

## PART 4 MEASUREMENTS AND PAYMENTS

### 4.1 MEASUREMENTS

- A. Locations of the Fire Extinguishers are shown on the contract drawings. No Measurement will be made of the work in this system.

### 4.2 PAYMENTS

- A. Payment for the work of this section shall not be measured for payment, but shall be considered incidental to roof top access platform at either New Carrollton or West Falls Church Maintenance Facility contract Lump Sum price.

**END OF SECTION**

## SECTION 11 05 00

### COMMON WORK RESULTS FOR EQUIPMENT

#### PART 1 GENERAL

##### 1.1 SUMMARY:

- A. This Specification is applicable at the following Facilities:
  - 1. D90 – New Carrollton Maintenance Facility (NC)
  - 2. K90 – West Falls Church Maintenance Facility (WFC)
- B. Section Includes:
  - 1. The requirements of this Section shall apply to Divisions 09, 10, 11 and Equipment Specifications.
  - 2. Furnish and install as directed by the Authority Representative all equipment, as specified, complete and ready for operation. Each item shall be specifically designed for the intended function. Provide necessary accessories, items of equipment, mechanical, electrical and structural items, whether specified or not in order to provide properly installed and functional equipment.
  - 3. Equipment shall be suitable for installation in the Maintenance Facility as shown and required by the Contract Documents. Any modification or redesign to the building structure or utilities because of an alternate equipment selection by the Contractor shall be provided by the Contractor at no additional cost to WMATA and shall be as approved by the Authority Representative. All alternate equipment selections or proposed substitutions must be submitted and approved in accordance with the provisions of the Special Provisions and this section
  - 4. In all cases where a device or part of the equipment is referred to in the singular number, it is intended that such reference shall apply to as many such devices as are required to complete the installation.
  - 5. There will be no separate payment for the work of this Section.
- C. Related Sections:
  - a. General and Special Provisions
  - b. Section 09 90 00 Paint and Coatings
  - c. Section 10 44 00 Fire Protection Specialties
  - d. Section 11 11 39.13 Vertical Swing Vehicle Roof Access Platform
  - e. Division 22 Plumbing
  - f. Division 26 Electrical

##### 1.2 REFERENCES:

- A. Work shall conform to Federal, State and local governing rules and regulations and ordinances, including OSHA and NFPA requirements, and shall pass inspection by the authorities having jurisdiction.
- B. Federal Transit Administration (FTA)
  - 1. 49 CFR 661 Buy America Requirements

##### 1.3 QUALITY ASSURANCE:

- A. General:

1. All articles, materials, fittings, equipment and appurtenances incorporated in the work shall be new and unused, free from defects and imperfections, of first grade commercial quality, and shall, as far as practicable, be manufacturer's standard make. Manufacturers shall have proven experience in the design and manufacture of specified items, suitable for the purpose intended and subject to approval by the Authority Representative.
  2. When two or more items of equipment are required, they shall be products of a single manufacturer.
  3. All work shall be performed in a neat and workmanlike manner by workers skilled in their respective trades, and all materials and equipment shall be installed as recommended by the manufacturers and in accordance with specified codes and standards.
  4. Touch-up or repaint to match original finish, all factory finishes or painted equipment and materials which are scratched or marred during shipment or installation.
  5. For purposes of designating type and quality of work for the Division 09, 10, 11 and Equipment, the Specifications are based on the requirements listed in Part 2 - Products.
- B. Substitutions: Requests for approval of equipment items other than those specified herein shall be made in accordance with the Special Provisions, General Requirements and this section.
- C. Permits and Tests: Obtain all necessary permits from the State and other authorities having jurisdiction, make application and file all drawings required for such permits, and pay all fees. Arrange for inspections and tests required by governing authorities and by the Owner, and pay all costs connected therewith. Obtain and file with the Owner written evidence that all the above requirements have been met.
- D. Furnish proof that the Installing Contractor is licensed in Maryland and Virginia.
- E. Certifications: Obtain all necessary certifications from suppliers and testing agencies as required by the Contract and pay all fees related to obtaining them.

#### 1.4 SUBMITTALS:

- A. Pursuant to the provisions of the General and Special Provisions; the Contractor shall submit:
1. Material and Equipment List
  2. Product data (e.g., catalog cuts, manufacturer's data, and manufacturer's certificate of conformance or compliance, certified test report, samples).
  3. Shop Drawings and Installation Instructions including the following:
    - a. Layout drawings showing equipment, elevations, conduit runs, utilities, and hook-ups, and all required dimensions. Drawings shall show plan and elevation views of all required conduit and piping runs. Equipment drawings shall clearly indicate all maintenance access points.
    - b. Foundation and structural support drawings including anchor bolt plan and elevation.
    - c. Utility connection plan.
    - d. Electrical equipment layout, with all motors, limit switches, solenoid valves, disconnects, control panels, emergency shut off switches, interlocks, accessories, all located and labeled.
    - e. Piping systems including pipe routing, pipe and fittings, sizing, valving, lubricators, regulators, pumps, nozzles and accessories, fully noted and scheduled.

- f. HVAC and exhaust air systems including duct routing, duct sizes, fittings, dampers, grilles, supports, etc., fully noted and scheduled including elevations, in addition to details of penetrations and equipment connections.
- 4. Schedule of Work.
- 5. Operations Maintenance (O&M) Manuals as required by this section and the Special Provisions.
  - a. The Contractor shall provide two (2) sets of Operation and Maintenance Manuals, per location for all equipment specified.
  - b. The Contractor shall provide an electronic copy of the O&M Manual as specified below.
  - c. Manuals shall contain 8½ inch x 11 inch pages. The binders shall not exceed 3 inches overall thickness. Punched holes shall be on ¾ inch centers. Folding pages will be permitted (11 inch x 17 inch, "Z" folded) where the information to be conveyed cannot be presented clearly on single pages. Manuals for 8½ inch x 11 inch pages may be divided into Book 1, Book 2, etc., if the required material cannot be accommodated within the maximum binder thickness. Table of Contents shall be provided in each book.
  - d. Format Manuals as follows:
    - 1) Title page: Include the name and function of the equipment, manufacturer's identification number, and the project Specification number and title.
    - 2) Table of contents, in numerical order listing each section and subsection title of the O&M Manual with reference to the page on which each starts and a list of included diagrams and drawings.
    - 3) Index, in alphabetical order.
    - 4) Frontispiece: Recognition illustration of the equipment described in the O&M Manual.
    - 5) Manufacturer's literature describing each piece of equipment, including major assemblies and subassemblies, and giving manufacturer's model number and drawing number.
    - 6) Operation instructions including step-by-step preparation for starting, safe operation, shutdown and draining, and emergency requirements.
    - 7) Control diagrams, as-installed by the manufacturer.
    - 8) Sequence of operation by the control manufacturer.
    - 9) Wiring diagrams, as-installed and color codes, of electrical motor controllers, connections and interlock connections.
    - 10) Diagrammatic location, function and tag numbers of each valve.
    - 11) Maintenance instructions: Include step-by-step procedures for inspection, operation checks, cleaning, lubrication, adjustments, repair, overhaul, disassembly, and reassembly of the equipment for proper safe operation of the equipment. Include list of special tools which are required for maintenance with the maintenance information.
    - 12) Possible breakdowns and repairs.
    - 13) Manufacturer's parts list of functional components, control diagrams and wiring diagrams, giving manufacturer's model number and manufacturer's part number.
    - 14) "Long-Lead-Time" spare parts list for spare parts not readily available on the local open market or for which it is anticipated ordering and delivery time will exceed 10 days.

- 15) List of nearest local suppliers of all equipment parts.
  - 16) Lubrication schedule indicating type and frequency of lubrication.
  - 17) Manufacturer's warranty and guarantee data.
  - 18) Spare parts data as follows:
    - a) Complete list of parts and supplies, with current unit prices and sources of supply.
    - b) List of parts and supplies that are either normally furnished at no extra cost with purchase of equipment, or specified herein to be furnished as part of Contract.
    - c) List of additional items recommended by manufacturer to assure efficient operation for period of 120 days.
  - 19) Complete sufficient copies of manufacturer's preventive maintenance forms to properly address each equipment item and all major equipment components installed under this section.
  - 20) Appendix: Include safety precautions, a glossary, and, if available at time of submittal, copies of test reports, and other relevant material not specified to be submitted.
  - 21) Delete information on material or equipment not used in the work from the O&M Manual.
6. Training Program as required by this section and the General and Special Provisions.
- a. General Requirements: Provide training as outlined in this section.
    - 1) Maintenance management classes are to take place prior to substantial completion of the facility. Mechanics training will commence only after installation of machine is complete at the garage.
    - 2) Training shall be conducted at the existing facility
    - 3) Hours for training are to be between 6:00 am and 2:30 pm unless specifically permitted otherwise.
7. Sequence of Approval:
- a. Tentative Approval of Equipment: Before submittal of shop drawings, submit to the Authority Representative for approval, drawings, specifications and lists of equipment to be incorporated in the work. This list shall include catalog numbers, cuts, and such other descriptive data as may be required to assure compliance with these specifications. No consideration will be given to partial lists submitted from time to time. Approval of equipment will be tentative subject to submission of complete shop drawings indicating compliance with the Contract Documents.
  - b. Final Approval of Equipment: After receiving tentative approval of the equipment lists, submit shop drawings, product data and installation instructions for final approval.
  - c. Equipment substitutions must conform to the requirements of the Special Provisions and this section.
8. Certificates:
- a. Furnish an affidavit certifying that all materials and workmanship comply with the applicable code requirements.
  - b. Before final acceptance, furnish certificates of the authorities having jurisdiction.
  - c. Furnish factory certificates stating that all specification requirements relating to load capacities, pump capacities and fan capacities are provided.
  - d. Certify that the design of equipment items and systems complies with Seismic Site Classification D, Seismic Design Category – B criteria.



- 1) Certification must be by a Professional Engineer registered in the states of Maryland and Virginia.
- 2) Supporting calculations must be submitted for review by the Authority Representative.
- e. Certificates stating equipment items comply with the FTA's 49 CFR Part 661 Buy America Requirements.

1.5 JOB CONDITIONS:

- A. Certificates of Compliance: Upon delivery of the equipment, submit certificates of compliance. Each certificate shall be signed by an authorized representative of the manufacturer stating that the equipment complies in all respects with the Contract requirements.
- B. General Design and Fabrication Requirements:
  1. Equipment shall be designed, fabricated, installed and adjusted to secure the best commercially available results with respect to smooth, quiet, convenient and efficient operation, durability, economy of maintenance and operation, and the highest standards of safety.
  2. It is not the intent of these Specifications to detail the design and fabrication of the several parts of the equipment, but it is expected that the type, material, design, workmanship and fabrication of each and every part shall be fully adequate for the service required, durable, properly coordinated with all other parts, in accordance with the best commercial standards and of the highest commercial efficiency. The components of electric circuits shall be of ample and proper size, design and material to avoid injurious heating and arcing, and all other objectionable effects which may reduce the efficiency of operation and economy of maintenance and upkeep below the best commercially available results. Minimum requirements are given herein for the certain parts of equipment. Equivalent requirements approved by the Authority Representative shall apply to such parts as are of special design, construction or material and to which the specified requirements are not directly applicable. These minimum requirements as a whole shall also be considered as establishing proportionate general minimum standards for all parts of the equipment.
  3. The Authority Representative may permit variations from the requirements of these Specifications to permit the use of the manufacturer's standard equipment, provided in his opinion such standard equipment is in every way adequate for the intended use and meets the full intent of these Specifications. All such variations proposed by the Contractor shall be called to the attention of the Authority Representative in writing and shall be made only if approved in writing. All proposed substitutions must conform to the requirements of the Special Provisions.
  4. Certain design limitation, tests, etc., are herein specified as a partial check on the adequacy of design, fabrication, and materials. These requirements do not cover all features necessary to insure satisfactory and approved operation of the equipment. Conformity with these requirements shall, in no way, supersede the general requirements as to satisfactory and efficient operation of the equipment.
- C. Remove, relocate and repair any items that are necessary for the installation of the equipment, at no additional cost to WMATA.

1.6 GUARANTEE:

- A. Warranty: All equipment shall be warranted as a minimum 2 years in accordance with Special Provisions and the following provisions:
1. The Contractor shall furnish a warranty covering all parts of the work performed, and all materials and equipment furnished hereunder by Contractor or his subcontractors or suppliers will be free from defects in design, material, workmanship, and operation for a period of two years from the date of acceptance of the work.
  2. Warranty shall provide for 24 hour parts availability and 24 hour response time. Supplier shall maintain an adequate parts stock such that equipment down times attributable to unavailable typical repair parts shall be 48 hours or less during the first five year period.
  3. The Contractor shall repair or pay for the repair of any such defect at his own expense.
  4. Work which has been abused or neglected is excluded from this warranty.
  5. Furnish written warranties required by the respective sections of the Specifications for time stipulated therein. These warranties shall be in writing, on the Contractor's or supplier's letterhead and shall be included in the operations and maintenance manual(s) as specified in 1.04 of this section.
  6. Major equipment components, (as required by the respective sections of the specifications) specifically those manufactured by other than the primary equipment supplier, shall be covered by their own respective warranties, which shall not be less than the suppliers mandated two year warranty. These warranties shall also be included in the operations and maintenance manual(s).
  7. Nothing in these requirements, conditions or specifications including WMATA's right to a complete inspection shall constitute a disclaimer to or limit, negate, exclude or modify in any way any warranty created hereunder.

1.7 NOISE AND VIBRATION ISOLATION:

- A. Operation of the equipment shall not exceed noise and vibration limits established by OSHA, local code or other regulatory requirements. Where required, provide approved type noise and vibration isolation pads equipped with necessary bearing plates and bolts. Pads shall be specifically designed for the weights, speeds and vibration characteristics of the equipment supported. The pads shall provide proper distribution of weight to avoid distortion of the bedplates.
- B. Bolts and other fastenings in connection with these pads shall also be isolated.

1.8 SHOP PAINTING:

- A. Equipment shall be given one shop prime coat of approved rust-inhibitive paint containing at least 50 percent rust-inhibitive pigments and manufacturer's standard finish coat system. Shop drawings shall indicate brand and type of paint for both the prime coat and finish coat systems, as well as the color of all finish coats. All color selections must be approved by the Authority Representative.
- B. Special equipment painting requirements are outlined in the respective sections of Divisions 09, 10, and 11.

1.9 ELECTRICAL REQUIREMENTS:

- A. Electrical materials and devices shall conform to the standard of Underwriters' Laboratories, Inc. (UL). Where material standards have not been established by UL, standards of quality and performance shall be those of the specified manufacturers, subject to approval of the agencies having jurisdiction. Products that are not UL listed shall be tested in place to demonstrate that the item complies with FEP (Field Evaluated Product) UL requirements. The Contractor is responsible to include the costs for all such testing in his bid price and no additional compensation related to this testing will be provided.
- B. Power supply for equipment shall be 480 volts, 3-phase, 60 hertz unless otherwise specified.
- C. Provide transformers for equipment as required to step down the specified supply voltage to provide lower voltage for controls and accessories and to provide voltage compatible with equipment as required.
- D. Wiring shall be provided for complete installation of all equipment and accessories and shall be adequate for proper operation of equipment. Disconnect switch shall be provided for each equipment item requiring electric power. Disconnect switch shall meet the requirements of the respective equipment item manufacturer and these Specifications. Permanently label each disconnect switch to identify corresponding equipment item; labeling method shall conform to Division 26 and be subject to approval of the Authority Representative. Contractor shall provide power wiring to line side of disconnect switch. Make connection to secondary side of disconnect switch and provide all wiring and conduit from this point, including wiring to controllers and starters. Provide 480 volt, 230 volt and 208 volt equipment, as required, with electric fusible disconnecting means, sized and fused as required for each equipment item. All disconnect switches shall be fused with 200,000 amp limiter fuses. Provide 120 volt equipment with electric thermal overload disconnecting means sized as required for each equipment item. Wire and cable for light, power and signal circuits shall conform to those specified in the National Electrical Code. In no case shall maximum current carried exceed that specified by National Electrical Code for type of conductor used. Provide conduit where required; all wiring and conduit shall be in accordance with the requirements of Division 26.
- E. Motors:
  - 1. Motors shall be high efficiency makes, each bearing the UL label and constructed to standard of NEMA, IEEE, ANSI, and AFBMA.
  - 2. Motors shall be suitable for operation on the electrical service indicated.
  - 3. Horsepower ratings and sizes shall be selected at 104°F ambient temperature for open motors, with a service factor of 1.15 for open motors and unity service factor for totally enclosed or drip-proof motors. Provide motors with epoxy encapsulated insulation for severe usage in a corrosive atmosphere.
  - 4. Motors rated one horsepower or greater shall have a full-load power factor of 85 percent or higher. Motors rated 25 horsepower and over shall be designed for reduced voltage starting.
- F. Drives:
  - 1. Guards shall be provided for each coupling and belt drive in conformance with applicable codes.
  - 2. Belt drives shall have adjustable motor drive pulleys, and pulleys shall be replaced by the Contractor if required to properly operate the equipment.

3. Provide sliding motor bases where adjustable motor drive pulleys are provided.

1.10 GASKETS AND FASTENERS:

- A. Provide new gaskets wherever gasketed mating equipment items or pipe connections have been dismantled. Gaskets shall be in accordance with manufacturer's recommendations.
- B. Replace all assembly bolts, studs, nuts and fasteners of any kind which are bent, flattened, corroded, or have their threads, heads or slots damaged.
- C. Furnish all bolts, studs, nuts and other fasteners for make-up of all connections to equipment and replace any of these items damaged in storage, shipment or moving. Bolts shall comply with applicable SAE requirements including manufacturer's identification and certification of testing.

1.11 EQUIPMENT:

- A. Equipment, machinery and materials shall be as specified in Division 09, 10, and 11.
- B. Starters, controllers, disconnect switches and start-stop stations shall be provided for all equipment. Correct sizing of starters and disconnect switches shall be the joint responsibility of the Contractor and the equipment or apparatus manufacturer.
  1. Electrical enclosures shall be NEMA 12 for indoor units and NEMA 4 for outdoor units unless otherwise noted by the Authority Representative.
  2. Starters shall be complete with two sets of auxiliary contacts; one set normally open; one set normally closed.
  3. For motors 25 HP or greater provide auto transformer type reduced voltage starters.
  4. Provide labels for all disconnects for the equipment furnished under respective section of work.
- C. Control devices necessary for proper operation shall be provided and shall be located to permit efficient operation of the equipment, and where possible shall be grouped in a factory fabricated NEMA approved control panel complying with the Specifications.
- D. Switches, lights and control functions shall be identified with commercially available touch pads. The touch pads shall be industrial type oil resistant, etc. that are used on CNC control panels. No decals will be accepted.
- E. Piped services for equipment shall be terminated near the piece of equipment in a shut-off means. As part of the work of this Section, extend these piped services to the equipment and make the connections.
- F. Provide piping, fittings, valves, connections, etc., of a type and size as recommended by the equipment manufacturer that will properly interface with the existing piped services.
- G. All piping, valves, fittings, conduits and wiring required for the equipment installation shall be in accordance with the applicable portions of these Specifications.

1.12 INSTALLATION REQUIREMENTS:

- A. Furnish common and skilled labor, tools, rigging equipment, scaffolding, shims, dowels, and other materials necessary to make complete installation of equipment specified and indicated in the Contract Documents. Equipment Manufacturer shall provide onsite representative during equipment installation.
- B. Receive, unload, check and store equipment in suitable facilities. All equipment should be kept clean, dry, and free from damage and be marked and tagged with equipment item numbers.
- C. Examine equipment for concealed damage and report any damage.
- D. Be responsible for safety and protection from loss or damage of equipment received until work is complete.
- E. Pay demurrage charges and claims for damage resulting from unloading operations.
- F. Reassemble equipment items which were dismantled for shipment or moving. Assemble items which are delivered knocked down, or disassembled.
- G. Coordinate the installation of equipment with the Authority Representative.
- H. Protect equipment during storage and prior to start-up, which shall include covering of openings, protection against rust and other damage, etc. Equipment may be stored outdoors only with approval of the Authority Representative.
- I. Furnish and install grout, shim material, and miscellaneous steel necessary for brackets, anchors, or supports required in installation of equipment.
- J. Accomplish field machining that might be required to fit equipment together or to install equipment.
- K. Lubricate apparatus before start-up.
- L. Field check for clearance and interferences before fabrication or installation and relocate material and equipment furnished as required to eliminate interferences as approved by the Authority Representative.
- M. Details listed in these specifications are given for a better understanding of the work required by the Contractor, and do not place a limitation on the amount of work to be done nor do they relieve the Contractor of additional work that may be required for a complete installation.
- N. Perform mechanical and electrical work required to install the equipment in accordance with the requirements of the jurisdictional authorities and the current applicable codes and standards of practice employed by these trades.

1.13 HOLES, OPENINGS, AND INSERTS:

- A. Provide holes and openings in floors, walls, ceilings, and roofs as required. Coordinate all holes and openings with reinforcement and sleeves as required by Structural Contract Drawings.

- B. Core drill holes in existing work using dustless method. Grout holes in concrete walls, floor and roof slabs after installation of equipment, and leave them in a completely neat and sealed condition.

- C. Install concrete inserts and flashings as required.

1.14 SETTING AND ALIGNING EQUIPMENT:

- A. Equipment shall be set and aligned in accordance with manufacturer's recommendations, approved shop drawings and applicable standards of trade practice.
- B. Equipment shall be set true and level. Demonstrate adequate leveling of installed equipment.
- C. Retighten bolted connections after installation.

1.15 CLEANING AND PROTECTION:

- A. Clean fabricated assemblies and equipment items thoroughly before and after operating and testing.
- B. Protect equipment from damage, deterioration, paint or coating spills or spots, corrosion, or harm from any source.

1.16 CONCRETE FOUNDATIONS:

- A. Provide concrete foundations for equipment as required for proper installation and operation. Contractor shall be responsible for all foundation modifications required because of submitting substitute or as equal equipment.
- B. Provide anchor bolts as required for equipment to be mounted. Size anchors for embedding in concrete and expansions anchors as recommended by the equipment manufacturer, in accordance with specified seismic criteria.
- C. Provide grouting as necessary to stabilize equipment bases to concrete foundations.
- D. Provide hard rubber shims and dampening pads as recommended by the equipment manufacturer for leveling of equipment and dampening of equipment vibration transmission.

1.17 EQUIPMENT TEST AND CHECK-OUT:

- A. Before Final Acceptance, the Contractor-furnished building equipment and systems shall be tested in accordance with the General Provisions (by a testing agency when required) in the presence of the Authority Representative to his satisfaction and demonstrated to be correctly connected and installed. Submit a testing schedule to the Authority Representative for approval prior to the start of the equipment test and check-out.
- B. Testing and check-out procedures of the manufacturer shall be carried out completely.
- C. Equipment tests shall not only be performed to demonstrate that the equipment has been properly installed and connected and operates properly but also to demonstrate

that the equipment performs the work as described in Division 09, 10, and 11 Equipment Specifications.

- D. Tested equipment found to be defective or inoperable to any extent shall be reported to the Authority Representative immediately.
- E. Any operating difficulty or defective item shall be repaired or replaced and put into proper operation by the Contractor immediately, at no additional expense to the Owner.
- F. Protect equipment and surrounding areas from damage resulting from testing operations. Clean-up spills or leakage from testing.
- G. The Contractor shall bear all expenses of all tests, including the furnishing of all necessary instruments, lubricant, hydraulic fluids, supplies, data recorders, certificates and operating personnel. Provide and bear all expenses for fuel/power required to operate the equipment during the tests.
- H. At the sole discretion of the Authority Representative, the Contractor will be required to repeat any test at no additional cost to the Owner.

1.18 MOTORS AND DRIVES:

- A. Motors and drives shall be checked carefully for correct rotation and alignment before placing equipment into operation.
- B. Couplings shall be disconnected and realigned before placing into service or testing.
- C. Belt drives shall be adjusted and worn belts replaced in sets. Speed adjustment shall be subject to approval of the Authority Representative.

1.19 INSPECTION:

- A. Work will be inspected by the Authority Representative periodically during the course of construction.
- B. Provide for inspections by all those having jurisdiction over the work performed under Division 09, 10, and 11 during the progress of the work.
- C. At time of final inspection, furnish certificate or certificates of final approval by all those having jurisdiction as applicable.

1.20 FIELD PAINTING:

- A. Field painting equipment, including touch-up painting, if any, is included in Section 09 90 00 Paint and Coatings. Normally, equipment shall be factory-finished as previously specified.
- B. Where factory finishes are provided on equipment and no additional field painting is specified, all marred or damaged surfaces shall be touched up or refinished so as to leave a smooth, uniform finish at the time of final inspection.

1.21 EQUIPMENT START-UP:

- A. Unless otherwise specified in other Sections of these Specifications, all lubricants, cleaning compounds and similar operating materials will be furnished by the Contractor during start-up and testing.
- B. After all equipment and systems have been installed, connected, and tested, proceed with start-up.

1.22 TRAINING:

- A. General: The Contractor is responsible for providing training on equipment in accordance with requirements of the General and Special Provisions, Section 11 11 39.13 Vertical Swing Vehicle Rooftop Access Platform,

PART 2 PRODUCTS

Not Required

PART 3 EXECUTION

Not Required

PART 4 MEASUREMENTS AND PAYMENTS

4.1 MEASUREMENTS

- A. No Measurement will be made of the work of this section.

4.2 PAYMENTS

- A. Payment for the work of this Section shall not be measured, but shall be considered incidental to roof top access platform at either New Carrollton or West Falls Church Maintenance Facility contract Lump Sum price.

END OF SECTION



**SECTION 11 11 39.13**

**VERTICAL SWING VEHICLE ROOFTOP ACCESS PLATFORM**

**PART 1 GENERAL**

**1.1 SUMMARY**

- A. This Specification is applicable at the following Facilities:
  - 1. D90 – New Carrollton Maintenance Facility (NC)
    - a. Maintenance Bay only
- B. Section Includes:
  - 1. The work in this section includes furnishing and installing a Vertical Swing Vehicle Rooftop Access Platform that connects to the NC maintenance bay platform. The manufactured item bridges the gap between the constructed platform and the rooftop of the railcar.
- C. Related Sections:
  - 1. General and Special Provisions
  - 2. Section 11 05 00 Common Work Results for Equipment
  - 3. Section 05 53 00 Metal Gratings
  - 4. Division 26 Electrical

**1.2 DEFINITIONS**

- A. Equipment: Vertical Swing Vehicle Rooftop Access Platform and its accessories.
- B. Installer: General Contractor.

**1.3 REFERENCES**

- A. Federal Transit Administration (FTA)
  - 1. 49 CFR 661 Buy America Requirements

**1.4 QUALITY ASSURANCE**

- A. Refer to the General Provisions, Special Provisions and Section 11 05 00 Common Work Results for Equipment and comply with the provisions herein.
- B. Experience: Equipment shall be produced by a manufacturer of established reputation with a minimum of 5 years' experience supplying specified equipment.
- C. Manufacturer's Representative:
  - 1. Training: Provide technical representative to train WMATA's maintenance personnel in operation and maintenance of specified equipment.

**1.5 SUBMITTALS**

- A. Comply with the requirements of the General and Special Provisions, Section 11 05 00 Common Work Results for Equipment and as specified herein.
- B. Shop Drawings:
  - 1. Submit complete catalog information and dimensioned shop drawings. Tolerances, clearances, and dimensions shall follow the system of ounces, pounds, gallons, inches, and feet, as used in the United States (metric conversions may be provided

- parenthetically). Shop drawings shall include, but not necessarily be limited to, the following:
  - a. Outline dimensions of equipment.
  - b. Equipment and component layout.
  - c. Details of equipment and controls.
  - d. Complete and detailed foundation requirements with embedded items completely detailed.
  - e. Other necessary installation details, including infrastructure items furnished by others.
  - f. Catalog cuts of all purchased components.
  - g. Certification of Compliance: 49 C.F.R. Part 661 Buy America Requirements
- C. Operation and Maintenance Manuals:
  - 1. Submit Operation and Maintenance Manuals in accordance with the General Provisions, Special Provisions and Section 11 05 00 Common Work Results for Equipment.
- D. Parts Catalog:
  - 1. Enumerate and describe every component and its related parts, including identifying numbers and commercial equivalents where applicable.
  - 2. Include cut-away and exploded view drawings for identification of all parts.
- E. Spare Parts List:
  - 1. Submit recommendations for spare parts inventory including types and quantities considered normal for routine maintenance of the equipment for one year.
  - 2. Submit recommendations for spare parts inventory for approval by WMATA. Spare parts Inventory must include types and quantities considered critical and for which extended acquisition time would create excessive downtime.
- F. Contractor's certification that proposed equipment meets or exceeds Specification requirements submitted with Shop Drawings.
- G. Detailed information regarding location where fabrication assembly and testing operations are to be performed, submitted to the Authority Representative within 30 calendar days of Notice to Proceed.
- H. Submit Acceptance Test Program including field testing procedures minimum 30 calendar days prior to installation and testing.
- I. Submit proposed training program 90 calendar days prior to training.

#### 1.6 PRODUCT SUBSTITUTIONS

- A. Requests for approval of equipment items other than those specified herein shall be made in accordance with the General and Special Provisions.
- B. Additional costs resulting from substitution of products other than those specified, including drawing changes and construction will be at the expense of the Contractor.

#### 1.7 GUARANTEE

- A. Vertical Swing Vehicle Rooftop Access Platform written warranty against defects in material, function, or workmanship from the date of acceptance by the owner, for a period of two (2) years.
- B. Warranty shall include materials and labor necessary to correct defects.

- C. Defects shall include, but not be limited to noisy, rough, or substandard operation; loose, damaged, and missing parts; and abnormal deterioration of finish.
- D. All parts shall be readily available to the project site.

## PART 2 PRODUCTS

### 2.1 VERTICAL SWING VEHICLE ROOFTOP ACCESS PLATFORM

- A. Quantity: Full length of the NC Maintenance Bay; both sides of the platform.
- B. Acceptable Manufacturer; provided compliance with Buy America 49 CFR Part 661 is certified:
  - 1. The products of the following manufacturer are specified as the standard of quality for the Vertical Swing Vehicle Rooftop Access Platform
    - a. Western Sierras  
314 North Park Street  
Reno, Nevada 89512  
Phone: 775-324-2444
  - 2. Products of equal quality and utility of other approved manufacturers will be accepted.
- C. General Description:
  - 1. Vertical Swing Vehicle Rooftop Access Platform is to be fabricated to provide a full length, married pair, bridge between the roof of the vehicle and the platform.
  - 2. Design the system outside of the dynamic envelope and to roll along the railcar as it is raised with the hoist without marking the railcar.
- D. Construction Features:
  - 1. Each flap of the vertical swing vehicle rooftop access platform shall be approximately 4 feet in length and consist of the following items:
    - a. 1 ea. frame, steel profile construction include counter weights
    - b. 1 ea. aluminum plate with anti-slip surface, 48 inches x 17 inches
    - c. 2 ea. hinges with integrated adaptor plate to connect the flaps to the steel structure.
    - d. 2 ea. dampers that act as a stop for the flap in the horizontal position and are adjusted to reduce the lifting force of the flap.
    - e. 2 ea. mounting brackets for dampers
    - f. 2 ea. 2 inch (approx.) diameter non-marking, skid resistant rollers
      - 1) Rollers shall be constructed of a thermoplastic rubber or similar material, requiring minimum maintenance.
- E. Dimensions and Capacities:
  - 1. Span: 150 feet
  - 2. Capacity: meet or exceed the requirements specified in specification Section 05 53 00 Metal Grating
- F. Spares
  - 1. 20% spares for the hydraulic dampers and wheels.

## PART 3 EXECUTION

### 3.1 INSPECTION

- A. Inspect delivered equipment for damage from shipping and exposure to weather. Compare delivered equipment with packing lists and specifications to assure receipt of all

items. Report defects to the Authority's Representative. Commencement of Work means acceptance of existing conditions.

### 3.2 INSTALLATION

- A. Vertical Swing Vehicle Rooftop Access Platform including all appurtenances in accordance with approved shop drawings and manufacturer's instructions.
- B. Install equipment in accordance with Design Plans, accepted Shop Drawings, and manufacturer's written installation instructions.
  - 1. Upon completion of work, finished surfaces shall be free of tool marks, scratches, blemishes, and stains.
- C. Retouch surface where the shop finishes is damaged, using the same materials and dry film thickness as the original shop finish.

### 3.3 CLEANUP

- A. Touch-up damage to painted finishes
- B. Wipe and clean equipment of oil, grease, and solvents, and make ready for use.
- C. Clean area around equipment and remove packing or installation debris from job site.
- D. Notify WMATA for acceptance inspection.

### 3.4 OPERATION AND MAINTENANCE MANUALS

- A. Provide an operation and maintenance manual in accordance with the requirements specified in Section 11 05 00 Common Work Results for Equipment.

## PART 4 MEASUREMENTS AND PAYMENTS

### 4.1 MEASUREMENTS

- A. Locations of the Vertical Swing Vehicle Rooftop Access Platform are shown on the contract drawings. No Measurement will be made of the work in this system.

### 4.2 PAYMENTS

- A. Payment for the work of this section shall not be measured for payment, but shall be considered incidental to roof top access platform at New Carrollton or West Falls Church Maintenance Facility contract Lump Sum price.

END OF SECTION

## SECTION 21 05 00

### COMMON WORK RESULTS FOR FIRE SUPPRESSION

#### PART 1 GENERAL

##### 1.1 SUMMARY

- A. Section includes pipe, fittings, valves, and connections for wet-pipe sprinkler systems.
- B. Related Sections:
  - 1. Section 09 90 00 - Painting and Coating: Execution requirements for piping painting specified by this section.
  - 2. Section 21 13 13 - Wet Pipe Sprinkler System.
  - 3. Section 22 05 29 - Hangers and Supports for Plumbing Piping and Equipment.
  - 4. Section 22 05 53 - Identification for Plumbing Piping and Equipment.
- C. This Specification is applicable at the following Facilities:
  - 1. D90 – New Carrollton Maintenance Facility (NC)
  - 2. K90 – West Falls Church Maintenance Facility (WFC)

##### 1.2 REFERENCES

- A. Reference Standards:
  - 1. U. S. Government:
    - a) Federal Transit Administration (FTA):
    - b) 49 CFR 661 Buy America Requirements.
- B. American Society of Mechanical Engineers (ASME):
  - 1. ASME B16.1 - Cast Iron Pipe Flanges and Flanged Fittings.
  - 2. ASME B16.11 - Forged Steel Fittings - Socket-Welding and Threaded.
  - 3. ASME B16.25 - Buttwelding Ends.
  - 4. ASME B16.3 - Malleable Iron Threaded Fittings.
  - 5. ASME B16.4 - Gray Iron Threaded Fittings.
  - 6. ASME B16.5 - Pipe Flanges and Flanged Fittings.
  - 7. ASME B16.9 - Factory-Made Wrought Steel Buttwelding Fittings.
  - 8. ASME B36.10 - Welded and Seamless Wrought Steel Pipe.
- C. ASTM International (ASTM):
  - 1. ASTM A53 - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
  - 2. ASTM A135 - Standard Specification for Electric-Resistance-Welded Steel Pipe.
  - 3. ASTM A234 - Standard Specification for Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and High Temperature Service.
  - 4. ASTM A795 - Standard Specification for Black and Hot-Dipped Zinc-Coated (Galvanized) Welded and Seamless Steel Pipe for Fire Protection Use.
- D. American Welding Society (AWS):
  - 1. AWS D1.1 - Structural Welding Code - Steel.
- E. National Fire Protection Association: (NFPA)
  - 1. NFPA 13 - Installation of Sprinkler Systems.

### 1.3 SUBMITTALS

- A. Submittal Procedures: Refer to Contract Documents.
- B. Certificates: Buy America Act Certification
- C. Shop Drawings: Indicate pipe materials used, jointing methods, supports, floor and wall penetration seals. Indicate installation, layout, weights, mounting and support details, and piping connections. Indicate pipe sizes and nodes as related to sprinkler system hydraulic calculations.
- D. Product Data: Submit manufacturer's catalogue information. Indicate pipe materials. Indicate valve data and ratings. Indicate all sprinkler head types, temperature ratings and usage classifications
- E. Manufacturer's Certificate: Certify products meet or exceed specified requirements.
- F. Submit Contractor's Material and Test Certificates for Aboveground and Underground Piping.

### 1.4 CLOSEOUT SUBMITTALS

- A. Closeout Requirements: Refer to Contract Documents.
- B. Project Record Documents: Record actual locations of components and tag numbering.
- C. Operation and Maintenance Data: Submit spare parts lists.

### 1.5 QUALITY ASSURANCE

- A. Regulatory Agency Sustainability Approvals:
  - 1. Buy America Act:
    - a. Except for those products which are exempt under the specific statutory waivers stipulated in 49 CFR 661, all other products supplied under this Section must comply with the requirements of the Buy America Act.
- B. Certifications: Buy America Act Certification; Provide written certification that the products provided under this Section meet the requirements of 49 CFR 661 Buy America Act.
- C. Provide fire sprinkler piping located in plenums with the peak optical density not greater than 0.5, the average optical density not greater than 0.15, and flame spread not greater than 5 feet when tested in accordance with UL 1887.
- D. Perform Work in accordance with current NFPA 13 standard.
- E. All products must be stamped UL Listed and/or FM Approved.

### 1.6 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.
- B. Installer: Company specializing in performing Work of this section with minimum three years documented experience approved by manufacturer.

1.7 PRE-INSTALLATION MEETINGS

- A. Pre Installation Meetings: Refer to Contract Documents.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Delivery, Storage and Handling: Refer to Contract Documents.
- B. Deliver and store valves in shipping containers, with labeling in place.
- C. Furnish cast iron and steel valves with temporary protective coating.
- D. Furnish temporary end caps and closures on piping and fittings. Maintain in place until installation.
- E. Sprinkler heads shall remain in shipping cartons until installed

1.9 WARRANTY

- A. Warranty Requirements: Refer to Contract Documents.
- B. Furnish five year manufacturer warranty for basic fire suppression materials and methods.

1.10 EXTRA MATERIALS

- A. Extra Materials, Spare parts and maintenance products: Refer to Contract Documents.
- B. Furnish two sets of valve stem packing for each size and type of valve installed.

1.11 BASIS OF DESIGN AND ACCEPTABLE MANUFACTURERS

- A. Where a specific manufacturer or product is identified as the Basis of Design or listed first in a list of acceptable manufacturers, the overall project design is based on the identified manufacturer or product. If the Contractor elects to utilize a manufacturer or product which differs from the identified Basis of Design, the Contractor shall bear all efforts and costs of any design changes necessary in order to achieve finished work which is equal in character, performance, and quality to the original design depicted in the Contract Documents. Such changes shall include, but not necessarily be limited to: changes to ratings and/or features of other equipment, changes to material sizes and/or types, new material and/or equipment, and changes to structural and/or architectural features (including room sizes). Approval by the Engineer of a proposed item shall not relieve the Contractor of this responsibility.
- B. The listing of specific manufacturers is solely intended to identify reputable manufacturers who are known to provide quality products of the general type specified. Such listing is in no way intended to imply that the identified manufacturer's product(s) have been verified to satisfy the specified requirements, or to be equivalent to any identified Basis of Design manufacturer. Nor does such a listing imply acceptance of products which do not meet the specified requirements, ratings, features, dimensions, and functions as indicated.

## PART 2 PRODUCTS

### 2.1 VALVES

- A. Manufacturers:
  - 1. Conbraco Industries
  - 2. Nibco.
  - 3. Stockham
- B. Ball Valves:
  - 1. Over 2 inches: Manufacturers: Cast steel body, chrome plated steel ball, Teflon seat and stuffing box seals, lever handle, flanged.
- C. Drain Valves:
  - 1. Compression Stop: Bronze with hose thread nipple and cap.
  - 2. Ball Valve: Brass with cap and chain, 3/4 inch hose thread.

### 2.2 ABOVE GROUND PIPING

- A. Steel Pipe: ASTM A53, Grade B; ASTM A135 UL listed, threadable, light wall; ASTM A795 or ASME B36.10; Schedule 40 black.
  - 1. Steel Fittings: ASME B16.9, wrought steel, butt welded; ASME B16.25, butt weld ends; ASME B16.5, steel flanges and fittings; ASME B16.11, forged steel socket welded and threaded.
  - 2. Cast Iron Fittings: ASME B16.1, flanges and flanged fittings; ASME B16.4, threaded fittings.
  - 3. Malleable Iron Fittings: ASME B16.3, threaded fittings ASTM 47.
  - 4. Mechanical Grooved Couplings: Malleable iron housing clamps to engage and lock, "C" shaped elastomeric sealing gasket, steel bolts, nuts, and washers; galvanized for galvanized pipe.
  - 5. Mechanical Formed Fittings: Carbon-steel housing with integral pipe stop and O-ring pocked and O-ring uniformly compressed into permanent mechanical engagement onto pipe.

### 2.3 PIPE HANGERS AND SUPPORTS

- A. Conform to NFPA 13.
- B. Refer to Section 22 05 29 Hangers and Supports for Plumbing Equipment.

## PART 3 EXECUTION

### 3.1 PREPARATION

- A. Ream pipe and tube ends. Remove burrs. Bevel plain end ferrous pipe.
- B. Remove scale and foreign material from inside and outside before assembly
- C. Prepare piping connections to equipment with flanges or unions.

### 3.2 INSTALLATION

- A. Install piping in accordance with NFPA 13 for sprinkler systems.



- B. Route all piping in orderly manner. Run plumb and parallel to building structure. Maintain gradient.
- C. Install piping to conserve building space, to not interfere with use of space and other work.
- D. Group piping at common elevations, whenever practical.
- E. Install pipe sleeve at piping penetrations through partitions, walls, and floors. Seal pipe and sleeve penetrations to maintain fire resistance equivalent to fire separation.
- F. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment.
- G. Pipe Hangers and Supports:
  - 1. Install in accordance with NFPA 13.
  - 2. Install hangers to within minimum 1/2 inch space between finished covering and adjacent work.
  - 3. Place hangers within 12 inches of each horizontal elbow.
  - 4. Use hangers with 1-1/2 inch minimum vertical adjustment. Design hangers for pipe movement without disengagement of supported pipe.
  - 5. Where installing several pipes in parallel and at same elevation, provide multiple or trapeze hangers.
  - 6. Prime coat exposed steel hangers and supports. Refer to Section 09 90 00. Hangers and supports located in crawl spaces, pipe shafts, and suspended ceiling spaces are not considered exposed.
- H. Slope piping and arrange systems to drain at low points. Install eccentric reducers to maintain top of pipe level.
- I. Prepare pipe, fittings, supports, and accessories for finish painting. Where pipe support members are welded to structural building framing, scrape, brush clean, and apply one coat of zinc rich primer to welding, paint piping RED. Refer to Section 09 90 00.
- J. Do not penetrate building structural members unless indicated.
- K. Where more than one piping system material is specified, install compatible system components and joints. Install flanges, union, and couplings at locations requiring servicing.
- L. Die cut threaded joints with full cut standard taper pipe threads with red lead and linseed oil or other non-toxic joint compound applied to male threads only.
- M. Install valves with stems upright or horizontal, not inverted. Remove protective coatings after installation.
- N. Install ball valves for shut-off or isolating service.
- O. Install drain valves at main shut-off valves, low points of piping and apparatus.
- P. Where inserts are omitted, drill through concrete slab from below, and install through-bolt with recessed square steel plate and nut flush with top of slab.

### 3.3 INTERFACE WITH OTHER PRODUCTS

- A. Inserts:
  - 1. Install inserts for placement in concrete forms.
  - 2. Install inserts for suspending hangers from reinforced concrete slabs and sides of reinforced concrete beams.
  - 3. Install hooked rod to concrete reinforcement section for inserts carrying pipe over 4 inches.
  - 4. Where concrete slabs form finished ceiling, locate inserts flush with slab surface.

### 3.4 CLEANING AND FLUSHING

- A. Execution and Closeout Requirements: Refer to Contract Documents.
- B. Clean entire system after other construction is complete.
- C. Flush underground and above ground piping in accordance with NFPA 13.

### 3.5 TESTING

- A. Perform all testing in accordance with NFPA 13

## PART 4 MEASUREMENTS AND PAYMENTS

### 4.1 MEASUREMENTS

- A. The work of this section will not be measured for separate payment.

### 4.2 PAYMENTS

- A. The payment for work of this section shall not be measured, but shall be incidental to roof top access platform at either New Carrollton or West Falls Church Maintenance Facility contract Lump Sum price.

END OF SECTION

## SECTION 21 13 13

### WET-PIPE SPRINKLER SYSTEMS

#### PART 1 GENERAL

##### 1.1 SUMMARY

- A. Section Includes:
  - 1. Domestic water piping, above grade.
  - 2. Unions and flanges.
  - 3. Valves.
  - 4. Hose bibs.
- B. Related Sections:
  - 1. Section 21 05 00 – Common Work results for Fire Suppression.
  - 2. Section 22 05 29 – Hangers and Supports for Plumbing Piping and Equipment.
  - 3. Section 22 05 53 – Identification of Plumbing Piping and Equipment.
- C. This Specification is applicable at the following Facilities:
  - 1. D90 – New Carrollton Maintenance Facility (NC)
  - 2. K90 – West Falls Church Maintenance Facility (WFC)

##### 1.2 REFERENCES

- A. Reference Standards:
  - 1. U. S. Government:
    - a. Federal Transit Administration (FTA):
      - 1) 49 CFR 661 Buy America Requirements.
- B. National Fire Protection Association (NFPA):
  - 1. NFPA 13 - Installation of Sprinkler Systems.

##### 1.3 SYSTEM DESCRIPTION

- a. system to provide coverage for the entire building.
- A. provide hydraulically designed system to NFPA 13 ordinary hazard, group 2 occupancy requirements.
- B. Determine volume and pressure of incoming water supply from water flow test data.
- C. Interface system with building control system.
- D. Provide fire department connections as indicated on Drawings. Coordinate with local Fire Department.

##### 1.2 SUBMITTALS

- A. Submittal Procedures: Refer to Contract Documents.

- B. Certificates: Buy America Act Certification
- C. Shop Drawings: Indicate layout of finished ceiling areas indicating sprinkler locations coordinated with ceiling installation. Indicate detailed pipe layout, hangers and supports, sprinklers, components and accessories. Indicate system controls.
- D. Product Data: Submit data on sprinklers, valves, and specialties, including manufacturers catalog information. Submit performance ratings, rough-in details, weights, support requirements, and piping connections.
- E. Design Data: Submit design calculations; signed and sealed by professional engineer.
- F. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

### 1.3 CLOSEOUT SUBMITTALS

- A. Execution and Closeout Requirements: Refer to Contract Documents.
- B. Project Record Documents: Record actual locations of sprinklers and deviations of piping from drawings, indicate drain and test locations.
- C. Operation and Maintenance Data: Submit components of system, servicing requirements, record drawings, inspection data, replacement part numbers and availability, and location and numbers of service depot.

### 1.4 QUALITY ASSURANCE

- A. Regulatory Agency Sustainability Approvals:
  - 1. Buy America Act:
    - a. Except for those products which are exempt under the specific statutory waivers stipulated in 49 CFR 661, all other products supplied under this Section must comply with the requirements of the Buy America Act.
- B. Certifications: Buy America Act Certification; Provide written certification that the products provided under this Section meet the requirements of 49 CFR 661 Buy America Act.
- C. Perform Work in accordance with NFPA 13 and the local Fire Department.
- D. All products must bear the markings of UL listed and/or FM Approved.

### 1.5 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years of experience.
- B. Installer: Company specializing in performing Work of this section with minimum three years of experience approved by manufacturer.
- C. Design system under direct supervision of Professional Engineer experienced in design of this Work and licensed in the site location State.

1.6 PRE-INSTALLATION MEETINGS

- A. Pre-installation meeting: Refer to Contract Documents.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Delivery, Storage and Handling: Refer to Contract Documents.
- B. Store products in shipping containers until installed.
- C. Furnish piping with temporary inlet and outlet caps until installation.

1.8 WARRANTY

- A. Warranty Execution and Closeout Requirements: Refer to Contract Documents.

1.9 BASIS OF DESIGN AND ACCEPTABLE MANUFACTURERS

- A. Where a specific manufacturer or product is identified as the Basis of Design or listed first in a list of acceptable manufacturers, the overall project design is based on the identified manufacturer or product. If the Contractor elects to utilize a manufacturer or product which differs from the identified Basis of Design, the Contractor shall bear all efforts and costs of any design changes necessary in order to achieve finished work which is equal in character, performance, and quality to the original design depicted in the Contract Documents. Such changes shall include, but not necessarily be limited to: changes to ratings and/or features of other equipment, changes to material sizes and/or types, new material and/or equipment, and changes to structural and/or architectural features (including room sizes). Approval by the Engineer of a proposed item shall not relieve the Contractor of this responsibility.
- B. The listing of specific manufacturers is solely intended to identify reputable manufacturers who are known to provide quality products of the general type specified. Such listing is in no way intended to imply that the identified manufacturer's product(s) have been verified to satisfy the specified requirements, or to be equivalent to any identified Basis of Design manufacturer. Nor does such a listing imply acceptance of products which do not meet the specified requirements, ratings, features, dimensions, and functions as indicated.

1.10 EXTRA MATERIALS

- A. Extra Materials: Refer to Contract Documents.
- B. Furnish extra sprinklers under provisions of NFPA 1.
- C. Furnish suitable wrenches for each sprinkler type.
- D. Furnish metal storage cabinet located adjacent to alarm valve.

PART 2 PRODUCTS

2.1 SPRINKLERS

- A. Manufacturers:
1. Tyco Fire Systems.
  2. Grinnell Corp.