

SUPPLY AND SERVICES CONTRACT

Statement of Work

Refurbish Westinghouse B & B1 Escalator Steps

Westinghouse B & B1, WMATA Stock Numbers V38-30-0286 & V38-30-0230

Scope of Work:

The contractor shall provide all labor, materials and equipment required to refurbish Westinghouse B & B1 Escalator Steps. The refurbished escalator steps shall meet all ASME A17.1 code requirements.

The contract shall be a multiple year contract consisting of a one-year base period and two one-year options with each year subject to the availability of funds. Invoices shall be submitted on a monthly basis for refurbished units delivered to and accepted by WMATA.

Requirements:

1. Preliminary Inspection for Defects
2. Removal of Worn Components
3. Washing and Inspection
4. Repairs
5. Preparation for Painting
6. Painting and Sanding
7. Replacement of Components
8. Inspection
9. Packing and Shipment

Conditions of Service: Refurbish all step assemblies in accordance to following guidelines

- a. Preliminary Inspection for Defects: Each step is to be visually inspected. Any assemblies with broken or cracked brackets or frames will be set aside and not refurbished.
- b. Removal of Worn Components: All hardware and attachments to be replaced, such as rollers and demarcations, shall be removed prior to washing.
- c. Washing & Inspection: Steps are to be thoroughly washed using high pressure, heated washing solution and de-greased using an environmentally approved cleaning system to remove all dirt, grease and loose particles. The Contractor is

advised that this Contract requires compliance with the Federal Water Pollution Control Act 33USC 1251 ET SEQ, as amended. Un-regulated disposal of used washing solution is not permitted. Traceability of waste removal by an approved hauler is required.

- d. Steps are to be disassembled; arms and risers removed from tread board, all fasteners discarded.
- e. Arms (A-frames) are to be grit-blasted and inspected for structural cracks using a Fluorescent Penetrant Inspection Process per ASTM E1417. The fluorescent penetrant process is a nondestructive testing method that helps you locate and identify surface defects in order to screen out potential failure producing defects such as porosity, heat treat cracks, and fatigue cracks. The process consists of the following steps:
 1. Cleaning: Pre clean the area to be inspected with a cleaner/remover or using the method as described in section C (Washing & Inspection) above to remove foreign materials such as dirt and grease. Allow sufficient time to dry.
 2. Apply Penetrant: Spray or brush the area to be inspected with penetrant SKL-4C. Allow the penetrant to remain on the inspection area for approximately 30 minutes.
 3. Remove penetrant as directed by the manufacturer.
 4. Apply developer SKD-32 to the area to be inspected in accordance with the manufacturer instructions.
 5. Inspect the selected area for structural cracks. Arms with cracks are not to be used.
- f. Trail roller axles are to be inspected for wear and replaced as necessary. Accepted arms shall be painted with a rust inhibitive coating.
- g. Treads are to be grit-blasted and inspected for broken/worn ribs. Broken and worn ribs are to be rebuilt using a process that “bonds” new metal to the base metal. The repaired ribs are to be rebuilt to a height and width greater than a new unused tread. The new material is to be indiscernible from the original casting in appearance and properties. Welded ribs are to be machined to a height and width consistent with adjacent ribs and conforming to ASME A17.1. All welding repairs must be performed by a certified welder.
- h. Following repairs, each step assembly is to have the tread, riser and underside bead blasted using #80 grit steel shot to remove contaminants and loose paint prior to powder coating. This is to assure a uniform appearance and improved adhesion of the powder coating. All surface preparation shall be in accordance with the guidelines of the powder coating manufacturer.

- i. Each step assembly shall be powder coated using Tiger Drylac 39/80010 T.G.I.C. or equal. The color and gloss of the finished step assembly shall be similar to the original finish. The powder coated steps are to have the surface of the tread board sanded to remove the powder coating from the ribs surface to assure a uniform appearance and to remove any uneven surfaces on the tread board. The sanding pattern shall be parallel to the sides of the step.
- j. The step rollers shall be replaced with Faigle Pupa type roller with manufacturer part number of 044.01479. The roller assembly also includes the cap to protect the roller bearing from water intrusion. The step roller bearings are 6203 RS type class C3.
- k. Trail roller axle: Trail roller axles are to be inspected for wear and replaced as necessary. The tolerance limit for the dimension of the shaft where the roller is assembled is from .6688" to .6681" with an F6 fit (sliding). It is the responsibility of the contractor to verify before shipping that the step roller is removable for doing maintenance.
- l. Remove and replace all plastic demarks and replace it with new. For painted demarcations, paint tread side 1 5/8" from the edge of the step and paint back demarcations 2 inch wide from the edge.
- m. For those Westinghouse B steps with no step tab bracket, furnish and install a new Schindler Part No. W-5191D42SGK Side Guide Kit including a Schindler Part No. SCS40901172 tab or approved equal.
- n. New mounting hardware shall be added to each step for installation of step guide pad, Schindler part number SCS409172 or approved equal. Mounting hardware shall be such that the guide pads extend out from the step assembly 0.080 inches. The step guides shall be designed and installed to ensure that the gap between the step side plate and the skirt panel does not exceed one-sixteenth (0.080 inch) of an inch at either side of the skirt panel. For step assemblies with Precision part number PW5191D42PAD step pad kit, remove the existing insert tab and replace with new Precision part number PW5191D42P03 or approved equal. For those Westinghouse B1 steps with no existing step tab bracket, furnish and install a new Schindler part number W-1727C53SGK side kit including a Schindler part number SCS4090172 tab or approved equal.
- o. All step assemblies are to be inspected to assure that all fasteners, such as bolts, nuts and snap rings are secure and all replacement components are installed properly.
- p. Step Assemblies are to be picked up from and delivered to WMATA Office of Elevator and Escalator Service (Storeroom 320) at 3500 Pennsy Drive, Landover, MD 20784. Each pallet is to contain 12 step assemblies. The pallets are to be 52" long x

- 48" wide, to protect the step assemblies from shipping damage. The step assemblies shall be protected with "corner boards", securely banded and wrapped.
- q. All work on step assemblies shall be completed and returned to WMATA within 45 business days, excluding WMATA recognized holidays and weekends, from time of pick-up of the step assemblies by the contractor.
 - r. The plastic demarks and the area to be painted for substituting a plastic demarks must confirm to RAL 1018 paint color.

Quality Control:

Contractor must inspect the refurbished steps before shipping to WMATA.

- a. COTR reserves the right to inspect the step refurbishment process. This inspection will take place at the vendor's plant prior to shipment. The COTR may place a designated mark on any section of the assemblies as and when they are inspected.
- b. First Article test will be conducted at the vendor's plant or at WMATA. COTR will inspect the refurbished step. Non-conforming components shall be returned to the contractor at the contractor's expense.
- c. First article of the refurbished step must be accompanied with a test report of the detailed step refurbishment procedure adopted for each type of step for the approval from the COTR.
- d. All step rollers must be free to move but shall not wobble up and down or side to side. Roller must rotate perpendicular to the shaft. It is the responsibility of the contractor to verify before shipping that the step roller is removable for doing maintenance.
- e. All bearings shall be sealed and in good working conditions.
- f. The finished assembly shall be fully inspected and stamped with refurbishment date that also includes the name of the contractor. It is the responsibility of the contractor to maintain a quality log.
- g. The finished assembly shall be properly packaged to protect the step from getting damaged during shipping and handling.
- h. In the course of the maintenance to be performed, all replacement parts must be the same, brand name or equal, to the original part with regard to form, fit, and function while exhibiting identical or superior performance characteristics of the original part, or subcomponent thereof, being replaced. However, as noted in the Conditions of Service para. J above, step rollers shall be replaced with Faigle Pupa type roller with manufacturer part number of 044.01479.

First Article Inspection:

- a. The First Article consists of two (2) escalator step assemblies for each type of step.
- b. The First Article inspection shall be conducted for each type of step individually and the Contractor must pass the First Article inspection for each type in order to comply with the First Article Inspection. If the Contractor fails to pass First Article inspection of all two (2) types, the Contractor will be considered to have failed the First Article inspection.
- c. The contractor shall notify the authority representative within 10 calendar days of when initial production is scheduled to begin. COTR reserves the right to inspect the manufacturing facility and approve the initial production of the First Article. Should the COTR elect not to visit the manufacturing facility for the First Article inspection, the vendor shall sufficiently document the First Article production as outlined in Quality control including all test reports of refurbishment process and inspection.
- d. If the First Article is disapproved for noncompliance with these specifications, the contractor shall submit an additional First Article for inspection and testing. After each request, the contractor shall make necessary changes, modifications and repairs to the refurbished step. All costs related to these inspections and changes are to be borne by the contractor.
- e. The contractor shall complete First Article compliance within 120 calendar days of contract award. If the initial First Article inspection is not approved, the Contractor may make additional First Article submittals. The contractor may submit more than one First Article for each type of step within the 120 calendar days. If the vendor fails to obtain First Article Inspection acceptance within 120 calendar days, the contractor shall be deemed to have failed to make delivery within the meaning of the default clause of the contract.

Warranty:

The Contractor shall warrant all step assemblies furnished under this contract against all defects and failures caused by poor workmanship, poor material or inadequate inspection for a period of one year from the date of acceptance of each step.

A step with any part or components proven to be inadequate, defective, poor material or poor workmanship during the warranty period shall be replaced by the contractor at no cost to WMATA.