

## **Section 2427. Bridge Cleaning**

### **2427.01 DESCRIPTION.**

- A.** Remove all accumulated foreign material from the entire bridge, including the bridge deck, sidewalk, curbs, pier tops, trusses, interior of truss members, and lower flanges of beams or girders.
- B.** Clean expansion joints, wind links, and drains.

### **2427.02 MATERIALS.**

None.

### **2427.03 EQUIPMENT, CLEANING, AND TRAFFIC CONTROL.**

#### **A. Equipment.**

- 1. Furnish cleaning equipment consisting of hand tools, power brooms, air compressors, water tanks, and water pumps with associated delivery hardware necessary to properly flush, clean, and remove all foreign material from the bridge structure.
- 2. Other types of cleaning equipment may be used with the Engineer's approval.
- 3. Ensure air and/or water pressure are sufficient to remove the accumulated material without damaging paint coverage of the structural steel.
- 4. Equip each self propelled unit used in the cleaning operation with an amber revolving light that:
  - Is visible from all directions, and
  - Flashes at least 60 times per minute, but not more than 120 times per minute.
- 5. Other equipment such as high-reach trucks, and under bridge access trucks or movable scaffolds may be necessary to gain access to areas designated for cleaning. It will be the Contractor's responsibility to determine and use whatever method and equipment is best suited for the operation to successfully clean the structure.

#### **B. Cleaning.**

- 1. Ensure areas that have been cleaned are free of all accumulations of sand, gravel, dirt, bird nests and excreta, and other foreign materials.
- 2. Obtain a source of fresh water free of sediments and salt contaminants, at no cost to the Contracting Authority.
- 3. Prior to cleaning with water pressure, remove all accumulated foreign material from bridge sidewalks, bridge decks, curb tops, beam flanges, gusset plates, abutment bridge seats, pier tops, truss joints, deck drain systems, and other locations specified and as directed by the Engineer. Remove the accumulated foreign material with hand brooms, hand shovels, scrapers, vacuum cleaners or other methods acceptable to the Engineer. Collect this removed material and dispose of at an approved waste area according to Federal, State, and Local regulations. Do not at any time allow this removed material to fall or be disposed of in the water or on the land below the bridge.
- 4. Use sufficient water under pressure to remove salt contaminants, dirt, and other detrimental foreign matter without damaging or removing paint from any structural steel. To clean the bridge, use a minimum water flow rate of 5 gallons (20 L) per minute. The maximum water pressure is to be 1000 psi (6900 kPa), but not so high that any paint is removed.
- 5. Stop the cleaning operation if foreign material has not been removed or if removal of or damage to existing paint coverage occurs. In this situation, adjust the water pressure to remove foreign material without damaging or removing existing paint coverage.

6. Flush all deck drains and scuppers at drains with water under pressure after the accumulated foreign material in them has been properly removed. Drain systems may have to be taken apart to remove large blockages of accumulated foreign material. Should this be necessary, return them to their original configuration immediately after cleaning. Ensure drain systems drain properly after cleaning.
7. Flush out the interior of all truss members with water under pressure. Continue to do so until such time each truss member is draining out clear water.
8. Thoroughly wash down the exterior of all truss members, miscellaneous structural steel connecting truss members, and floor beam ends projecting outwardly from the row of exterior stringers using water under pressure.
9. At the direction of the Engineer, repair or replace all roadway appurtenances damaged during the cleaning operations at no additional cost to the Contracting Authority.
10. Do not soil or damage private or public property during cleaning operations.

**C. Traffic Control.**

1. Apply Traffic Control according to the traffic control plan.
2. Private vehicles will not be allowed to park on the structure at any time.
3. Furnish, erect, maintain, and remove all signs and traffic control devices made necessary for the work.

**2427.04 METHOD OF MEASUREMENT.**

Bridge Cleaning will not be measured separately for payment but will be considered as a lump sum.

**2427.05 BASIS OF PAYMENT.**

- A. Payment for Bridge Cleaning will be the lump sum contract price.
- B. Payment is full compensation for:
  - Furnishing all material, labor, and equipment, and
  - Performing of all work necessary to flush, wash, and clean and remove all foreign material and debris, and dispose of according to the contract documents.