

1 GENERAL

1.1 SUMMARY

- .1 Comply with requirements of this Section when performing following Work:
 - .1 Removal of avian feces and other debris using hand and/or power tool with an effective dust collection system equipped with a HEPA filter as indicated on drawings.
 - .2 Disinfection of cleaned surfaces.
- .2 Perform work on the following surfaces and components:
 - 1. Abutment seats including areas below girders
 - 2. Pier seats including areas below girders
 - 3. Ballast walls
 - 4. Exterior face of girder end diaphragms
 - 5. Exterior face of girder webs (between girders only)
 - 6. Girder bracing including connection plates
 - 7. Catwalk support frames including connection plates
 - 8. All components of the catwalk including, but not limited to, grating, railings, support frames, landings, stairs and ladders.

1.2 RELATED REQUIREMENTS

- .1 Section 01 35 43 - Environmental Procedures
- .2 Section 01 14 25 - Designated Substance

1.3 REFERENCE STANDARDS

- .1 Department of Justice Canada
 - .1 Canadian Environmental Protection Act, 1999 (CEPA).
- .2 Health Canada
 - .1 Workplace Hazardous Materials Information System (WHMIS), Material Safety Data Sheets (MSDS).
- .3 Human Resources and Social Development Canada (HRSDC)
 - .1 Canada Labour Code Part II, - SOR 86-304 - Occupational Health and Safety Regulations.
- .4 Transport Canada (TC)
 - .1 Transportation of Dangerous Goods Act, 1992 (TDGA).
- .5 U.S. Department of Health and Human Services/Centers for Disease Control and Prevention/National Institute for Occupational Safety and Health (NIOSH)
 - .1 NIOSH 94-113 - NIOSH Manual of Analytical Methods (NMAM), 4th Edition (1994).
- .6 Underwriters' Laboratories of Canada (ULC)

1.4 DEFINITIONS

- .1 HEPA vacuum: High Efficiency Particulate Air filtered vacuum equipment with a filter system capable of collecting and retaining fibres greater than 0.3 microns in any direction at 99.97% efficiency.
- .2 Authorized Visitors: Departmental Representative or designated representative[s].
- .3 Polyethylene: polyethylene sheeting or rip-proof polyethylene sheeting with tape along edges, around penetrating objects over cuts and tears, and elsewhere as required to provide protection and isolation. For protection of underlying surfaces from damage and to prevent dust entering in clean area.
- .4 Sprayer: garden reservoir type sprayer or airless spray equipment capable of producing mist or fine spray. Must be appropriate capacity for scope of work.
- .5 Competent person: individuals capable of identifying existing hazards in workplace taking corrective measures to eliminate them.

1.5 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section 01 00 10 - General Instructions:
 - .1 Material Data Sheets.

1.6 QUALITY ASSURANCE

- .1 Regulatory Requirements: comply with Federal, Provincial/Territorial and local requirements pertaining to avian feces, provided that in case of conflict among those requirements or with these specifications more stringent requirement applies. Comply with regulations in effect at time work is performed.
- .2 Health and Safety:
 - .1 Do construction occupational health and safety in accordance with Section 01 35 29.06 - Health and Safety Requirements.
 - .2 Safety Requirements: worker and visitor protection.
 - .1 Protective equipment and clothing to be worn by workers and visitors in work Area include:
 - .1 Respirator: Provide each worker with National Institute for Occupational Health and Safety (NIOSH) approved air purifying respirators with an assigned Protection Factor of 10 as a minimum.
 - .2 If the generation of significant amounts of dust results from remediation activities then NIOSH approved full-face air purifying respirators with an assigned Protection Factor of 50 as a minimum shall be used.
 - .3 Dust impermeable gloves.
 - .4 Dust impermeable polyethylene coated disposable head and foot coverings, and disposable protective coveralls made of breathable material. Ensure a tight

- fit around ankles and wrists.
- .5 Safety goggles (if not using full-face respiratory protection).
- .6 Any other PPE as required to complete the scope of work for the project.
- .2 Following each entry into the work area, no personnel are permitted to leave without
 - .1 First removing and disposing of all disposable PPE.
 - .2 Decontaminating themselves/reusable PPE by wet cleaning (washing of hands/face/any exposed skin). No contaminated materials, equipment, PPE or persons to enter uncontaminated areas.
- .3 At access to work area install appropriate warning signs, warning of a dust/Histoplasmosis hazard, and the requirement for the use of appropriate PPE in both official languages.
- .4 Eating, drinking, chewing, and smoking are not permitted in work area.
- .5 Visitor Protection:
 - .1 Provide approved respirators to Authorized Visitors to work areas.
 - .2 Instruct Authorized Visitors procedures to be followed in entering and exiting work area.

1.7 WASTE MANAGEMENT AND DISPOSAL

- .1 Handle and dispose of hazardous materials in accordance with CEPA, TDGA, Regional and Municipal regulations.
- .2 Disposal of waste generated by removal activities must comply with Federal, Provincial, Territorial and Municipal regulations. Dispose of waste in sealed double thickness bags. Label containers with appropriate warning labels.

1.8 SCHEDULING

- .1 Perform and complete bridge cleaning prior to carrying out any other work activities in that area of the bridge.

1.9 PERSONNEL TRAINING

- .1 Provide Departmental Representative satisfactory proof that every worker has had instruction and training in hazards of avian feces exposure, in personal hygiene, in aspects of work procedures, and in use, cleaning, and disposal of respirators.
 - .1 Contractor must ensure that employees have had instruction on potential hazards of avian fecal matter/H. capsulatum spore exposure, Histoplasmosis, use of personal respirator and protective clothing, proper entry and exit from work areas and aspects of work procedures and protective measures.
- .2 Instruction and training related to respirators includes, at minimum:
 - .1 Proper fitting of equipment.
 - .2 Inspection and maintenance of equipment.

- .3 Disinfecting of equipment.
- .4 Limitations of equipment.
- .3 Instruction and training must be provided by competent, qualified person.
- .4 Supervisory personnel to complete required training.

2 PRODUCTS

2.1 MATERIALS, EQUIPMENT AND TOOLS

- .1 Waste bags: 0.15 mm thickness sealable polyethylene bags.
- .2 Disinfectant: non-corrosive and quaternary ammonium chloride based, or any other non-corrosive disinfectant for approval by the Departmental Representative.
- .3 High-efficiency (HEPA) filters: to be used in vacuums, capable of filtering particles as fine as 0.3 microns at a minimum efficiency rate of 99.97%.
- .4 HEPA vacuum with air discharge fitted with a high-efficiency filter.
- .5 Respiratory protection shall be assured by a powered air-purifying respirator with N100 filters to which a chlorine gas chemical cartridge shall be added.

3 EXECUTION

3.1 SUPERVISION

- .1 One Supervisor for every ten workers is required.
- .2 Supervisor must remain within work area during disturbance, removal, or handling of avian feces.

3.2 PREPARATION AND EXECUTION

- .1 Provide facilities for worker hygiene/decontamination as close to the work as possible.
 - .1 Decontamination Facilities: establish a Decontamination area as close to the contaminated work area.
 - .2 The Decontamination area must be large enough to accommodate:
 - .1 A lined and sealable waste receptacle;
 - .2 Wash basin, water, soap, and towels;
 - .3 At least one worker while allowing sufficient space to decontaminate themselves comfortably.
- .2 Provide waste bins for remediation that are enclosed/covered. They are to be placed at the discretion of the Departmental Representative. Waste transfer to the bin must be done in such a manner as to avoid the physical breakage of waste packaging.
- .3 Cleaning operations are to collect droppings as much as possible,

- rather than washing freely on ground/river.
- .1 Dampen accumulations of dried droppings on all contaminated surfaces in the work area using a mister only; power washing is not permitted.
 - .2 Pick up the damp droppings with a shovel and place them in a double pack as it is being removed in sealable 0.15 mm plastic waste bags or use an industrial vacuum fitted with a high-efficiency filter where the quantity is small.
 - .3 Use a vacuum system (vacuum truck) for accumulations that are too big or inaccessible.
 - .4 Dispose of all contaminated equipment with the bags of droppings; avoid contamination of unaffected areas, the vacuum and its parts shall be cleaned and disinfected (bleach solution) after each use.
 - .5 Decontamination: Once the surface cleaning is approved by the Departmental Representative, decontaminate the soiled surfaces by applying a disinfectant using a mop, a sponge or a sprayer and allow it to sit.
 - .6 Where water application is required for wetting, provide temporary water supply appropriately sized for application of water as required.
 - .7 Proceed with pressure washing of all decontaminated bridge components.
 - .8 Do not start work until:
 - .1 Arrangements have been made for disposal of waste.
 - .2 Tools, equipment, and materials waste containers are on site.
 - .3 Notifications have been completed and preparatory steps have been taken.
 - .4 Work operations are to avoid any active nests.

3.3 INSPECTION

- .1 Perform inspection to confirm compliance with specification and governing authority requirements. Deviations from these requirements not approved in writing by Departmental Representative will result in work stoppage, at no cost to Owner.
- .2 Departmental Representative will inspect work for:
 - .1 Adherence to specific procedures and materials.
 - .2 Final cleanliness and completion.

END OF SECTION

APPENDIX A PHOTOGRAPHS

- .1 The photographs in this appendix illustrate the surfaces to be cleaned.
- .2 The photographs are for illustration purposes only.



Photo 1 : Abutment seat



Photo 2 : Abutment seat, below girder



Photo 3 : Pier seat



Photo 4 : Pier seat below girder



Photo 5 : Girder webs, bracing and catwalk railing



Photo 6 : Girder web and catwalk railing



Photo 7 : Bracing



Photo 8 : Catwalk support frame



Photo 9 : Catwalk grating



Photo 10 : Catwalk railing

END OF APPENDIX A