



# **BCIT Safety Manual**

## **PIGEON DROPPING EXPOSURE CONTROL PLAN**



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## 1. Purpose

This exposure control plan is designed to minimize (or eliminate) worker exposure to pigeon droppings through prevention and control measures. The plan includes conducting regular inspections, clean up and education.

## 2. Definitions

### ***2.1 Custodial Supervisor***

The BCIT employee who is responsible for the supervision of the custodial services for BCIT building and related facilities.

### ***2.2 Employee***

A person employed at BCIT fulltime, part time or auxiliary.

### ***2.3 Facility Worker***

For the sake of this document, a Facility Worker is a BCIT Facilities Department Employee who performs pigeon dropping cleanup.

## 3. Applicable Legislation and Reference Materials

WorkSafeBC [Regulation Guidelines Part 6 – Substances Specific Requirements](#)

WorkSafeBC [Regulation Guideline Section 5.54 –Exposure Control Plan](#)

Ottawa-Carleton District School Board, Employee Safety: Animal Droppings Clean up, August 1999; [http://www.ocdsb.edu.on.ca/policies\\_procedures/Procedures/PR%20590%20HR%20Emp%20SafAni m%20Drop.pdf](http://www.ocdsb.edu.on.ca/policies_procedures/Procedures/PR%20590%20HR%20Emp%20SafAni m%20Drop.pdf)

Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, National Center for Infectious Diseases, Histoplasmosis, Protecting Workers at Risk, 2005; <http://www.cdc.gov/niosh/docs/2005-109/default.html>

Fine, William T., “Mathematical Evaluation for Controlling Hazards,” Journal of Safety Research, Volume 3, Number 4, December, 1971, pp. 157-166.

Kinney, G.F., and Wiruth, A.D., Practical Risk Analysis For Safety Management, NWC TP 5865, Naval Weapons Centre, China Lake, CA, June, 1976.



## 4. Roles & Responsibilities

### 4.1 BCIT Responsibilities

- Support the implementation of the Exposure Control Plan by ensuring that training is provided to employees/facility workers who will be required to clean up pigeon dropping, and that personal protective equipment (PPE), appropriate cleaning agents, control facilities, and health monitoring are available.
- Ensure consideration is given to decreasing pigeon roosting sites during the design phase of new buildings.

### 4.2 Manager Occupational Health and Safety

- Conduct a review, on a case by case basis, to determine whether BCIT staff can clean up an area of droppings that is greater than 1m<sup>2</sup> continuous area.  
*NOTE: Once the inspection and clean up procedures have been implemented for a while it is anticipated that an area of droppings greater than 1m<sup>2</sup> will not be found. If larger areas are found the effectiveness of the control measures (including inspection, clean up and exclusion techniques) will need to be investigated.*
- Communicate a monthly summary regarding pigeon dropping clean up (received from the Custodial Supervisor) to the Joint Occupational Health and Safety Committee

### 4.3 OH&S Committee Members

- Review the effectiveness of the Exposure Control Plan on an annual basis.
- Report any pigeon droppings that are observed during the course of their monthly workplace inspections to the Custodial Supervisor.
- Provide input related to the safe clean-up and disposal of pigeon droppings.

### 4.4 OH&S Group

- Develop and maintain an effective Pigeon Dropping Exposure Control Plan.
- Review Safe Work Procedures for pigeon dropping clean up.
- Coordinate pigeon dropping clean-up work with the supervisors and workers to ensure a safe work environment.
- Act as an advisory resource for the safe clean-up and disposal of pigeon droppings.

### 4.5 Custodial Supervisor

- Ensure that weekly inspections of pigeon droppings and clean up are conducted.



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*NOTE: The frequency of inspections will be reviewed. Once the current droppings issue is under control (based on quantity of droppings that are reported during the inspections) there may be a reduction the frequency of inspections.*

- Provide adequate education and awareness of the Pigeon Dropping Exposure Control Plan and the pigeon dropping clean up procedures to custodial workers.
- Ensure that applicable facilities workers have been trained in the use of a working platform (i.e., scissor lift, boom or scaffolding), fall protection and have read and understood the Fall Protection Plan if working at a height for cleanup is required.
- Ensure that pigeon droppings located outdoors are cleaned up within 1 week of being reported and indoor droppings are cleaned up within 24 hours of reporting.
- If accumulations of greater than 1m<sup>2</sup> are found (It is not anticipated that this will occur once the inspection/cleanup program is implemented):
  - Conduct a review to determine why the accumulation of 1m<sup>2</sup> occurred and how it can be prevented. This review must occur within 1 week of the droppings being reported.
- Keep records of training, crew talks, inspection, and clean up for references and for the annual evaluation of the Exposure Control Plan.
- Forward a summary of the inspection reports to the Manager, Occupational Health and Safety who will pass the information on to the Joint Occupational Health and Safety Committee.

#### **4.6 BCIT Employee**

- Read and understand the Exposure Control Plan.
- Inspect their work area daily to ensure a safe work environment.
- Report large areas of pigeon droppings.
- Clean up or cleaning up small amounts of droppings located indoors in your area.

*NOTE: Clean up will be conducted using a spray bottle with cleaning agent as per the 'Pigeon Dropping Clean Up Procedure - BCIT Worker - Own Area (Appendix B).*
- Do not clean up any droppings that are located at a height from which a fall of 3 m (10 ft) or more may occur.
- If any large quantities of droppings are observed in an area; droppings located at a height from which a fall of 3 m (10 ft) or more may occur or any droppings located outdoors, contact the Custodial Supervisor at (604) 432-8519. (Outdoor droppings are to be cleaned up within 1 week.)

#### **4.7 Facilities Worker**

- Read and understand the Exposure Control Plan and the Safe Work Procedures (Appendix A).
- Use the assigned protective equipment.
- Follow the established work procedures to clean up pigeon droppings.
- Participate in weekly BCIT campus inspections.
- Fill out inspection and clean up reports and submit them to the Custodial Supervisor.



## 5. Risk Identification, Assessment & Control

### 5.1 Background

Pigeons fly and perch around the BCIT campus and have been observed in the interior of different workshops, under overhangs and on buildings and ledges. The pigeons leave their droppings in these locations. BCIT staff is required to clean up small amounts (up to a 1 m<sup>2</sup> continuous area) of pigeon droppings on various surfaces located both indoors and outdoors. The Manager, Occupational Health and Safety will conduct a review of the specific situation to determine whether BCIT staff can clean up an area that is larger than 1m<sup>2</sup> continuous droppings. BCIT staff will not be removing pigeon droppings in confined spaces.

### 5.2 Risk Assessment

Using a Risk Evaluation Formula derived from articles by William T. Fine and by G.F. Kinney and A.D. Wiruth (Refer to the Applicable Legislations and Reference Materials Section for details), a risk score was determined for pigeon dropping exposure based on the following formula:

- risk score = likelihood x exposure x consequence

The likelihood of pigeon dropping clean up is 6 (Quite Possible); the exposure is 3 (Frequent - daily); and the consequence is 1 (noticeable - minor first aid or damage over \$100). This gives a Risk Source of 18 which has a risk classification of “Risk perhaps acceptable as is”.

*NOTE: Risk is generally considered acceptable when risk score is below 20 (Refer to the Applicable Legislations and Reference Materials Section for the scale).*

Based on a review of the number of staff members involved in the clean up (1 to 6), spending approximately 7 hours a week (1 work day) cleaning up droppings and the amount of droppings likely encountered (less than 1m<sup>2</sup> continuous area) the clean up of pigeon droppings on the BCIT campus (when following the Pigeon Dropping Clean Up Procedures), represents a low risk task. As such, control measures will focus on the prevention of dropping accumulation as opposed to handling large accumulations of droppings as this should not occur provided regular inspections and clean ups are being completed.

### 5.3 Routes of Exposure

Inhalation is the primary route of exposure to the fungi/bacteria that are associated with pigeon droppings.

### 5.4 Pigeon Dropping Health Hazards

Pigeon droppings represent the greatest health risk when they are dry and become airborne due to sweeping or scraping.



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Histoplasmosis and Cryptococcus are infections caused by fungi that are typically associated with pigeon droppings. These fungi are not found within the pigeons but they have been found on their wings, beaks and feet.

### **Histoplasmosis**

Histoplasmosis is caused by inhaling the spores of a fungus called *Histoplasma capsulatum*. It is an infectious disease but it is not contagious and cannot be transmitted to another person. It is usually associated with pigeon droppings on soil under roosting sites.

The majority of people who are infected with histoplasmosis do not have any symptoms or have very mild symptoms. The infections primarily affects the lungs and has a wide variety of symptoms including mild, flu-like respiratory illness including fever, chest pain, cough, headache, shortness of breath, loss of appetite, joint and muscle pains, chills and hoarseness.

Individuals with compromised immune systems (i.e., AIDS, cancer, or taking immuno-suppression drugs) are at greatest risk of developing severe histoplasmosis.

According to the literature, it is the pigeon habitats that have been found to be contaminated with *H. capsulatum*. Fresh droppings on surfaces such as sidewalks and windowsills have not been shown to present a health risk for histoplasmosis. The birds do not appear to be infected with *H. capsulatum* and it is the bird droppings that are a primary nutrient source for the growth of the fungi.

### **Cryptococcosis**

Cryptococcosis is caused by a fungus called *Cryptococcus neoformans*. It is often associated with pigeon droppings at elevated roost sites since it grows well in areas that are not in direct sunlight. This disease can be transmitted from person to person.

The majority of people who get cryptococcosis have compromised immune systems (i.e., AIDS, cancer, or taking immuno-suppression drugs).

The infection usually begins in the lungs and then it can spread to the urinary tract, skin, bones or brain. There can be little or no symptoms present if the infection is limited to the lungs; however, coughing and chest pain may be present. Meningitis can occur as a serious complication in some affected individuals and the symptoms include dizziness, blurred vision, severe headache, and/or neck stiffness. This is a serious complication and requires immediate medical treatment.

### **Psittacosis**

*Chlamydia psittaci* is a bacterium that can be found in feathers and droppings of infected birds which include parrots, canaries, pigeons, chickens, ducks and turkeys. It is commonly found on parrots. Psittacosis is rare with approximately 150 cases of reported in the United States every year.

The symptoms of psittacosis include: fever, headaches, muscle pain, cough, weakness or fatigue, nausea, vomiting and diarrhea.



*NOTE: Refer to the Applicable Legislation and Reference Materials for more information.*

## **5.5 Control Measures**

### **Prevention**

Prevention will be the primary control method used to decrease worker's exposure to pigeon droppings. Consideration will be given to decreasing pigeon roosting sites during the design phase of new buildings.

### **Exclusion Techniques**

#### Netting and Spiking

Both indoor and outdoor locations that have been identified as roosting sites have been treated by enclosing the area with netting (to exclude the birds from the area) or by adding spikes to discourage roosting. These control measures are located in various locations throughout the BCIT Burnaby Campus. The Custodial Supervisor conducts an investigation in response to complaints and based on information received from the custodial/maintenance staff. The Custodial Supervisor will then determine the need for netting and spiking.

#### Hawk

BCIT has hired a local company that discourages pigeons from roosting in undesirable locations by using a trained hawk to frighten the birds to another location. This is not used to kill the pigeons but as a deterrent. The hawk is brought in on an as required basis as determined by the Custodial Supervisor in response to complaints from building occupants that the birds have returned to the building.

### **Administrative Controls**

#### Policies

Policies have been developed to:

- Conduct weekly campus inspections for pigeon droppings.
- Clean up pigeon droppings on a regular basis.
- Ensure that areas in which employees have reported pigeon droppings are cleaned up within 24 hours for indoor droppings and 1 week for droppings located outside.

#### Procedures

The "BCIT Pigeon Dropping Clean Up Procedure - Facilities" includes measures to reduce dust generation and the controls required during both indoor and outdoor clean up activities.

The "BCIT Pigeon Dropping Clean Up Procedure - BCIT Worker - Own Area" has been written to outline how BCIT workers can clean up small areas of pigeon droppings found in their indoor work area. If the droppings are located at a height then they will be cleaned up by facilities.





## **Personal Protective Equipment**

The personal protection equipment required during clean up of pigeon droppings, as defined by the “BCIT Pigeon Dropping Clean Up Procedures”, includes:

- rubber gloves, disposable latex or nitrile gloves, and
- rubber boots, or

For indoor clean up of small areas

- disposable latex or nitrile gloves

Disposable coveralls and respirators are also recommended for dropping clean-up. Used and/or Contaminated PPE must be appropriately disposed of or disinfected.

## **6. Education & Training**

Workers involved in pigeon dropping clean up will be educated in the “Pigeon Dropping Exposure Control Plan” and the appropriate “BCIT Pigeon Dropping Clean Up Procedure” (one for Facilities workers and the other is for all BCIT workers). Workers who are required to clean droppings located at a height must be trained in the use of a working platform (e.g. scissor lift, boom or scaffolding), fall protection and have read and understood the Fall Protection Plan. Only facilities workers will clean up droppings located at a height.

## **7. Written Work Procedures**

The following written procedures will be made available on-site for worker direction:

- Pigeon Dropping Exposure Control Plan
- BCIT Pigeon Dropping Clean Up Procedures

## **8. Hygiene & Cleanup Practices**

- No food or drink consumption is allowed during pigeon dropping cleanup.
- The workers must ensure they wash their hands and face upon completion of any droppings cleanup work and prior to eating, drinking or smoking.

## **9. Health Monitoring**

All employees must promptly report any symptoms, potentially related to pigeon dropping removal,



to their Supervisor and the First Aid Attendant for further investigation.

*NOTE: Possible symptoms include mild, flu-like respiratory illness such as fever, chest pain, cough, headache, shortness of breath, loss of appetite, joint and muscle pains, chills and hoarseness.*

## **10. Documentation**

The Custodial Supervisor will keep records of the instruction and training provided to workers concerning pigeon dropping removal and any reported unsafe conditions or deficiencies noted in the procedures and forward them to the Manager of Occupational Health and Safety who will then pass the information on to the Joint Occupational Health and Safety Committee.

## **11. Program Review**

This Exposure Control Plan will be reviewed annually for the following:

- The effectiveness of control measures and work procedures used.
- First aid reports and any reported pigeon dropping exposure related health issues.
- Documentation of training and education.

The annual review will be done in consultation with the Joint Occupational Health and Safety Committee.



# Appendix A-Pigeon Dropping Clean Up Procedure – Facilities



## **BCIT Pigeon Dropping Clean Up Procedure - Facilities**

The “BCIT Pigeon Dropping Clean Up Procedure - Facilities” is to be followed prior to handling or when coming into contact with pigeon droppings.

NOTE: This procedure applies to the cleanup of areas that are less than 1m<sup>2</sup>. A risk assessment has been conducted and has determined that clean up of this amount represents a low hazard (see exposure control plan for more information).

### **Personal protective equipment**

The following personal protective equipment (PPE) is required:

- rubber gloves
- rubber boots
- disposable latex or nitrile gloves are sufficient for indoor clean up (small amounts)

### **Equipment required**

The following equipment is required for the procedure:

- Outdoor clean up:
  - hose (and water)
  - soap (detergent)
  - paper towels/one-time use rags (disposable)
- Indoor clean up:
  - spray bottle with cleaning agent
  - paper towels/one-time use rags (disposable)

A pigeon dropping clean up kit containing the above items should be readily available.

### **Assess the area affected**

1. Determine the approximate size of the area affected continuously by droppings.
2. If the continuously covered area is smaller than 1m<sup>2</sup>, it can be cleaned up by BCIT staff following this procedure.
3. The Custodial Supervisor must be contacted if the continuously covered area is greater than 1m<sup>2</sup>. The Custodial Supervisor will then contact the Manager Occupational Health and Safety who will conduct a review to determine if the area will be cleaned by a BCIT employee or external contractor.
4. If the droppings are located at a height, a temporary working platform (e.g., scissor lift, boom or scaffolding and fall protection) will be required. Only employees who have been trained in the use of the working platform (where required), fall protection (where required) and the BCIT Fall Protection Plan can clean up these droppings.



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**Indoor clean up procedure (where required)**

5. Indoor surfaces will be cleaned using rags and spray bottle with cleaning agent.
6. Rags can be disposed of in the regular garbage.

**Outdoor clean up procedure**

7. Wet the droppings using a hose and direct the water so the droppings are rinsed into the nearest sanitary sewer.

**After the work has been completed**

8. Clean the rubber gloves and boots using soap and water.
9. Wash hands and face with soapy water upon completion of the work and prior to eating, drinking or smoking.



# Appendix B -Pigeon Dropping Clean Up Procedure – BCIT Worker – Own Area



## **BCIT Pigeon Dropping Clean Up Procedure - BCIT Worker - Own Area - Indoors**

The “BCIT Pigeon Dropping Clean Up Procedure - BCIT Worker - Own Area Clean Up” is to be followed prior to cleaning up any droppings that are found in the workers’ indoor area. Any droppings located outdoors or at a height will be cleaned up by facilities.

NOTE: This procedure applies to the cleanup of areas that are less than 1m<sup>2</sup>. A risk assessment has been conducted and has determined that clean up of this amount represents a low hazard (see exposure control plan for more information).

### **Personal protective equipment**

The following personal protective equipment (PPE) is required:

- disposable latex or nitrile gloves

### **Equipment required**

The following equipment is required for the procedure:

- spray bottle with cleaning agent
- paper towels/one-time use rags (disposable)

A pigeon dropping clean up kit containing the above items should be readily available.

### **Assess the area affected**

1. Determine the approximate size of the area affected continuously by droppings.
2. If the continuously covered area is smaller than 1m<sup>2</sup>, it can be cleaned up by BCIT staff following this procedure.
3. The Custodial Supervisor must be contacted if the continuously covered area is greater than 1m<sup>2</sup>. The Custodial Supervisor will then contact the Manager Occupational Health and Safety who will conduct a review to determine if the area will be cleaned by a BCIT employee or external contractor.
4. If the droppings are located at a height, contact the Custodial Supervisor to arrange for the cleanup of these droppings.

### **Indoor clean up procedure (where required)**

5. Spray the indoor surface with the cleaning agent and remove any debris with the rags.
6. Rags can be disposed of in the regular garbage.

### **After the work has been completed**

7. Throw the rags and disposable gloves into the regular garbage.
8. Wash hands with soapy water prior to eating, drinking or smoking.