1. **GENERAL**
   1. **Environmental Controls**
      1. Comply with Federal, Provincial and Institute regulations pertaining to waste, air, solid waste, chemical waste, sanitary waste, sediment and noise pollution.
      2. Protection of natural resources: Preserve the natural resources within the project boundaries and outside the limits of permanent work performed under this Contract in their existing condition or restore to an equivalent or improved condition upon completion of the Work.
         1. Confine demolition and construction activities to areas defined by public roads, easements, and work area limits indicated on the Drawings.
            1. Temporary construction: Remove indications of temporary construction facilities, such as haul roads, work areas, structures, stockpiles of excess or waste materials, and other vestiges of construction as directed by BCIT.
         2. **Water resources:** Comply with applicable regulations concerning the direct or indirect discharge of pollutants to the underground and natural waters.
            1. Hazardous substances: Prevent hazardous substances from entering the ground, drainage areas, or local bodies of water, including storm sewers. Store and service construction equipment at areas designated for collection of oil and hazardous wastes.
         3. **Land resources:** Prior to construction, identify all land resources to be preserved within the work area. Do no remove, cut deface, injure, or destroy land resources including trees, shrubs, vines, grasses, top soil, and land forms without permission from the BCIT liaison.
            1. Hazardous substances: Prevent hazardous substances from entering the ground.
            2. Erodible soils: Plan and conduct earthwork to minimize the duration of exposure of unprotected soils. Clear areas in reasonably sized increments only as needed to use the areas developed. Immediately protect side slopes and back slopes upon completion of rough grading.
         4. **Erosion and sedimentation control:** Construct or install temporary and permanent erosion and sedimentation control features as required to meet the Authority Having Jurisdiction.
         5. **Dust control, air pollution, and odour control:** Prevent creation of dust, air pollution and odors.
            1. Use water sprinkling, temporary enclosures, and other appropriate methods to limit dust and dirt rising and scattering in air to lowest practical level. Do not use water when it may create hazardous or other adverse conditions such as flooding and pollution.
            2. While indoors, use ventilation measures to minimize occupant exposures to odours and fumes produced by work.
            3. Store volatile liquids, including fuels and solvents, in closed containers.
            4. Properly maintain equipment to reduce gaseous pollutant emissions.
         6. **Noise Control:** Perform demolition and construction operations to minimize noise. Perform noise producing work in less sensitive hours of the day or week as directed by the BCIT Project Manager or Senior Project Coordinator, as applicable. Notify the BCIT Project Manager or Senior Project Coordinator in advance of any project noise that may interfere with BCIT activities.
            1. Repetitive impact noise on the project site shall not exceed the following dB limitations:

|  |  |
| --- | --- |
| **Sound Level in dB** | **Time Duration of Impact Noise** |
| 70 | More than 12 minutes in any Hour |
| 80 | More than 3 minutes in any Hour |

* + - * 1. Provide equipment sound-deadening devices, and take noise abatement measures that are necessary to comply with these requirements.
        2. Refer to the by-laws of the Authority Having Jurisdiction for the particular campus site.
      1. **Disposal operations:**
         1. Promptly and legally transport and dispose of removed and demolished items and waste materials that are not identified to be recycled or reused.
         2. Do not burn, bury or otherwise dispose of rubbish and waste materials on project site.
  1. **Fires**
     1. Fires and burning of rubbish on BCIT lands and the site not permitted.
  2. **Construction Site Wastes**
     1. Reference Section 01 74 19 Construction Waste Management and Disposal.
     2. Do not bury rubbish and waste materials on site.
     3. Do not dispose of waste or volatile materials, such as mineral spirits, oil or paint thinner into waterways, storm or sanitary sewers.
  3. **Drainage**
     1. Provide temporary drainage and pumping as necessary to keep excavations and site free from water.
     2. Do not pump water containing suspended materials into waterways, sewer or drainage systems.
     3. Control disposal of runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements.
  4. **Site Clearing and Plant Protection**
     1. All final decisions will be made in consultation with BCIT Transportation and Grounds Services.
     2. Protect trees and plants on site and adjacent properties where indicated.
     3. Wrap in burlap, trees and shrubs adjacent to construction work, storage areas and trucking lanes, and encase with protective wood framework as directed by BCIT.
     4. Protect roots of designated trees to dripline during excavation and site grading to prevent disturbance or damage. Avoid unnecessary traffic, dumping and storage of materials over root zones.
     5. Minimize the stripping of topsoil and vegetation.
     6. Restrict tree removals to areas indicated or designated by Engineer.
  5. **Work Adjacent to Waterways**
     1. Do not operate construction equipment in waterways.

* + 1. Do not use waterway beds or borrow material without the BCIT Project Manager’s approval.
    2. Do not dump excavated fill, waste material or debris in waterways.
    3. Design and construct temporary crossings to minimize erosion to waterways.

* + 1. Do not skid logs or construction materials across waterways.
  1. **Pollution Control**
     1. Maintain temporary erosion and pollution control features installed under this contract.

* + 1. Control emissions from equipment according to local authorities’ emission requirements.

* + 1. Prevent sandblasting and other extraneous materials from contaminating air beyond application area, by providing temporary enclosures.

* + 1. Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads.

1. **PRODUCTS, MATERIALS, AND OTHER REQUIREMENTS**
   1. **Hazardous Building Materials**
      1. Reference SSEM website: <https://www.bcit.ca/safety-security/health-safety/asbestos-management/>
      2. All activities concerning hazardous building materials handling, removal, and disposal shall conform to WorkSafeBC Occupational Health and Safety Regulations (OH&S) and related guidance documents (current edition) and to any additional requirements indicated by BCIT.

* + 1. BCIT tests the project area for hazardous materials and provides a detailed hazardous materials report, written by a qualified person, as part of the Tender Documents. The report must be available on site and reviewed by the worker prior to commencing work.
    2. The Contractor shall review the Contract Documents and site and promptly report to the Owner's representative any errors, inconsistencies or omissions they may discover, concerning the presence of asbestos-containing materials. If suspect hazardous material is discovered during the normal progress of the project, the Contractor shall not proceed with the affected portion of the Work until direction from the BCIT Project Manager has been received. The presence of asbestos-containing material must be reported to the BCIT liaison and BCIT Occupational Health and Safety (OH&S).
    3. Should there be hazardous building materials present on the site, either specifically stated in the Contract Documents or discovered during the project, all work with these materials must be performed by a qualified Hazardous Materials Abatement Contractor. The scheduling of the work is the responsibility of the Contractor. All applicable regulatory requirements such as WorkSafeBC and BCIT regulations and guidelines as provided by BCIT Occupational Health and Safety must be strictly adhered to.
    4. All air monitoring and inspections will be conducted by a qualified OH&S Consultant.
    5. At least 48 hours prior to commencing work, the Abatement Contractor will file a “Notice of Project” (NOP) and Site-Specific Work Procedures intended for use on the project to WorkSafeBC. A copy of the NOP, risk assessment and procedures must also be emailed to the BCIT liaison and BCIT Occupational Health and Safety.
  1. **Workplace Hazardous Material Information System (WHMIS 2015)**
     1. The Contractor, Sub-contractors and Suppliers shall comply with Workers Compensation Boards' Workplace Hazardous Materials Information System (WHMIS 2015). Regulations pertaining to labeling, provision of Safety Data Sheets (SDS), education and training programs, safe handling and emergency procedures for "Controlled Products" being used in the Project. This includes handling hazardous materials so that project workers, the public, the BCIT community and property, and the environment are not at risk.
     2. Operations producing odours such as the application of adhesives and painting shall be carried out in a safe manner and in a manner to prevent the spread of fumes to occupied areas of the building or to adjacent buildings. The consultant must submit Safety Data Sheets for all chemical treatments, adhesives and potentially harmful products to be used to the BCIT Project Manager and BCIT Occupational Health and Safety.
  2. **Storage and Handling**
     1. Coordinate storage of hazardous materials with BCIT liaison and abide by internal requirements for labeling and storage of materials and wastes.
     2. Store and handle hazardous materials and wastes in accordance with applicable federal and provincial laws, regulations, codes, and guidelines.
     3. Store and handle flammable and combustible materials in accordance with current and adopted British Columbia Fire Code of Canada requirements.
     4. Keep no more than 45 litres of flammable and combustible liquids such as gasoline, kerosene and naphtha for ready use. Store all flammable and combustible liquids in approved safety cans bearing the Underwriter's Laboratory of Canada or Factory Mutual seal of approval. Storage of quantities of flammable and combustible liquids exceeding 45 litres for work purposes requires the written approval of the Consultant.
     5. Transfer of flammable and combustible liquids is prohibited within buildings.
     6. Transfer of flammable and combustible liquids will not be carried out in the vicinity of open flames or any type of heat-producing devices.
     7. Flammable liquids having a flash point below 38°C, such as naptha or gasoline, will not be used as solvents or cleaning agents.
     8. Store flammable (flash point < 37.8°C) and combustible (flash point < 37.8°C) waste liquids for disposal in approved containers located in a safe, ventilated area. Keep quantities to a minimum.
     9. Observe smoking regulations at all times. Smoking is prohibited in any area where hazardous, flammable, and/or combustible materials are stored, used, or handled.
     10. Abide by the following storage requirements for hazardous materials and wastes: Store hazardous materials and wastes in closed and sealed containers which are in good condition.
         1. Label containers of hazardous materials and wastes in accordance with WHMIS 2015.
         2. Store hazardous materials and wastes in containers compatible with that material or waste.
         3. Segregate incompatible materials and wastes as per Fire Code requirements.
         4. Ensure that different hazardous materials or hazardous wastes are not mixed.
         5. Store hazardous materials and wastes in a secure storage area with controlled access.
         6. Maintain a clear egress from storage area.
         7. Store hazardous materials and wastes in a manner and location which will prevent them from spilling into the environment.
         8. Have appropriate emergency spill response equipment available near the storage area, including personal protective equipment.
         9. Maintain an inventory of hazardous materials and wastes, including product name, quantity, and date when storage began.
         10. Ensure personnel have been trained in accordance with Workplace Hazardous Materials Information System (WHMIS 2015) requirements.
         11. Report spills or accidents immediately to BCIT Project Manager, BCIT Occupational Health and Safety. Submit a written spill report to Project Manager and BCIT Occupational Health and Safety within 24 hours of the incident.
  3. **Disposal**
     1. Dispose of hazardous waste materials in accordance with applicable federal and provincial acts, regulations, and guidelines.
     2. Recycle hazardous wastes for which there is an approved, cost effective recycling process available.
     3. Send hazardous wastes only to authorized hazardous waste disposal or treatment facilities.
     4. Burning, diluting, or mixing hazardous wastes for purpose of disposal is prohibited.
     5. Disposal of hazardous materials in waterways, storm or sanitary sewers, or in municipal solid waste landfills is prohibited.
     6. Dispose of hazardous wastes in a timely fashion in accordance with applicable provincial regulations.
     7. Dispose of aerosol cans in accordance with applicable regulations.
     8. Dispose of gas (propane/butane/other) cylinders in accordance with applicable regulations**.**

\*\*\* END OF **ENVIRONMENTAL PROCEDURES** SECTION \*\*\*